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IDEM

THE QUEEN'S AWARDS FOR ENTERPRISE 2022 INTERNATIONAL TRADE

THE KING'S AWARDS FOR ENTERPRISE 2023 INNOVATION

THE KING'S AWARDS FOR ENTERPRISE 2024 INNOVATION

IDEM Safety Switches

2025 Product Catalogue

THE WORLD'S LARGEST RANGE OF STAINLESS-STEEL SAFETY PRODUCTS

Leading Manufacturer of Machine Safety Switches & Solutions

Setting the Standard in Machine Safety Switch Products

IDEM Safety Switches is a leading manufacturer of machine safety products that save lives and improve productivity. Each product has been engineered with the customer in mind, ensuring long term reliability, even in the harshest of environments.

IDEM Safety operates throughout the world, providing its customers with reliable and cost-effective machine safety solutions. Our experienced team of engineers ensure all products meet the latest international safety standards and are independently tested by TUV and cULus.

1985

Medi commences employment at EJA Engineering which began life as a small local distributor of electrical products at Hindley in the UK.

1986

Medi creates the Research & Development Department and commences design of Trojan, Atlas, Rotacam and LRS1 rope switches.

1985

The Guardmaster brand is established and EJA Engineering becomes the UK's top supplier of machine safety switches.

1990-96

The Guardmaster brand becomes established worldwide with the popular product lines of Trojan, Titan, Ferrogard and LRS4.

1999

Rockwell Automation completes the acquisition of the EJA Group and markets the safety switches as AB-Guardmaster brand globally.

2003

Medi departs Rockwell Automation and forms IDEM Safety Switches with a vision to design the "Next Generation" of safety switches which will be designed and manufactured in the United Kingdom.

2003-10

IDEM becomes established as the leading developer of "Next Generation" safety interlocks, specializing in products for the food industry, explosion-proof applications, and factory automation. Our innovative brands, including Kobra Tongue, Guardian Line Rope, Idemag, Idecode, Euromag, Hygiemag, Hygiecode, and Modus, were sold globally, marking our success in delivering innovative safety solutions worldwide.

2012

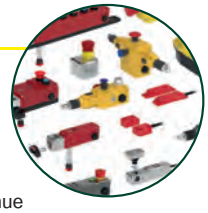
Rockwell Automation ceased manufacturing at their Hindley, UK site, and **IDEM acquired the facility** with a vision to establish a World-Class Centre of Excellence for the design and manufacture of machine safety devices. Remarkably, 80% of IDEM's staff are former employees of Guardmaster and Rockwell Automation, bringing their expertise back to where it all started. IDEM's people have returned to their roots, continuing the legacy of innovation and excellence in safety solutions.

2022-24

IDEM win's three Royal Awards in succession.

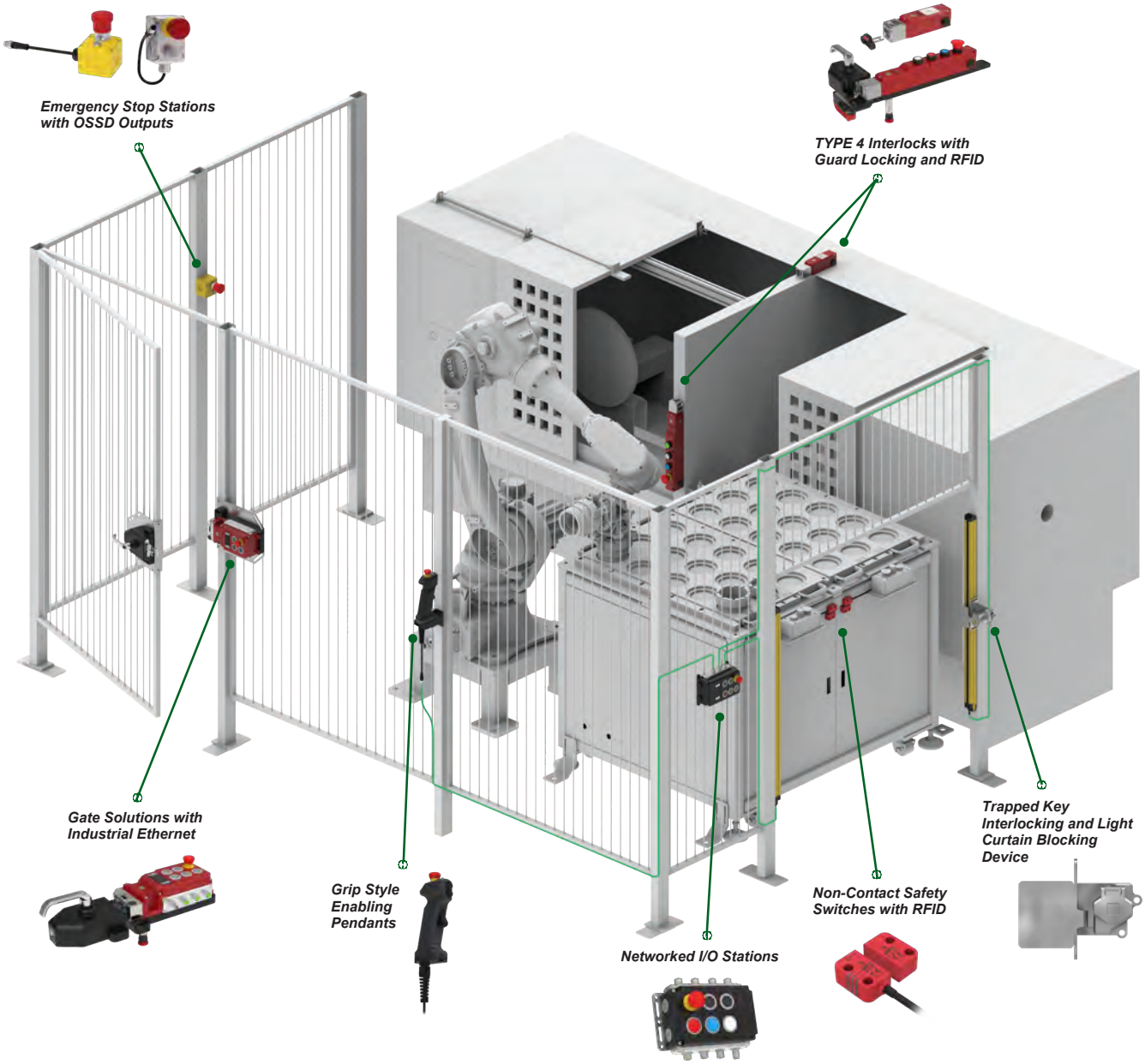
2022: Queen's Awards for Enterprise 2022: International Trade
2023: King's Awards for Enterprise 2023: Innovation
2024: King's Awards for Enterprise 2024: Innovation

Present



IDEM has become the UK's largest manufacturer of machine safety switches and produces the world's most extensive range of stainless steel safety switches. We continue to innovate by introducing new products and developing the "Next Generation" of machine safety solutions.

IDEM Safety Switches is a Leading Manufacturer of Guard Safety Switch Devices for Automation and Process Safety.



See our full range here:

Safety Standards Overview	Non-Contact Interlock Switches	Tongue Interlock Switches	Interlock Switches with Guard locking
Hinge Interlock Switches	Safety Monitoring Relays	Gate Solutions with Guard Locking	Networked Gate Solutions
Networked I/O Stations	Trapped Key Interlocking	Safety Limit Switches	Emergency Stop Switches
Rope Pull Safety Switches	Trip Switches	Explosive Environment Switches	Two-Hand Control Devices
Enabling Grip Switches	Micro Switches		

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Product Selection Guide

Non-Contact Switches

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Magnetically Coded P26-43

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Tongue Interlock Switches

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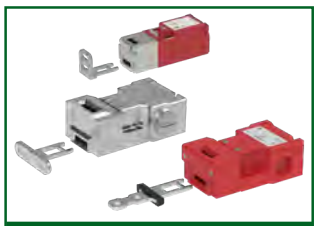

Kobra Standard P80-95

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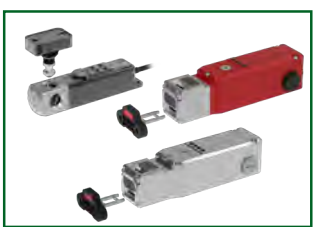
Guard Locking (Power to Unlock)



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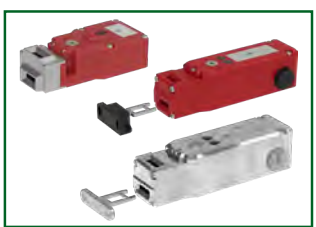

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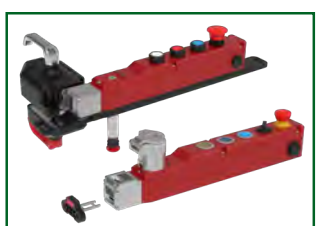

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Product Selection Guide

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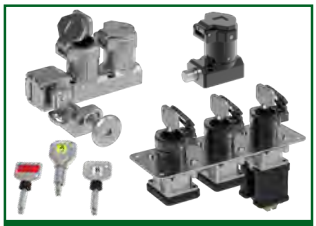

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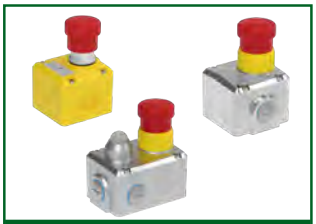

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Micro Switches

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Safety Switches from IDEM

International and European Standards

BASIC SAFETY STANDARDS

- **EN ISO 12100-1 EN ISO 12100-2 Safety of Machinery- Basic Terminology and concepts for Design**
  Outlines the concepts for Risk Assessment, Interlocking, Emergency Stops, and references other standards and directives e.g. EN 60204-1, EN ISO 13850.
- **ISO 14121-4 Safety of Machines – Risk Evaluation**
  Outlines the requirements for assessing Hazard analysis and Risk reduction for the Machine.
- **EN 60204-1 Electrical Equipment of Machines – General requirements.**
  Outlines the requirements for Electrical wiring safety on machines and specifies the Emergency Stop functions and requirements.

DESIGN STANDARDS

- **ISO 14119 Safety of machinery -Interlocking devices associated with guards - Principles for design and selection.**
  Outlines the principles for the design and selection of Interlock and Emergency Stop devices. Provides references to the other basic standards and to standards for verifying the performance of various devices. References EN ISO 13849-1 for functional safety.
- **EN ISO 13849-1 Safety of Machinery – Safety related parts of control systems – General principles for Design**
  Describes the categories which apply to Safety related parts of machine controls. It examines the complete safety functions, including the components used in their design. A performance level (PL) is used to quantify the safety functions. There are five PL (a to e) where e is the highest.
- **PD ISO/TS 19837 Safety of machinery - Trapped key interlocking devices**
  Principles for design and selection.
- **EN 60947-5-1 Low voltage switchgear and control gear – Electro-Mechanical control circuit devices.**
  Describes the Mechanical Design and Test requirements for control circuit devices incorporating positive break contacts. Designates electrical switching characteristics e.g. AC15 10A.
- **EN 60947-5-3 Low voltage switchgear and control gear- Proximity devices with defined behaviour under fault conditions**
  Describes the Design and Test requirements for Non-Contact devices with defined behaviour under fault conditions.
- **EN 60947-5-5 Low voltage switchgear and control gear- Emergency Stop devices with mechanical latching.**
  In addition to the requirements of EN 60947-5-1, describes the Mechanical Design and Test requirements for Control circuit devices with Emergency Stop Functions with mechanical latching. Provides specific requirements relating to Safety Rope switches and systems.
- **EN IEC 60947-5-8 Control Switch Devices and switching elements - Three position enabling switches.**
- **EN ISO 13850 Emergency Stop Design guidelines.**
  Provides principles for design of latching Emergency Stop devices. Specifies the requirement for Emergency stop devices to be latching with a mechanical reset.
- **UL 60947-5-1 Industrial Control Equipment**
  Describes the Electrical performance requirements and material specification used for Industrial Control switchgear in USA
- **IEC 61508 Functional Safety for Safety Related E/E/PES – Functional Safety for Electrical, Electronic or Programmable Electronic Systems**
  A generic standard covering various industries – Measures the Safety of an E/E/PES by using Safety Integrity Levels (SIL's).
  Provides a SIL based upon the Probability of Failure on demand (PFd) or the Probability of Failure per hour (PFh) up to SIL 4.
- **EN 62061 Safety of Machines – Safety related parts of controls.**
  In addition to IEC 61508 and specifically for Machine Safety Systems this standard covers the entire life cycle of a 'system' or devices used to make up a system from concept through to shutdown. Measures Safety the same as IEC 61508 by using Safety Integrity Level up to SIL 3.
  Provides a SIL based upon the Probability of Failure on demand (PFd) or the Probability of Failure per hour (PFh) up to SIL 3.
  IDEM devices will be specified as up to SIL3 for devices provided as sub systems or intended to be used in sub systems by the end user.

EC DIRECTIVES CE

All products comply with one or more of the following EC Directives:

- Machinery Directive 2006/42/EC
- EMC Directive 2014/30/EU
- Potentially Explosive Atmospheres 2014/34/EU

THIRD PARTY APPROVALS

All products are supplied with independent approval by one or more organisations:

Check ***www.idemsafety.com*** for latest information on Approvals, CE marking.

IMPORTANT:

The information and application examples shown in this catalogue are for illustration only. The installer of these devices must satisfy themselves that each application meets all the requirements of the intended function and local and international regulations. IDEM Safety Switches reserves the right to revise the information in this catalogue and disclaims all liability for any incidental damages resulting from the use of this material.
Installation of these devices must be carried out by a competent person with appropriate experience of Machine Control Integration.

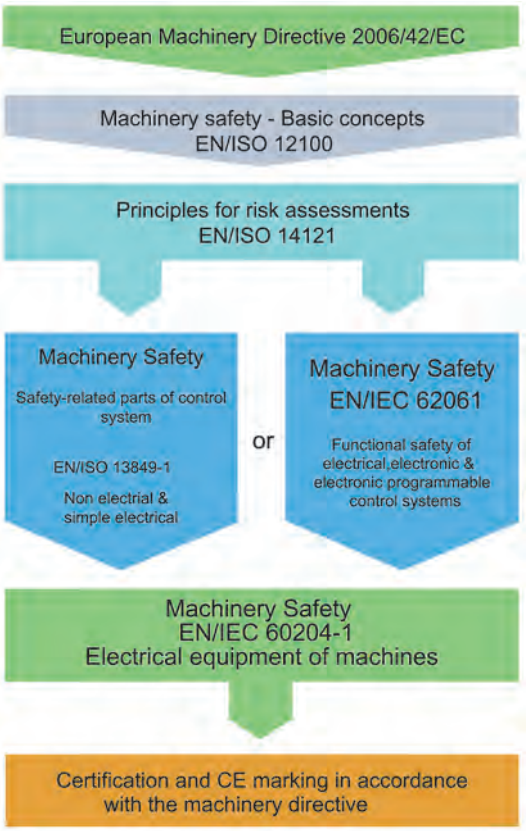
Terms and conditions of use are available at www.idemsafety.com

ABOUT SAFETY LEVELS FOR MACHINERY

Companies involved in building, refurbishing or maintaining machinery need to consider the standards especially when designing new machinery or planning a major upgrade.
Designers and installers of safety systems can choose to conform to the requirements of either of two standards - EN/ISO13849-1 or EN/IEC62061.
Figure 1 shows the design process and how the standards relate. For most non electrical or simple electrical machine controls ISO13849-1 will be sufficient.
EN/IEC62061 is a derivative from the software based standard EN/ISO61508 which covers programmable devices such as Safety PLCs or sophisticated safety electronics, and covers specifically machine safety.

Before these standards can be applied a risk assessment as defined in EN/ISO14121 should have been performed, to identify potential risks and risk reduction measures.
Best practice dictates the assessments are documented and in many cases produced in addition to the equipment operating instructions and technical documentation

Figure 1



EN/ISO13849-1 Machine Safety - safety-related parts of control systems non electrical and simple electrical.

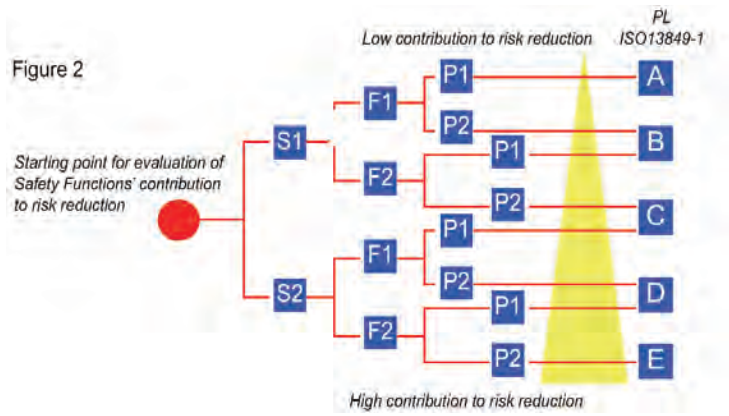
This standard provides safety requirements and guiding principles for design and integration of safety-related parts of control systems.
EN/ISO13849-1 adds a quantitative calculation to the qualitative requirements and considers the likelihood of safety system component failure. An estimation of risk is used to determine the required performance level (PL). EN/ISO13849-1 establishes Performance Levels PLa to PLe (highest).

This is done using a risk graph (see Figure 2).
S = Severity of injury
S1 = Slight (normally reversible)
S2 = Serious (normally irreversible injury including death)

F = Frequency and/or exposure to a hazard
F1 = Seldom to less often and/or the exposure time is short
F2 = Frequent to continuous and/or the exposure time is long

P = Possibilities of avoiding the Hazard or limiting the harm
P1 = Possible under specific conditions
P2 = Scarcely possible

Figure 2



Following on from this graph, further guidance is included in the new standards to assist with the system design, meaning that the math's required is minimal.

In general terms, EN/ISO13849-1 takes a four-stage approach to the design of safety-related control systems.

1. Perform a risk assessment (EN/ISO14121).
2. For the identified risks, allocate the safety measure, Performance Level (PL).
3. Devise a system architecture that is suitable for the Performance Level or Category.
4. Validate the design to check that it meets the requirements of the initial risk assessment.

For ISO13849-1 and EN/IEC62061 this last step involves using manufacturers' data for the reliability of the components, including the calculation of MTTFd (Mean Time to Dangerous Failure) and DC (Diagnostic Capability) and accounting for common mode failure of components.
PL data for each IDEM device is shown in the specification table on the product page.

EN/IEC62061 Machine Safety- Functional safety of electrical, electronic and programmable electronic control systems.
Safety-related electrical control systems in machines (SRECS) are playing an increasing role in ensuring the overall safety of machines and are more and more frequently using complex electronic technology. EN/IEC62061 is a machinery sector standard and is derived from the more complex EN/IEC61508 (Functional safety of electrical/electronic/programmable electronic safety-related systems). EN/IEC62061 describes both the amount of risk to be reduced and the ability of a control system to reduce that risk in terms of SIL (Safety Integrity Level). There are 3 SILs used in the machinery sector, SIL1 is the lowest and SIL3 is the highest. Risks of greater magnitude can occur in other sectors such as the process industry and for that reason EN/IEC61508 includes SIL4. A SIL applies to a safety function. The subsystems that make up the system that implements the safety function must have an appropriate SIL capability. This is sometimes referred to as the SIL Claim Limit (SIL CL).
The detailed requirements and steps to ensure compliance with EN/IEC62061 are too complex to be covered in detail here.

PL and SIL Level
EN/ISO13849-1 uses the term PL (Performance Level), EN/IEC62061 will use SIL, and in many respects the five performance levels PLa to PLe can be related to SIL. Figure 3 shows the approximate relationship between PL and SIL when applied to typical circuit structures achieved by low complexity electro-mechanical technology e.g. a Switch with a Safety Monitoring Relay. This is for general guidance and to help show the relationship between the two standards. It should not be used for direct conversion purposes.

Figure 3

PL (Performance Level)	PFHd (Probability of a failute to danger per hour)	SIL (Safety Integrity Level)
a	$\geq 10^{-5}$ to $< 10^{-4}$	none
b	$\geq 3 \times 10^{-6}$ to $< 10^{-5}$	1
c	$\geq 10^{-6}$ to $< 3 \times 10^{-6}$	1
d	$\geq 10^{-7}$ to $< 10^{-6}$	2
e	$\geq 10^{-8}$ to $< 10^{-7}$	3

Z-RANGE NON-CONTACT RFID with OSSD: **OVERVIEW**

FEATURES & APPLICATION:

IDEM's RFID with Auto Test Intelligent Series Non Contact Coded switches have been developed to provide and maintain a high level of functional safety whilst providing tamper proof RFID coded activation.

They will connect to most popular standard Safety Relays to maintain a PLe Safety Level even with switches connected in series.

They are offered in Stainless Steel 316 (mirror polished) or high specification polyester housings and can be used in almost any environment including areas where high pressure cleaning following contamination from foreign particles is a requirement.

All of the switches in the this range have IP69K ingress protection and are suitable for CIP and SIP processes.

They have easy to understand LED diagnostic functions and provide auxiliary outputs for extra diagnostic signals to PLCs or computers.

The typical sensing distance "ON" is 12mm with wide tolerance to guard misalignment after setting.

Coding is achieved by using magnetic and radio frequency techniques, both principles need to be satisfied for the switch to operate safely.

The RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

All of the Z-Range series of intelligent switches are available in 2 Versions:

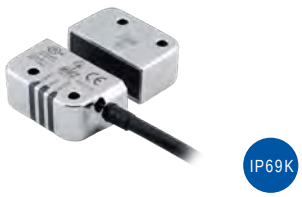
VERSION 1: **Type M** Master code - by series (any actuator will operate any switch) used when unique door activation is not required, but the benefit of RFID makes it virtually impossible to be overridden or by-passed by simple means.

VERSION 2: **Type U** 32,000,000 Unique codes - these switches are factory set and used when **unique** activation is required in areas where there are many interlocked doors and security of individual areas is required.

MAIN USER BENEFITS:

- RFID provides a high degree of anti-tamper - virtually impossible to override.
- Unique RFID or series coding RFID available.
- Maintains PLe by employing IDEM's technique at each safety demand.
- Connect up to 20 switches in series.
- Able to connect to most popular Safety Relays without the need for special controllers.
- Ability to connect to other switches and Emergency Stops in series.

MPZ



MMZ

LPZ

LMZ

BPZ

BMZ

SAFETY RELIABILITY:

All of the switches in the range employ two microprocessors and they utilise IDEM's intelligent system to check all switches at each safety demand.

Safety Reliability up to ISO13849-1 PLe.

FUNCTIONAL SPECIFICATION:

High Functional Safety to ISO13849-1 - connects to most Safety Relays to maintain PLe.

RFID Coded actuation to provide high tamper proof interlock security on Guard Doors.

Safety Outputs short circuit protected.

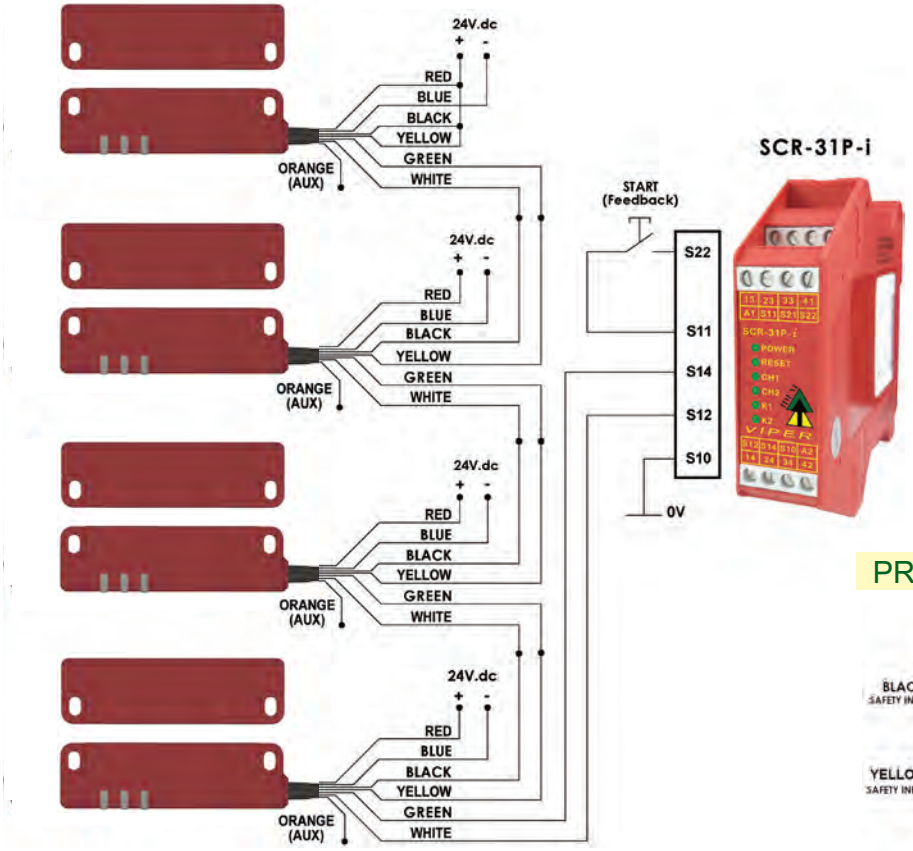
One Auxiliary circuit for indication of door open.

No moving parts - high switch life and resistance to shock and vibration.

M12 Male 8-way Quick Connector versions available (Flying Lead 250mm (10")).

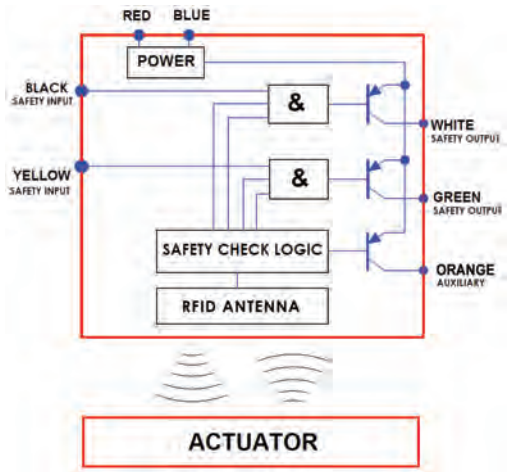
Z-RANGE NON-CONTACT RFID with OSSD: **OVERVIEW**

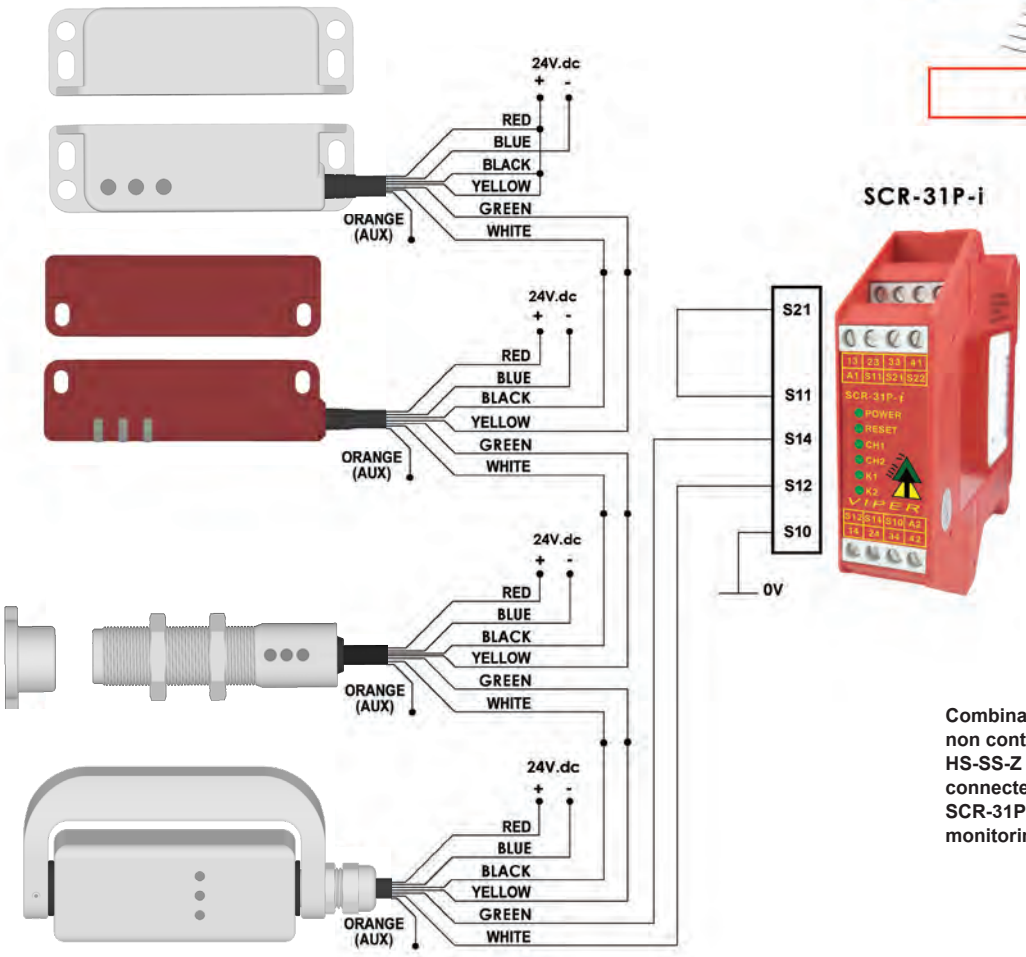
CONNECTION EXAMPLES:



Four LPZ Non Contact connected in series to a Viper SCR-31P-i to give Dual Channel monitoring with Manual Start.

PRINCIPLE:





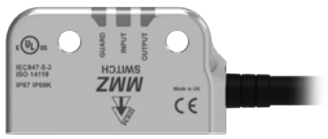
Combination of LMZ, LPZ, BPZ non contact switches and one HS-SS-Z Hinge Switch Non Conact connected in series to a Viper SCR-31P-i to give Dual Channel monitoring with Auto Start.

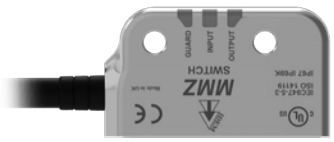
Z-RANGE RFID with OSSD: **MPZ & MMZ**

FEATURES & APPLICATION:

NEW

Wraparound bi-colour indicators for on-switch diagnostics and easy fault finding.





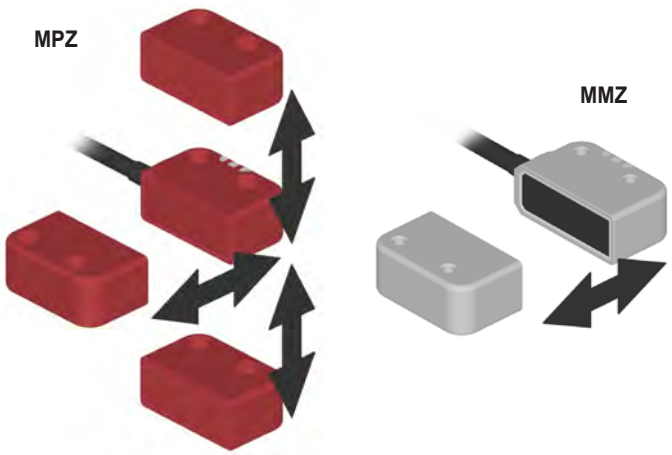
Symmetrical design supports both left- and right-hand cable runs.

Compact housing with industry standard 22mm fixing holes.

The MPZ RFID Safety Switches are specifically designed for applications requiring a high level of manipulation protection. These switches are equipped with integrated OSSD outputs, allowing for direct connection to safety controllers, simplifying installation, and reducing costs.

The MMZ is the world's smallest 316 stainless-steel RFID safety switch. The MMZ has all the same features as the MPZ but can withstand pressure washing at high temperatures and is resistant to corrosive chemicals.

OPERATIONAL DIRECTION:



KEY FEATURES:

- **Suitable for High Safety Applications:** Suitable for applications up to Performance Level e (PL e).
- **Individually Coded Sensors:** Provides unique coding for each sensor, enhancing security and manipulation protection.
- **Diverse Mounting Options:** Offers various mounting possibilities, ensuring full flexibility in use.
- **High Misalignment Tolerances:** Capable of handling significant misalignment, along with shock and vibration resistance, ensuring reliable performance.
- **Series Connection Capability:** Allows the connection of up to 30 sensors in series without additional safety modules.

BENEFITS:

- **Only One Safety Module Needed:** Simplifies system architecture and reduces overall system cost.
- **Enhanced Manipulation Protection:** Meets stringent safety application requirements.
- **Flexible Mounting:** Accommodates a wide range of installation scenarios, enhancing usability.
- **High Machine Availability and Reliability:** Ensures consistent operation and minimizes downtime.
- **Cost and Time Efficiency:** Streamlines the use of multiple sensors, saving both time and money.

Compact and Space-Saving Design

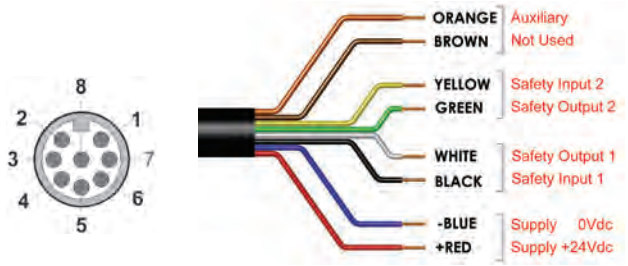
The compact design of the MPZ & MMZ RFID Safety Switches allows for space-saving mounting, making them ideal for applications where installation space is limited.

TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 8mm / SAR: 25mm
Recommended Setting Gap	3mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting
Material (MPZ)	Red Polyester
Material (MMZ)	316 Grade Stainless Steel
Enclosure Protection (MPZ)	IP67
Enclosure Protection (MMZ)	IP69K
Operating Temperature	-25C to +55C

Z-RANGE RFID with OSSD: **MPZ & MMZ**

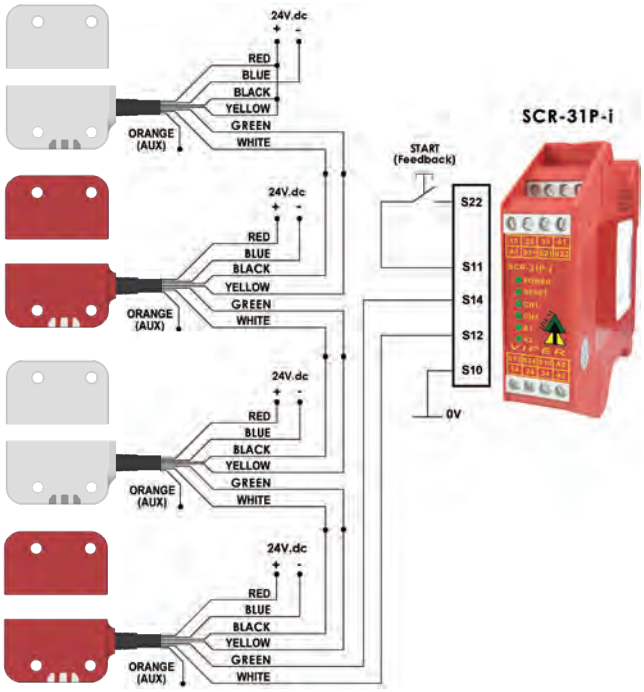
CONNECTIVITY:



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
5		Not used
8	Orange	Auxiliary

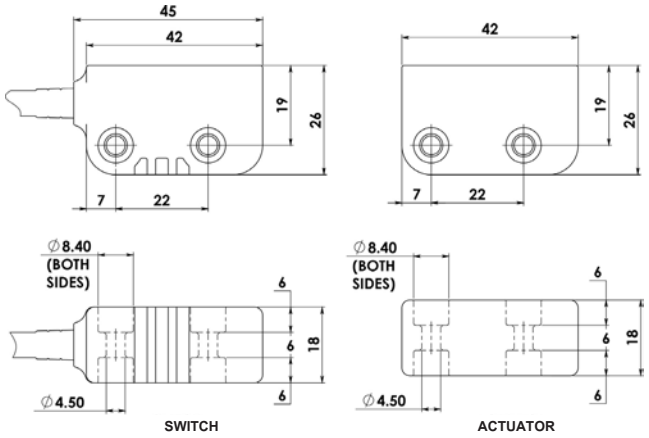
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

CONNECTION EXAMPLE:

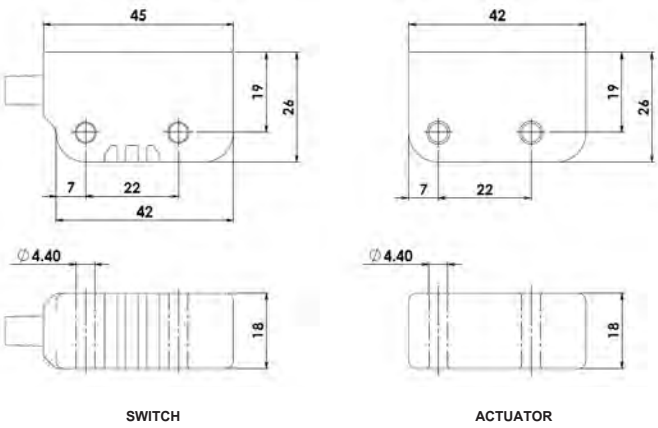


DIMENSIONS:

MPZ



MMZ



ORDERING:

Part Number	Description
417002	MPZ-A 5m Pre-Wired Any Code (Actuator Inc.)
417003	MPZ-A 10m Pre-Wired Any Code (Actuator Inc.)
417003	MPZ-A QC-M12 8-PIN Any Code (Actuator Inc.)
417102	MPZ-U 5m Pre-Wired Unique Code (Actuator Inc.)
417103	MPZ-U 10m Pre-Wired Unique Code (Actuator Inc.)
417104	MPZ-U QC-M12 8-PIN Unique Code (Actuator Inc.)
418002	MMZ-A 5m Pre-Wired Any Code (Actuator Inc.)
418003	MMZ-A 10m Pre-Wired Any Code (Actuator Inc.)
418004	MMZ-A QC-M12 8-PIN Any Code (Actuator Inc.)
418102	MMZ-U 5m Pre-Wired Unique Code (Actuator Inc.)
418103	MMZ-U 10m Pre-Wired Unique Code (Actuator Inc.)
418104	MMZ-U QC-M12 8-PIN Unique Code (Actuator Inc.)
Accessories	
Compatible with GBN-1 (See page 76)	
Compatible with GBN-3 (See page 77)	
Compatible with Z-Range Connection Accessories (See page 72)	

MPZ fitted to GBN-3

Connectivity Accessories

Z-RANGE RFID with OSSD: **LPZ**

FEATURES & APPLICATION:

Will connect to most popular standard Safety Relays to maintain a PLe Safety Level even with switches connected in series.

High specification polyester housing, IP69K, can be used in almost any environment including high pressure cleaning with detergent.

Easy to understand LED diagnostic functions and provide auxiliary outputs for extra diagnostic signals to PLCs or computers.

The typical sensing distance “ON” is 12mm with wide tolerance to guard misalignment after setting.

RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

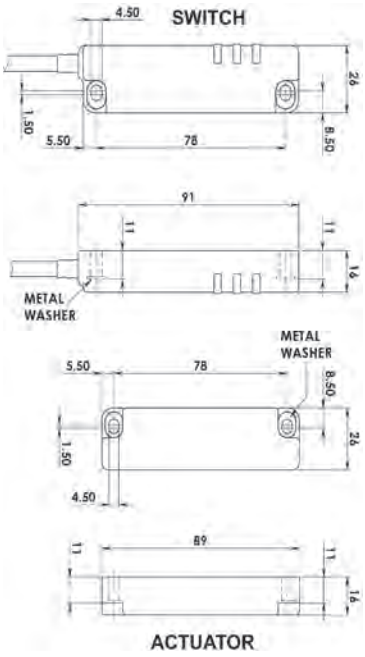
Available in 2 Versions:

Type M Master code - any actuator will operate any switch. For when unique door activation is not required, but RFID makes it virtually impossible to be overridden or by-passed by simple means.

Type U 32,000,000 Unique codes - factory set and used when **unique** activation is required in areas where there are many interlocked doors and security of individual areas is required.

Quick Connect M12 versions fitted with 250mm (10”) cable

DIMENSIONS:



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
5		Not used
8	Orange	Auxiliary

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 8mm / SAR: 20mm
Recommended Setting Gap	5mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting gap
Material	Red Polyester
Enclosure Protection	IP67
Operating Temperature	-20C to +55C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms

PART NUMBERS:

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
402102	LPZ-U	5M
402103	LPZ-U	10M
402104	LPZ-U	QC-M12

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
402002	LPZ-M	5M
402003	LPZ-M	10M
402004	LPZ-M	QC-M12
402200	Replacement Actuator Master Coded	

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Z-RANGE RFID with OSSD: **LMZ**

FEATURES & APPLICATION:

Will connect to most popular standard Safety Relays to maintain a PLe Safety Level even with switches connected in series.

Mirror polished Stainless Steel 316 housing, IP69K, can be used in almost any environment including high pressure cleaning with detergent.

Easy to understand LED diagnostic functions and provide auxiliary outputs for extra diagnostic signals to PLCs or computers.

The typical sensing distance “ON” is 12mm with wide tolerance to guard misalignment after setting.

RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

Available in 2 Versions:

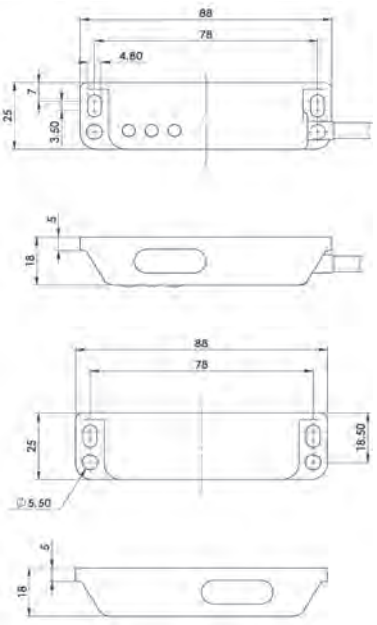
Type M Master code - any actuator will operate any switch. For when unique door activation is not required, but RFID makes it virtually impossible to be overridden or by-passed by simple means.

Type U 32,000,000 Unique codes - factory set and used when **unique** activation is required in areas where there are many interlocked doors and security of individual areas is required.

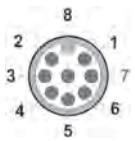
Quick Connect M12 versions fitted with 250mm (10”) cable

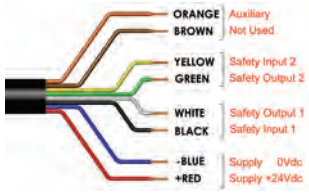
DIMENSIONS:

SWITCH



ACTUATOR





Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
5		Not used
8	Orange	Auxiliary

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 8mm / SAR: 20mm
Recommended Setting Gap	5mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting gap
Material	316 Stainless Steel
Enclosure Protection	IP69K (QC versions IP67 for connector)
Operating Temperature	-20C to +55C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms

PART NUMBERS:

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
412101	LMZ-U	5M
412102	LMZ-U	10M
412103	LMZ-U	QC-M12

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
412001	LMZ-M	5M
412002	LMZ-M	10M
412003	LMZ-M	QC-M12
412200	Replacement Actuator Master Coded	

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Z-RANGE RFID with OSSD: **BPZ**

FEATURES & APPLICATION:

Will connect to most popular standard Safety Relays to maintain a PLe Safety Level even with switches connected in series.

M18 cyclindrical barrel housing in high specification polyester, IP69K, can be used in almost any environment including high pressure cleaning.

Easy to understand LED diagnostic functions and provide auxiliary outputs for extra diagnostic signals to PLCs or computers.

The typical sensing distance "ON" is 10mm with wide tolerance to guard misalignment after setting.

RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

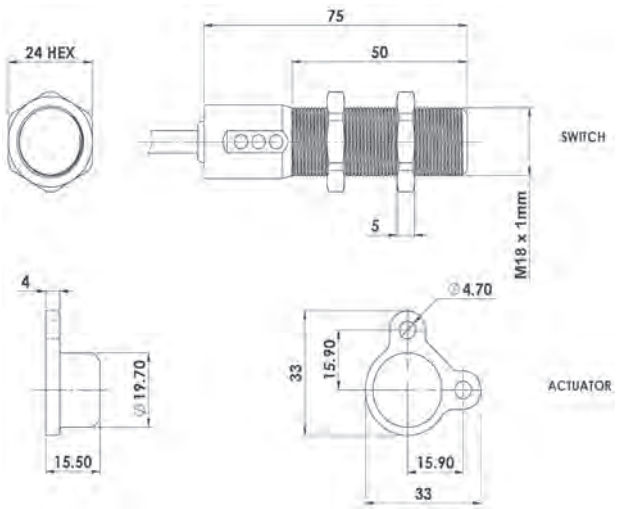
Available in 2 Versions:

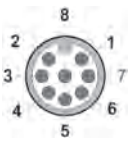
Type M Master code - any actuator will operate any switch. For when unique door activation is not required, but RFID makes it virtually impossible to be overridden or by-passed by simple means.

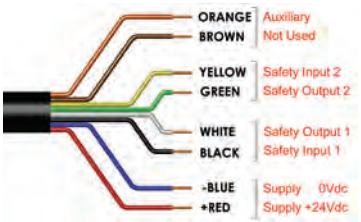
Type U 32,000,000 Unique codes - factory set and used when **unique** activation is required in areas where there are many interlocked doors and security of individual areas is required.

Quick Connect M12 versions fitted with 250mm (10") cable

DIMENSIONS:







Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
5		Not used
8	Orange	Auxiliary

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 5mm / SAR: 20mm
Recommended Setting Gap	5mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting gap
Material	Red Polyester
Enclosure Protection	IP67
Operating Temperature	-20C to +55C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms

PART NUMBERS:

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
410101	BPZ-U	5M
410102	BPZ-U	10M
410103	BPZ-U	QC-M12

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
410001	BPZ-M	5M
410002	BPZ-M	10M
410003	BPZ-M	QC-M12
410200	Replacement Actuator Master Coded	

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Z-RANGE RFID with OSSD: **BMZ**

FEATURES & APPLICATION:

Will connect to most popular standard Safety Relays to maintain a PLe Safety Level even with switches connected in series.

M18 cyclindrical barrel, mirror polished Stainless Steel 316 housing, IP69K, can be used in almost any environment including high pressure cleaning.

Easy to understand LED diagnostic functions and provide auxiliary outputs for extra diagnostic signals to PLCs or computers.

The typical sensing distance “ON” is 8mm with wide tolerance to guard misalignment after setting.

RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

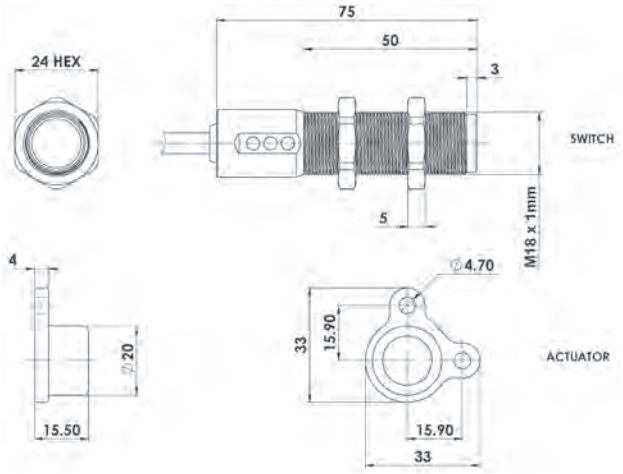
Available in 2 Versions:

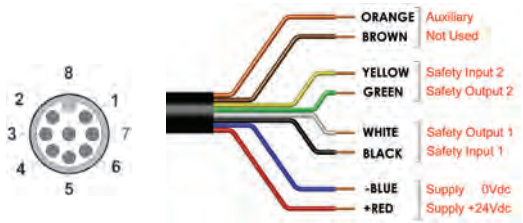
Type M Master code - any actuator will operate any switch. For when unique door activation is not required, but RFID makes it virtually impossible to be overridden or by-passed by simple means.

Type U 32,000,000 Unique codes - factory set and used when **unique** activation is required in areas where there are many interlocked doors and security of individual areas is required.

Quick Connect M12 versions fitted with 250mm (10”) cable

DIMENSIONS:





Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
5		Not used
8	Orange	Auxiliary

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 5mm / SAR: 20mm
Recommended Setting Gap	5mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting gap
Material	316 Stainless Steel
Enclosure Protection	IP69K (QC versions IP67 for connector)
Operating Temperature	-20C to +55C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms

PART NUMBERS:

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
411101	BMZ-U	5M
411102	BMZ-U	10M
411103	BMZ-U	QC-M12

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
411001	BMZ-M	5M
411002	BMZ-M	10M
411003	BMZ-M	QC-M12
411200	Replacement Actuator Master Coded	

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

RFID Coded Overview

FEATURES & APPLICATION:

IDEM's extensive range of RFID Coded Non Contact safety interlock switches have been developed to provide and maintain a high level of functional safety whilst providing a very high anti-tamper coded activation.

Coding is achieved by using magnetic and radio frequency techniques, both principles need to be satisfied for the switch to operate safely.

They will connect to most popular standard Safety Relays to achieve up to PLe to ISO13849-1.

They are offered in high specification polyester or Stainless Steel 316 mirror polished housings and can be used in almost any environments including areas where high pressure cleaning is a requirement following contamination from foreign particles.

All switches have IP69K ingress protection and are suitable for CIP and SIP processes.

The typical sensing distance "on" is 14mm with wide tolerance to guard misalignment after setting.

The RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

The full range (both polyester and Stainless Steel 316) are available in two coding types either Master coded or Unique coded.

TYPE 1: **Master Coded** - (any actuator will operate any switch) - used when unique door activation is not required, but the benefit of RFID makes it virtually impossible to be overridden or by-passed by simple means.

TYPE 2: **Unique Code** - 32,000,000 unique codes. These switches are factory set and used when unique activation is required in areas where there are many interlocked doors and security of individual areas is required.

MAIN USER BENEFITS:

- RFID provides a high degree of anti-tamper thereby making it virtually impossible to be overridden.
- Unique RFID or series coding RFID available - this is dependent upon the user's risk assessment.
- Able to connect to most popular Safety Relays to achieve up to PLe ISO13849-1.
- LED Indication for on-switch diagnostics
- Mirror polished Stainless Steel 316 models can be used in virtually any environment that is subject to high levels of cleaning.

FUNCTIONAL SPECIFICATION:

High Functional Safety to ISO13849-1.

Connects to most Safety Relays to maintain PLe.

RFID Coded actuation to provide high tamper proof interlock security on Guard Doors.

Diagnostic LED: LED Green - Indication of Safety Circuits Closed.

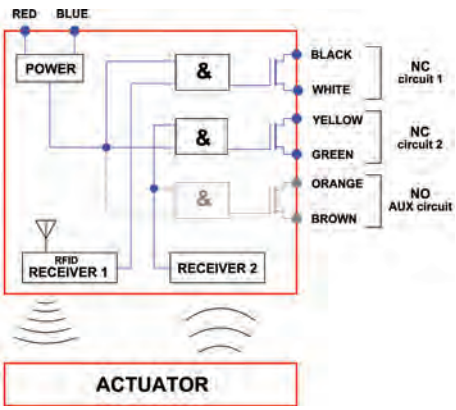
2NC Safety Outputs short circuit protected.

1NO Auxiliary Output for indication of door open.

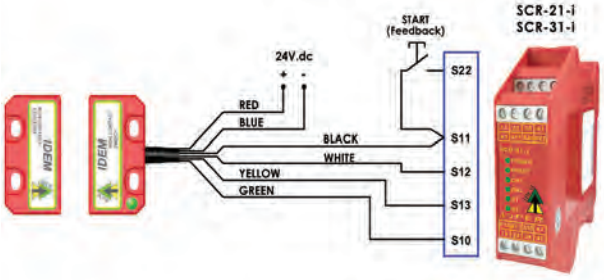
No moving parts - high switch life and resistance to shock and vibration.

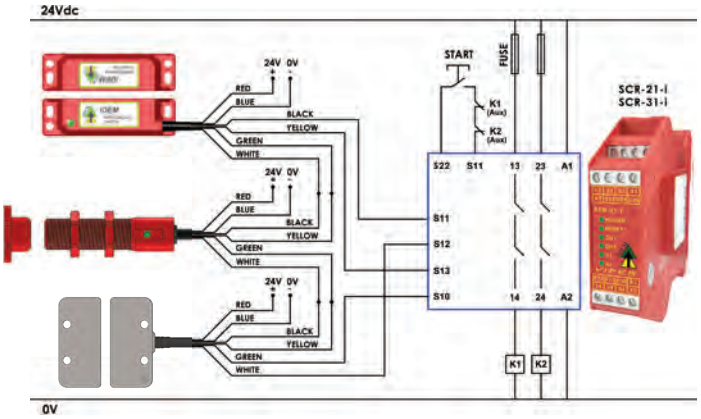
M12 Male 8-way Quick Connector versions available (Flying Lead 250mm (10")).

PRINCIPLE:



CONNECTIVITY:





RFID Coded Overview

PRODUCTS:

SPF

Universal 22mm fixing centres.

LPF

European industry standard fitting.

BPF

M18 barrel housing standard fitting.

WPF

Industry standard wide fitting. Front face actuation for large guards.

KPF

Industry standard interlock switch housing. Can be retrofitted in place of similar mechanical switches.

LMF

European industry standard fitting. Stainless Steel 316. Mirror polished finish.

BMF

M18 barrel housing standard fitting. Stainless Steel 316. Mirror polished finish.

SMF-H

Universal 22mm fixing centres. Stainless Steel 316. Mirror polished finish.

HANDLE ACCESSORIES:

The GBN Gate Bolt range for non-contact switches are equipped with a mechanical bolt and a handle, eliminating the need for costly in-house engineering.

The GBN-3 gate bolt features instant unlocking from inside the guarded area, which is held by springs only. When re-start is required, deliberate re-closing is necessary and the instant rear escape release mechanism allows operators to quickly exit the hazardous area. This feature eliminates the need for tools or keys to allow for instant rear escape in case of emergency.

With over 30mm (1 1/4") adjustability, the handle bracket and switch bracket mounting holes are slotted to compensate for varying door gaps. The stainless steel guide provides up to 10,000N holding force, ensuring the safety switch remains correctly aligned and preventing accidental closure.

GBN-1 GATE BOLT

Compatible with SPF, LPF, LMF and SMF-H.

SALES NUMBER	DESCRIPTION	ORIENTATION
210007	GBN-1 Gate Bolt	Left-Hand
210008	GBN-1 Gate Bolt	Right-Hand

GBN-3 GATE BOLT

Compatible with SPF, LPF, LMF and SMF-H.

SALES NUMBER	DESCRIPTION	ORIENTATION
210060	GBN-3 Gate Bolt	Left-Hand
210061	GBN-3 Gate Bolt	Right-Hand

RFID Coded: **SPF**

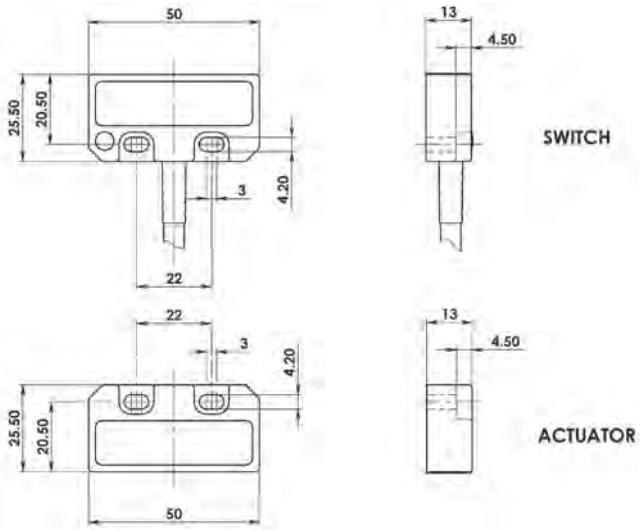
FEATURES:

Universal fitting - established 22mm footprint suitable for most applications.
Withstands environments where high humidity or hose down is required.
High specification and durable polyester housing.
Wide 14mm sensing with high tolerance to misalignment.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available

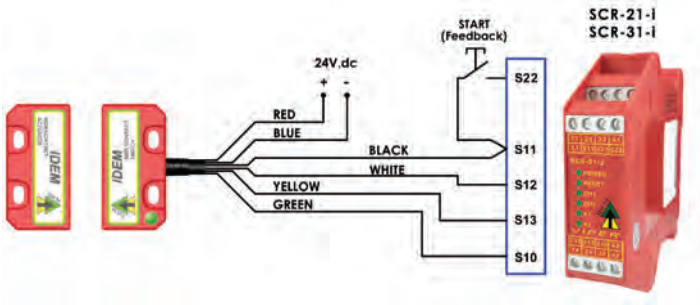
RFID Coded Actuation
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:

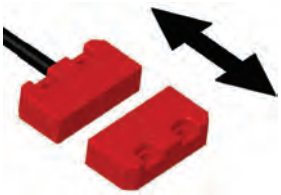


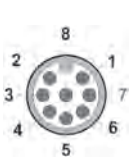
CONNECTION EXAMPLE:

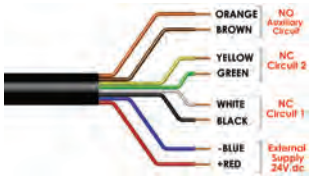


Single switch connected to an SCR-21-i or SCR-31-i to give Dual Channel Monitoring with Manual Start.

OPERATING DIRECTION:







Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO	200mA Max. 24Vdc
5	Brown	Auxiliary NO	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
405101	SPF-M-RFID	2M
405102	SPF-M-RFID	5M
405103	SPF-M-RFID	10M
405104	SPF-M-RFID	QC-M12
405201	Replacement Actuator Master Coded	

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 8mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Polyester
Temperature Range:	-25/80C
Enclosure Protection:	IP67/IP69K
Cable Type:	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts:	2 x M4 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
PFD	4.18E-05 Corresponds to 4.2% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
405001	SPF-U-RFID	2M
405002	SPF-U-RFID	5M
405003	SPF-U-RFID	10M
405004	SPF-U-RFID	QC-M12

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

RFID Coded: **LPF**

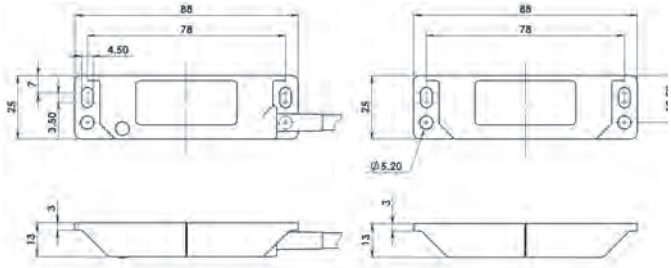
FEATURES:

Popular European fitting suitable for all industry applications
LED indication.
Can be high pressure hosed at high temperature due to IP69K rating.
Wide sensing at 14mm with high tolerance to misalignment.
High specification polyester housing with integral back plate.
Quick Connect versions available.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Magnet holding option available for use with small guards.

RFID Coded Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

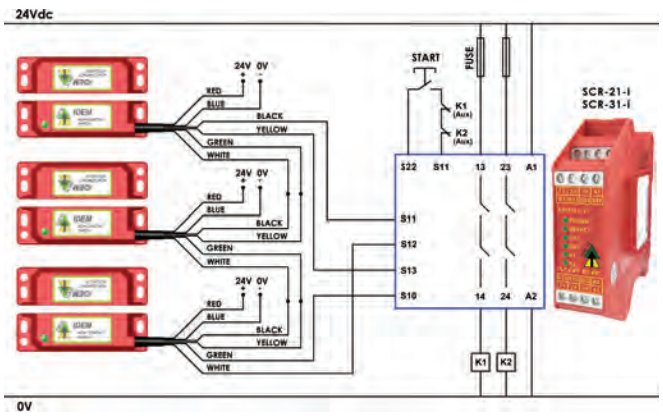
Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:

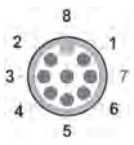


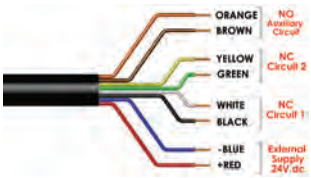
SWITCH ACTUATOR

CONNECTION EXAMPLE



Three switches connected in series to an SCR-21-i or SCR-31-i to give
Dual Channel monitoring with monitored Manual Start and Contactor Feedback Check





Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO	200mA Max. 24Vdc
5	Brown	Auxiliary NO	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
404101	LPF-M-RFID	2M
404102	LPF-M-RFID	5M
404103	LPF-M-RFID	10M
404104	LPF-M-RFID	QC-M12
404201	Replacement Actuator Master Coded	

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

OPERATING DIRECTION:

Standards:	ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508
Safety Classification and Reliability Data:	
Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 8mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Polyester
Temperature Range:	-25/80C
Enclosure Protection:	IP67/IP69K
Cable Type:	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts:	2 x M4 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
PFD	4.18E-05 Corresponds to 4.2% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
404001	LPF-U-RFID	2M
404002	LPF-U-RFID	5M
404003	LPF-U-RFID	10M
404004	LPF-U-RFID	QC-M12

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

RFID Coded: **BPF**

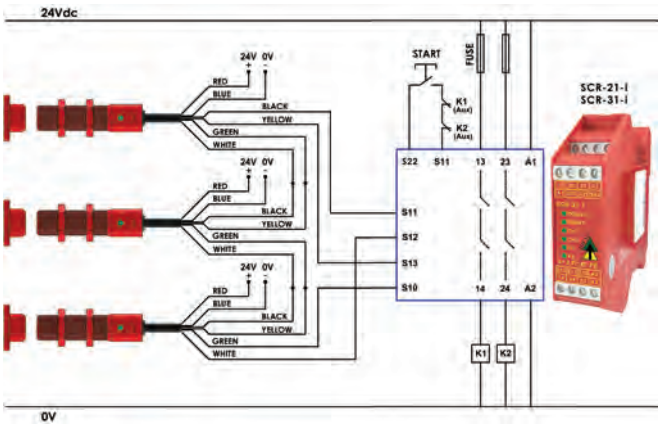
FEATURES:

M18 cylindrical fitting suitable for all industry applications.
Easy to install - M18 threaded body - easy to set.
10mm typical switching distance.
Suitable for harsh environments of Food Processing and Packaging.
High specification red polyester housing.
For use in applications up to PLe/Cat4 (EN ISO 13849-1) and SIL3 (IEC 61508).
LED indication and Quick Connect versions available.
Can be high pressure hosed at high temperature due to IP69K rating.
2NC 1NO circuits - high switching life - no moving parts.

RFID Coded Actuation.
Typical switching distance 10mm.
Will operate with most Safety Relays.

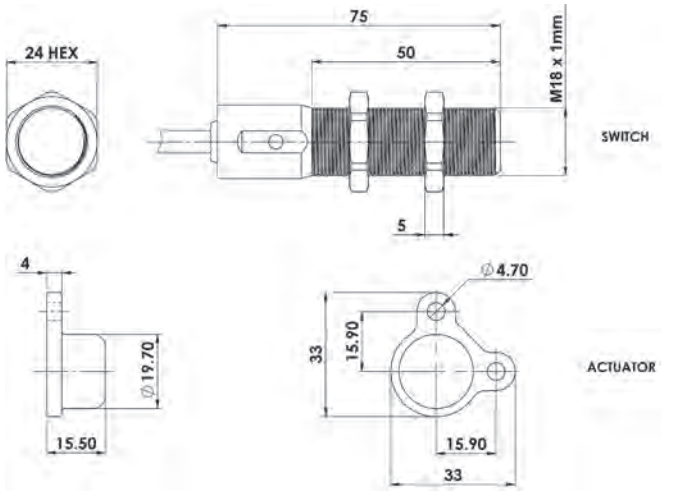
Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE

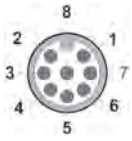


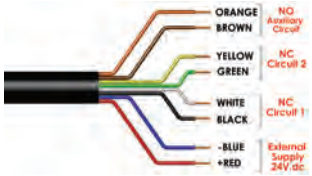
Three switches connected in series to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with monitored Manual Start and Contactor Feedback Check

DIMENSIONS:



OPERATING DIRECTION:





Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO	200mA Max. 24Vdc
5	Brown	Auxiliary NO	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
413001	BPF-M-RFID	5M
413002	BPF-M-RFID	10M
413003	BPF-M-RFID	QC-M12
413200	Replacement Actuator Master Coded	

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
413101	BPF-U-RFID	5M
413102	BPF-U-RFID	10M
413103	BPF-U-RFID	QC-M12

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 8mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Polyester
Temperature Range:	-25/80C
Enclosure Protection:	IP67
Cable Type:	PVC 8 core 6mm OD Conductors 0.25mm^2

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
PFD	4.18E-05 Corresponds to 4.2% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

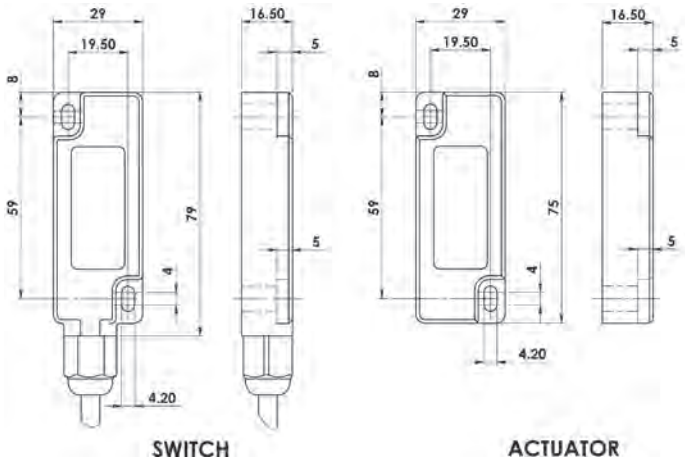
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

RFID Coded: **WPF**

FEATURES:

Designed with a slim fitting making it suitable for all industry applications.
Wide 14mm sensing with high tolerance to misalignment.
High specification and durable polyester housing.
Wide 14mm sensing with high tolerance to misalignment.
LED indication - no moving parts - survives shock and vibration.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

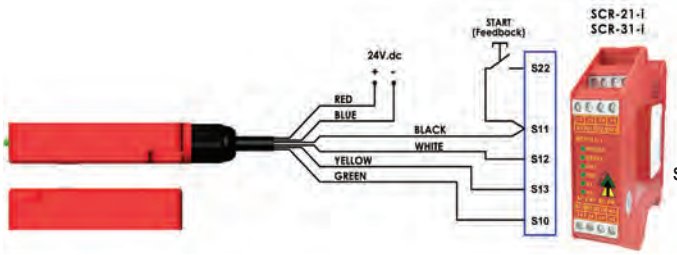
DIMENSIONS:



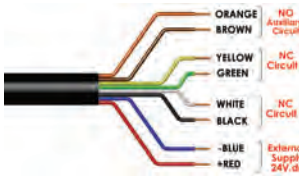
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE



One switch connected to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with manual start and contactor feedback check.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO	200mA Max. 24Vdc
5	Brown	Auxiliary NO	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
407102	WPF-M-RFID	5M
407103	WPF-M-RFID	10M
407104	WPF-M-RFID	QC-M12
407201	Replacement Actuator Master Coded	

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

OPERATING DIRECTION:

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 8mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Polyester
Temperature Range:	-25/55C
Enclosure Protection:	IP67
Cable Type:	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts:	2 x M4 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
PFD	4.18E-05 Corresponds to 4.2% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
407002	WPF-U-RFID	5M
407003	WPF-U-RFID	10M
407004	WPF-U-RFID	QC-M12

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

RFID Coded: **KPF**

FEATURES:

Industry housing shape 52mm wide 98mm long 40mm fixing.
2NC 1NO semi conductor outputs for connection to safety relay.
Visual LED indication of switch status.
Fully encapsulated sealing and pre-wired 2m, 5m or 10m cable.
Wide 14mm sensing with high tolerance to misalignment.
M12 8 Way Quick Connect version available (flying lead 150mm).

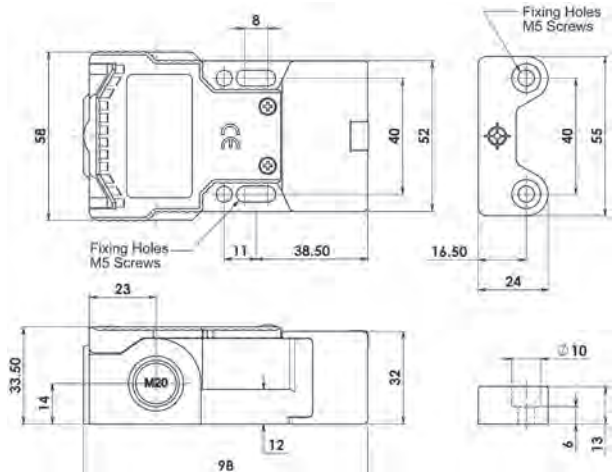
APPLICATION:

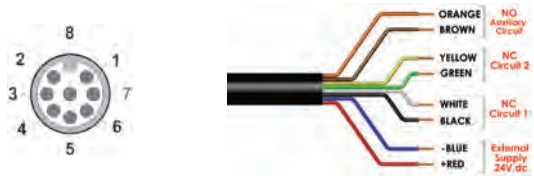
IDEM KPF RFID Coded Non Contact switches have been designed to interlock hinged, sliding or removable guard doors. They have an industry standard fixing and are specifically advantageous where:

(a) severe guard alignment exists using traditional tongue type versions
(b) long mechanical life is required (no moving or touching parts)

When used in combination with Dual Channel Safety Relays they can be used to provide up to PLe ISO13849-1 SIL3 EN62061.

DIMENSIONS:





Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO	200mA Max. 24Vdc
5	Brown	Auxiliary NO	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
408101	KPF-M-RFID END Cable (pre-wired)	5M
408102	KPF-M-RFID END Cable (pre-wired)	10M
408103	KPF-M-RFID END Cable (pre-wired)	QC-M12
408104	KPF-M-RFID LEFT Cable (pre-wired)	5M
408105	KPF-M-RFID LEFT Cable (pre-wired)	10M
408106	KPF-M-RFID LEFT Cable (pre-wired)	QC-M12
408107	KPF-M-RFID RIGHT Cable (pre-wired)	5M
408108	KPF-M-RFID RIGHT Cable (pre-wired)	10M
408109	KPF-M-RFID RIGHT Cable (pre-wired)	QC-M12
408201	Replacement Actuator Master Coded	

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

RFID Coded Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

Pre-wired Versions (fully encapsulated)

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 8mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Polyester
Temperature Range:	-25/55C
Enclosure Protection:	IP67
Cable Type:	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts:	2 x M4 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
PFD	4.18E-05 Corresponds to 4.2% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
408001	KPF-U-RFID END Cable (pre-wired)	5M
408002	KPF-U-RFID END Cable (pre-wired)	10M
408003	KPF-U-RFID END Cable (pre-wired)	QC-M12
408004	KPF-U-RFID LEFT Cable (pre-wired)	5M
408005	KPF-U-RFID LEFT Cable (pre-wired)	10M
408006	KPF-U-RFID LEFT Cable (pre-wired)	QC-M12
408007	KPF-U-RFID RIGHT Cable (pre-wired)	5M
408008	KPF-U-RFID RIGHT Cable (pre-wired)	10M
408009	KPF-U-RFID RIGHT Cable (pre-wired)	QC-M12

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

RFID Coded Stainless Steel 316: **LMF**

FEATURES:

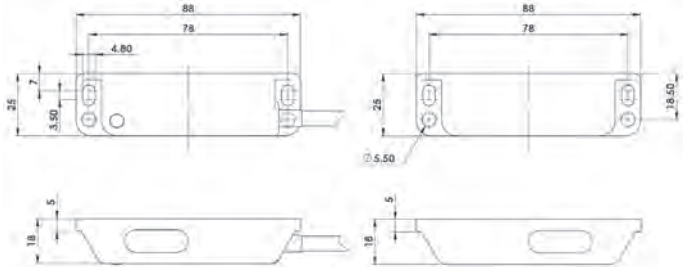
Specifically designed for Food Processing applications.
Suitable for CIP cleaning - Food Splash Zones EHEDG Guidelines.
Wide 14mm sensing with high tolerance to misalignment.
LED indication.
Can be high pressure hosed with detergent at high temperature.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

RFID Coded Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

IP69K

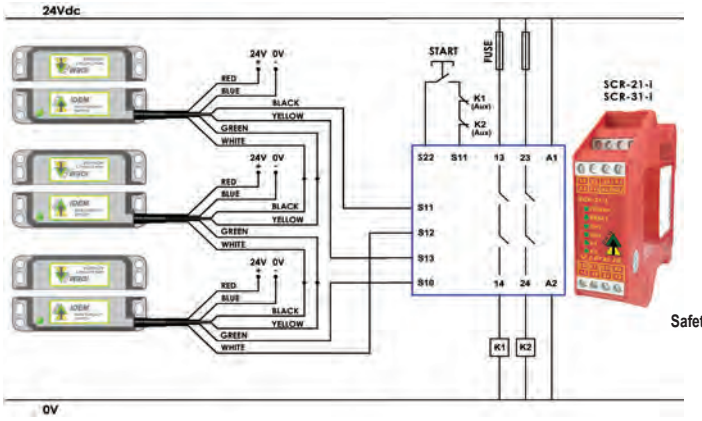
Quick Connect M12 versions fitted with 250mm (10") cable

DIMENSIONS:

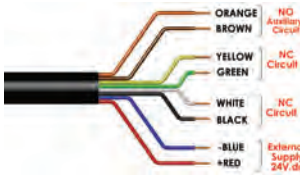


SWITCH ACTUATOR

CONNECTION EXAMPLE



Three 2NC version switches connected in series to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with Manual Start and Contactor Feedback Check



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO	200mA Max. 24Vdc
5	Brown	Auxiliary NO	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
406102	LMF-M-RFID	5M
406103	LMF-M-RFID	10M
406104	LMF-M-RFID	QC-M12
406201	Replacement Actuator Master Coded	

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

OPERATING DIRECTION:

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 8mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Stainless Steel 316 (mirror polished finish)
Temperature Range:	-25/80C (105C for CIP/SIP)
Enclosure Protection:	IP67/IP69K (QC versions IP67 for connector)
Cable Type:	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts:	2 x M4 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
PFD	4.18E-05 Corresponds to 4.2% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
406002	LMF-U-RFID	5M
406003	LMF-U-RFID	10M
406004	LMF-U-RFID	QC-M12

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

RFID Coded Stainless Steel 316: **BMF**

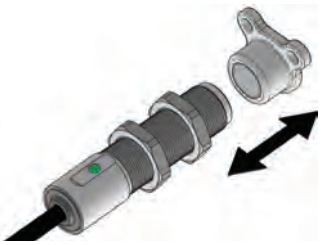
FEATURES:

M18 cylindrical fitting suitable for all industry applications.
Easy to install - M18 threaded body - easy to set.
8mm typical switching distance.
Suitable for harsh environments of Food Processing and Packaging.
High specification Stainless Steel 316 with mirror polished finish.
For use in applications up to PLe/Cat4 (EN ISO 13849-1) and SIL3 (IEC 61508).
LED indication and Quick Connect versions available.
Can be high pressure hosed at high temperature due to IP69K rating.
2NC 1NO circuits - high switching life - no moving parts.

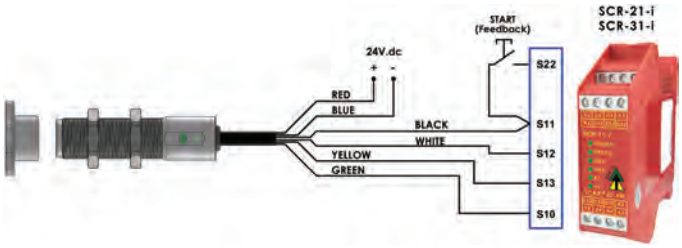
RFID Coded Actuation.
Typical switching distance up to 8mm.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

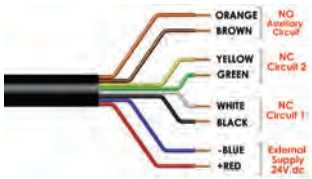
OPERATING DIRECTION:



CONNECTION EXAMPLE



One switch connected to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with manual start and contactor feedback check.

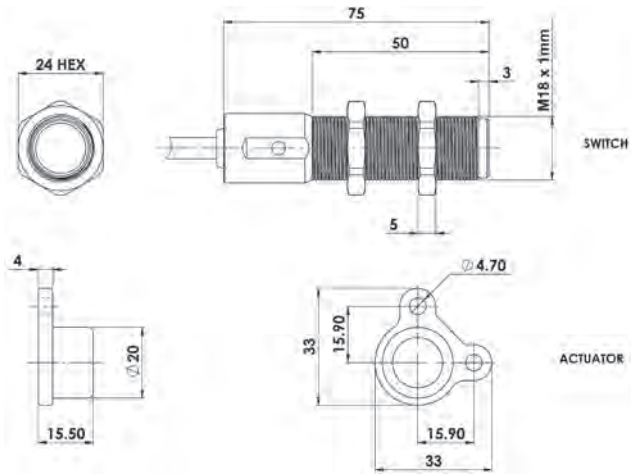


Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO	200mA Max. 24Vdc
5	Brown	Auxiliary NO	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
414001	BMF-M-RFID	5M
414002	BMF-M-RFID	10M
414003	BMF-M-RFID	QC-M12
414200	Replacement Actuator Master Coded	

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
414101	BMF-U-RFID	5M
414102	BMF-U-RFID	10M
414103	BMF-U-RFID	QC-M12

DIMENSIONS:



Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 6mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Stainless Steel 316 (mirror polished)
Temperature Range:	-25/80C
Enclosure Protection:	IP67/IP69K (QC versions IP67 for connector)
Cable Type:	PVC 8 core 6mm OD Conductors 0.25mm^2

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
PFD	4.18E-05 Corresponds to 4.2% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

RFID Coded Stainless Steel 316: **SMF-H**

FEATURES:

Specifically designed for Food Processing applications.
Suitable for CIP cleaning - Food Splash Zones EHEDG Guidelines.
Wide 14mm sensing with high tolerance to misalignment.
LED indication.
Can be high pressure hosed with detergent at high temperature.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

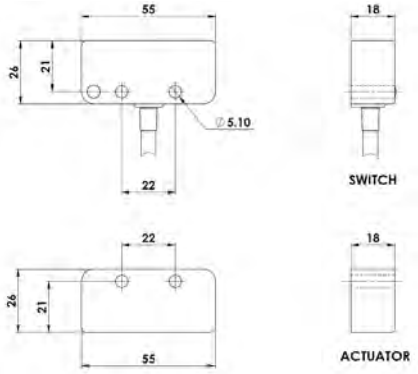
NEW

RFID Coded Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

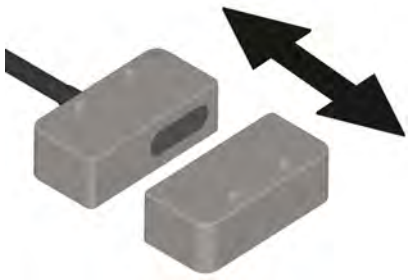
IP69K

Quick Connect M12 versions fitted with 250mm (10") cable

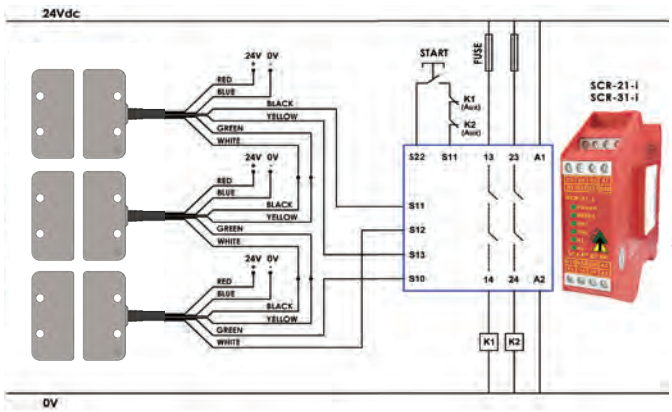
DIMENSIONS:



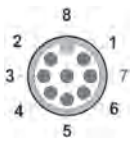
OPERATING DIRECTION:

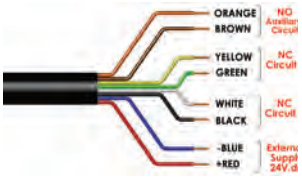


CONNECTION EXAMPLE



Three 2NC version switches connected in series to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with Manual Start and Contactor Feedback Check





Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO	200mA Max. 24Vdc
5	Brown	Auxiliary NO	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
	SMF-H-M-RFID	5M
	SMF-H-M-RFID	10M
	SMF-H-M-RFID	QC-M12
	Replacement Actuator Master Coded	

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 8mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Stainless Steel 316 (mirror polished finish)
Temperature Range:	-25/80C (105C for CIP/SIP)
Enclosure Protection:	IP67/IP69K (QC versions IP67 for connector)
Cable Type:	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts:	2 x M4 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
PFD	4.18E-05 Corresponds to 4.2% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
	SMF-H-U-RFID	5M
	SMF-H-U-RFID	10M
	SMF-H-U-RFID	QC-M12

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Coded: **Overview**

DESCRIPTION:

All IDEM Coded Non Contact Safety Switches have been designed to enable the conformance to EN60947-5-3 and be used as directed by ISO12100, ISO14121 and EN60204-1.

They have coded magnetic sensing which provides a wide sensing distance and provides a high tolerance to misalignment after sensing. They can be fitted behind stainless steel fittings and can operate from 4 directions even in extreme environments of temperature and moisture.

When used in combination with most Dual Channel Safety Monitoring Relays they can be used to provide up to PLe to ISO13849-1.

They offer a choice of high specification Plastic or Stainless Steel 316.

APPLICATION:

IDEM Coded Non Contact Safety Switches are designed to interlock hinged, sliding or removable guard doors.

They are specifically advantageous when :

(a) poor guard alignment exists
(b) anti tamper sensing is required
(c) high hygiene requirements exist, e.g. food industry hose down
(d) long life is required (no moving or touching parts)
(e) LED status indication is desirable

FEATURES:

Dual channel electronic safety output 2NC (1NO auxiliary optional)

Visual LED indication of switch status

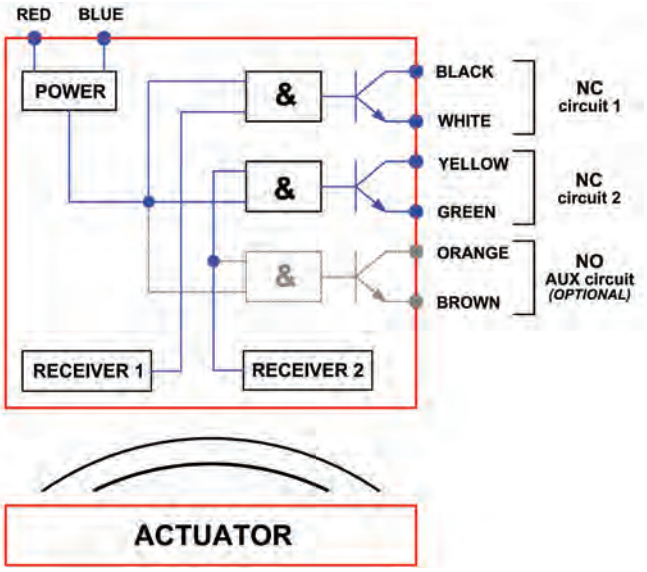
Enclosure Protected to IP67 or IP69K - wash down suitable

Conformance to EN60947-5-3

No moving parts to give high reliability and long life

Wide sensing distance up to 14mm

PRINCIPLE:



PLASTIC (HIGH SPECIFICATION POLYESTER) VERSIONS:

The Plastic **IDECODE** range have been developed for non-contact guard door interlocking in the applications of general factory automation, packaging and some food processing industries.

Supplied with Screw Cap covers to prevent contamination from food deposits

MPC

Miniature industry standard design. 22mm fixing centres, available with Left or Right cable exit points.

SPC

Universal 22mm fixing centres.

LPC

European industry standard fitting. End cable exit.

CPC

Compact slim fitting housing. Suitable for fitting to applications where space is restricted.

WPC

Industry standard wide fitting. Front face actuation for large guards.

RPC

M30 threaded body - easy to mount.

KPC

Industry standard interlock switch housing. Can be retrofitted in place of similar mechanical switches. Fixing centres 40mm.

Magnetically Coded: **Overview**

STAINLESS STEEL 316 VERSIONS:

The Stainless Steel 316 **HYGIECODE** range have been developed for non-contact guard door interlocking in the applications of Food Processing, Pharmaceutical, Packaging and Petro-Chemical Industries.

- Stainless Steel 316
- Can be high pressure hosed at high temperature - IP69K
- Mirror Polished Finish to Ra4
- Can be mounted on steel structures
- Suitable for CIP and SIP cleaning
- Wide 14mm sensing high tolerance to misalignment
- Can be high pressure hosed at high temperature (IP69K)

Designed in accordance with EHEDG guidelines for hygienic design (EHEDG European Hygienic Engineering & Design Group).

The housing designs, surface finish and styling means they can be used in almost any environments subject to high levels of cleaning following contamination from foreign particles.

They are offered with various types of mounting styles to cover different levels of food contact (as described by the EHEDG):

- Direct Contact Zone: The switch mounting is designed according to EHEDG hygienic guidelines and also fulfils the requirements of the splash zone.
- Splash Zone: The switch must be easy to clean and withstand the CIP and SIP cleaning processes found in the food industry (tested IP69K).

SMC

Universal 22mm fixing centres: suitable for food splash zones.

CMC

Compact slim housing: suitable for food splash zones. Ideal for where there are space restrictions.

LMC

European industry standard fitting: suitable for food splash zones.

WMC

Industry standard wide fitting: suitable for food splash zones. Front facing actuation.

SMC-F

Universal 22mm fixing centres.
Rear fixing - M4 tapped holes at rear of housing.
Suitable for food contact zones.

CMC-F

Compact slim housing.
Rear fixing - M4 tapped holes at rear of housing.
Suitable for food contact zones.

RMC

M30 thread: suitable for some food contact zones.
Circular body and actuator.

SMC-H

Universal 22mm fixing centres.
Through hole fixing - M4 clearance holes for front mounting by hexagon head bolts.
Suitable for food contact zones.

For SMC-H and MMC-H
Use hexagon head bolts for ease of cleaning.

MMC-H

Miniature industry standard design - through hole mounting on M4 clearance for front mounting by hexagon head bolts.
Suitable for food splash or food contact zones.

All types are available without LED for extremely harsh environments.
All Stainless Steel 316 switches are tested to ingress protection degree IP69K (high pressure washdown with detergent at 80C and 100psi).

Magnetically Coded: **MPC (IDECODE)**

FEATURES:

Compact and robust fitting suitable for all small guard applications.
LED indication.
Hygienic screw covers ensure suitability for Food Processing washdown.
Cost-effective interlock solution.
Wide sensing at 10mm.
High specification polyester housing with integral back plate.
Can be mounted unobtrusively in channels or behind doors.
Left or right cable exit options available.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.

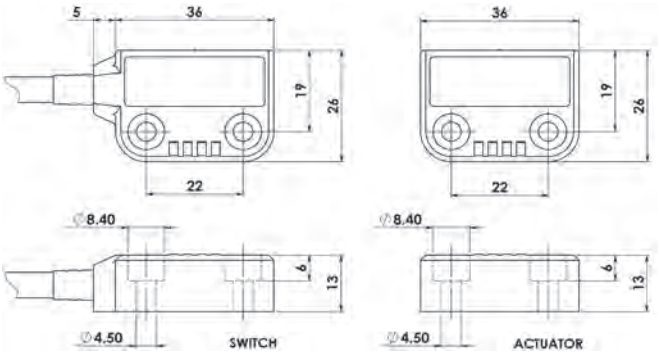
Coded Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.

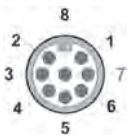
Supplied with Screw Cap covers to prevent contamination from food deposits

Quick Connect M12 versions fitted with 250mm (10") cable

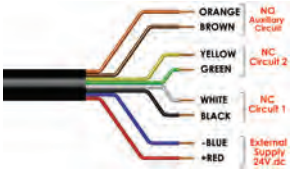
Left or Right Cable Exit Options available

DIMENSIONS:





Quick Connect M12 versions fitted with 250mm (10") cable



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

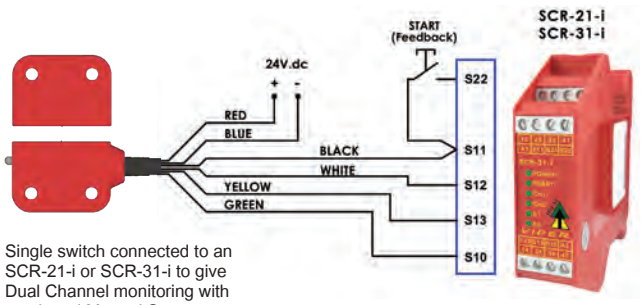
ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 12mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

CONNECTION EXAMPLE: CODED SWITCH



Single switch connected to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with monitored Manual Start

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
114101	MPC Cable Right	2M	2NC
114102	MPC Cable Right	5M	2NC
114103	MPC Cable Right	10M	2NC
114104	MPC Cable Right	QC-M12*	2NC
114105	MPC Cable Right	2M	2NC 1NO
114106	MPC Cable Right	5M	2NC 1NO
114107	MPC Cable Right	10M	2NC 1NO
114108	MPC Cable Right	QC-M12*	2NC 1NO
114117	MPC Cable Right	2M	3NC
114118	MPC Cable Right	5M	3NC
114119	MPC Cable Right	10M	3NC
114120	MPC Cable Right	QC-M12*	3NC
114109	MPC Cable Left	2M	2NC
114110	MPC Cable Left	5M	2NC
114111	MPC Cable Left	10M	2NC
114112	MPC Cable Left	QC-M12*	2NC
114113	MPC Cable Left	2M	2NC 1NO
114114	MPC Cable Left	5M	2NC 1NO
114115	MPC Cable Left	10M	2NC 1NO
114116	MPC Cable Left	QC-M12*	2NC 1NO
114121	MPC Cable Left	2M	3NC
114122	MPC Cable Left	5M	3NC
114123	MPC Cable Left	10M	3NC
114124	MPC Cable Left	QC-M12*	3NC

*Other QC (Quick Connect) sizes available upon request.

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **LPC (EUROCODE)**

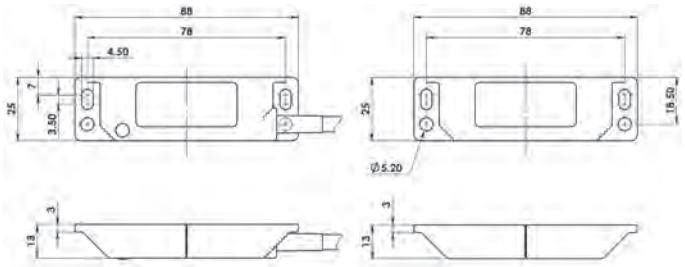
FEATURES:

Popular European fitting suitable for all industry applications.
LED indication.
Can be high pressure hosed at high temperature due to IP69K rating.
Wide sensing at 14mm with high tolerance to misalignment.
High specification polyester housing with integral back plate.
Quick Connect versions available.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Magnet holding option available for use with small guards.

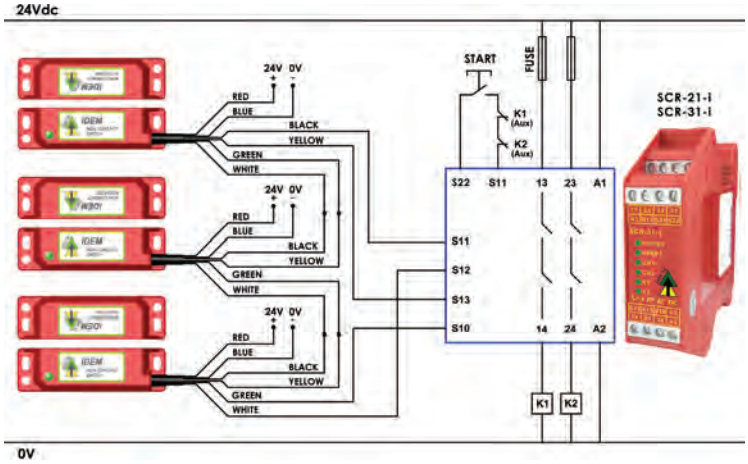
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:



CONNECTION EXAMPLE: CODED SWITCH



Three switches connected in series to an SCR-21-i or SCR-31-i to give
Dual Channel monitoring with monitored Manual Start and Contactor Feedback Check

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

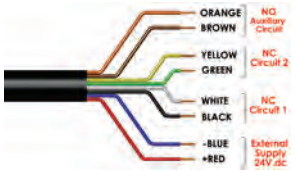
Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Magnetic Holding versions

At 1mm setting gap: 10N
At 5mm setting gap: 5N



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
110001	Eurocode LPC	2M	2NC
110002	Eurocode LPC	5M	2NC
110003	Eurocode LPC	10M	2NC
110004	Eurocode LPC	QC-M12	2NC
110005	Eurocode LPC	2M	2NC 1NO
110006	Eurocode LPC	5M	2NC 1NO
110007	Eurocode LPC	10M	2NC 1NO
110008	Eurocode LPC	QC-M12	2NC 1NO
110070	Eurocode LPC	2M	3NC
110071	Eurocode LPC	5M	3NC
110072	Eurocode LPC	10M	3NC
110073	Eurocode LPC	QC-M12	3NC

For Magnetic Holding versions add 10N to Sales Number
Example: LPC 2NC 1NO 5m with Magnetic Holding Order: 110006-10N

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

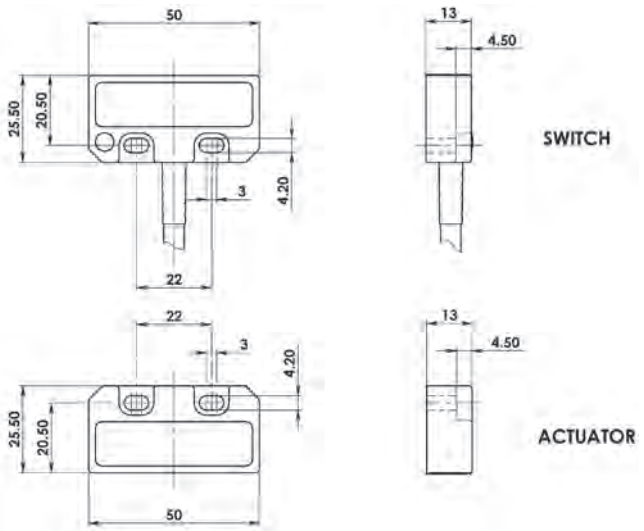
Magnetically Coded: **SPC (IDECODE)**

FEATURES:

Universal fitting - established 22mm footprint suitable for most applications.
Withstands environments where high humidity or hose down is required.
High specification and durable polyester housing.
Wide 14mm sensing with high tolerance to misalignment.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available

Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

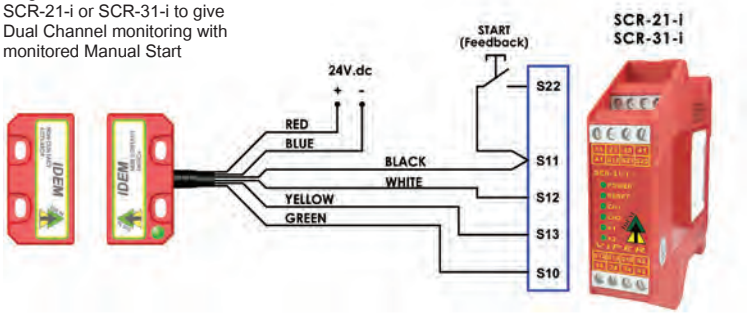
DIMENSIONS:



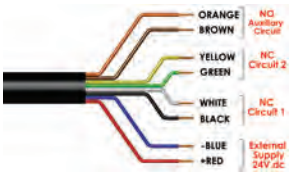
Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE: CODED SWITCH

Single switch connected to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with monitored Manual Start



140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
111001	Idecode SPC	2M	2NC
111002	Idecode SPC	5M	2NC
111003	Idecode SPC	10M	2NC
111004	Idecode SPC	QC-M12	2NC
111005	Idecode SPC	2M	2NC 1NO
111006	Idecode SPC	5M	2NC 1NO
111007	Idecode SPC	10M	2NC 1NO
111008	Idecode SPC	QC-M12	2NC 1NO
111105	Idecode SPC	2M	3NC
111106	Idecode SPC	5M	3NC
111107	Idecode SPC	10M	3NC
111108	Idecode SPC	QC-M12	3NC

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

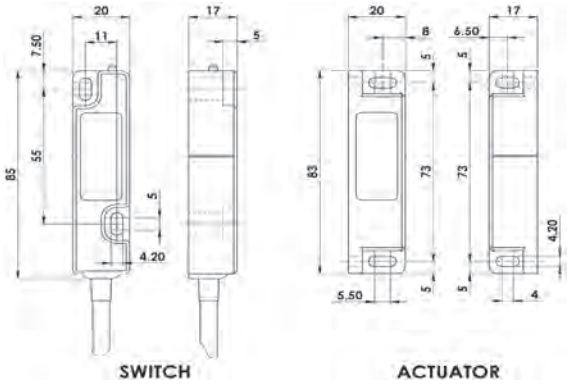
Magnetically Coded: **CPC (IDECODE)**

FEATURES:

Designed with a slim fitting making it suitable for all industry applications.
Easy to install within narrow frame constructions.
High specification and durable polyester housing.
Wide 14mm sensing with high tolerance to misalignment.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

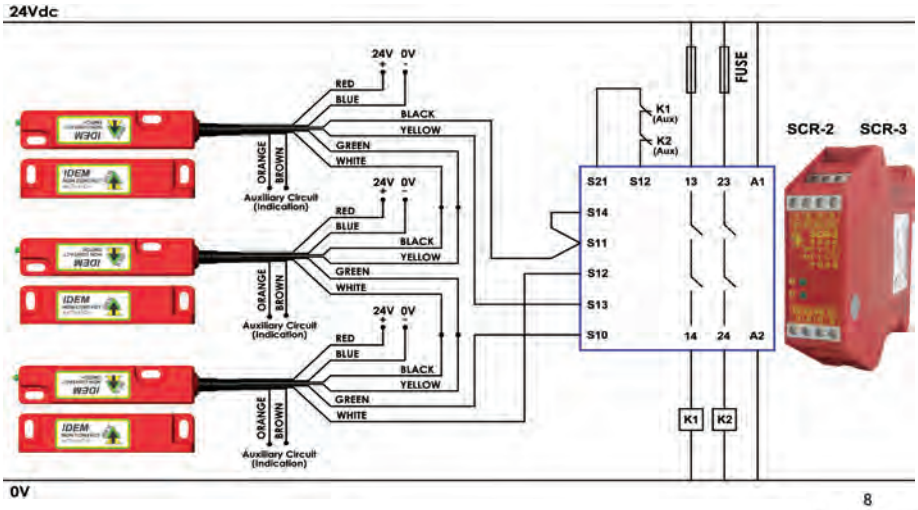
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

DIMENSIONS:



Quick Connect M12 versions fitted with 250mm (10") cable.

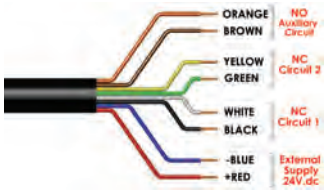
CONNECTION EXAMPLE: CODED SWITCH



Three switches connected in series to an SCR-2 or SCR-3 to give Dual Channel monitoring with automatic start and contactor feedback check.

Optional auxiliary circuits provide for remote signalling from each switch.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way



Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening Torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
115001	Idecode CPC	2M	2NC
115002	Idecode CPC	5M	2NC
115003	Idecode CPC	10M	2NC
115004	Idecode CPC	QC-M12	2NC
115005	Idecode CPC	2M	2NC 1NO
115006	Idecode CPC	5M	2NC 1NO
115007	Idecode CPC	10M	2NC 1NO
115008	Idecode CPC	QC-M12	2NC 1NO

AVAILABLE WITHOUT LED IF REQUIRED.

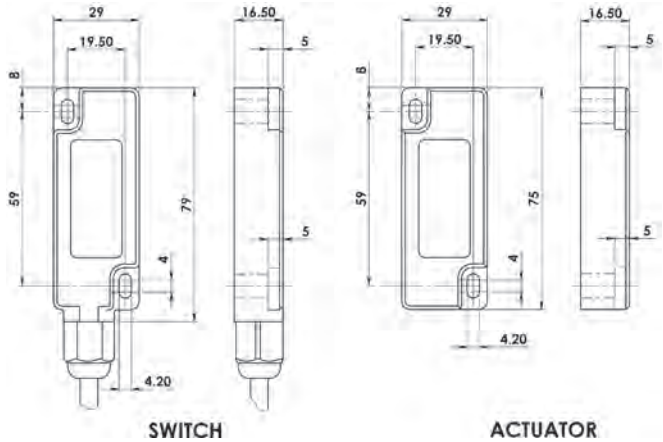
Magnetically Coded: **WPC (IDECODE)**

FEATURES:

Designed with a slim fitting making it suitable for all industry applications.
Wide 14mm sensing with high tolerance to misalignment.
High specification and durable polyester housing.
Wide 14mm sensing with high tolerance to misalignment.
LED indication - no moving parts - survives shock and vibration.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

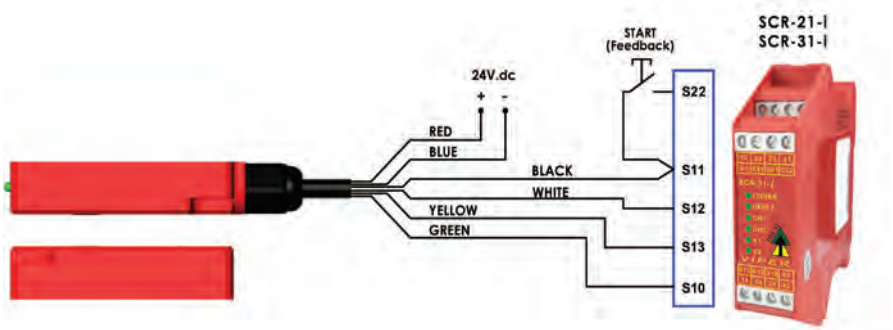
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

DIMENSIONS:



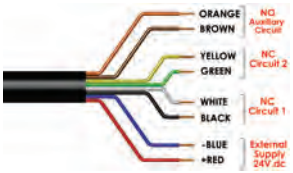
Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE: CODED SWITCH



One switch connected to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with manual start.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
112013	Idecode WPC	2M	2NC
112014	Idecode WPC	5M	2NC
112015	Idecode WPC	10M	2NC
112016	Idecode WPC	QC-M12	2NC
112017	Idecode WPC	2M	2NC 1NO
112018	Idecode WPC	5M	2NC 1NO
112019	Idecode WPC	10M	2NC 1NO
112020	Idecode WPC	QC-M12	2NC 1NO
112105	Idecode WPC	2M	3NC
112106	Idecode WPC	5M	3NC
112107	Idecode WPC	10M	3NC
112108	Idecode WPC	QC-M12	3NC

AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **RPC (IDECODE)**

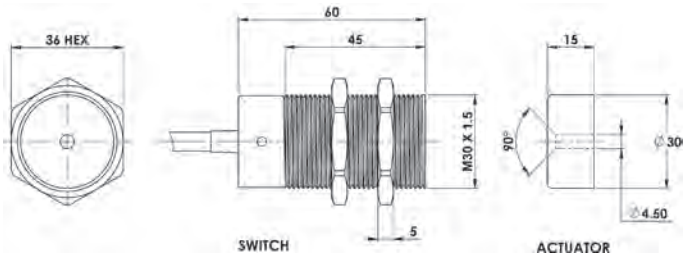
FEATURES:

Cylindrical fitting making it suitable for all industry applications.
Easy to install with an M30 threaded body - easy to set.
Robust and durable polyester housing - suitable for harsh environments.
Wide 10mm sensing.
Can be flush mounted.
LED indication.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

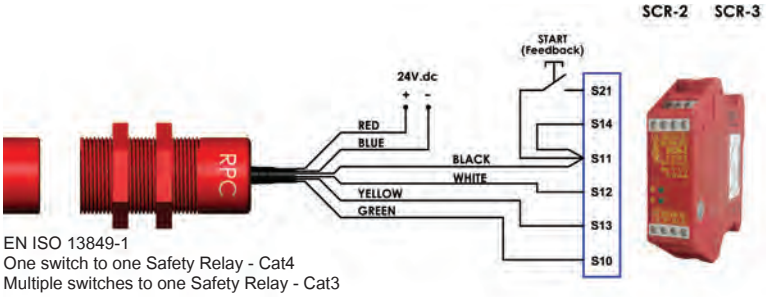
Coded Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

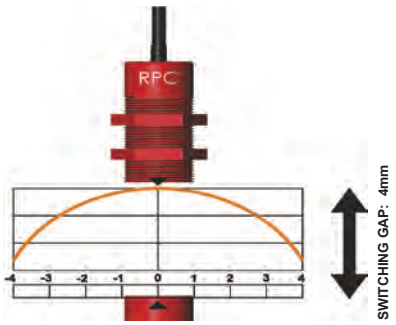
DIMENSIONS:

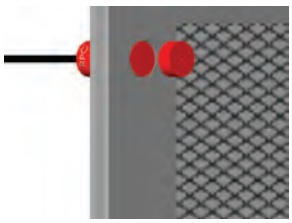


CONNECTION EXAMPLE: CODED SWITCH

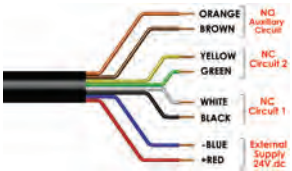


EN ISO 13849-1
One switch to one Safety Relay - Cat4
Multiple switches to one Safety Relay - Cat3





Can be mounted flush.



140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Standards:	ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508
Safety Classification and Reliability Data:	
ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years
Technical Specification:	
Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 12mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2 +ve	200mA Max. 24Vdc
6	Green	Safety NC2 -ve	
7	Black	Safety NC1 +ve	200mA Max. 24Vdc
1	White	Safety NC1 -ve	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
116001	Idecode RPC	2M	2NC
116002	Idecode RPC	5M	2NC
116003	Idecode RPC	10M	2NC
116004	Idecode RPC	QC-M12	2NC
116005	Idecode RPC	2M	2NC 1NO
116006	Idecode RPC	5M	2NC 1NO
116007	Idecode RPC	10M	2NC 1NO
116008	Idecode RPC	QC-M12	2NC 1NO
116105	Idecode RPC	2M	3NC
116106	Idecode RPC	5M	3NC
116107	Idecode RPC	10M	3NC
116108	Idecode RPC	QC-M12	3NC

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **KPC (KOBRACODE)**

FEATURES:

Industry housing shape 52mm wide 98mm long 40mm fixing.
2NC 1NO semi conductor outputs for connection to safety relay.
Visual LED indication of switch status.
Fully encapsulated sealing and pre-wired 2m, 5m or 10m cable.
Wide 10mm sensing with high tolerance to misalignment.
M12 8 Way Quick Connect version available (flying lead 150mm).

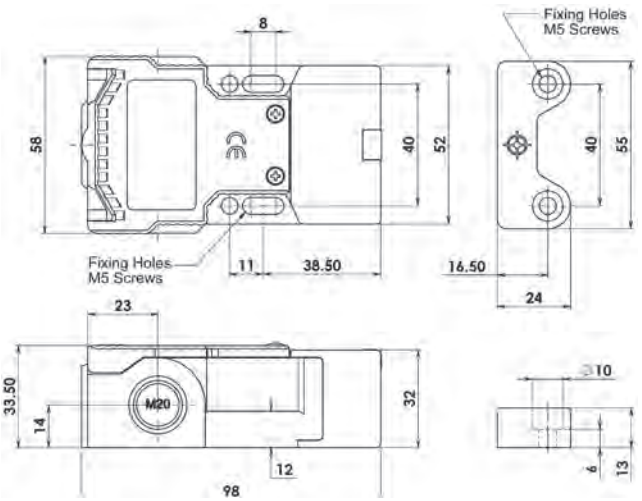
APPLICATION:

IDEM KPC Coded Non Contact switches have been designed to interlock hinged, sliding or removable guard doors.
They have an industry standard fixing and are specifically advantageous where:

(a) severe guard alignment exists using traditional tongue type versions.
(b) long mechanical life is required (no moving or touching parts).

When used in combination with Dual Channel Safety Relays they can be used to provide up to PLe ISO13849-1 SIL3 EN62061.

DIMENSIONS:



Pre-wired Versions (fully encapsulated)

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6×10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

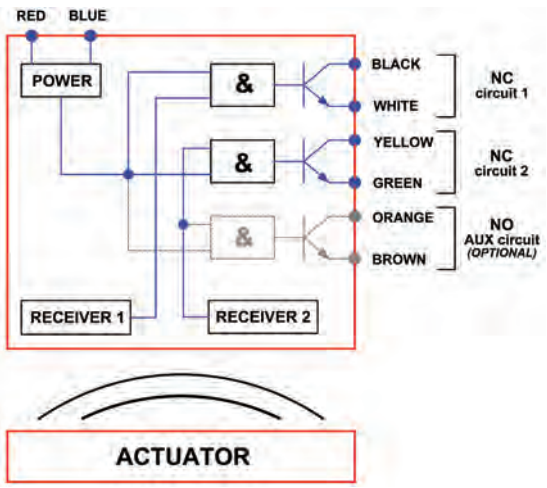
Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP67 (NEMA 6)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM5 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Coded Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.

SENSING PRINCIPLE:



SALES NUMBER	TYPE	CONDUIT OR CABLE EXIT	CIRCUITS
120001	Kobracode KPC	Pre-wired 2m End	2NC 1NO
120002	Kobracode KPC	Pre-wired 5m End	2NC 1NO
120003	Kobracode KPC	Pre-wired 10m End	2NC 1NO
120004	Kobracode KPC	Pre-wired 2m Left	2NC 1NO
120005	Kobracode KPC	Pre-wired 5m Left	2NC 1NO
120006	Kobracode KPC	Pre-wired 10m Left	2NC 1NO
120007	Kobracode KPC	Pre-wired 2m Right	2NC 1NO
120008	Kobracode KPC	Pre-wired 5m Right	2NC 1NO
120009	Kobracode KPC	Pre-wired 10m Right	2NC 1NO
120012	Kobracode KPC	QC M12 8 Way 150mm End	2NC 1NO

Magnetically Coded: **MMC-H (HYGIECODE)**

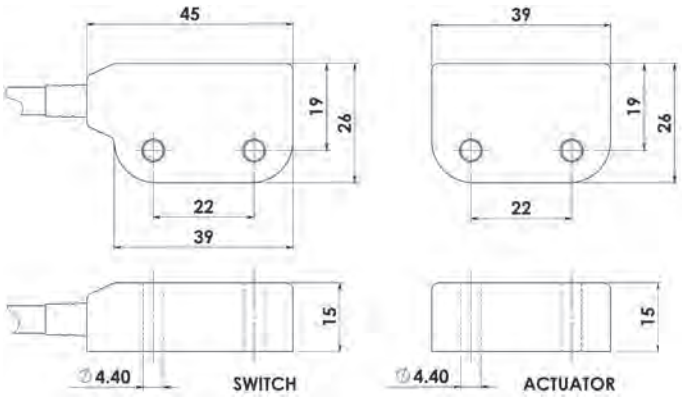
FEATURES:

Compact and robust fitting suitable for all small guard applications.
Through hole fixing to enable front mounting.
No food trap areas.
Suitable for CIP SIP cleaning:
- Food Contact or Splash Zones EHEDG guidelines.

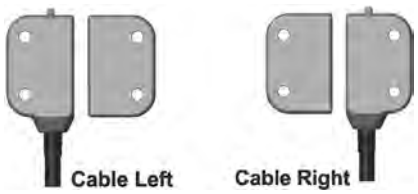
LED indication.
Cost-effective interlock solution.
Wide sensing at 10mm.
Can be mounted unobtrusively in channels or behind doors.
Left or right cable exit options available.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Stainless Steel 316 housing - mirror polished finished to Ra4.

Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.

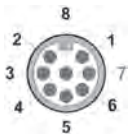
DIMENSIONS:



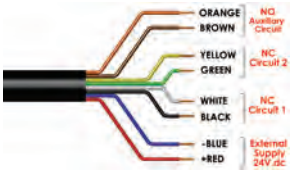
Left or Right Cable Exit Options available



140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way



Quick Connect M12 versions fitted with 250mm (10") cable.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6×10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 12mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 Mirror Polished Finish (Ra4)
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
131101	MMC-H Cable Right	2M	2NC
131102	MMC-H Cable Right	5M	2NC
131103	MMC-H Cable Right	10M	2NC
131104	MMC-H Cable Right	QC-M12*	2NC
131105	MMC-H Cable Right	2M	2NC 1NO
131106	MMC-H Cable Right	5M	2NC 1NO
131107	MMC-H Cable Right	10M	2NC 1NO
131108	MMC-H Cable Right	QC-M12*	2NC 1NO
131109	MMC-H Cable Right	2M	3NC
131110	MMC-H Cable Right	5M	3NC
131111	MMC-H Cable Right	10M	3NC
131112	MMC-H Cable Right	QC-M12*	3NC
131113	MMC-H Cable Left	2M	2NC
131114	MMC-H Cable Left	5M	2NC
131115	MMC-H Cable Left	10M	2NC
131116	MMC-H Cable Left	QC-M12*	2NC
131117	MMC-H Cable Left	2M	2NC 1NO
131118	MMC-H Cable Left	5M	2NC 1NO
131119	MMC-H Cable Left	10M	2NC 1NO
131120	MMC-H Cable Left	QC-M12*	2NC 1NO
131121	MMC-H Cable Left	2M	3NC
131122	MMC-H Cable Left	5M	3NC
131123	MMC-H Cable Left	10M	3NC
131124	MMC-H Cable Left	QC-M12*	3NC

*Other QC (Quick Connect) sizes available upon request.

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **SMC (HYGIECODE)**

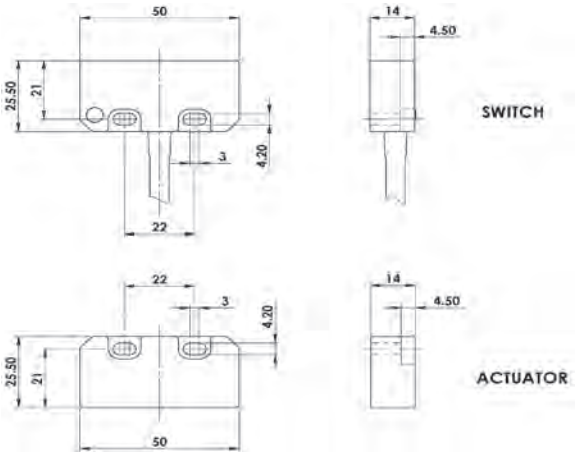
FEATURES:

Robust Stainless Steel 316 enclosure designed to survive the tough environments of Food Processing and Pharmaceutical industries.
LED indication.
Survives high pressure hosing at high temperature.
Wide 14mm sensing with high tolerance to misalignment.
Universal fitting - 22mm footprint suitable for most applications.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

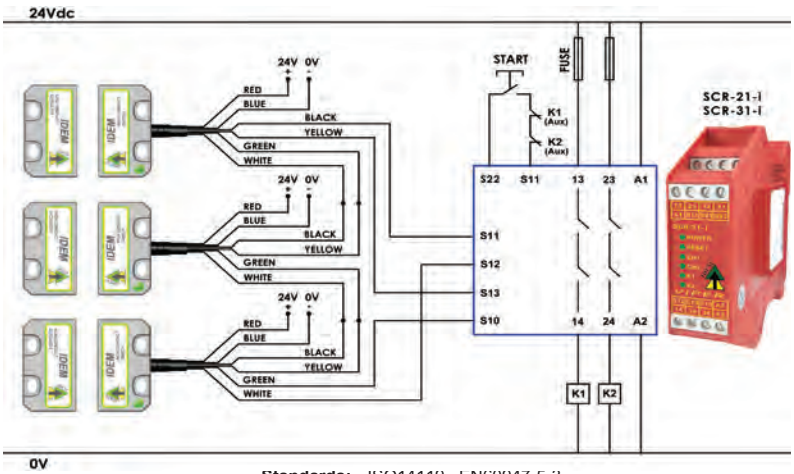
IP69K

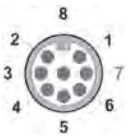
DIMENSIONS:

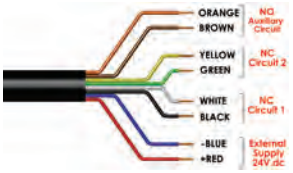


Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE: CODED SWITCHES







Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6×10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
139001	Hygiecode SMC	2M	2NC
139002	Hygiecode SMC	5M	2NC
139003	Hygiecode SMC	10M	2NC
139004	Hygiecode SMC	QC-M12	2NC
139005	Hygiecode SMC	2M	2NC 1NO
139006	Hygiecode SMC	5M	2NC 1NO
139007	Hygiecode SMC	10M	2NC 1NO
139008	Hygiecode SMC	QC-M12	2NC 1NO
139105	Hygiecode SMC	2M	3NC
139106	Hygiecode SMC	5M	3NC
139107	Hygiecode SMC	10M	3NC
139108	Hygiecode SMC	QC-M12	3NC

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

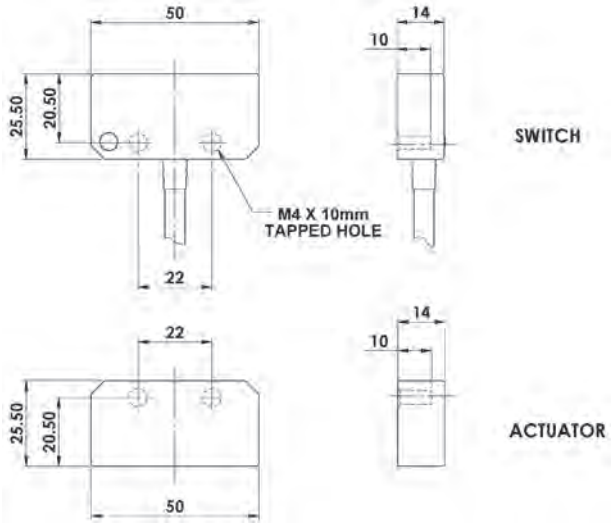
Magnetically Coded: **SMC-F (HYGIECODE)**

FEATURES:

Specifically designed for Food Processing applications.
Suitable for CIP and SIP cleaning - mounting holes at rear - no food traps.
Wide 14mm sensing with high tolerance to misalignment.
Universal housing - 22mm fixing hole centre - 50mm wide body.
Can be high pressure hosed at high temperature - IP69K rating.
Rear fixing with 2 x M4 tapped holes.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

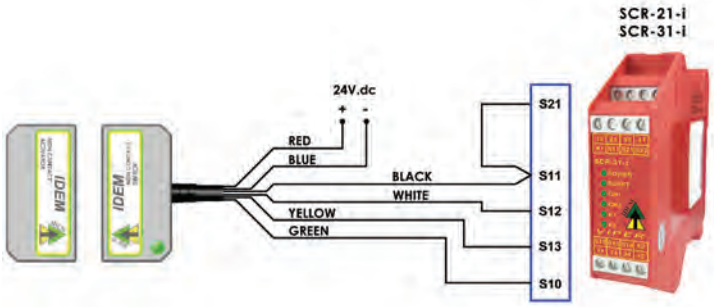
Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

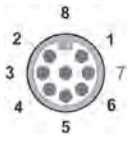
DIMENSIONS:

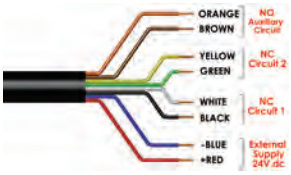


Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE: CODED SWITCHES







Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
137001	Hygiecode SMC-F	2M	2NC
137002	Hygiecode SMC-F	5M	2NC
137003	Hygiecode SMC-F	10M	2NC
137004	Hygiecode SMC-F	QC-M12	2NC
137005	Hygiecode SMC-F	2M	2NC 1NO
137006	Hygiecode SMC-F	5M	2NC 1NO
137007	Hygiecode SMC-F	10M	2NC 1NO
137008	Hygiecode SMC-F	QC-M12	2NC 1NO
137105	Hygiecode SMC-F	2M	3NC
137106	Hygiecode SMC-F	5M	3NC
137107	Hygiecode SMC-F	10M	3NC
137108	Hygiecode SMC-F	QC-M12	3NC

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **SMC-H (HYGIECODE)**

FEATURES:

Designed for Food Processing and Pharmaceutical applications.
Through hole fixing for front mounting by hexagon bolts - no food trap areas.
Suitable for CIP and SIP cleaning:
- Food Contact or Splash Zones EHEDG Guidelines.

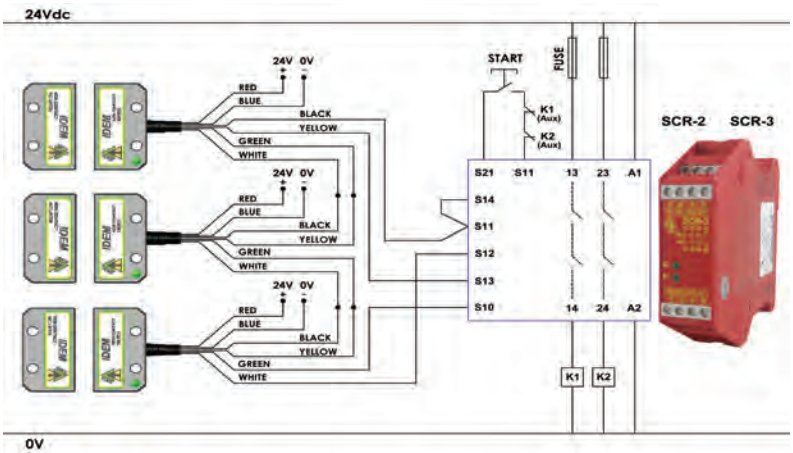
Wide 14mm sensing with high tolerance to misalignment.
Universal fitting, established 22mm fixing footprint - suits most applications.
Can be high pressure hosed at high temperature.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

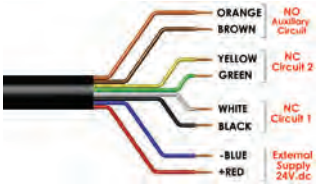
Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

IP69K

Use Hexagon Head Bolts for ease of cleaning.

CONNECTION EXAMPLE: CODED SWITCHES





Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

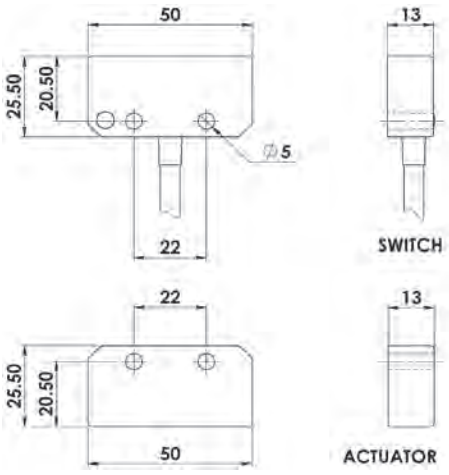
Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

DIMENSIONS:



SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
132001	Hygiecode SMC-H	2M	2NC
132002	Hygiecode SMC-H	5M	2NC
132003	Hygiecode SMC-H	10M	2NC
132004	Hygiecode SMC-H	QC-M12	2NC
132005	Hygiecode SMC-H	2M	2NC 1NO
132006	Hygiecode SMC-H	5M	2NC 1NO
132007	Hygiecode SMC-H	10M	2NC 1NO
132008	Hygiecode SMC-H	QC-M12	2NC 1NO
132105	Hygiecode SMC-H	2M	3NC
132106	Hygiecode SMC-H	5M	3NC
132107	Hygiecode SMC-H	10M	3NC
132108	Hygiecode SMC-H	QC-M12	3NC

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **LMC (HYGIECODE)**

FEATURES:

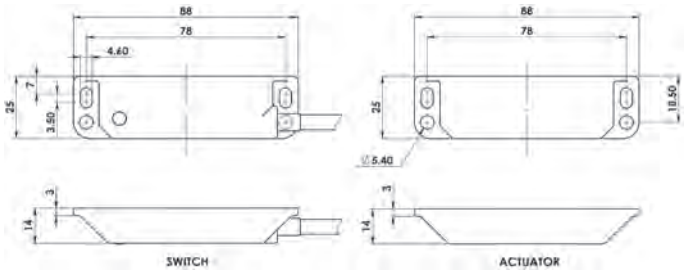
Specifically designed for Food Processing applications.
Suitable for CIP cleaning - Food Splash Zones EHEDG Guidelines.
Wide 14mm sensing with high tolerance to misalignment.
LED indication.
Can be high pressure hosed with detergent at high temperature.
Magnetic holding option available for use with small guards.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

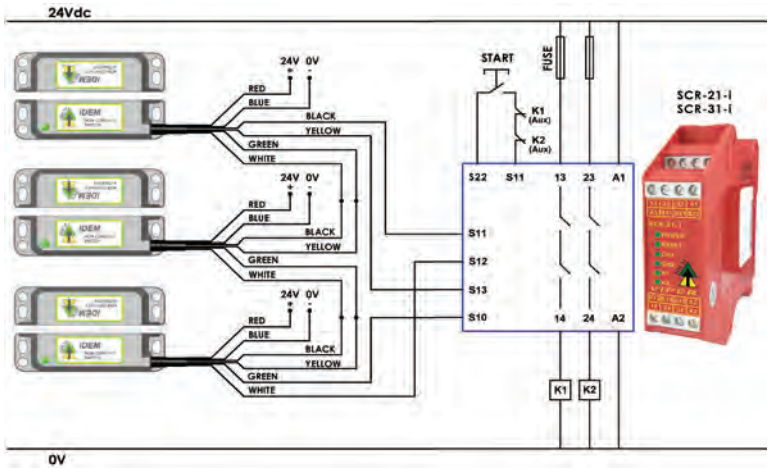
IP69K

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:



CONNECTION EXAMPLE: CODED SWITCHES



Three 2NC version switches connected in series to an SCR-21-i or SCR-31-i to give Dual Channel monitoring with Manual Start and Contactor Feedback Check.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

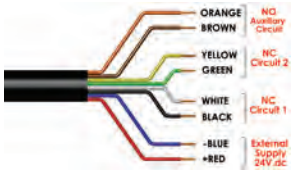
Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Magnetic Holding versions:

At 1mm setting gap: 10N
At 5mm setting gap: 5N



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
133001	Hygiecode LMC	2M	2NC
133002	Hygiecode LMC	5M	2NC
133003	Hygiecode LMC	10M	2NC
133004	Hygiecode LMC	QC-M12	2NC
133005	Hygiecode LMC	2M	2NC 1NO
133006	Hygiecode LMC	5M	2NC 1NO
133007	Hygiecode LMC	10M	2NC 1NO
133008	Hygiecode LMC	QC-M12	2NC 1NO
133017	Hygiecode LMC	2M	3NC
133018	Hygiecode LMC	5M	3NC
133019	Hygiecode LMC	10M	3NC
133020	Hygiecode LMC	QC-M12	3NC

For Magnetic Holding versions add 10N to Sales Number
Example: LMC 2NC 10m with Magnetic Holding Order: 133003-10N

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **CMC (HYGIECODE)**

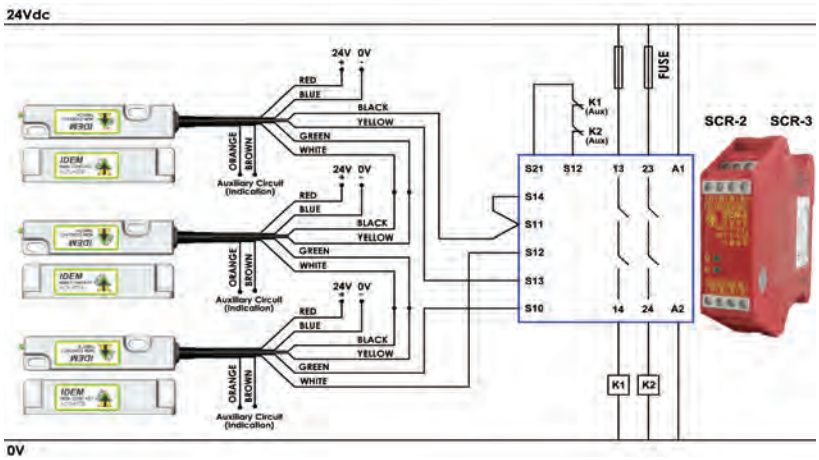
FEATURES:

Designed for Food Processing and Pharmaceutical applications.
Suitable for CIP and SIP cleaning:
- Food Splash Zones EHEDG guidelines.

Wide 14mm sensing with high tolerance to misalignment.
Industry standard slim 20mm wide housing - fits in narrow channels.
Can be high pressure hosed at high temperature - IP69K.
LED indication.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.

Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

CONNECTION EXAMPLE: CODED SWITCHES



Three switches connected in series to an SCR-2 or SCR-3 to give Dual Channel monitoring with Auto Start and Contactor Feedback Check. Optional auxiliary circuits provide for remove signalling from each switch.

Quick Connect M12 versions fitted with 250mm (10") cable.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2 +ve	200mA Max. 24Vdc
6	Green	Safety NC2 -ve	
7	Black	Safety NC1 +ve	200mA Max. 24Vdc
1	White	Safety NC1 -ve	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

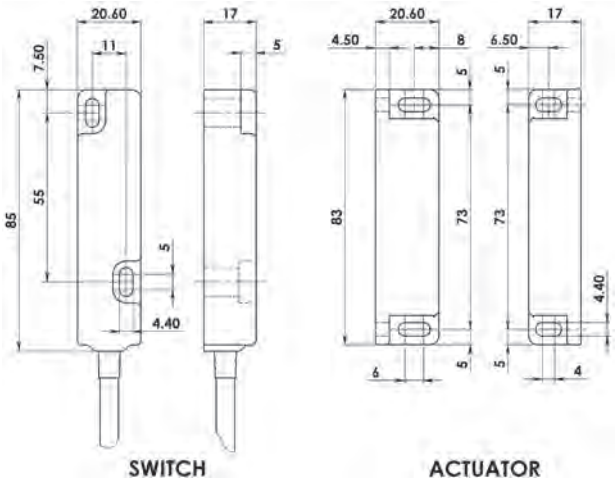
ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

DIMENSIONS:



SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
138001	Hygiecode CMC	2M	2NC
138002	Hygiecode CMC	5M	2NC
138003	Hygiecode CMC	10M	2NC
138004	Hygiecode CMC	QC-M12	2NC
138005	Hygiecode CMC	2M	2NC 1NO
138006	Hygiecode CMC	5M	2NC 1NO
138007	Hygiecode CMC	10M	2NC 1NO
138008	Hygiecode CMC	QC-M12	2NC 1NO
138105	Hygiecode CMC	2M	3NC
138106	Hygiecode CMC	5M	3NC
138107	Hygiecode CMC	10M	3NC
138108	Hygiecode CMC	QC-M12	3NC

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **Type: CMC-F (HYGIECODE)**

FEATURES:

Specifically designed for Food Processing applications:
- Stainless Steel 316 Mirror Polished finish (Ra4).
- Suitable for CIP and SIP cleaning.

Mounting holes are at the rear therefore creating no Food Traps.
Suitable for Food Contact Zones - EHEDG guidelines.
Slim fixing can be fitted in narrow channels.
Wide 14mm sensing with high tolerance to misalignment.
Can be high pressure hosed at high temperature - IP69K.
LED indication.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect version available.

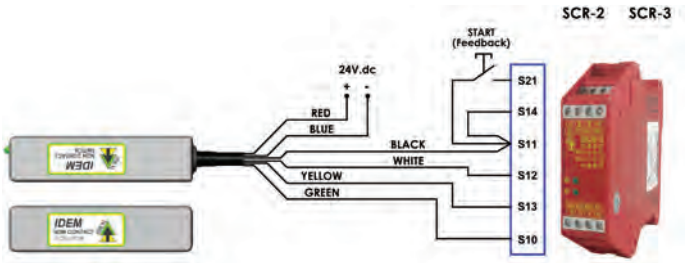
Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

IP69K

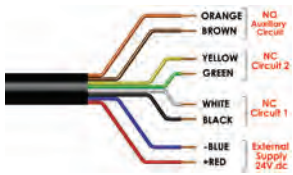
Quick Connect M12 versions fitted with 250mm (10") cable.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

CONNECTION EXAMPLE: CODED SWITCHES



One switch connected to an SCR-2 or SCR-3 to give Dual Channel monitoring with Manual Start.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

Standards: ISO14119) EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

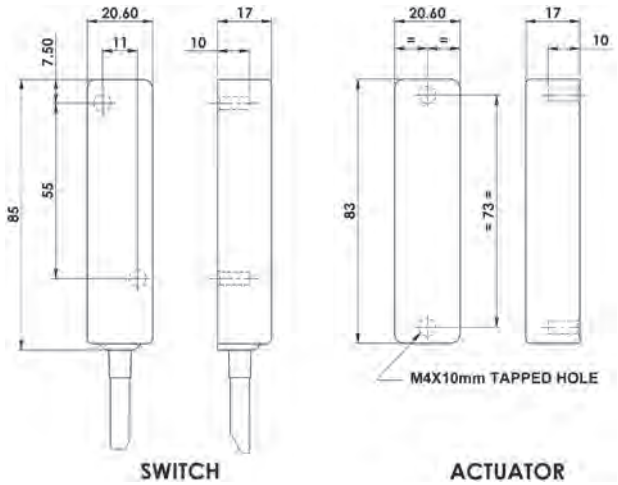
ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

DIMENSIONS:



SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
135001	Hygiecode CMC-F	2M	2NC
135002	Hygiecode CMC-F	5M	2NC
135003	Hygiecode CMC-F	10M	2NC
135004	Hygiecode CMC-F	QC-M12	2NC
135005	Hygiecode CMC-F	2M	2NC 1NO
135006	Hygiecode CMC-F	5M	2NC 1NO
135007	Hygiecode CMC-F	10M	2NC 1NO
135008	Hygiecode CMC-F	QC-M12	2NC 1NO
135105	Hygiecode CMC-F	2M	3NC
135106	Hygiecode CMC-F	5M	3NC
135107	Hygiecode CMC-F	10M	3NC
135108	Hygiecode CMC-F	QC-M12	3NC

Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

Magnetically Coded: **WMC (HYGIECODE)**

FEATURES:

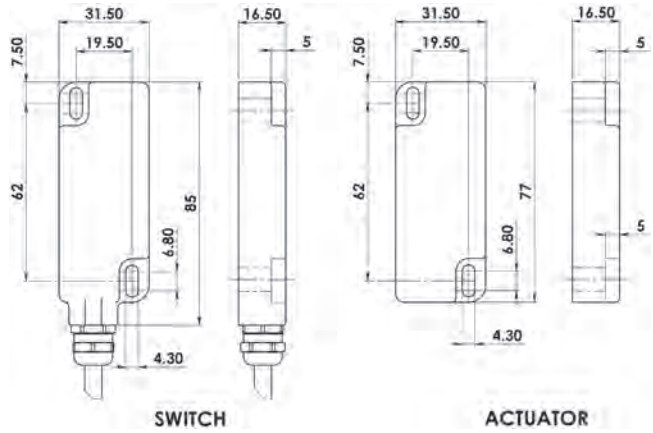
Specifically designed for Food Processing applications:
- Stainless Steel 316 Housing Mirror Polished finish (Ra4).

Robust 32mm wide housing, no moving parts - survives shock and vibration.
Can be high pressure hosed at high temperature - IP69K.
Wide 14mm sensing with high tolerance to misalignment.
Suitable for CIP and SIP cleaning:
- Food Splash Zones EHEDG guidelines

LED indication.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.

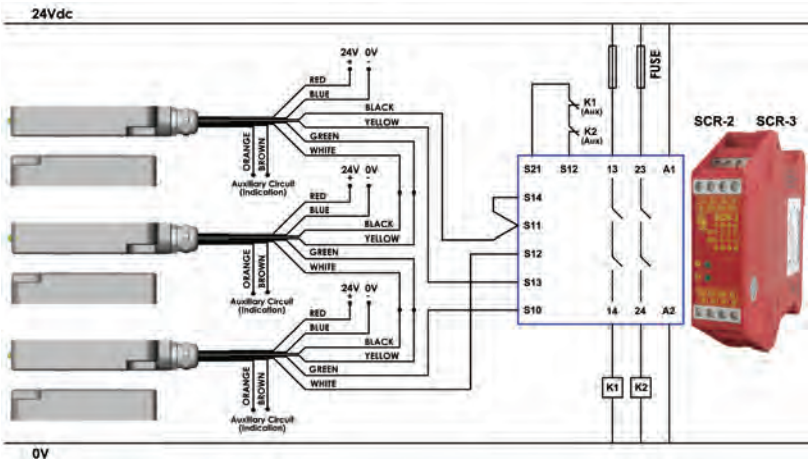
Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 14mm.
Will operate with most Safety Relays.

DIMENSIONS:

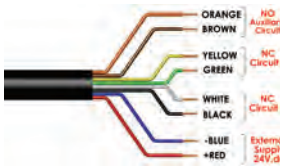


Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE: CODED SWITCHES



Three switches connected in series to an SCR-2 or SCR-3 to give Dual Channel monitoring with Automatic Start and Contactor Feedback Check. Optional auxiliary circuits provide for remove signalling from each switch.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance (Target to Target)	Sao 10mm Close Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (NEMA PW12) IP67 (NEMA 6)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
136013	Hygiecode WMC	2M	2NC
136014	Hygiecode WMC	5M	2NC
136015	Hygiecode WMC	10M	2NC
136016	Hygiecode WMC	QC-M12	2NC
136017	Hygiecode WMC	2M	2NC 1NO
136018	Hygiecode WMC	5M	2NC 1NO
136019	Hygiecode WMC	10M	2NC 1NO
136020	Hygiecode WMC	QC-M12	2NC 1NO

AVAILABLE WITHOUT LED IF REQUIRED.

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Magnetically Coded: **RMC (HYGIECODE)**

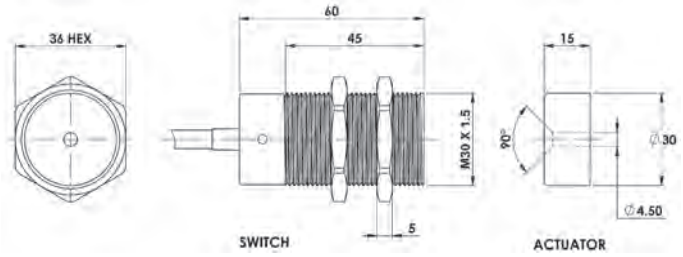
FEATURES:

Cylindrical fitting - suitable for industry applications.
Easy to install - M30 threaded body - easy to set.
Wide 10mm sensing - low hysterisis - no moving parts.
Suitable for harsh environments of Food Processing and Packaging.
CIP and SIP cleaning - Food Splash Zones EHEDG guidelines.
Can be flush mounted - Solid Stainless Steel 316 housing.
LED indication.
Can be high pressure hosed at high temperature - IP69K.
Up to: PLe ISO13849-1.
2NC 1NO circuits - high switching life - no moving parts.
Quick Connect versions available.

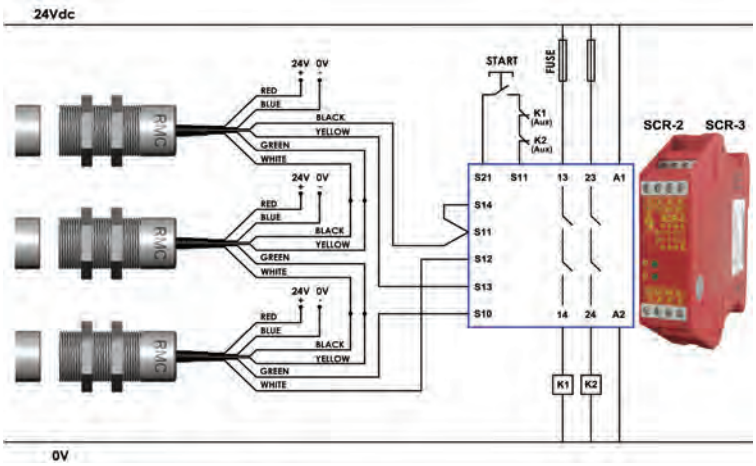
Stainless Steel 316 Housing mirror polished (Ra4).
Coded Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:



CONNECTION EXAMPLE: CODED SWITCHES



Three switches connected in series to an SCR-2 or SCR-3 to give Dual Channel guard monitoring with Manual Start and Contactor Feedback Check.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

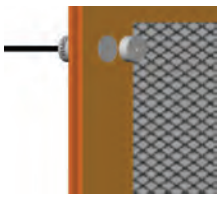
Safety Classification and Reliability Data:

ISO13849-1	Up to PLe Category 4
PFHd	2.6 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	866 years

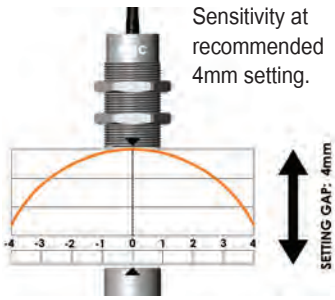
Technical Specification:

Safety Channel 1 NC	24Vdc 0.2A Max. Rating
Safety Channel 2 NC	24Vdc 0.2A Max. Rating
Safety Channel 3 NO	24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.



Can be flush mounted



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2 +ve	200mA Max. 24Vdc
6	Green	Safety NC2 -ve	
7	Black	Safety NC1 +ve	200mA Max. 24Vdc
1	White	Safety NC1 -ve	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
134001	Hygiecode RMC	2M	2NC
134002	Hygiecode RMC	5M	2NC
134003	Hygiecode RMC	10M	2NC
134004	Hygiecode RMC	QC-M12	2NC
134005	Hygiecode RMC	2M	2NC 1NO
134006	Hygiecode RMC	5M	2NC 1NO
134007	Hygiecode RMC	10M	2NC 1NO
134008	Hygiecode RMC	QC-M12	2NC 1NO
134105	Hygiecode RMC	2M	3NC
134106	Hygiecode RMC	5M	3NC
134107	Hygiecode RMC	10M	3NC
134108	Hygiecode RMC	QC-M12	3NC

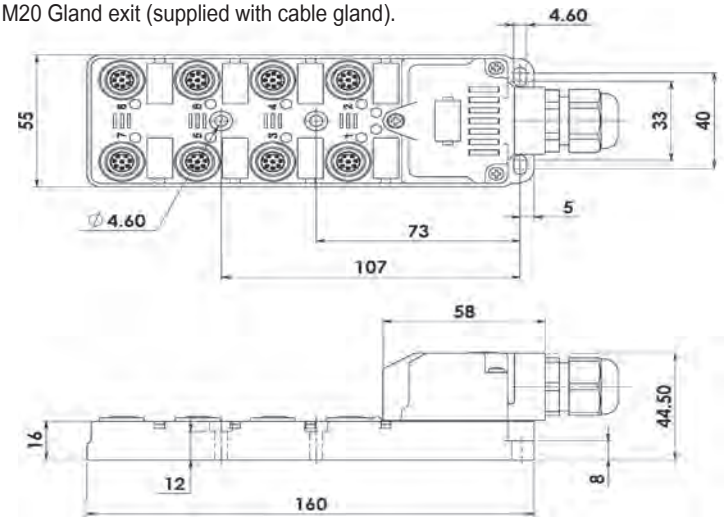
Note: 2NC 1NO versions have 2NC Safety and 1NO Auxiliary Circuits
3NC versions have 2NC Safety and 1NC Auxiliary Circuits
AVAILABLE WITHOUT LED IF REQUIRED.

8-Pin M12 Connection Box for **RFID and Coded Non Contact**

FEATURES:

FOR USE WITH 8 PIN M12 RFID & CODED NON CONTACT SWITCHES

Connect up to 8 switches in series to one safety controller.
Configured for dual circuit to a safety controller.
LED status of circuits
Unused ports can be plugged.
Screw clamp terminals.
M20 Gland exit (supplied with cable gland).



For use with switches with the following pin out:

Quick Connect QC M12 8 Way Male Plug	Flying Lead Colour	Circuit (Actuator Present)	Output Types Solid State
8	Orange	Auxiliary NO or NC	200mA Max. 24Vdc
5	Brown	Auxiliary NO or NC	
4	Yellow	Safety NC2	200mA Max. 24Vdc
6	Green	Safety NC2	
7	Black	Safety NC1	200mA Max. 24Vdc
1	White	Safety NC1	
2	Red	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Blue	Supply 0Vdc	

SPECIFICATIONS:

General Specifications:

Switch connection type:	8 x 8 Pin M12 Female sockets
Ambient temperature:	-20C. to 40C
Supply Voltage:	24V.dc (+/- 10%)
Maximum current:	500mA
Body Material:	Polyester
Terminals:	Screw type – clamp 16-28AWG conductors
Cable exit:	M20 cable gland (connector options available)
Mounting:	4 x M4 bolts

LEDs:

LED 1-8 (Red):	Auxiliary indication of switch open

SCREW TERMINAL VERSION (M20 Gland Exit)

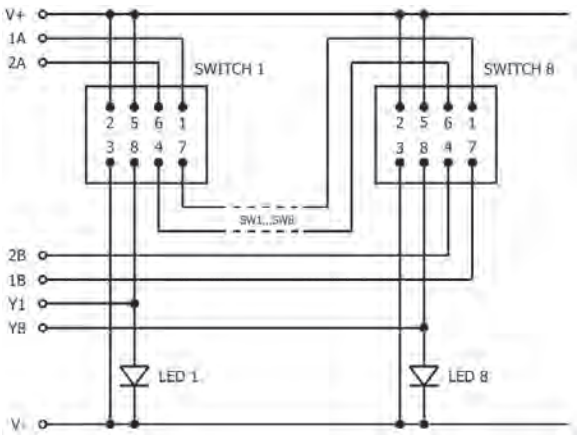
Terminal	Connection
Y1	Auxiliary out +24V.dc Switch 1 open RED LED 1 on
Y2	Auxiliary out +24V.dc Switch 2 open RED LED 2 on
Y3	Auxiliary out +24V.dc Switch 3 open RED LED 3 on
Y4	Auxiliary out +24V.dc Switch 4 open RED LED 4 on
Y5	Auxiliary out +24V.dc Switch 5 open RED LED 5 on
Y6	Auxiliary out +24V.dc Switch 6 open RED LED 6 on
Y7	Auxiliary out +24V.dc Switch 7 open RED LED 7 on
Y8	Auxiliary out +24V.dc Switch 8 open RED LED 8 on
2A	NC 2 Closed when all switches are closed
2B	
1A	NC 1 Closed when all switches are closed
1B	
V +	Supply +24Vdc
V -	Supply 0Vdc

M12 CONNECTOR VERSION

Quick Connect M12 8 Way Male Plug on 250mm (10") Flying Lead	Pin view from Block
5	Auxiliary +24Vdc Out when any switch is open
4	NC 2 Closed when all switches are closed
6	
7	NC 1 Closed when all switches are closed
1	
2	Supply +24Vdc
3	Supply 0Vdc
8	Not in use

PRE-WIRED VERSION (5m cable length)

Terminal	PVC Cable 9mm diameter	Conductor
Y1	Auxiliary Out +24Vdc Switch 1 Open	Pink
Y2	Auxiliary Out +24Vdc Switch 2 Open	Brown/Green
Y3	Auxiliary Out +24Vdc Switch 3 Open	White/Green
Y4	Auxiliary Out +24Vdc Switch 4 Open	Grey
Y5	Auxiliary Out +24Vdc Switch 5 Open	Red/Blue
Y6	Auxiliary Out +24Vdc Switch 6 Open	Brown
Y7	Auxiliary Out +24Vdc Switch 7 Open	Violet
Y8	Auxiliary Out +24Vdc Switch 8 Open	Grey/Pink
2A	NC2 Closed when all switches closed	Black
2B		White
1A	NC1 Closed when all switches closed	Yellow
1B		Green
V +	Supply +24Vdc	Red
V -	Supply 0Vdc	Blue



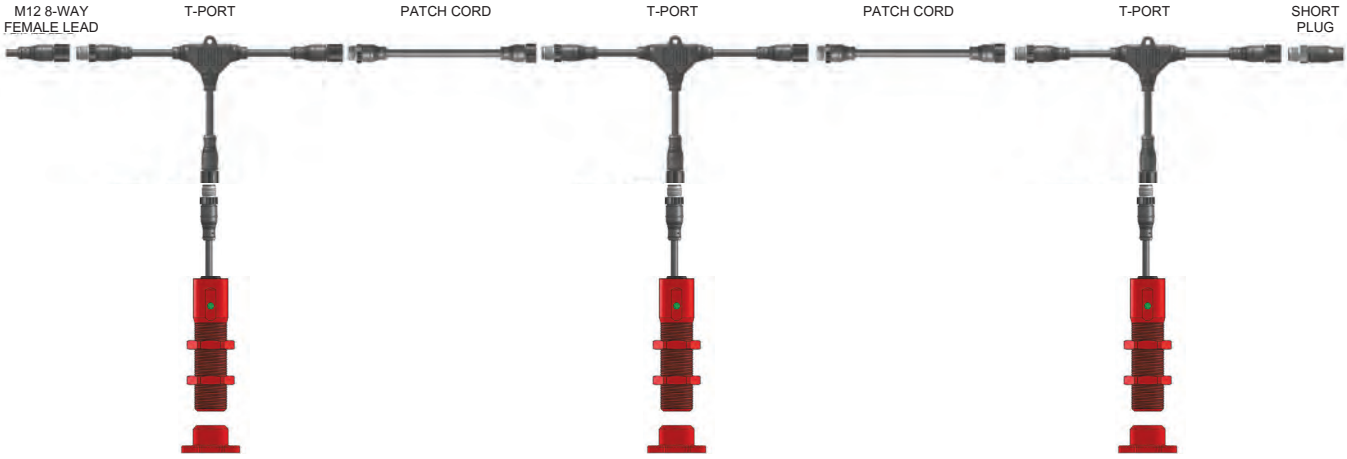
ORDERING:

Sales Number	Accessories and Description
140201	Patch Cord M12 Male to Female 2m
140202	Patch Cord M12 Male to Female 5m
140203	Patch Cord M12 Male to Female 10m
140207	**Short Plug for Coded Non Contact Switches**

Sales Number	NON CONTACT RFID & CODED SWITCHES CONNECTION BOX
140210	Connection Box (Non-Contact RFID and Coded Switches) – Screw terminal
140211	Connection Box (Non-Contact RFID and Coded Switches) – M12 8 way Male
140212	Connection Box (Non-Contact RFID and Coded Switches) – pre-wired 14 core (5m)

T-Port Connectivy for **RFID and Coded Non Contact**

PLUGGABLE SYSTEM M12 8-WAY CONNECTORS:



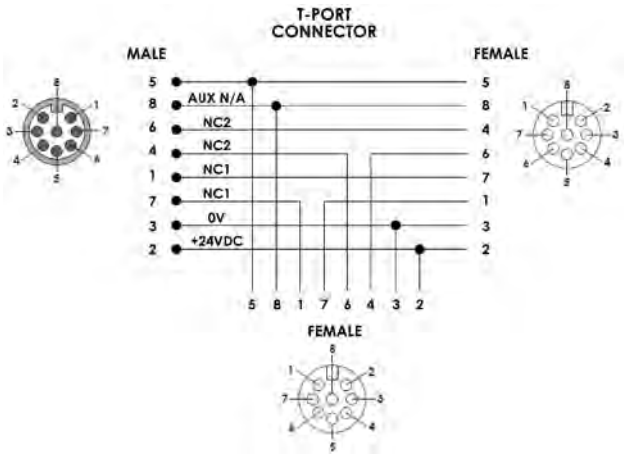
PLUGGABLE SYSTEM M12 8-WAY CONNECTORS FOR **CODED NON CONTACT SWITCHES:**

SUITABLE FOR THE FOLLOWING SWITCHES:

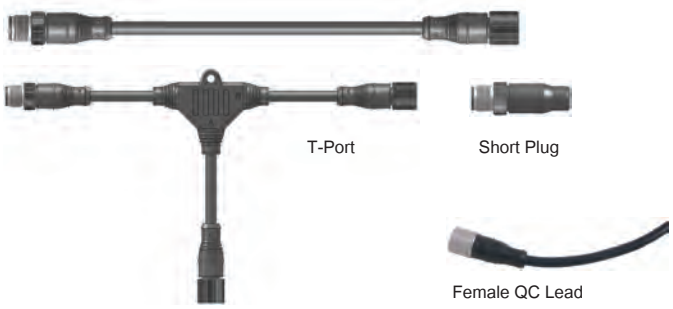
Plastic Housings:
MPC, SPC, LPC, CPC, WPC, RPC, KPC, SPF, LPF, KPF
BPF

Stainless Steel 316 Housings:
SMC, CMC, LMC, WMC, SMC-F, CMC-F,
RMC, SMC-H, MMC-H, LMF, BMF, SMF-H

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Circuit (Actuator Present)	Output Types Solid State
8	Auxiliary NO or NC	200mA Max. 24Vdc
5	Auxiliary NO or NC	
4	Safety NC2 +ve	200mA Max. 24Vdc
6	Safety NC2 -ve	
7	Safety NC1 +ve	200mA Max. 24Vdc
1	Safety NC1 -ve	
2	Supply +24Vdc	Supply 24Vdc +/- 10%
3	Supply 0Vdc	



Patch Cord: Available in 2m, 5m or 10m lengths



Sales Number	Description
140101	M12 8 Way Female QC Lead 5m
140102	M12 8 Way Female QC Lead 10m
140201	Patch Cord M12 Male to Female 2m
140202	Patch Cord M12 Male to Female 5m
140203	Patch Cord M12 Male to Female 10m
140206	**T Port for Coded Non Contact Switches**
140207	**Short Plug for Coded Non Contact Switches**

Magnetically Operated: **Overview**

OPERATION:

- All IDEM Magnetic Non Contact Safety Switches are designed to conform to EN60947-5-3 and can be used as directed by ISO12100, ISO14121 and EN60204-1.
- They have magnetic sensing which provides a wide (>12mm) sensing distance and provides high tolerance to misalignment after sensing.
- They can operate from 4 directions even in extreme environments of temperature and moisture.
- They have volt free high power switching capability (either 1A or 2A ac/dc) and can be used independently to switch low risk applications, or connect to a Safety Relay to provide higher safety levels.

APPLICATION:

IDEM Magnetic Non Contact Safety Switches are designed to interlock hinged, sliding or removable guard doors.
They are specifically advantageous when:

(a) Poor guard alignment exists and a wide tolerance to misalignment is a requirement.
(b) High levels of hygiene is a requirement, e.g. high pressure chemical or water hosing in the food industry environment.
(c) Environments where high switching capacity is a requirement.

When used in combination with Dual Channel Safety Relays they can be used to provide up to PLe/Category 4 to ISO13849-1.

FEATURES:

- Magnetic High Power Switching up to 230Vac 2A
- Dual channel safety output 2NC (1NO auxiliary optional)
- Wide switching distance up to 12mm
- High tolerance to guard misalignment
- Enclosure protection to IP67 or IP69K
- Conformance to EN60947-5-3
- Choice of miniature, compact, wide or barrel type housings
- Choice of Plastic or Stainless Steel 316 (Food Industry compatible)
- High temperature stability
- Resistance to many organic and inorganic chemicals
- Resistant to high temperature hosing and detergent washdown
- Volt free contacts - up to 230Vac 2A and 24Vdc 2A (internally fused)

PLASTIC (high specification Polyester) Versions:

The Plastic **IDEMAG** Range have been developed for non-contact guard door interlocking in the applications of general factory automation, packaging and some food processing industries.

Supplied with Screw Cap covers to prevent contamination from food deposits

MPR

Miniature industry standard design.
22mm fixing centres, available with Left or Right cable exit points.

SPR

Universal 22mm fixing centres.

LPR

European industry standard fitting.
End cable exit point.

WPR

Industry standard wide fitting.
Front face actuation for large guards.

CPR

Compact slim fitting housing - making it suitable for fitting to applications where space is limited.

RPR

M30 threaded body - easy to mount.

Magnetically Operated: **Overview**

STAINLESS STEEL 316 VERSIONS:

The Stainless Steel 316 **HYGIEMAG** range has been developed for non-contact guard door interlocking in the applications of Food Processing, Pharmaceutical, Packaging and Petro-Chemical Industries.

- Stainless Steel 316
- Can be high pressure hosed at high temperature - IP69K
- Mirror Polished Finish to Ra4
- Suitable for CIP and SIP cleaning
- Wide 12mm sensing high tolerance to misalignment
- Can be mounted on Steel Structures

Designed in accordance with EHEDG guidelines for hygienic design (EHEDG European Hygienic Engineering & Design Group)

The housing designs, surface finish and styling means they can be used in almost any environments subject to high levels of cleaning following contamination from foreign particles.

They are offered with various types of mounting styles to cover different levels of food contact (as described by the EHEDG).

- Direct Contact Zone: The switch mounting is designed according to EHEDG hygienic guidelines and also fulfils the requirements of the splash zone.
- Splash Zone: The switch must be easy to clean and withstand the CIP and SIP cleaning processes found in the food industry (tested IP69K).

SMR

Universal 22mm fixing centres: suitable for food splash zones

CMR

Compact slim housing: suitable for food splash zones. Ideal for where there are space restrictions.

LMR

European industry standard fitting: suitable for food splash zones.

WMR

Industry standard wide fitting: suitable for food splash zones. Front facing actuation.

SMR-F

Universal 22mm fixing centres.
Rear fixing - M4 tapped holes at rear of housing.
Suitable for food contact zones.

CMR-F

Compact slim housing.
Rear fixing - M4 tapped holes at rear of housing.
Suitable for food contact zones.

RMR

M30 thread: suitable for some food contact zones.
Circular body and actuator.

SMR-H

Universal 22mm fixing centres.
Through hole fixing - M4 clearance holes for front mounting by hexagon head bolts.
Suitable for food splash or food contact zones.

For SMR-H and MMR-H
Use hexagon head bolts for ease of cleaning.

MMR-H

Miniature industry standard design - 22mm fixing centres with through hole mounting on M4 clearance for front mounting by hexagon head bolts.
Suitable for food splash or food contact zones.

All Stainless Steel 316 switches are tested to ingress protection degree IP69K (high pressure hosing with detergent at 80C and 100psi).

Magnetically Operated: **MPR (IDEMAG)**

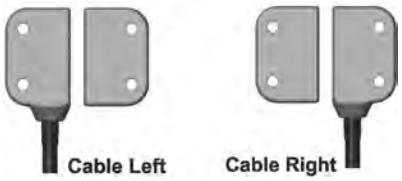
FEATURES:

Compact and robust fitting suitable for all small guard applications.
Hygienic screw covers ensure suitability for Food Processing washdown.
Cost-effective interlock solution.
Wide sensing at 12mm and high tolerance to misalignment.
High specification polyester housing with integral back plate.
Can be mounted unobtrusively in channels or behind doors.
Left or Right Cable exit options available.
High current switching capability up to 0.5A.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available - M12 8 Way or M8 4 Way.

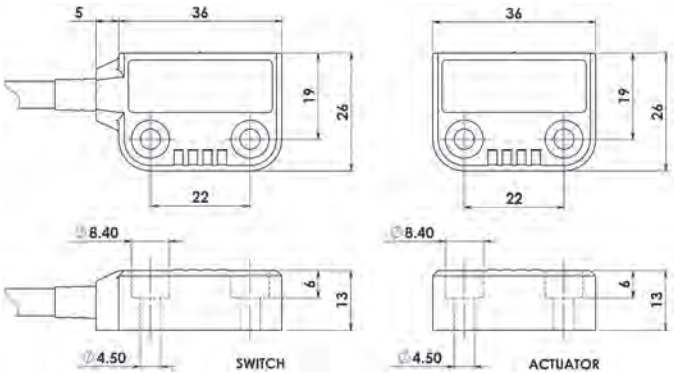
Magnetic Actuation.
Switching Tolerance up to 12mm.
Will operate with most Safety Relays.

Supplied with Screw Cap covers to prevent contamination from food deposits

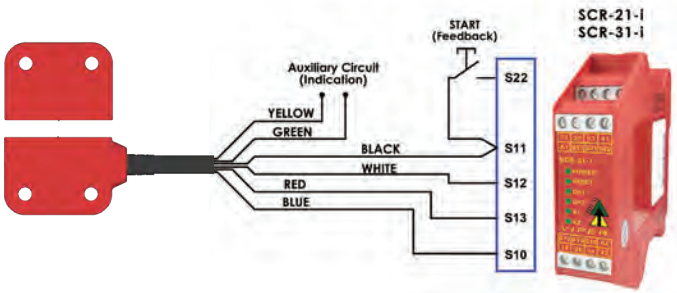
Left or Right Cable Exit Options available



DIMENSIONS:



CONNECTION EXAMPLE: Magnetic Switches

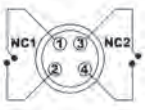


Quick Connect M12 versions fitted with 250mm (10") cable

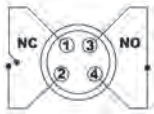
SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
114001	MPR Cable Right	2M	2NC
114002	MPR Cable Right	5M	2NC
114003	MPR Cable Right	10M	2NC
114004	MPR Cable Right	QC-M12	2NC
114005	MPR Cable Right	2M	2NC 1NO
114006	MPR Cable Right	5M	2NC 1NO
114007	MPR Cable Right	10M	2NC 1NO
114008	MPR Cable Right	QC-M12	2NC 1NO
114009	MPR Cable Left	2M	2NC
114010	MPR Cable Left	5M	2NC
114011	MPR Cable Left	10M	2NC
114012	MPR Cable Left	QC-M12	2NC
114013	MPR Cable Left	2M	2NC 1NO
114014	MPR Cable Left	5M	2NC 1NO
114015	MPR Cable Left	10M	2NC 1NO
114016	MPR Cable Left	QC-M12	2NC 1NO

Alternative QC Version — M8 Universal 4 Way Integral Connector

M8 Connector Right



2NC Versions



1NC 1NO Versions

114020	MPR Connector Right	QC M8 2NC	Close 10mm Open 20mm
114021	MPR Connector Left	QC M8 2NC	Close 10mm Open 20mm
114022	MPR Connector Right	QC M8 1NC 1NO	Close 10mm Open 20mm
114023	MPR Connector Left	QC M8 1NC 1NO	Close 10mm Open 20mm
114024	MPR Connector Right	QC M8 2NC	Close 4mm Open 10mm
114025	MPR Connector Left	QC M8 2NC	Close 4mm Open 10mm
114026	MPR Connector Right	QC M8 1NC 1NO	Close 4mm Open 10mm
114027	MPR Connector Left	QC M8 1NC 1NO	Close 4mm Open 10mm

114300	Plastic 8mm Spacers (2) for use when mounting on Ferrous Materials	1 x Switch 1 x Actuator

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Medium Duty Safety Channel 1 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 1.0A (F) External 0.4A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K (NEMA PW12) IP67 (NEMA 6)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

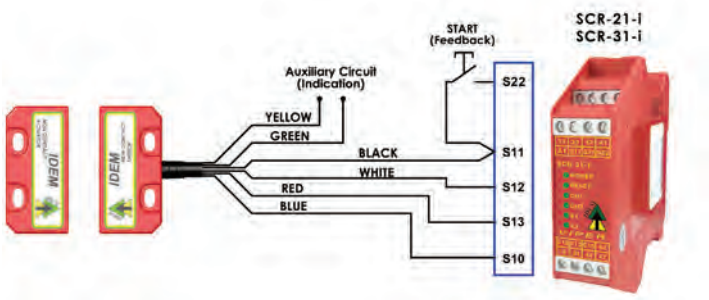
Magnetically Operated: **SPR (IDEMAG)**

FEATURES:

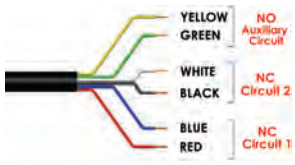
Universal fitting - established 22mm fixing footprint.
Suitable for most general industry applications.
Withstands environments where high humidity or hose down is required.
Wide sensing at 12mm and high tolerance to misalignment.
High specification polyester housing with integral back plate.
Long life high current switching capability up to 1A.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Magnetic Actuation - Power Series.
Switching Tolerance up to 12mm.
Medium Duty versions 230Vac/24Vdc 1A.
Will operate with most Safety Relays.

CONNECTION EXAMPLE: Magnetic Switches



Single switch connected to an SCR-21-i or SCR-31-i to give Dual Channel guard monitoring with Manual Start. Optional auxiliary circuit provides for remote signalling from switch.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

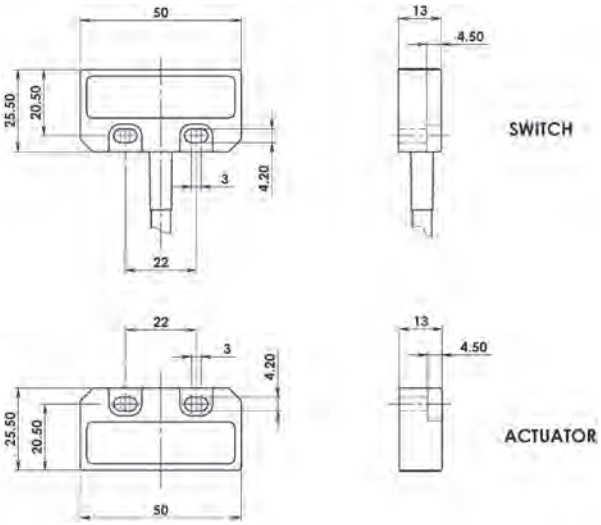
Technical Specification:

Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 1.0A (F) External 0.8A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K (NEMA PW12) IP67 (NEMA 6)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:



SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
111009	Idemag SPR	2M	2NC
111010	Idemag SPR	5M	2NC
111011	Idemag SPR	10M	2NC
111012	Idemag SPR	QC-M12	2NC
111013	Idemag SPR	2M	2NC 1NO
111014	Idemag SPR	5M	2NC 1NO
111015	Idemag SPR	10M	2NC 1NO
111016	Idemag SPR	QC-M12	2NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

111300	Plastic 8mm Spacers (2) for use when mounting on Ferrous Materials	1 x Switch 1 x Actuator

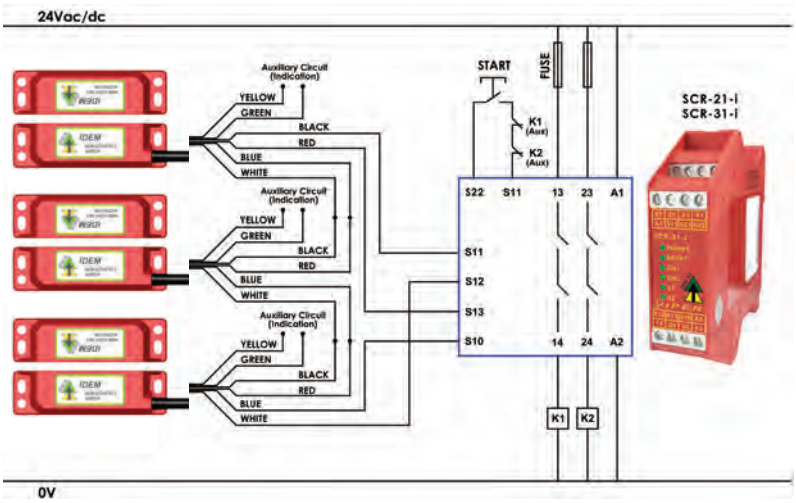
Magnetically Operated: **LPR (EUROMAG)**

FEATURES:

Popular European fitting suitable for all industry applications.
Wide 12mm sensing and high tolerance to misalignment.
Narrow fitting to enable flush mounting.
Long life high power switching capability up to 1A.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Magnetic Actuation - Power Series.
Switching Tolerance up to 12mm.
Medium Duty versions 230Vac/24Vdc 1A.
Will operate with most Safety Relays.

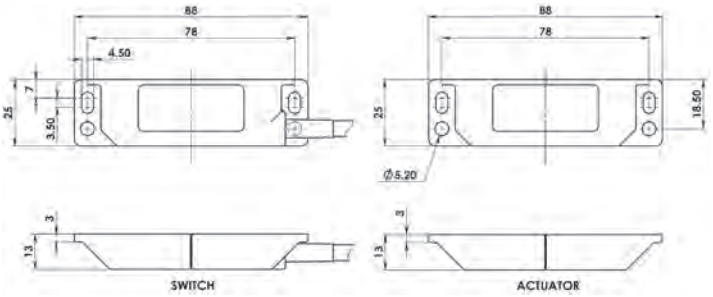
CONNECTION EXAMPLE: Magnetic Switches



Three switches connected in series to an SCR-2 or SCR-3 to give Dual Channel guard monitoring with Automatic Start and Contactor Feedback check.
Optional auxiliary circuits provides for remote signalling from each switch.

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:



Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

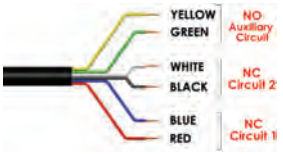
Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

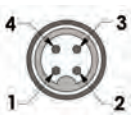
Technical Specification:

Medium Duty Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 1.0A (F) External 0.8A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K (NEMA PW12) IP67 (NEMA 6)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1



NC1 Pins 1 and 2
NC2 Pins 3 and 4
M12 4 Way Versions
Asi compatible Pin out
Pin view from switch

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
110009	Euromag LPR	2M	2NC
110010	Euromag LPR	5M	2NC
110011	Euromag LPR	10M	2NC
110012	Euromag LPR	QC-M12	2NC
110013	Euromag LPR	2M	2NC 1NO
110014	Euromag LPR	5M	2NC 1NO
110015	Euromag LPR	10M	2NC 1NO
110016	Euromag LPR	QC-M12	2NC 1NO
110021	Euromag LPR	2M	1NC 1NO
110022	Euromag LPR	5M	1NC 1NO
110023	Euromag LPR	10M	1NC 1NO
110024	Euromag LPR	QC-M12 4 Way	2NC

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

110300	Plastic 8mm Spacers (2) for use when mounting on Ferrous Materials	1 x Switch 1 x Actuator

Magnetically Operated: **LPR with LED (EUROMAG)**

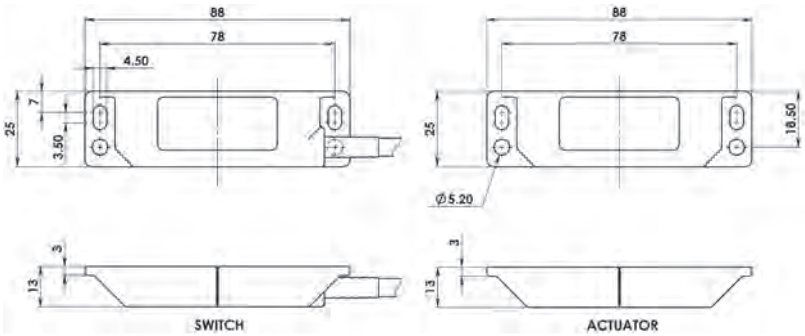
FEATURES:

2NC circuits for connection to safety relays to achieve up to:
PLe ISO13849-1.
Integral LED indication of sensing position.
Choice of LED versions:
Green - ON when guard is closed.
Red - ON when guard is open.
Popular European fitting suitable for all industry applications.
Narrow fitting to allow for flush mounting.
Wide 10mm sensing with high tolerance to misalignment.
Long life high power switching capability up to 1A.
M12 Quick Connect versions available.

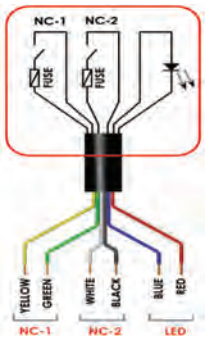
Integral LED (options available).
Magnetic Actuation - Power Series.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

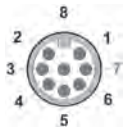
DIMENSIONS:



Recommended operating direction for optimum performance



Note: The LED does not indicate the status of the NC Safety Contacts, but indicates that the actuator is aligned to give optimum performance.



Standards:	ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508
Safety Classification and Reliability Data:	
Safety Channels NC1 and NC2	Voltage free: 250Vac 1.0A Max.
Fuse (NC Circuits)	Fuse externally 0.8A (F)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
LED Supply Voltage	24Vdc +/-10%
NC Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
LED (Green)	Typical 8mm ON 15mm OFF
LED (Red)	Typical 8mm OFF 15mm ON
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Mechanical Life Expectancy	10,000,000 switching operations
Electrical Life Expectancy	1,000,000 switching operations De-rating Safety Factor 2 Tested to 2,000,000 cycles at 24V 0.2A
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NC2
6	Green	NC2
7	Black	NC1
1	White	NC1
2	Red	Supply + 24Vdc
3	Blue	Supply 0Vdc

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

LED COLOUR AND STATUS	SALES NUMBER	TYPE	CABLE LENGTH	OUTPUT CIRCUITS
LED GREEN (Illuminated when the guard is closed)	110101	Euromag LPR (with Integral LED)	2M	2NC
	110102	Euromag LPR (with Integral LED)	5M	2NC
	110103	Euromag LPR (with Integral LED)	10M	2NC
	110104	Euromag LPR (with Integral LED)	QC-M12	2NC
LED RED (Illuminated when the guard is open)	110105	Euromag LPR (with Integral LED)	2M	2NC
	110106	Euromag LPR (with Integral LED)	5M	2NC
	110107	Euromag LPR (with Integral LED)	10M	2NC
	110108	Euromag LPR (with Integral LED)	QC-M12	2NC

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

110300	Plastic 8mm Spacers (2) for use when mounting on Ferrous Materials	1 x Switch 1 x Actuator

Magnetically Operated: **CPR (IDEMAG)**

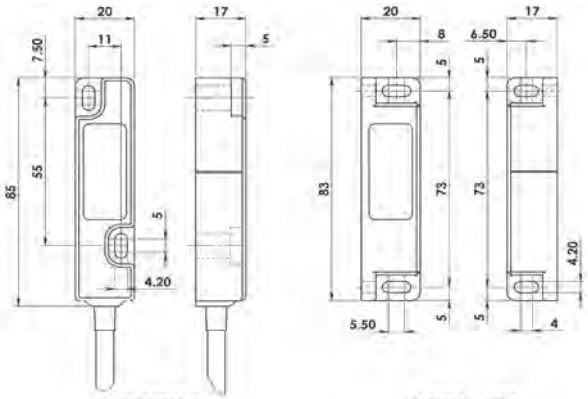
FEATURES:

Slim fitting suitable for all industry applications.
Easy to install within narrow frame structures.
Operates from two sides for ease of applications.
Wide 12mm sensing and high tolerance to misalignment.
High switching capability 1A (medium duty) or 2A (heavy duty).
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Magnetic Actuation - Power Series.
Switching Tolerance up to 12mm.
Heavy Duty 230Vac/24Vdc 2A or Medium Duty 1.0A.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

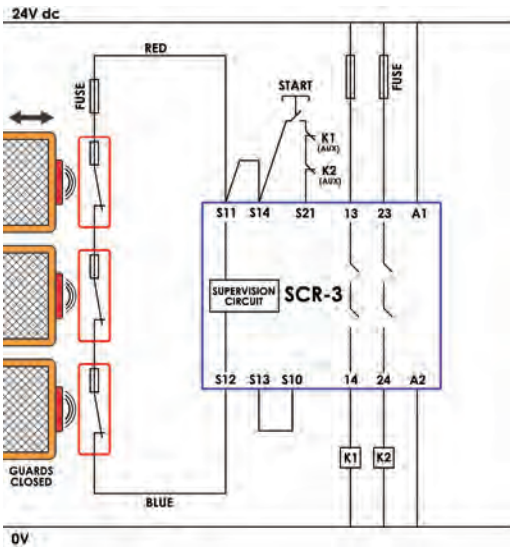
Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Heavy Duty Safety Channel 1 NC	Voltage Free: 250Vac 2.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 2.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 2.0A (F) External 1.6A (F) (User)
Medium Duty Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 1.0A (F) External 0.8A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K (NEMA PW12) IP67 (NEMA 6)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

CONNECTION EXAMPLE: Magnetic Switches



Three switches connected in series to an SCR-2 or SCR-3 to give Single Channel guard monitoring but with monitored Manual Start and Contactor Feedback check. Allows minimal wiring but higher current switching to K1 and K2 contactors.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS	NC DUTY
113001	Idemag CPR	2M	2NC	Medium 1A
113002	Idemag CPR	5M	2NC	Medium 1A
113003	Idemag CPR	10M	2NC	Medium 1A
113004	Idemag CPR	QC-M12	2NC	Medium 1A
113005	Idemag CPR	2M	2NC 1NO	Medium 1A
113006	Idemag CPR	5M	2NC 1NO	Medium 1A
113007	Idemag CPR	10M	2NC 1NO	Medium 1A
113008	Idemag CPR	QC-M12	2NC 1NO	Medium 1A
113009	Idemag CPR	2M	1NC	Heavy 2A
113010	Idemag CPR	5M	1NC	Heavy 2A
113011	Idemag CPR	10M	1NC	Heavy 2A
113012	Idemag CPR	QC-M12	1NC	Heavy 2A
113013	Idemag CPR	2M	1NC 1NO	Heavy 2A
113014	Idemag CPR	5M	1NC 1NO	Heavy 2A
113015	Idemag CPR	10M	1NC 1NO	Heavy 2A
113016	Idemag CPR	QC-M12	1NC 1NO	Heavy 2A

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

113300	Plastic 8mm Spacers (2) for use when mounting on Ferrous Materials	1 x Switch 1 x Actuator

Magnetically Operated: **WPR (IDEMAG)**

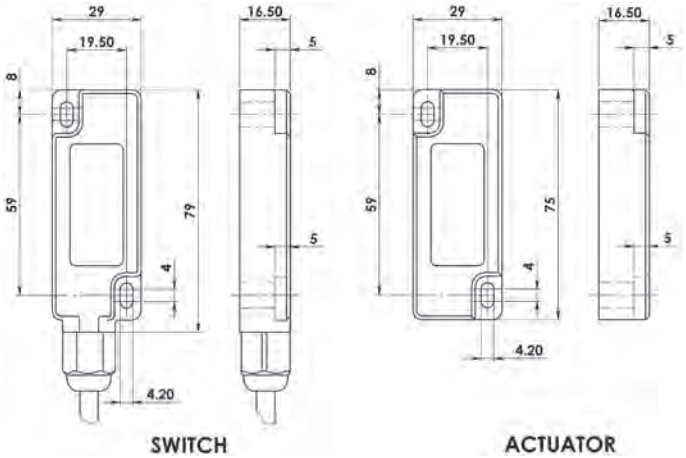
FEATURES:

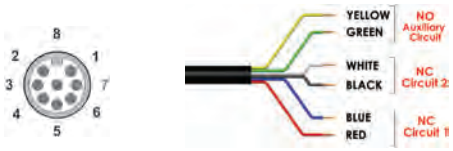
Robust wide fitting suitable for all industry applications.
Wide 12mm sensing and high tolerance to misalignment.
Long life high power switching capability: Heavy Duty 2A.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Magnetic Actuation - Power Series.
Switching Tolerance up to 12mm.
Heavy Duty version 230Vac/24Vdc 2A.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:

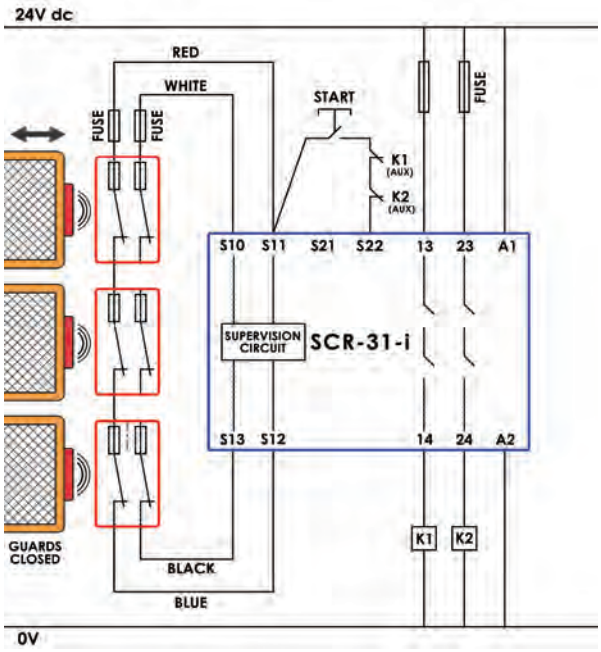




Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Operating Direction

CONNECTION EXAMPLE: Magnetic Switches



Three switches connected in series to an SCR-21-i or SCR-31-i to give Dual Channel guard monitoring but with Monitored Manual Start and Contactor Feedback check.

Alternative QC option:

NC1 Pins 1 and 2
NC2 Pins 3 and 4
M12 4 Way Versions
Asi compatible Pin out
Pin view from switch

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Heavy Duty Safety Channel 1 NC	Voltage Free: 250Vac 2.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 2.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 2.0A (F) External 1.6A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K (NEMA PW12) IP67 (NEMA 6)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
112001	Idemag WPR	2M	2NC
112002	Idemag WPR	5M	2NC
112003	Idemag WPR	10M	2NC
112004	Idemag WPR	QC-M12	2NC
112005	Idemag WPR	2M	2NC 1NO
112006	Idemag WPR	5M	2NC 1NO
112007	Idemag WPR	10M	2NC 1NO
112008	Idemag WPR	QC-M12	2NC 1NO
112009	Idemag WPR	2M	1NC 1NO
112010	Idemag WPR	5M	1NC 1NO
112011	Idemag WPR	10M	1NC 1NO
112012	Idemag WPR	QC-M12	1NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

112300	Plastic 8mm Spacers (2) for use when mounting on Ferrous Materials	1 x Switch 1 x Actuator

Magnetically Operated: **BPR M18 (IDEMAG)**

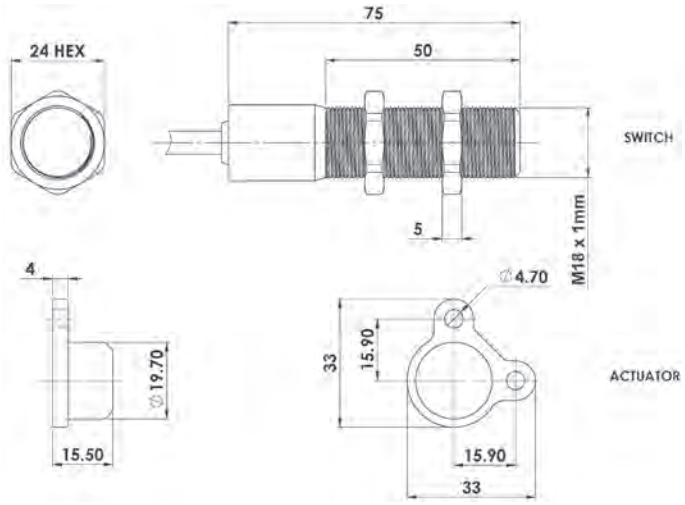
FEATURES:

M18 cylindrical fitting suitable for all industry applications.
Easy to install - M18 threaded body - easy to set.
Wide 10mm sensing.
Suitable for harsh environments of Food Processing and Packaging.
High specification red polyester housing.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

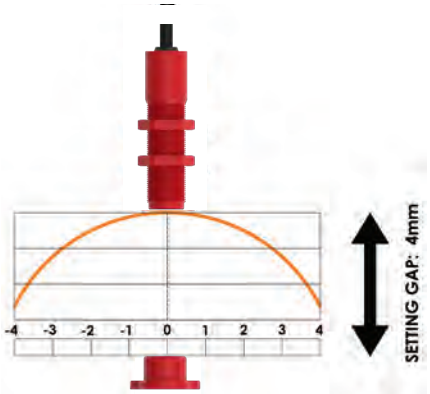
Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.
Quick Connect versions available.

Quick Connect M12 versions fitted with 250mm (10") cable.

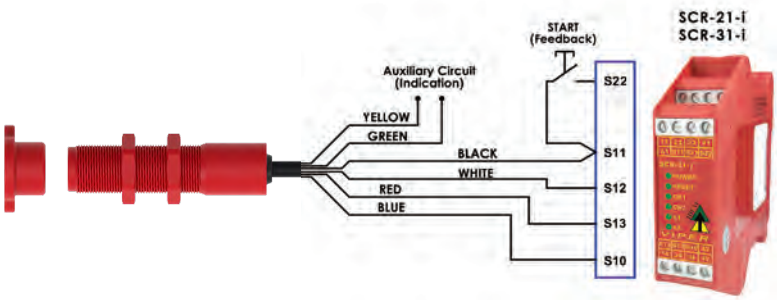
DIMENSIONS:



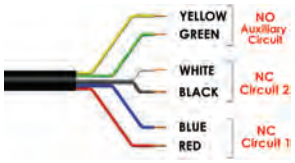
SETTING GAP:



CONNECTION EXAMPLE: Magnetic Switches



One switch connected to an SCR-2 or SCR-3 to give Dual Channel guard monitoring with Automatic Start.



Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Safety Channel 1 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	4mm in any direction from 4mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
415009	Idemag BPR Plastic	2M	2NC
415010	Idemag BPR Plastic	5M	2NC
415011	Idemag BPR Plastic	10M	2NC
415012	Idemag BPR Plastic	QC-M12	2NC
415013	Idemag BPR Plastic	2M	2NC 1NO
415014	Idemag BPR Plastic	5M	2NC 1NO
415015	Idemag BPR Plastic	10M	2NC 1NO
415016	Idemag BPR Plastic	QC-M12	2NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

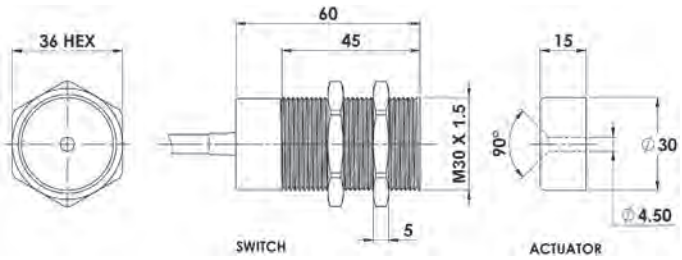
Magnetically Operated: **RPR M30 (IDEMAG)**

FEATURES:

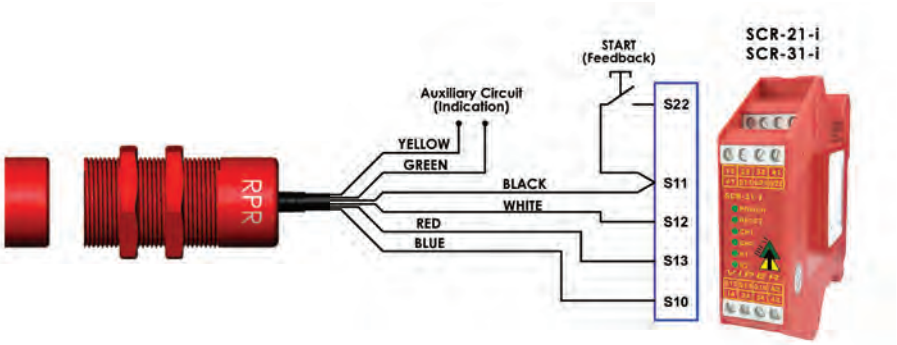
M30 cylindrical fitting suitable for all industry applications.
Easy to install - M30 threaded body - easy to set.
Wide 10mm sensing.
Suitable for harsh environments of Food Processing and Packaging.
High specification red polyester housing.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.
Quick Connect versions available.

DIMENSIONS:

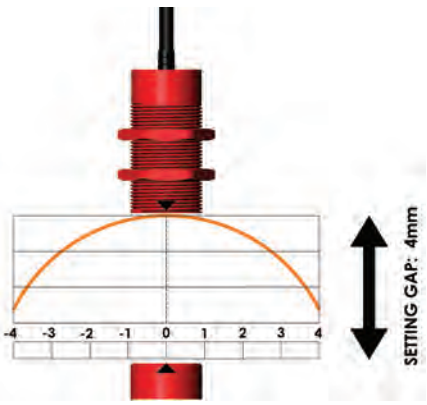


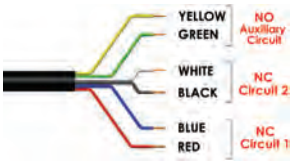
CONNECTION EXAMPLE: Magnetic Switches



One switch connected to an SCR-2 or SCR-3 to give Dual Channel guard monitoring with Automatic Start.

SETTING GAP:





Standards:	ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years
Technical Specification:	
Safety Channel 1 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	4mm in any direction from 4mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	UL approved polyester
Operating Temperature	-25C +80C
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Position	Any

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
116009	Idemag RPR Plastic	2M	2NC
116010	Idemag RPR Plastic	5M	2NC
116011	Idemag RPR Plastic	10M	2NC
116012	Idemag RPR Plastic	QC-M12	2NC
116013	Idemag RPR Plastic	2M	2NC 1NO
116014	Idemag RPR Plastic	5M	2NC 1NO
116015	Idemag RPR Plastic	10M	2NC 1NO
116016	Idemag RPR Plastic	QC-M12	2NC 1NO

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **MMR-H (HYGIEMAG)**

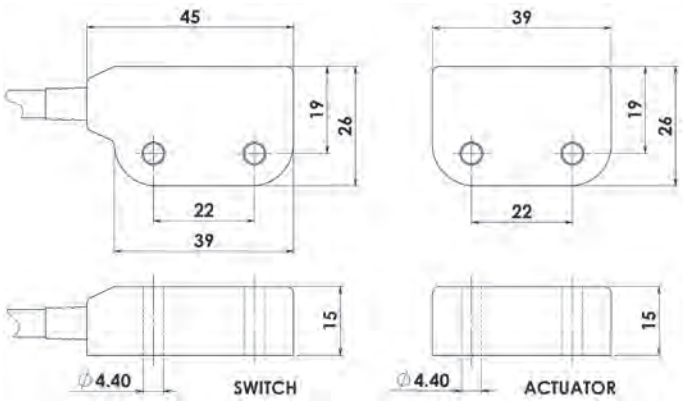
FEATURES:

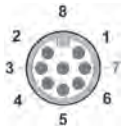
Compact and robust fitting suitable for all small guard applications.
Through hole fixing to enable front mounting - no food trap areas.
Suitable for CIP and SIP cleaning:
- Food Contact or Splash Zones EHEDG guidelines.

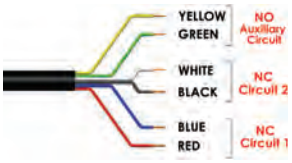
Cost effective interlock solution for harsh environments.
Wide sensing at 10mm with high tolerance to misalignment.
Stainless Steel 316 housing with Mirror Polished finish (Ra4).
Can be mounted unobtrusively in channels or behind doors.
Left or Right Cable exit options available.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Stainless Steel 316 Housing mirror polished (Ra4).
Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.

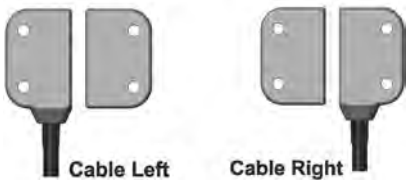
DIMENSIONS:







Left or Right Cable Exit Options available.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Safety Channel 1 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
131001	MMR-H Cable Right	2M	2NC
131002	MMR-H Cable Right	5M	2NC
131003	MMR-H Cable Right	10M	2NC
131004	MMR-H Cable Right	QC-M12	2NC
131005	MMR-H Cable Right	2M	2NC 1NO
131006	MMR-H Cable Right	5M	2NC 1NO
131007	MMR-H Cable Right	10M	2NC 1NO
131008	MMR-H Cable Right	QC-M12	2NC 1NO
131009	MMR-H Cable Left	2M	2NC
131010	MMR-H Cable Left	5M	2NC
131011	MMR-H Cable Left	10M	2NC
131012	MMR-H Cable Left	QC-M12	2NC
131013	MMR-H Cable Left	2M	2NC 1NO
131014	MMR-H Cable Left	5M	2NC 1NO
131015	MMR-H Cable Left	10M	2NC 1NO
131016	MMR-H Cable Left	QC-M12	2NC 1NO

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **SMR (HYGIEMAG)**

FEATURES:

Specifically designed for Food Processing applications:
- Stainless Steel 316 Mirror Polished finish (Ra4)

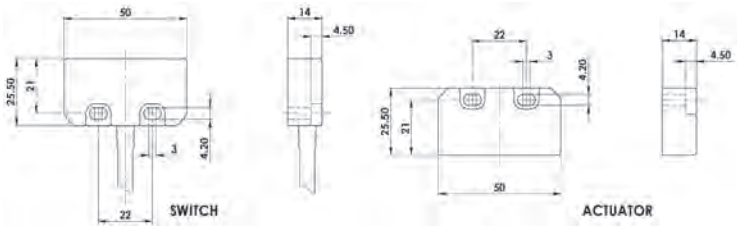
Suitable for CIP and SIP cleaning:
- Food Splash Zones EHEDG guidelines.

Universal housing - 22mm fixing hole centre with a 50mm wide body.
Wide sensing at 12mm with high tolerance to misalignment.
Can be high pressure hosed at high temperature.
High switching capability - up to 1.0A.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Stainless Steel 316 Housing mirror polished (Ra4).
Magnetic Actuation - Power Series 230Vac/24Vdc 1.0A.
Switching Tolerance up to 12mm.
Will operate with most Safety Relays.

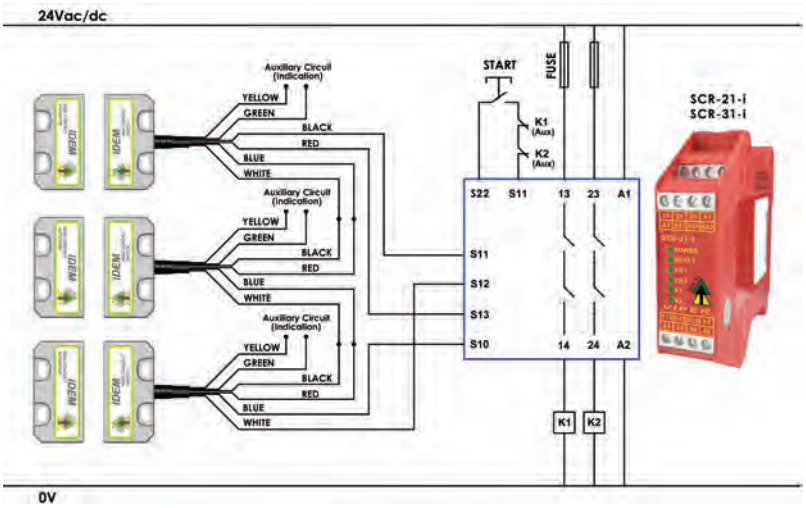
IP69K

DIMENSIONS:

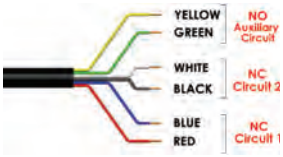


Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE: Magnetic Switches



Three SMR switches connected to an SCR-21-i or SCR-31-i to give dual channel guard monitoring with monitored manual start and contactor feedback check. Auxiliary circuits provide remote signalling from each switch.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 1.0A (F) External 0.8A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance (Target to Target)	Sao 8mm Close Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
139009	Hygiemag SMR	2M	2NC
139010	Hygiemag SMR	5M	2NC
139011	Hygiemag SMR	10M	2NC
139012	Hygiemag SMR	QC-M12	2NC
139013	Hygiemag SMR	2M	2NC 1NO
139014	Hygiemag SMR	5M	2NC 1NO
139015	Hygiemag SMR	10M	2NC 1NO
139016	Hygiemag SMR	QC-M12	2NC 1NO
139017	Hygiemag SMR	2M	1NC
139018	Hygiemag SMR	5M	1NC
139019	Hygiemag SMR	10M	1NC
139020	Hygiemag SMR	QC-M12	1NC
139021	Hygiemag SMR	2M	1NC 1NO
139022	Hygiemag SMR	5M	1NC 1NO
139023	Hygiemag SMR	10M	1NC 1NO
139024	Hygiemag SMR	QC-M12	1NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **SMR-H (HYGIEMAG)**

FEATURES:

Robust Stainless Steel 316 enclosure designed to survive Food Processing, Packaging and Pharmaceutical applications.
Through hole fixing to enable front mounting by Hexagon head bolts:
- no food trap areas.

Suitable for CIP and SIP cleaning:
- Food Contact or Food Splash Zones EHEDG guidelines

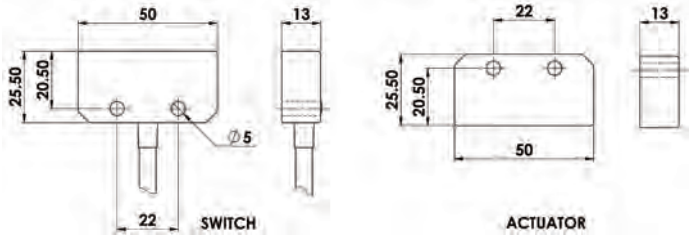
Universal Housing - 22mm fixing hole centre with 50mm wide body.
Wide sensing at 12mm with high tolerance to misalignment.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Stainless Steel 316 Housing mirror polished (Ra4).
Magnetic Actuation.
Switching Tolerance up to 12mm.
Will operate with most Safety Relays.

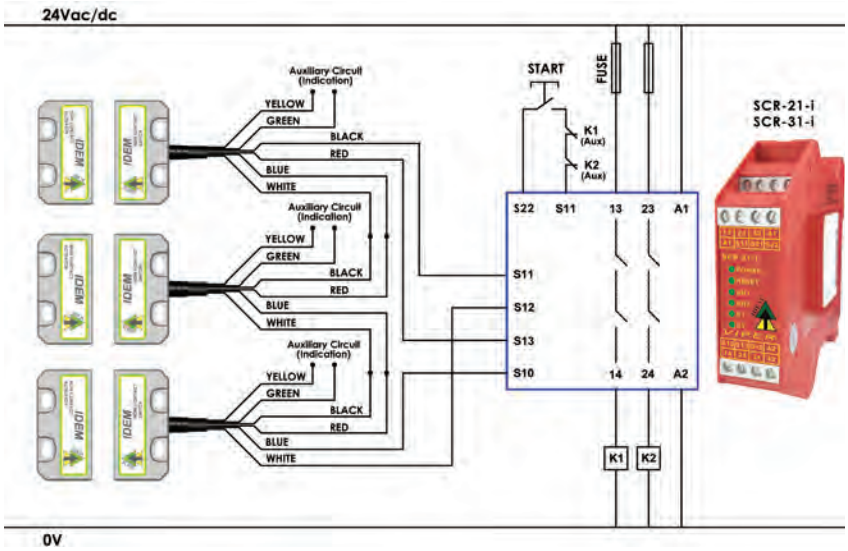
IP69K

Use Hexagon Head Bolts for ease of cleaning.

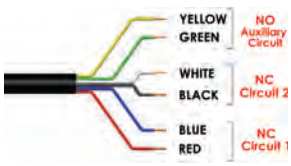
DIMENSIONS:



CONNECTION EXAMPLE: Magnetic Switches



Three switches connected to an SCR-21-i or SCR-31-i to give Dual Channel guard monitoring with monitored Manual Start and Contactor Feedback check. Auxiliary circuits provide remote signalling from each switch.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 1.0A (F) External 0.8A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
132009	Hygiemag SMR-H	2M	2NC
132010	Hygiemag SMR-H	5M	2NC
132011	Hygiemag SMR-H	10M	2NC
132012	Hygiemag SMR-H	QC-M12	2NC
132013	Hygiemag SMR-H	2M	2NC 1NO
132014	Hygiemag SMR-H	5M	2NC 1NO
132015	Hygiemag SMR-H	10M	2NC 1NO
132016	Hygiemag SMR-H	QC-M12	2NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **SMR-F (HYGIEMAG)**

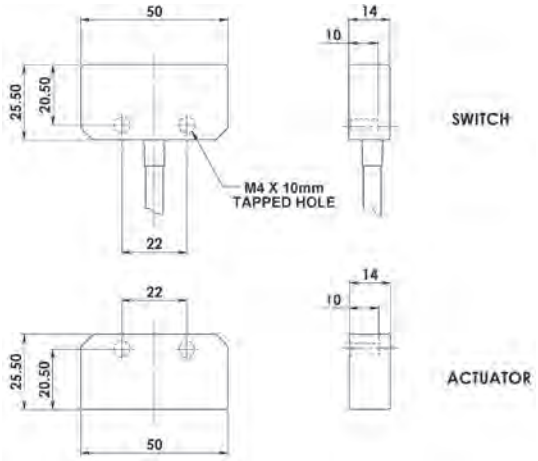
FEATURES:

Specifically designed for Food Processing applications.
Suitable for CIP and SIP cleaning - mounting holes at rear - no food traps.
Suitable for Food Contact Zones - EHEDG Guidelines.
Wide 12mm sensing with high tolerance to misalignment.
Universal housing - 22mm fixing hole centre - 50mm wide body.
Can be high pressure hosed at high temperature - IP69K.
Rear fixing with 2 x M4 tapped holes.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Stainless Steel 316 Housing mirror polished (Ra4).
Magnetic Actuation.
Medium Duty 230Vac 1.0A/24Vdc 1.0A.
Switching Tolerance up to 12mm.
Will operate with most Safety Relays.

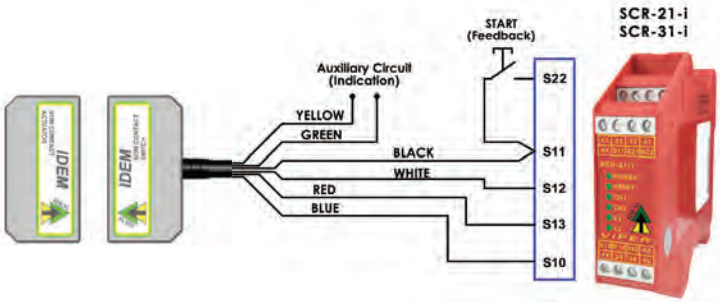
IP69K

DIMENSIONS:



Quick Connect M12 versions fitted with 250mm (10") cable.

CONNECTION EXAMPLE: Magnetic Switches



One switch connected to an SCR-2 or SCR-3 to give Dual Channel guard monitoring but with Automatic Start.

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508

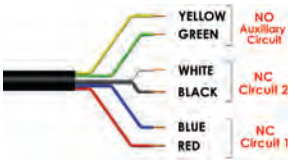
Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Medium Duty Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 1.0A (F) External 0.8A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
137009	Hygiemag SMR-F	2M	2NC
137010	Hygiemag SMR-F	5M	2NC
137011	Hygiemag SMR-F	10M	2NC
137012	Hygiemag SMR-F	QC-M12	2NC
137013	Hygiemag SMR-F	2M	2NC 1NO
137014	Hygiemag SMR-F	5M	2NC 1NO
137015	Hygiemag SMR-F	10M	2NC 1NO
137016	Hygiemag SMR-F	QC-M12	2NC 1NO
137017	Hygiemag SMR-F	2M	1NC
137018	Hygiemag SMR-F	5M	1NC
137019	Hygiemag SMR-F	10M	1NC
137020	Hygiemag SMR-F	QC-M12	1NC
137021	Hygiemag SMR-F	2M	1NC 1NO
137022	Hygiemag SMR-F	5M	1NC 1NO
137023	Hygiemag SMR-F	10M	1NC 1NO
137024	Hygiemag SMR-F	QC-M12	1NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **LMR (HGIEMAG)**

FEATURES:

Specifically designed for Food Processing applications:
- Stainless Steel 316 Mirror Polished finish (Ra4)

Suitable for CIP and SIP cleaning:
- Food Splash Zones EHEDG guidelines - IP69K.

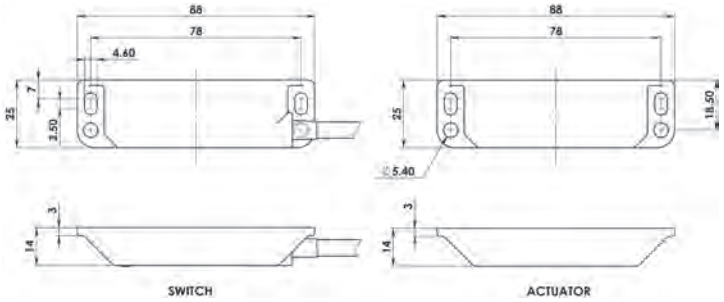
Wide sensing at 12mm with high tolerance to misalignment.
Narrow fitting enables flush mounting.
Can be high pressure hosed at high temperature.
Long life high power switching capability - up to 1.0A.
Up to: PLe ISO13849-1.
2NC 1NO circuits. Quick Connect versions available.

Stainless Steel 316 Housing mirror polished (Ra4).
Magnetic Actuation - Power Series 230Vac/24Vdc 1.0A.
Switching Tolerance up to 12mm.
Will operate with most Safety Relays.

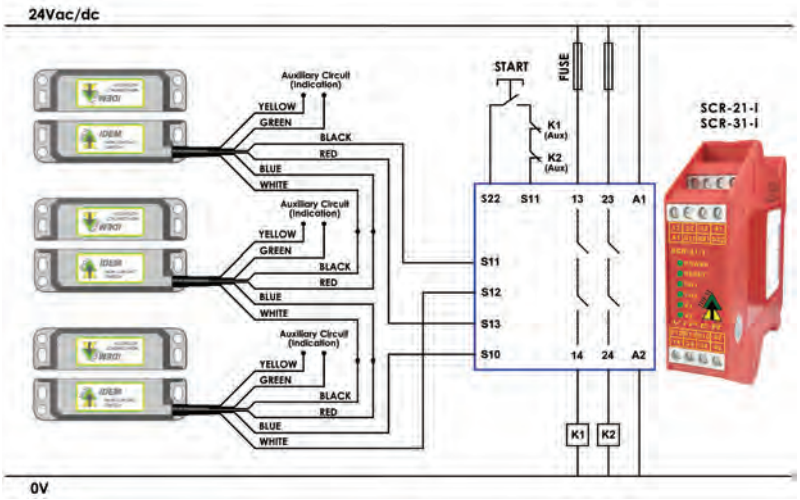
IP69K

Quick Connect M12 versions fitted with 250mm (10") cable.

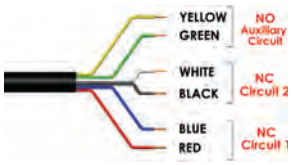
DIMENSIONS:



CONNECTION EXAMPLE: Magnetic Switches



Three switches connected in series to an SCR-21-i or SCR-31-i to give Dual Channel guard monitoring with Monitored Manual Start and Contactor Feedback check. Optional auxiliary circuits provide for remote signalling from each switch.



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Medium Duty Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 1.0A (F) External 0.8A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
133009	Hygiemag LMR	2M	2NC
133010	Hygiemag LMR	5M	2NC
133011	Hygiemag LMR	10M	2NC
133012	Hygiemag LMR	QC-M12	2NC
133013	Hygiemag LMR	2M	2NC 1NO
133014	Hygiemag LMR	5M	2NC 1NO
133015	Hygiemag LMR	10M	2NC 1NO
133016	Hygiemag LMR	QC-M12	2NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **LMR with LED (HYGIEMAG)**

FEATURES:

2NC circuits for connection to safety relays to achieve up to:
- PLe ISO13849-1.

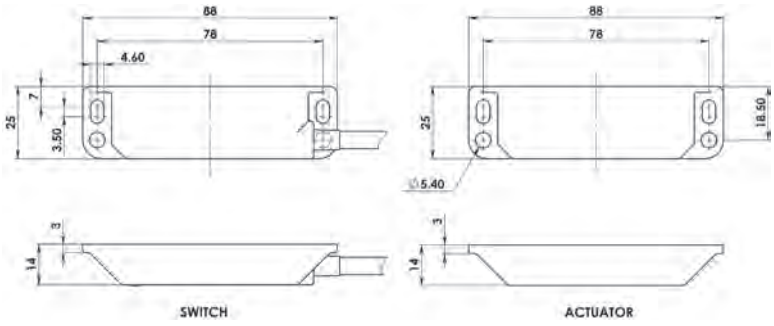
Integral LED indication of sensing position.
Choice of LED versions:
- Green - ON when guard is closed
- Red - ON when guard is open

Stainless Steel 316 housing - IP69K suitable for high pressure hosing.
Popular European style narrow fitting for flush mounting.
Wide 10mm sensing with high tolerance to misalignment.
Long life high power switching capability up to 1A.
M12 Quick Connect versions available.

Integral LED (options available).
Magnetic Actuation - Power Series.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.

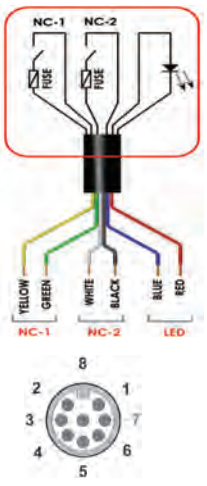
IP69K

DIMENSIONS:



Recommended operating direction for optimum performance.

Quick Connect M12 versions fitted with 250mm (10") cable.



Note: The LED does not indicate the status of the NC Safety Contacts, but indicates that the actuator is aligned to give optimum performance.

Standards:	ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508
Safety Classification and Reliability Data:	
Safety Channels NC1 and NC2	Voltage free: 250Vac 1.0A Max.
Fuse (NC Circuits)	Fuse externally 0.8A (F)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
LED Supply Voltage	24Vdc +/-10%
NC Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
LED (Green)	Typical 8mm ON 15mm OFF
LED (Red)	Typical 8mm OFF 15mm ON
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Mechanical Life Expectancy	10,000,000 switching operations
Electrical Life Expectancy	1,000,000 switching operations De-rating Safety Factor 2 Tested to 2,000,000 cycles at 24V 0.2A
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NC2
6	Green	NC2
7	Black	NC1
1	White	NC1
2	Red	Supply + 24Vdc
3	Blue	Supply 0Vdc

LED COLOUR AND STATUS	SALES NUMBER	TYPE	CABLE LENGTH	OUTPUT CIRCUITS
LED GREEN (Illuminated when the guard is closed)	133120	Hygiemag LMR (with Integral LED)	2M	2NC
	133121	Hygiemag LMR (with Integral LED)	5M	2NC
	133122	Hygiemag LMR (with Integral LED)	10M	2NC
	133123	Hygiemag LMR (with Integral LED)	QC-M12	2NC
LED RED (Illuminated when the guard is open)	133124	Hygiemag LMR (with Integral LED)	2M	2NC
	133125	Hygiemag LMR (with Integral LED)	5M	2NC
	133126	Hygiemag LMR (with Integral LED)	10M	2NC
	133127	Hygiemag LMR (with Integral LED)	QC-M12	2NC

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **CMR (HYGIEMAG)**

FEATURES:

Specifically designed for Food Processing applications:
- Stainless Steel 316 Mirror Polished finish (Ra4).

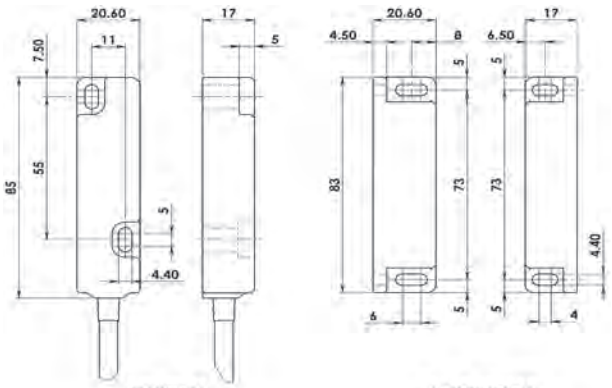
Suitable for CIP and SIP cleaning:
- Food Splash Zones EHEDG guidelines.

Slim 20mm wide housing - can be fitted into narrow channels easily.
Wide sensing at 12mm with high tolerance to misalignment.
Can be high pressure hosed at high temperature.
High switching capability - up to 2.0A.
Up to: PLe ISO13849-1.
Quick Connect versions available.

Stainless Steel 316 Housing mirror polished (Ra4).
Magnetic Actuation - Power Series 230Vac/24Vdc 2.0A.
Switching Tolerance up to 12mm.
Will operate with most Safety Relays.

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

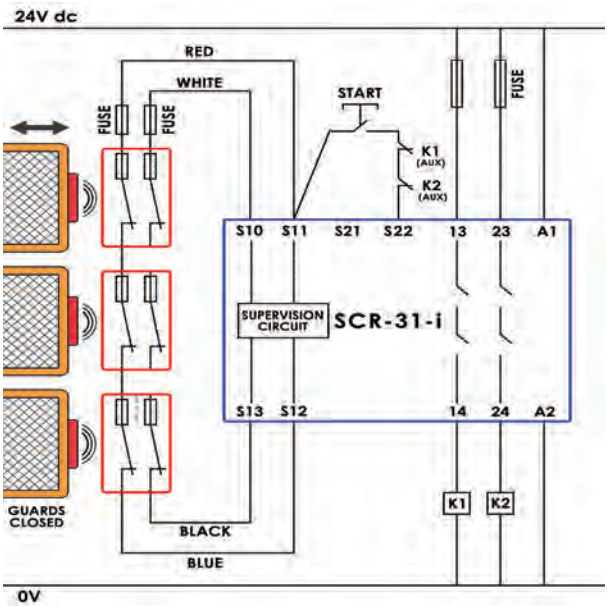
Technical Specification:

Heavy Duty	Safety Channel 1 NC	Voltage Free: 250Vac 2.0A Max. Rating
	Safety Channel 2 NC	Voltage Free: 250Vac 2.0A Max. Rating
	Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
	Fuse	Internal 2.0A (F) External 1.6A (F) (User)
Medium Duty	Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
	Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
	Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
	Fuse	Internal 1.0A (F) External 0.8A (F) (User)
	Contact Release Time	<2ms
	Initial Contact Resistance	<500 milliohm
	Minimum Switched Current	10Vdc 1mA
	Dielectric Withstand	250Vac
	Insulation Resistance	100 Mohms
	Recommended Setting Gap	5mm
	Switching Distance	Sao 8mm Close
	(Target to Target)	Sar 22mm Open
	Tolerance to Misalignment	5mm in any direction from 5mm setting gap
	Switching Frequency	1.0Hz maximum
	Approach Speed	200mm/min to 1000mm/sec
	Body Material	Stainless Steel 316 mirror polished finish to Ra4
	Operating Temperature	-25C +105C (CIP SIP cleaning)
	Enclosure Protection	IP69K (QC versions IP67 for connector)
	Shock Resistance	IEC68-2-27 11ms 30g
	Vibration Resistance	IEC68-2-6 10-55Hz 1mm
	Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
	Mounting Bolts	2xM4 Tightening torque 1.0Nm

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

CONNECTION EXAMPLE: Magnetic Switches

Three switches connected in series to an SCR-21-i or SCR-31-i to give Dual Channel guard monitoring with Monitored Manual Start and Contactor Feedback check.



SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS	NC DUTY
138017	Hygiemag CMR	2M	2NC	Medium 1A
138018	Hygiemag CMR	5M	2NC	Medium 1A
138019	Hygiemag CMR	10M	2NC	Medium 1A
138020	Hygiemag CMR	QC-M12	2NC	Medium 1A
138021	Hygiemag CMR	2M	2NC 1NO	Medium 1A
138022	Hygiemag CMR	5M	2NC 1NO	Medium 1A
138023	Hygiemag CMR	10M	2NC 1NO	Medium 1A
138024	Hygiemag CMR	QC-M12	2NC 1NO	Medium 1A
138025	Hygiemag CMR	2M	1NC	Heavy 2A
138026	Hygiemag CMR	5M	1NC	Heavy 2A
138027	Hygiemag CMR	10M	1NC	Heavy 2A
138028	Hygiemag CMR	QC-M12	1NC	Heavy 2A
138029	Hygiemag CMR	2M	1NC 1NO	Heavy 2A
138030	Hygiemag CMR	5M	1NC 1NO	Heavy 2A
138031	Hygiemag CMR	10M	1NC 1NO	Heavy 2A
138032	Hygiemag CMR	QC-M12	1NC 1NO	Heavy 2A

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **CMR-F (HYGIEMAG)**

FEATURES:

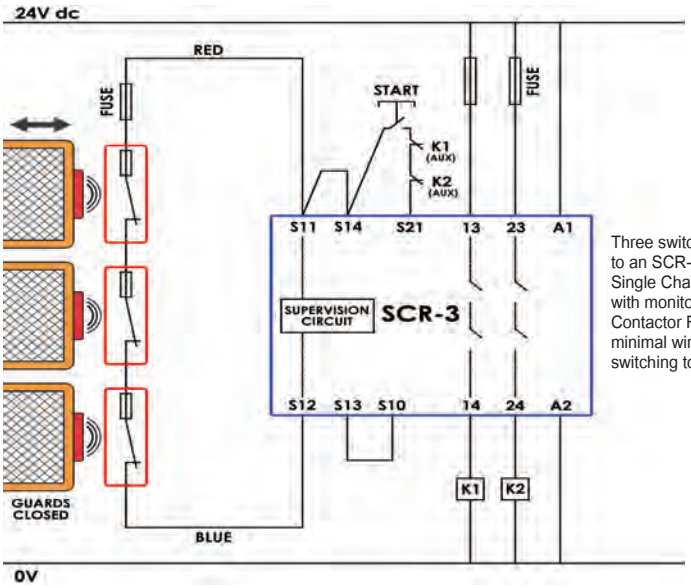
Specifically designed for Food Processing applications:
- Stainless Steel 316 Mirror Polished finish (Ra4).

Suitable for CIP SIP cleaning, mounting holes are at the rear - no food traps.
Suitable for Food Contact Zones - EHEDG Guidelines.
Industry standard fixings - can be high pressure hosed at high temperature.
Wide sensing at 12mm with high tolerance to misalignment.
Can be high pressure hosed at high temperature.
High switching capability - up to 2.0A.
Up to: PLe ISO13849-1.

Stainless Steel 316 Housing mirror polished (Ra4).
Magnetic Actuation - Power Series 230Vac/24Vdc 2.0A.
Switching Tolerance up to 12mm.
No Food Traps - Rear Mounting Holes.
Will operate with most Safety Relays.

IP69K

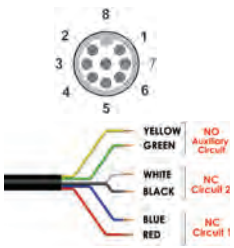
CONNECTION EXAMPLE: Magnetic Switches



Three switches connected in series to an SCR-2 or SCR-3 to give Single Channel guard monitoring with monitored Manual Start and Contactor Feedback check. Allows minimal wiring but higher current switching to K1 and K2 contactors.

Quick Connect M12 versions fitted with 250mm (10") cable.

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1



Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

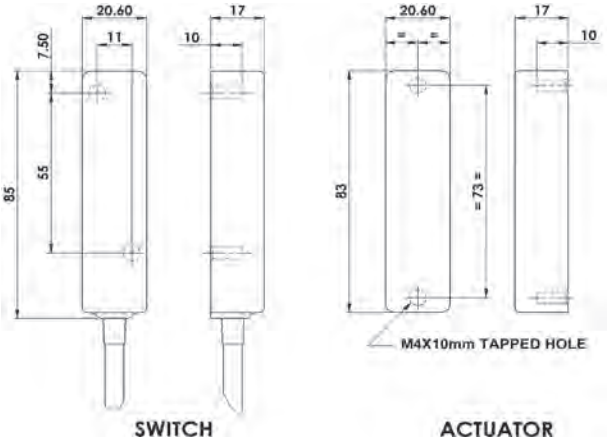
Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Heavy Duty	Safety Channel 1 NC	Voltage Free: 250Vac 2.0A Max. Rating
	Safety Channel 2 NC	Voltage Free: 250Vac 2.0A Max. Rating
	Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
	Fuse	Internal 2.0A (F) External 1.6A (F) (User)
Medium Duty	Safety Channel 1 NC	Voltage Free: 250Vac 1.0A Max. Rating
	Safety Channel 2 NC	Voltage Free: 250Vac 1.0A Max. Rating
	Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
	Fuse	Internal 1.0A (F) External 0.8A (F) (User)
Contact Release Time		<2ms
Initial Contact Resistance		<500 milliohm
Minimum Switched Current		10Vdc 1mA
Dielectric Withstand		250Vac
Insulation Resistance		100 Mohms
Recommended Setting Gap		5mm
Switching Distance		Sao 8mm Close
(Target to Target)		Sar 22mm Open
Tolerance to Misalignment		5mm in any direction from 5mm setting gap
Switching Frequency		1.0Hz maximum
Approach Speed		200mm/min to 1000mm/sec
Body Material		Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature		-25C +105C (CIP SIP cleaning)
Enclosure Protection		IP69K (QC versions IP67 for connector)
Shock Resistance		IEC68-2-27 11ms 30g
Vibration Resistance		IEC68-2-6 10-55Hz 1mm
Cable Type		PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts		2xM4 Tightening torque 1.0Nm

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

DIMENSIONS:



SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS	NC DUTY
135017	Hygiemag CMR-F	2M	2NC	Medium 1A
135018	Hygiemag CMR-F	5M	2NC	Medium 1A
135019	Hygiemag CMR-F	10M	2NC	Medium 1A
135020	Hygiemag CMR-F	QC-M12	2NC	Medium 1A
135021	Hygiemag CMR-F	2M	2NC 1NO	Medium 1A
135022	Hygiemag CMR-F	5M	2NC 1NO	Medium 1A
135023	Hygiemag CMR-F	10M	2NC 1NO	Medium 1A
135024	Hygiemag CMR-F	QC-M12	2NC 1NO	Medium 1A
135025	Hygiemag CMR-F	2M	1NC	Heavy 2A
135026	Hygiemag CMR-F	5M	1NC	Heavy 2A
135027	Hygiemag CMR-F	10M	1NC	Heavy 2A
135028	Hygiemag CMR-F	QC-M12	1NC	Heavy 2A
135029	Hygiemag CMR-F	2M	1NC 1NO	Heavy 2A
135030	Hygiemag CMR-F	5M	1NC 1NO	Heavy 2A
135031	Hygiemag CMR-F	10M	1NC 1NO	Heavy 2A
135032	Hygiemag CMR-F	QC-M12	1NC 1NO	Heavy 2A

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **WMR (HYGIEMAG)**

FEATURES:

Specifically designed for Food Processing applications:
- Stainless Steel 316 Mirror Polished finish (Ra4).

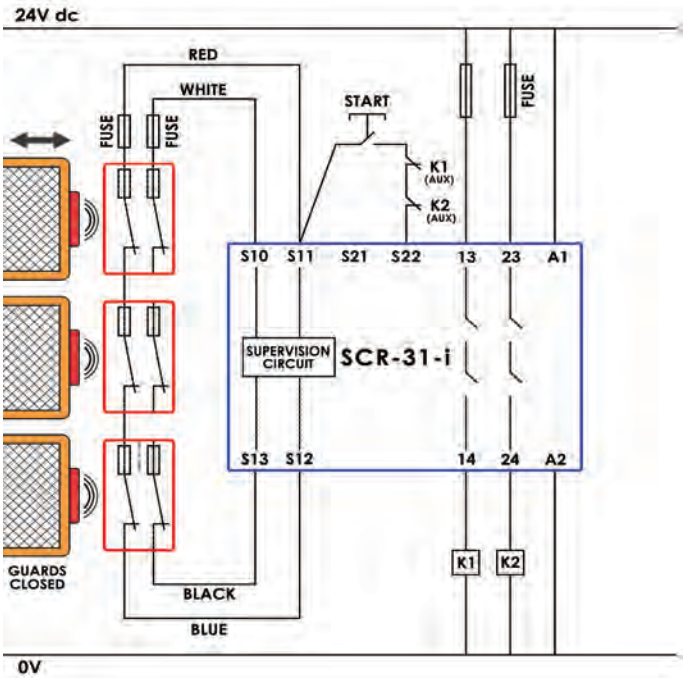
Suitable for CIP and SIP cleaning:
- Food Splash Zones EHEDG guidelines.

Industry standard fixings.
Wide sensing at 12mm with high tolerance to misalignment.
Can be high pressure hosed at high temperature IP69K.
Long life high power switching capability - Heavy Duty 2.0A.
Up to: PLe.
Quick Connect versions available.

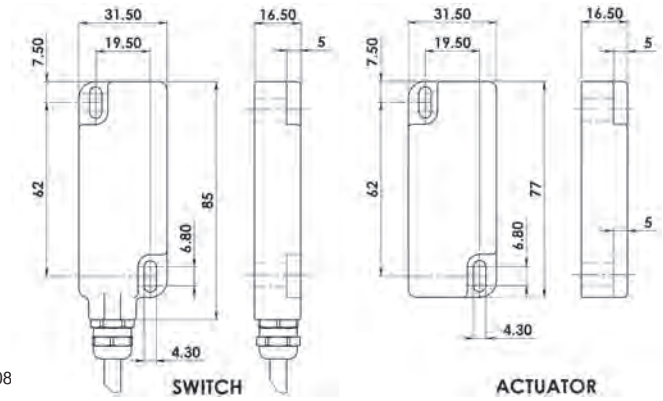
Stainless Steel 316 Housing mirror polished (Ra4).
Magnetic Actuation - Power Series 230Vac/24Vdc 2.0A.
Switching Tolerance up to 12mm.
Will operate with most Safety Relays.

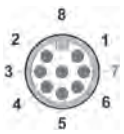
Quick Connect M12 versions fitted with 250mm (10") cable.

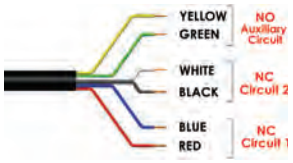
CONNECTION EXAMPLE: Magnetic Switches



DIMENSIONS:







Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Heavy Duty Safety Channel 1 NC	Voltage Free: 250Vac 2.0A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 2.0A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Fuse	Internal 2.0A (F) External 1.6A (F) (User)
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 22mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316 mirror polished finish to Ra4
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Bolts	2xM4 Tightening torque 1.0Nm
Mounting Position	Any

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
136001	Hygiemag WMR	2M	2NC
136002	Hygiemag WMR	5M	2NC
136003	Hygiemag WMR	10M	2NC
136004	Hygiemag WMR	QC-M12	2NC
136005	Hygiemag WMR	2M	2NC 1NO
136006	Hygiemag WMR	5M	2NC 1NO
136007	Hygiemag WMR	10M	2NC 1NO
136008	Hygiemag WMR	QC-M12	2NC 1NO
136009	Hygiemag WMR	2M	1NC 1NO
136010	Hygiemag WMR	5M	1NC 1NO
136011	Hygiemag WMR	10M	1NC 1NO
136012	Hygiemag WMR	QC-M12	1NC 1NO

Magnetically Operated: **BMR M18 (HYGIEMAG)**

FEATURES:

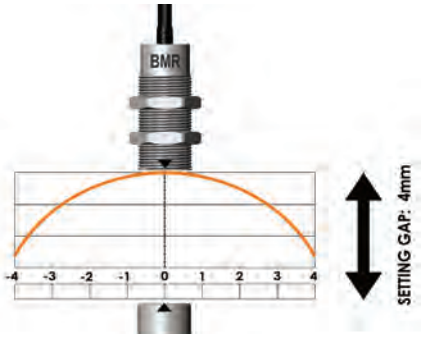
M18 cylindrical fitting suitable for all industry applications.
Easy to install - M18 threaded body - easy to set.
Typical switching distance 8mm.
Suitable for harsh environments of Food Processing and Packaging.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Stainless Steel 316 Housing.
Magnetic Actuation.
Typical Switching Distance 8mm.
Will operate with most Safety Relays.
Quick Connect versions available.

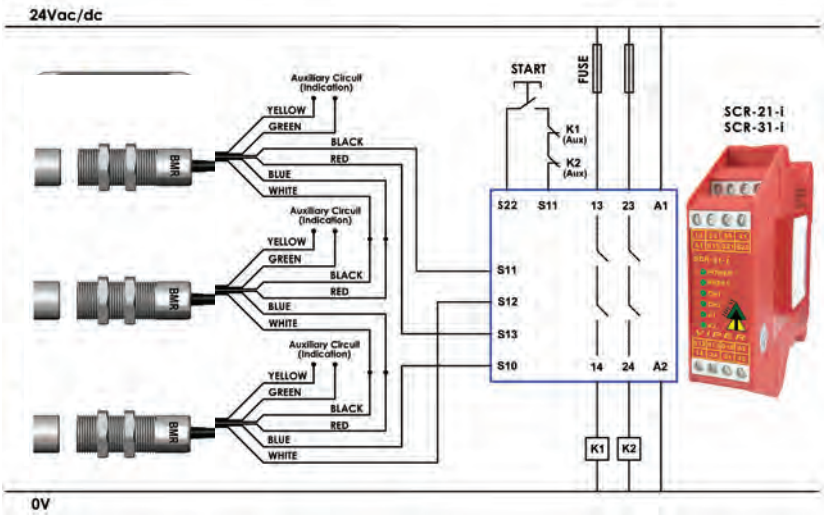
IP69K

Quick Connect M12 versions fitted with 250mm (10") cable.

SETTING GAP:

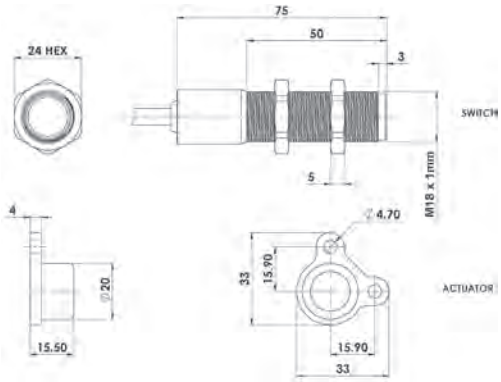


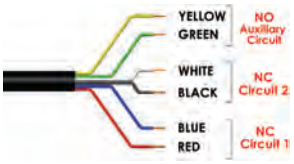
CONNECTION EXAMPLE: Magnetic Switches



Three switches connected in series to an SCR-2 or SCR-3 to give Dual Channel guard monitoring with Automatic Start and Contactor Feedback Check.

DIMENSIONS:





Standards: ISO14119 EN60947-5-3
EN60204-1 ISO13849-1 EN62061 UL508

Safety Classification and Reliability Data:

Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years

Technical Specification:

Safety Channel 1 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance (Target to Target)	Sao 5mm Close Sar 20mm Open
Tolerance to Misalignment	4mm in any direction from 4mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K (QC versions IP67 for connector)
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
416009	Hygiemag BMR S/Steel 316	2M	2NC
416010	Hygiemag BMR S/Steel 316	5M	2NC
416011	Hygiemag BMR S/Steel 316	10M	2NC
416012	Hygiemag BMR S/Steel 316	QC-M12	2NC
416013	Hygiemag BMR S/Steel 316	2M	2NC 1NO
416014	Hygiemag BMR S/Steel 316	5M	2NC 1NO
416015	Hygiemag BMR S/Steel 316	10M	2NC 1NO
416016	Hygiemag BMR S/Steel 316	QC-M12	2NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

Magnetically Operated: **RMR M30 (HYGIEMAG)**

FEATURES:

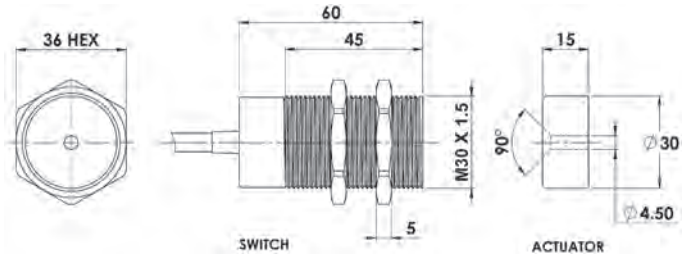
M30 cylindrical fitting suitable for all industry applications.
Easy to install - M30 threaded body - easy to set.
Wide 10mm sensing.
Suitable for harsh environments of Food Processing and Packaging.
Up to: PLe ISO13849-1.
2NC 1NO circuits.
Quick Connect versions available.

Stainless Steel 316 Housing.
Magnetic Actuation.
Switching Tolerance up to 10mm.
Will operate with most Safety Relays.
Quick Connect versions available.

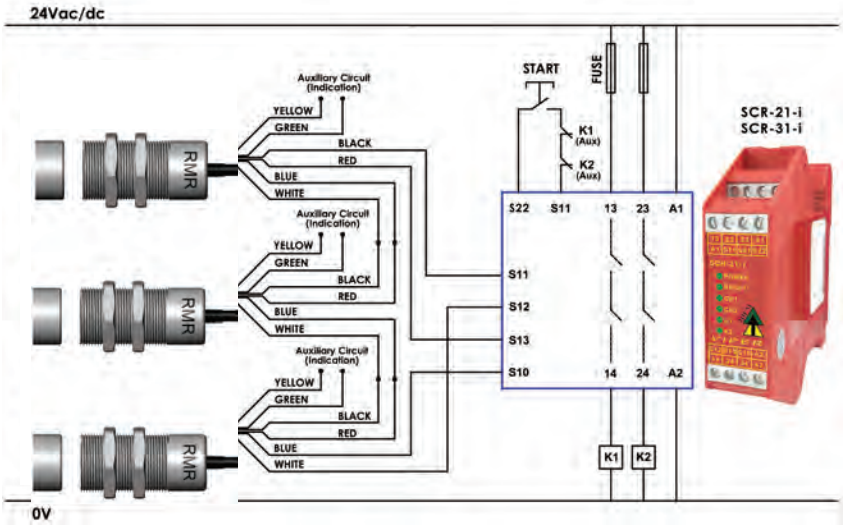
IP69K

Quick Connect M12 versions fitted with 250mm (10") cable.

DIMENSIONS:

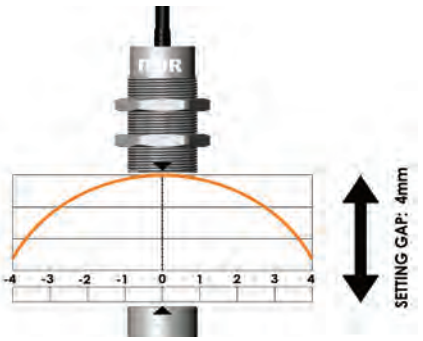


CONNECTION EXAMPLE: Magnetic Switches



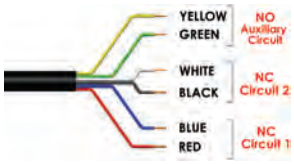
Three switches connected in series to an SCR-2 or SCR-3 to give Dual Channel guard monitoring with Automatic Start and Contactor Feedback Check.

SETTING GAP:



Standards:	ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	3.3 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years
Technical Specification:	
Safety Channel 1 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 2 NC	Voltage Free: 250Vac 0.5A Max. Rating
Safety Channel 3 NO	Voltage Free: 24Vdc 0.2A Max. Rating
Minimum Switched Current	10Vdc 1mA
Dielectric Withstand	250Vac
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 8mm Close
(Target to Target)	Sar 20mm Open
Tolerance to Misalignment	4mm in any direction from 4mm setting gap
Switching Frequency	1.0Hz maximum
Approach Speed	200mm/min to 1000mm/sec
Body Material	Stainless Steel 316
Operating Temperature	-25C +105C (CIP SIP cleaning)
Enclosure Protection	IP69K IP67
Shock Resistance	IEC68-2-27 11ms 30g
Vibration Resistance	IEC68-2-6 10-55Hz 1mm
Cable Type	PVC 6 core 6mm OD Conductors 0.25mm^2
Mounting Position	Any

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.



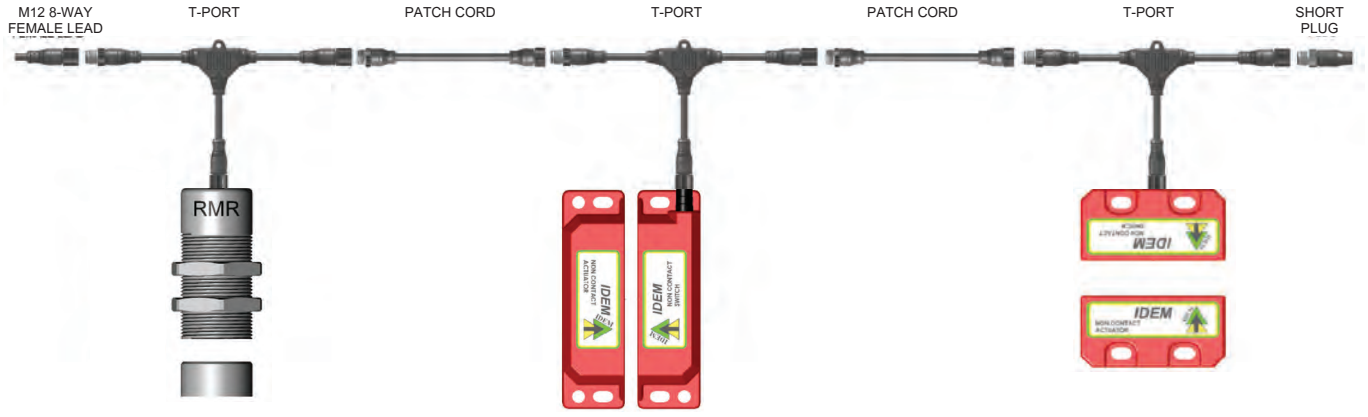
Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

SALES NUMBER	TYPE	CABLE LENGTH	CIRCUITS
134009	Hygiemag RMR S/Steel 316	2M	2NC
134010	Hygiemag RMR S/Steel 316	5M	2NC
134011	Hygiemag RMR S/Steel 316	10M	2NC
134012	Hygiemag RMR S/Steel 316	QC-M12	2NC
134013	Hygiemag RMR S/Steel 316	2M	2NC 1NO
134014	Hygiemag RMR S/Steel 316	5M	2NC 1NO
134015	Hygiemag RMR S/Steel 316	10M	2NC 1NO
134016	Hygiemag RMR S/Steel 316	QC-M12	2NC 1NO

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

‘T’ Port Connectivity Non-Contact Magnetic Switches

PLUGGABLE SYSTEM M12 8-WAY CONNECTORS FOR **MAGNETIC NON CONTACT SWITCHES:**



EXAMPLE:

Three Non Contact Switches connected in series to give dual circuit safety outputs to machine contactors.

System Parts:

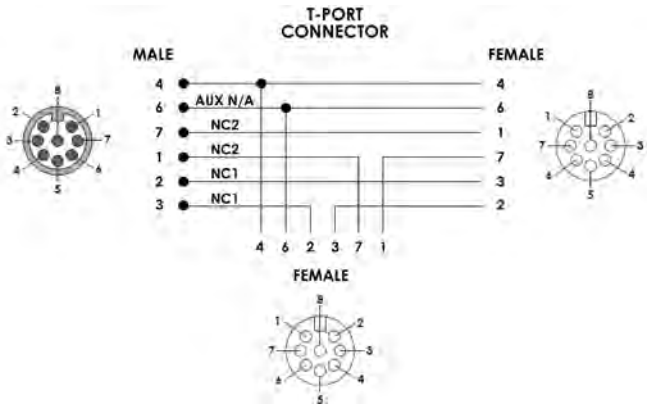
- 3 x Non Contact Switches (Coded or Magnetic) with M12 Flying Lead Connectors
- 2 x Patch Cord (either 2m, 5m or 10m)
- 3 x T Port
- 1 x End Short Plug
- 12 Female Lead

SUITABLE FOR THE FOLLOWING SWITCHES:

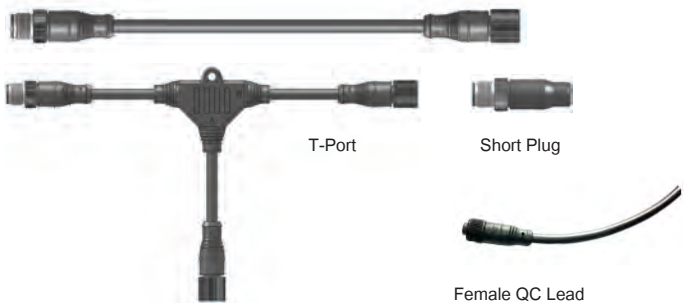
Plastic Housings:
MPR, SPR, LPR, CPR, WPR, RPR, BPR

Stainless Steel 316 Housings:
SMR, CMR, LMR, WMR, SMR-F, CMR-F, RMR, BMR, SMR-H, MMR-H

Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Circuit (Actuator Present)
4	NO
6	NO
7	NC2
1	NC2
2	NC1
3	NC1



Patch Cord: Available in 2m, 5m or 10m lengths



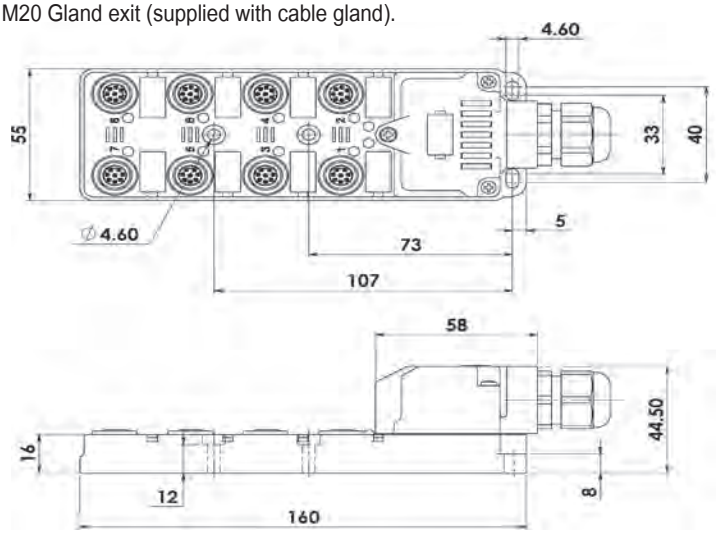
Sales Number	Description
140101	M12 8 Way Female QC Lead 5m
140102	M12 8 Way Female QC Lead 10m
140201	Patch Cord M12 Male to Female 2m
140202	Patch Cord M12 Male to Female 5m
140203	Patch Cord M12 Male to Female 10m
140208	**T Port for Magnetic Non Contact Switches**
140209	**Short Plug for Magnetic Non Contact Switches**

8-Pin M12 Connection Box for **Magnetic Non Contact**

FEATURES:

FOR USE WITH 8 PIN M12 MAGNETIC NON CONTACT SWITCHES

Connect up to 8 switches in series to one safety controller.
Configured for dual circuit to a safety controller.
LED status of circuits
Unused ports can be plugged.
Screw clamp terminals.
M20 Gland exit (supplied with cable gland).



SPECIFICATIONS:

General Specifications:

Switch connection type:	8 x 8 Pin M12 Female sockets
Ambient temperature:	-20C. to 40C
Supply Voltage:	24V.dc (+/- 10%)
Maximum current:	500mA
Body Material:	Polyester
Terminals:	Screw type – clamp 16-28AWG conductors
Cable exit:	M20 cable gland (connector options available)
Mounting:	4 x M4 bolts

LEDs:

LED 1-8 (Red):	Auxiliary indication of switch open

For use with switches with the following pin out:

Quick Connect QC M12 8 Way Male Plug	Standard Lead Colour	Circuit (Actuator Present)
4	Yellow	NO
6	Green	NO
7	Black	NC2
1	White	NC2
2	Red	NC1
3	Blue	NC1

SCREW TERMINAL VERSION (M20 Gland Exit)

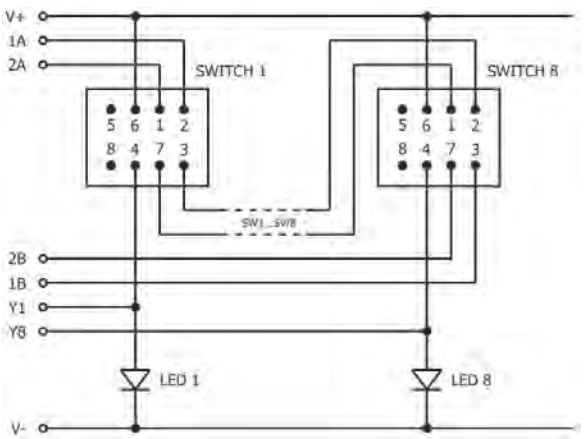
Terminal	Connection
Y1	Auxiliary out +24V.dc Switch 1 open RED LED 1 on
Y2	Auxiliary out +24V.dc Switch 2 open RED LED 2 on
Y3	Auxiliary out +24V.dc Switch 3 open RED LED 3 on
Y4	Auxiliary out +24V.dc Switch 4 open RED LED 4 on
Y5	Auxiliary out +24V.dc Switch 5 open RED LED 5 on
Y6	Auxiliary out +24V.dc Switch 6 open RED LED 6 on
Y7	Auxiliary out +24V.dc Switch 7 open RED LED 7 on
Y8	Auxiliary out +24V.dc Switch 8 open RED LED 8 on
2A	NC 2 Closed when all switches are closed
2B	
1A	NC 1 Closed when all switches are closed
1B	
V +	Supply +24Vdc
V -	Supply 0Vdc

M12 CONNECTOR VERSION

Quick Connect M12 8 Way Male Plug on 250mm (10") Flying Lead	Pin view from Block
5	Auxiliary +24Vdc Out when any switch is open
4	NC 2 Closed when all switches are closed
6	
7	NC 1 Closed when all switches are closed
1	
2	Supply +24Vdc
3	Supply 0Vdc
8	Not in use

PRE-WIRED VERSION (5m cable length)

Terminal	PVC Cable 9mm diameter	Conductor
Y1	Auxiliary Out +24Vdc Switch 1 Open	Pink
Y2	Auxiliary Out +24Vdc Switch 2 Open	Brown/Green
Y3	Auxiliary Out +24Vdc Switch 3 Open	White/Green
Y4	Auxiliary Out +24Vdc Switch 4 Open	Grey
Y5	Auxiliary Out +24Vdc Switch 5 Open	Red/Blue
Y6	Auxiliary Out +24Vdc Switch 6 Open	Brown
Y7	Auxiliary Out +24Vdc Switch 7 Open	Violet
Y8	Auxiliary Out +24Vdc Switch 8 Open	Grey/Pink
2A	NC2 Closed when all switches closed	Black
2B		White
1A	NC1 Closed when all switches closed	Yellow
1B		Green
V +	Supply +24Vdc	Red
V -	Supply 0Vdc	Blue



ORDERING:

Sales Number	Accessories and Description
140201	Patch Cord M12 Male to Female 2m
140202	Patch Cord M12 Male to Female 5m
140203	Patch Cord M12 Male to Female 10m
140209	**Short Plug for Magnetic Non Contact Switches**

Sales Number	MAGNETIC NON CONTACT SWITCHES CONNECTION BOX
140213	Connection Box (Magnetic Non-Contact Switches) – Screw terminal
140214	Connection Box (Magnetic Non-Contact Switches) – M12 8 way Male
140215	Connection Box (Magnetic Non-Contact Switches) – pre-wired 14 core (5m)

Standalone Operation: **PSA & MSA**

FEATURES & APPLICATION:

PSA and MSA are Non-Contact Coded switches have been developed as stand alone mountable devices to provide a high level of fault detection and functional safety.

They can be mounted to guard doors to provide and maintain a high level of functional safety without the need to connect to external safety evaluators.

They have their own internal monitoring system and use force guided mechanical contacts and will maintain PLe (ISO13849-1).

They are offered in high specification plastic or stainless steel 316 (mirror polished finish to Ra4) housings and can be used in almost any environment including where the requirement for high pressure cleaning following contamination from foreign particles exists. The housings are compact and easy to fit on frame sections of less than 40mm.

The PSA (Plastic) and the MSA (Stainless Steel 316) both have IP69K ingress protection and are suitable for most detergent washdown applications. The MSA Stainless Steel 316 version has a mirror polished (Ra4) surface finish and is suitable for CIP and SIP process applications.

Dual Actuator versions are available for use with "double door" guards

The typical sensing distance "on" is 12mm with wide tolerance to guard misalignment after setting.

Tested to ingress protection degree IP69K (high pressure washdown with detergent at 80C and 100psi).

SAFETY RELIABILITY:

All standalone switches employ Two Force Guided Mechanical Relays and incorporate internal checking to ensure both relays are operational after each safety demand. If one relay fails to open or becomes inoperative the switch will lock out safe.

MAIN USER BENEFITS:

- A standalone mountable device able to provide interlocking control without the need for special additional controllers.
- Feedback circuit check option is included for use when incorporating reset buttons and external contactor feedback checks.
- Maintains PLe by internally checking the internal mechanical relays at each safety demand.
- Two LED's for on-switch diagnostics.
- Ability to connect other switches and E-Stops.
- Output contacts will switch up to 230Vac 3A.

FUNCTIONAL SPECIFICATION:

High Functional Safety to ISO13849-1 - up to PLe Conformance to EN60947-5-3 PDF-M.

Coded actuation to provide high tamper proof interlock security on Guard Doors.

Two Diagnostic LED's:

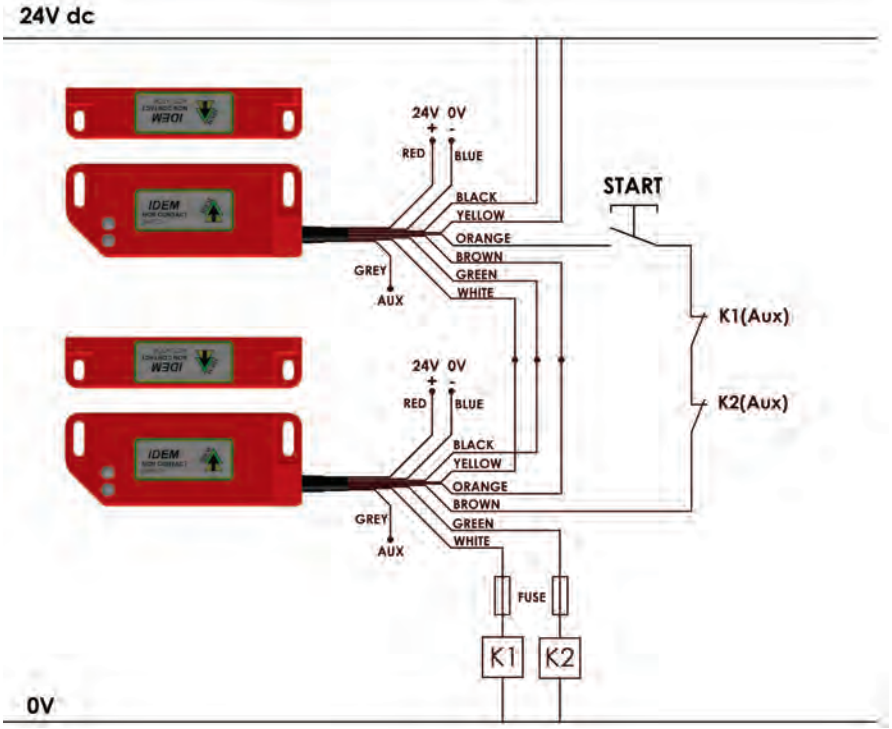
LED1	Green	Indication of Safety Circuits Closed (Guard Closed, Actuator present, Feedback Circuit checked)
LED2	Yellow	Indication of Safety Circuits Open (Actuator removed)

One Auxiliary circuit for indication of door open.

M12 Male 8-way Quick Connector versions available (Flying Lead 250mm (10")) and also optional series pluggable connectors.

Standalone Operation: **PSA & MSA**

CONNECTION EXAMPLE: Switches in Series - Manual Start PLe



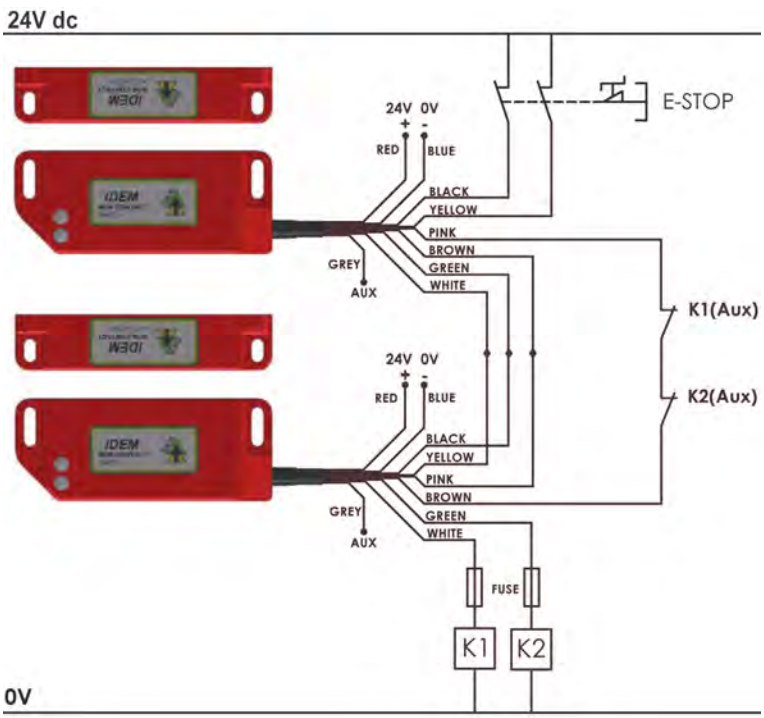
Two switches connected in series to give dual circuit safety outputs to machine contactors.

Safety Circuit 1 (Black/White) utilises internally checked force guided relay contacts and is connected in series with the corresponding Safety Circuit 2 (Yellow/Green) of the next switch.

Allows minimal wiring and higher current switching to K1 and K2 contactors.

A manual start and contactor feedback check is achieved by connecting K1(Aux) and K2(Aux) feedback contacts and momentary start button through the orange and brown feedback check.

CONNECTION EXAMPLE: Switches in Series - Automatic Start PLd/Cat3



Two switches connected in series to give dual circuit safety outputs to machine contactors.

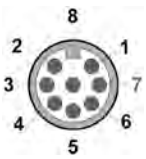
Safety Circuit 1 (Black/White) utilises internally checked force guided relay contacts and is connected in series with the corresponding Safety Circuit 2 (Yellow/Green) of the next switch.

Allows minimal wiring and higher current switching to K1 and K2 contactors.

An automatic start with contactor feedback check is achieved by connecting K1(Aux) and K2(Aux) feedback contacts through Pink and Brown feedback check circuit.

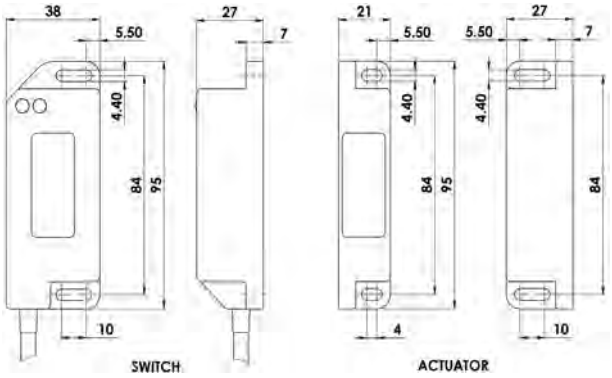
A mechanical E-Stop button is connected in series with the safety outputs (PLd).

Quick Connect QC Flying Lead 250mm (10") M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit	
2	Red	Supply +24Vdc	24Vdc +/-10%
3	Blue	Supply 0Vdc	
1	White	Safety Output 1 (Force Guided Relay)	AC15 250Vac 3A DC13 24Vdc 3A
7	Black	Safety Output 1 (Force Guided Relay)	
4	Yellow	Safety Output 2	AC15 250Vac 3A DC13 24Vdc 3A
6	Green	Safety Output 2	
8	Brown	Reset/Check Circuit - Output	
5	Orange	Reset/Check Circuit - Manual Start version (see Part Number)	
5	Pink	Reset/Check Circuit - Automatic Start version (see Part Number)	
Not Used	Grey	Auxiliary Feed	Electronic +24Vdc 0.2A



Standalone Operation: **PSA & MSA**

DIMENSIONS:



Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	3.95E-10 Corresponds to 4.0% of SIL3
PFD	3.46E-05 Corresponds to 3.5% of SIL3
Proof Test Interval T1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	C
Category	Cat4
MTTFd	446a
Diagnostic Coverage DC	99% (high)

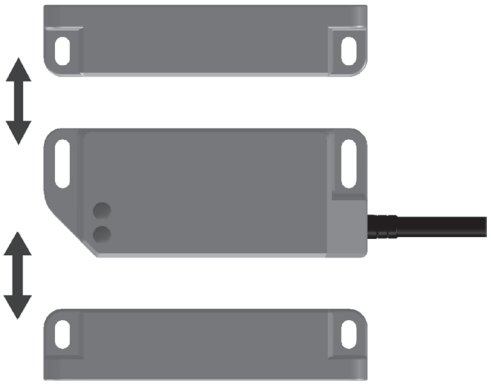
The calculation of the above values is based on the following assumptions:

No. of operating days per year:	d_{op} = 365d
No of operating hours per day:	h_{op} = 24h
No of operating cycles per day:	n_{cyc} = 1/d
B10d	= 150,000 AC1 Load 3A
	= 2,000,000 AC1 Load 0.5A

When the product is used deviant from these assumptions (different load, operating frequency, etc) the values have to be adjusted accordingly.

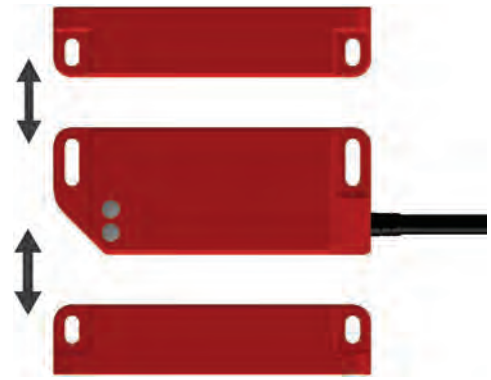
TECHNICAL DATA:

Standards:	ISO14119 EN60947-5-3 EN60947-5-3 UL508 EN60204-1 ISO13849-1 EN62061
Safety Classification and Reliability Data:	
Power Supply	24Vdc +/-10% (Consumption 150mA max.)
Safety Output Maximum Rating	240V 3A ac/dc (2A - QC version)
Auxiliary Output Maximum Rating	24Vdc 0.5A
Dielectric Withstand	4k Vac
Insulator Resistant	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Time)	Sar 15mm Open
Tolerance to Misalignment	5mm in any direction from 5mm setting gap
Approach Speed	600mm/m to 1000mm/s
Body Material	PSA High Specification Polyester
	MSA Stainless Steel 316
Temperature	-25C/45C
Shock Resistance	IEC 68-2-27 11ms 30g
Vibration Resistance	IEC 68-2-6 10-55Hz 1mm
Enclosure Protection	IP69K/IP67
Cable Type	PVC 10 core 7mm OD Conductors 0.25mm^2
Mounting Bolts	2 x M4



SALES NUMBER	SINGLE ACTUATOR SENSING	BODY MATERIAL	CABLE LENGTH
130002	MSA	S/Steel 316	5M
130003	MSA	S/Steel 316	10M
130004	MSA (Automatic Start)	S/Steel 316	QC-M12
130005	MSA (Manual Start)	S/Steel 316	QC-M12

SALES NUMBER	DUAL ACTUATOR SENSING (both actuators are required to be present to close the safety contacts)	BODY MATERIAL	CABLE LENGTH
130102	MSA - D	S/Steel 316	5M
130103	MSA - D	S/Steel 316	10M
130104	MSA - D (Automatic Start)	S/Steel 316	QC-M12
130105	MSA - D (Manual Start)	S/Steel 316	QC-M12



SALES NUMBER	SINGLE ACTUATOR SENSING	BODY MATERIAL	CABLE LENGTH
117002	PSA	Plastic	5M
117003	PSA	Plastic	10M
117004	PSA (Automatic Start)	Plastic	QC-M12
117005	PSA (Manual Start)	Plastic	QC-M12

SALES NUMBER	DUAL ACTUATOR SENSING (both actuators are required to be present to close the safety contacts)	BODY MATERIAL	CABLE LENGTH
117102	PSA - D	Plastic	5M
117103	PSA - D	Plastic	10M
117104	PSA - D (Automatic Start)	Plastic	QC-M12
117105	PSA - D (Manual Start)	Plastic	QC-M12

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

130200	MSA Replacement Actuator
117200	PSA Replacement Actuator

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

‘T’ Port Connectivity Non Contact Switches: **PSA & MSA**

PLUGGABLE SYSTEM M12 8-WAY CONNECTORS:

EXAMPLE:
Three Non Contact Switches connected in series to give dual circuit safety outputs to machine contactors.
System Parts:

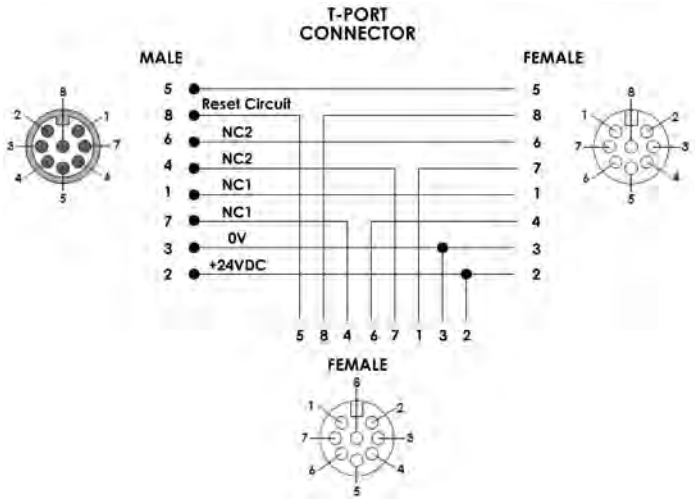
- 3 x Non Contact Switches (Standalone or Coded or Magnetic) with M12 Flying Lead Connectors
- 2 x Patch Cord (either 2m, 5m or 10m)
- 3 x T Port
- 1 x End Short Plug
- 12 Female Lead

PLUGGABLE SYSTEM M12 8-WAY CONNECTORS FOR **MSA & PSA SWITCHES:**

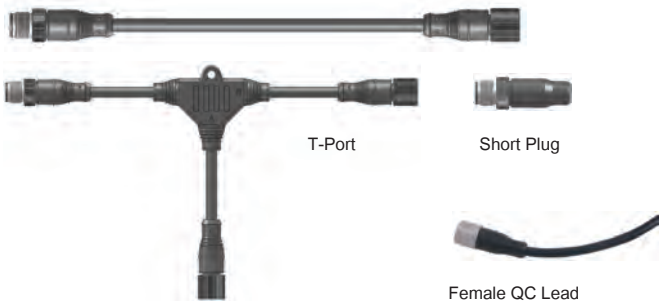
SUITABLE FOR THE FOLLOWING SWITCHES:

Plastic Housings:
PSA

Stainless Steel 316 Housings:
MSA



Patch Cord: Available in 2m, 5m or 10m lengths



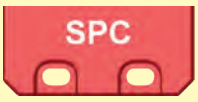
Quick Connect QC Flying Lead 250mm M12 8 Way Male Plug	Circuit	
2	Supply +24Vdc	24Vdc +/- 10%
3	Supply 0Vdc	
1	Safety Output 1 (Force Guided Relay)	AC15 250Vac 3A DC13 24Vdc 3A
7	Safety Output 1 (Force Guided Relay	
4	Safety Output 2	AC15 250Vac 3A DC13 24Vdc 3A
6	Safety Output 2	
8	Reset/Check Circuit - Output	
5	Reset/Check Circuit - Automatic Start Version (see Part Number)	
5	Reset/Check Circuit - Manual Start Version (see Part Number)	

Sales Number	Description	
140101	M12 8 Way Female QC Lead	5m
140102	M12 8 Way Female QC Lead	10m
140201	Patch Cord M12 Male to Female	2m
140202	Patch Cord M12 Male to Female	5m
140203	Patch Cord M12 Male to Female	10m
140204	**T Port for MSA/PSA**	
140205	**Short Plug for MSA/PSA**	

Accessories: **Non Contact Switches**

MPC CODED ACTUATOR	
	SALES NUMBER 114200

MMC CODED ACTUATOR	
	SALES NUMBER 131200

SPC CODED ACTUATOR	
	SALES NUMBER 111200

SMC CODED ACTUATOR	
	SALES NUMBER 139200

LPC CODED ACTUATOR	
	SALES NUMBER 110200

SMC-F CODED ACTUATOR	
	SALES NUMBER 137200

RPC CODED ACTUATOR	
	SALES NUMBER 116200

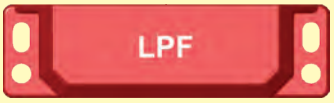
SMC-H CODED ACTUATOR	
	SALES NUMBER 132200

WPC CODED ACTUATOR	
	SALES NUMBER 112200

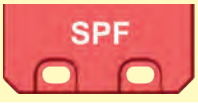
LMC CODED ACTUATOR	
	SALES NUMBER 133200

CPC CODED ACTUATOR	
	SALES NUMBER 115200

RMC CODED ACTUATOR	
	SALES NUMBER 134200

LPF RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER 404201

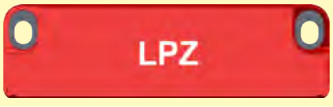
WMC CODED ACTUATOR	
	SALES NUMBER 136200

SPF RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER 405201

CMC CODED ACTUATOR	
	SALES NUMBER 138200

WPF RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER 407201

CMC-F CODED ACTUATOR	
	SALES NUMBER 135200

LPZ RAMZSENSE RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER 402200

LMF RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER 133200

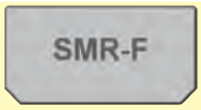
Accessories: **Non Contact Switches**

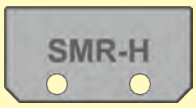
MPR MAGNETIC ACTUATOR	
	SALES NUMBER 114201

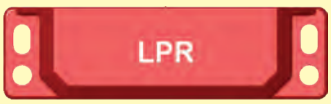
MMR MAGNETIC ACTUATOR	
	SALES NUMBER 131201

SPR MAGNETIC ACTUATOR	
	SALES NUMBER 111201

SMR MAGNETIC ACTUATOR	
	SALES NUMBER 139201

SMR-F MAGNETIC ACTUATOR	
	SALES NUMBER 137201

SMR-H MAGNETIC ACTUATOR	
	SALES NUMBER 132201

LPR MAGNETIC ACTUATOR	
	SALES NUMBER 110201

LMR MAGNETIC ACTUATOR	
	SALES NUMBER 133201

RPR MAGNETIC ACTUATOR	
	SALES NUMBER 116201

RMR MAGNETIC ACTUATOR	
	SALES NUMBER 134201

WPR MAGNETIC ACTUATOR	
	SALES NUMBER 112201

WMR MAGNETIC ACTUATOR	
	SALES NUMBER 136201

CPR MAGNETIC ACTUATOR	
	SALES NUMBER 113200

CMR MAGNETIC ACTUATOR	
	SALES NUMBER 138201

CMR-F MAGNETIC ACTUATOR	
	SALES NUMBER 135201

Accessories: **Non Contact Switches**

BPR MAGNETIC ACTUATOR	
	SALES NUMBER
	415200

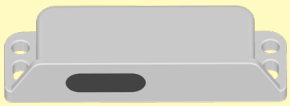
BMR MAGNETIC ACTUATOR	
	SALES NUMBER
	416201

BPF RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER
	413200

BMF RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER
	414200

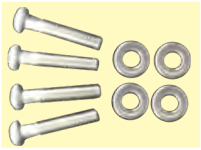
BPZ RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER
	410200

BMZ RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER
	411200

LMZ RFID ACTUATOR (MASTER CODED)	
	SALES NUMBER
	412200

MPZ RFID ACTUATOR (ANY CODE)	
	SALES NUMBER
	417201

MMZ RFID ACTUATOR (ANY CODE)	
	SALES NUMBER
	418201



NON CONTACT SWITCHES SCREW PACK (Pack of 12)
SALES NUMBER 140124
12 x M4 Screws: 4x10mm, 4x20mm, 4x30mm
4 x Washer: T20 Torx

STAINLESS STEEL MOUNTING SPACERS Packs of 4 Length: 20mm	
M4 Clearance Hole	Sales Number: 140171
M5 Clearance Hole	Sales Number: 140172

Gate Bolts for Non Contact Switches: **GBN-1**

APPLICATION:

IDEM GBN Gate Bolts when used with non contact switches provide interlocking of the guard but ensure that unintentional restart is prevented.

A deliberate action of sliding (and/or pulling GBN-3) and re-latching the gate bolt handle is required.

In conjunction with a Risk Assessment (ISO12100-1/ISO12100-2) they can be used to eliminate the risk of operators becoming accidentally trapped inside a guarded area.

FEATURES:

Manufactured in robust die cast metal and stainless steel construction.

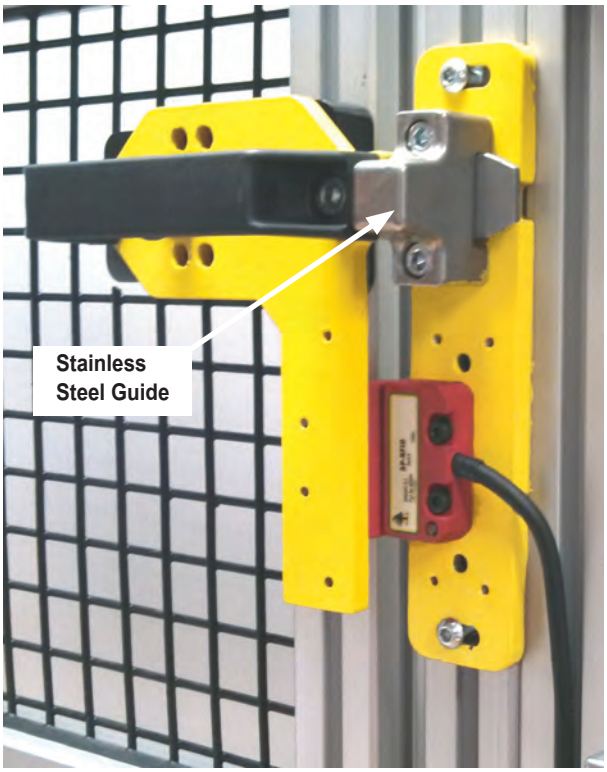
Non contact switches are mounted to aluminium plates to maximize read range.

Over 30mm ($1^1/_4$") adjustability (handle bracket and switch bracket mounting holes are slotted) to compensate for varying door gaps.

There are padlock holes provided to lock the handle to prevent the guard from being closed and the machine started during maintenance.

Stainless steel guide prevents accidental closure, keeps safety switches properly aligned and acts as door latch.

All individual pieces are replaceable if damaged (handle, guide, individual brackets, etc.). Switch brackets are pre-drilled to accommodate non contact safety switches (as listed).



GBN-1 shown fitted with SPF-RFID Non Contact Switch
Left Hand Version shown.

Unlocking of the Gate Bolt can only be achieved by sliding the handle.

(Optional Rear Handle accessory available if there is a requirement to escape from the guarded area.)

Requires deliberate re-closing when re-start is required.

GBN-1 Gate Bolts hold the guard closed when the handle is closed, providing shearing forces of up to 10,000N (F1Max) on hinged guards.

OPTIONAL ACCESSORIES FOR GBN-1:

Rear handle where there is a requirement to open the Gate Bolt from inside the guarded area.

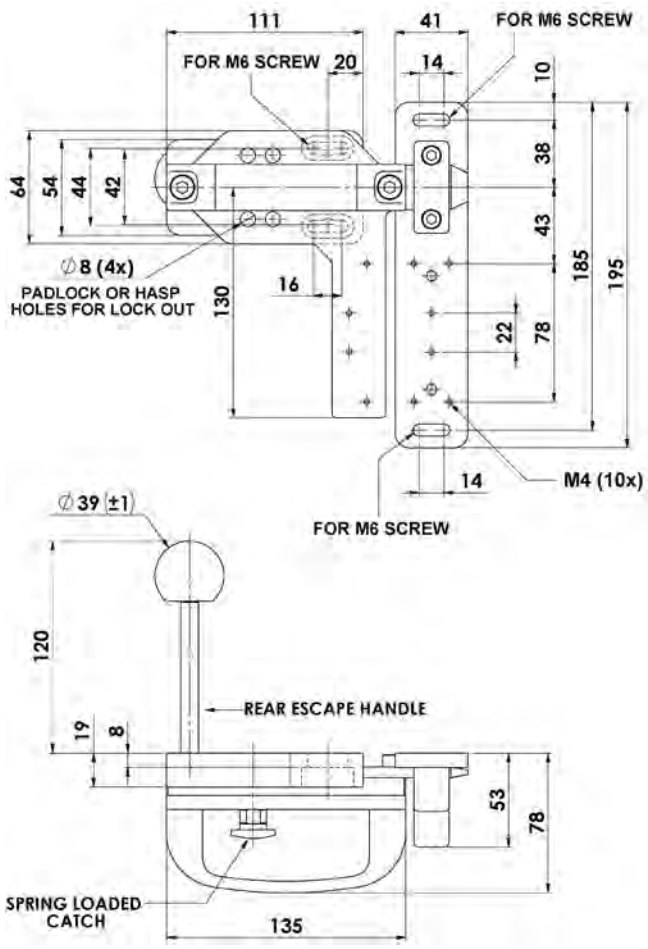
Spring loaded catch to prevent accidental actuation after opening of the handle. This holds the door in the closed position with light force (to prevent accidental opening due to vibration or other unforeseen actions).

When opened, knob retains the door in the open position and cannot close unless catch is pulled upwards.

GBN-1 GATE BOLT	HANDLE POSITION	SALES NUMBER
GBN-1 (Gate Bolt Non Contact)	Left	210007
GBN-1 (Gate Bolt Non Contact)	Right	210008
	Rear Handle	210005
	Spring Loaded Catch	210006

SWITCHES SUITABLE FOR MOUNTING ON THE GBN-1 GATE BOLT		
GBN-1 Gate Bolt	CODED:	SPC, SMC, SMC-H, LPC, LMC
	MAGNETIC:	SPR SMR, SMR-H, LPR, LMR
	RFID:	SPF-RFID, LPF-RFID, LPZ-RFID

DIMENSIONS GBN-1:



Gate Bolts for Non Contact Switches: **GBN-3**

APPLICATION:

IDEM GBN Gate Bolts when used with non contact switches provide interlocking of the guard but ensure that unintentional restart is prevented.

A deliberate action of sliding (and/or pulling GBN-3) and re-latching the gate bolt handle is required.

In conjunction with a Risk Assessment (ISO12100-1/ISO12100-2) they can be used to eliminate the risk of operators becoming accidentally trapped inside a guarded area.

FEATURES:

Manufactured in robust die cast metal and stainless steel construction.

Non contact switches are mounted to aluminium plates to maximize read range.

Over 30mm (1¼") adjustability (handle bracket and switch bracket mounting holes are slotted) to compensate for varying door gaps.

There are padlock holes provided to lock the handle to prevent the guard from being closed and the machine started during maintenance.

Stainless steel guide prevents accidental closure, keeps safety switches properly aligned and acts as door latch.

All individual pieces are replaceable if damaged (handle, guide, individual brackets, etc.). Switch brackets are pre-drilled to accommodate non contact safety switches (as listed).

GBN-3 shown fitted with SPF-RFID Non Contact Switch **Left Hand Version shown.**

Instant unlocking from inside the guarded area (held by springs only). Requires deliberate re-closing when re-start is required.

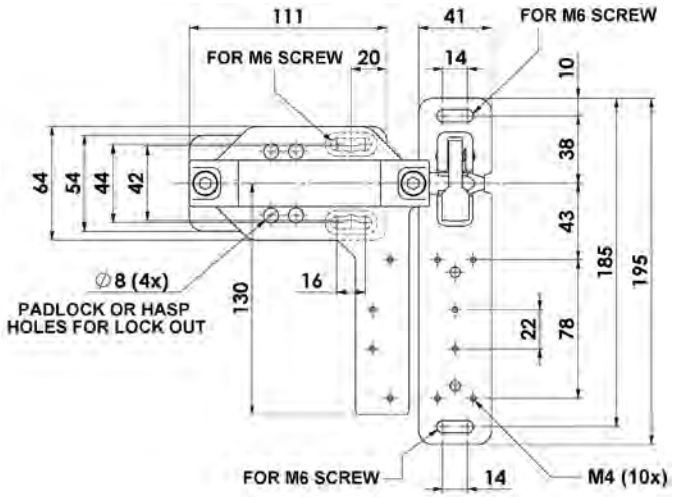
GBN-3 Gate Bolts with instant rear escape release allow operators to immediately open a closed guard from inside the danger area just by pushing the guard door. No tools or keys are needed to allow instant rear escape.

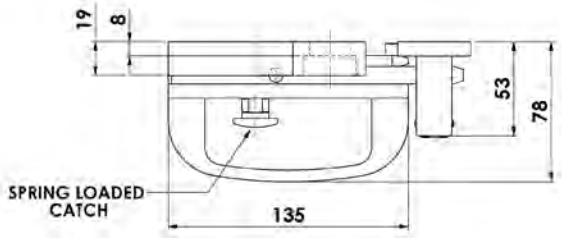
The GBN-3 Gate Bolt does not lock the guard but is retained by magnetic force to enable the guard to remain closed under normal operating conditions.

Whether opening the guard normally from the front (by using the handle) or by initiating the instant release by pushing the guard from inside the hazard zone the handle needs to be re-latched before the machine can be re-started.

A spring loaded stainless steel guide prevents the interlock being activated just by just closing or slamming the guard door.

DIMENSIONS GBN-3:





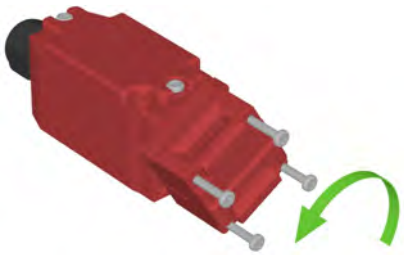
PART NUMBERS:

GBN-3 GATE BOLT	HANDLE POSITION	SALES NUMBER
GBN-3 (Gate Bolt Non Contact)	Left	210060
GBN-3 (Gate Bolt Non Contact)	Right	210061

SWITCHES SUITABLE FOR MOUNTING ON THE GBN-3 GATE BOLT		
GBN-3 Gate Bolt	CODED:	SPC, SMC, SMC-H, LPC, LMC
	MAGNETIC:	SPR SMR, SMR-H, LPR, LMR
	RFID:	SPF-RFID, LPF-RFID, LPZ-RFID

Z-Range with OSSD: KM-Z & KM-SS-Z

APPLICATIONS & FEATURES:

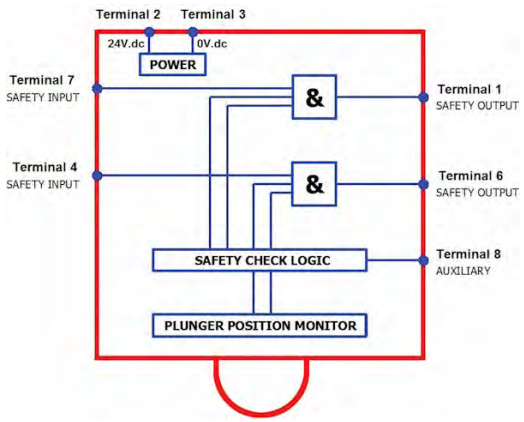


The head can be rotated to give 8 actuator entry positions.

Flexible actuators are available.

INTERNAL LED's (remove switch cover):

LED Function		Status
GREEN	RED	
ON	OFF	Inputs active, outputs enabled
OFF	ON	Outputs disabled
FLASHING	ON	Inputs missing, outputs disabled
OFF	FLASH 2Hz	Output fault (check for wiring short circuits)
OFF	FLASH 4Hz	Internal fault



KOBRA WITH Z-RANGE TECHNOLOGY:

Kobra Tongue Interlock Safety Switches provide reliable safety monitoring, ideal for safeguarding machine guards, doors, and access panels. Featuring OSSD (Output Signal Switching Device) outputs, these switches ensure the highest level of safety by preventing tampering and ensuring fail-safe operation. Designed for robustness and durability, these interlock switches are perfect for applications requiring frequent access while maintaining stringent safety standards. Easy to install and maintain, they deliver consistent performance in demanding industrial environments, ensuring your operations remain secure and efficient.

Additionally, these Tongue Interlock Safety Switches can be connected in series, accommodating up to 30 units while maintaining a performance level e (PLe) according to ISO 13849-1. This capability allows for comprehensive safety coverage across multiple access points without compromising the system's overall integrity or performance, ensuring that your safety infrastructure remains robust and effective.

- Available in Die-Cast Metal or Stainless Steel 316
- Reliable Tongue Interlocking for Long Lifecycle
- OSSD Outputs for Series Connectivity
- Quick Connect for Fast Installation and Maintenance

OPERATION:

Designed to fit to the leading edge of sliding, hinged or lift off machine guards. They provide a forced disconnect of the safety contacts at the withdrawal of the actuator and have an anti-tamper not easily defeatable cam system.

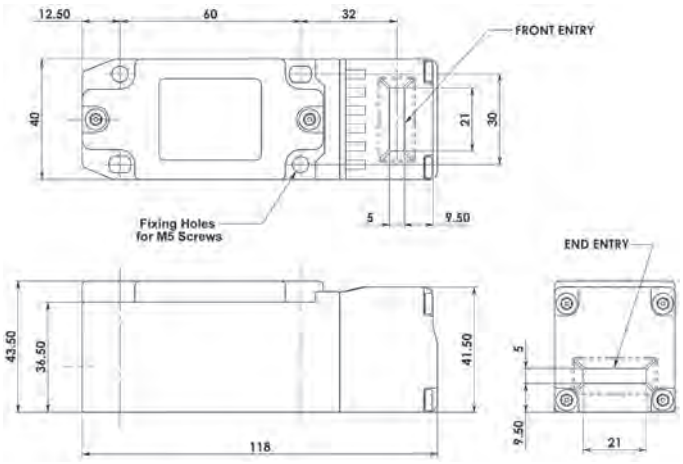
The rotatable heads have dual actuator entry positions to give up to 8 different entry positions. High holding force versions are available for applications where vibration can be a nuisance.

TECHNICAL SPECIFICATIONS:

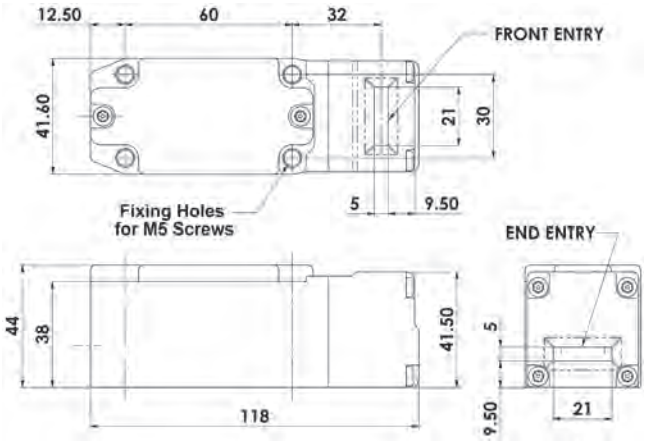
Standards	
ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL 60947-5-1 UL60947-5-1 IEC 60947-5-5	
Technical Data	
Rated Operating Voltage	24V DC -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24V DC
Outputs max. / min.Current	0.2 A / 1mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage / Current	24V DC / 2mA
Auxiliary Signalling Output Rated	24V DC
Auxiliary Signalling Output Max.	0.2 A PNP
Mechanical Reliability B10d	1.5 x 10 6 operations
Response Time Guard Open	60ms max.
Response Time Inputs Off	20ms max.
Operating Temperature	-20 / 50C
Dielectric Withstand	250V AC
Enclosure Protection	IP67 (Die Cast Metal) IP69K (S/Steel) (Temporary cleaning)
Body Material	Die Cast Metal or S/Steel 316

Z-Range with OSSD: KM-Z & KM-SS-Z

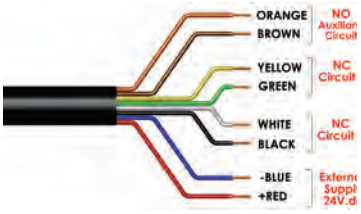
KM-Z DIE-CAST



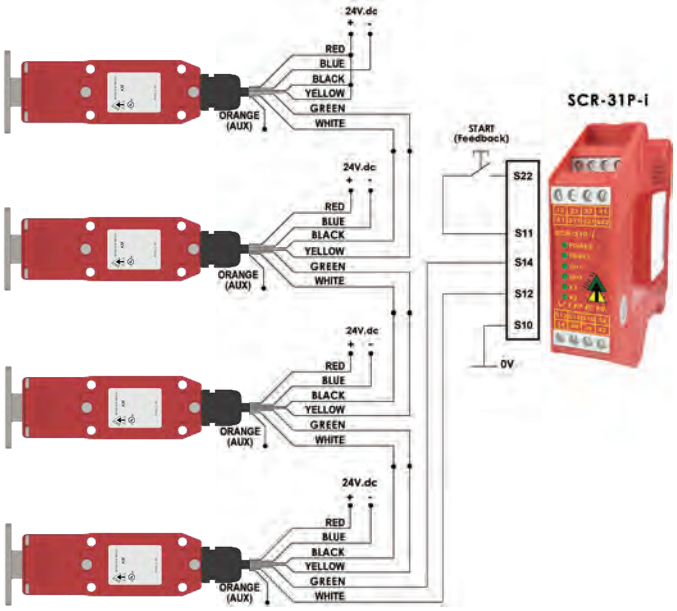
KM-SS-Z STAINLESS STEEL 316



CONNECTIVITY:



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
5		Not used
8	Orange	Auxiliary



PART NUMBERS:

KM-Z

KM-SS-Z

SALES NUMBER	DESCRIPTION	MATERIAL	CONTACTS	CONNECTIVITY
203300-Z	KM-Z (Die-Cast)	Die-Cast	2 OSSD / 1 AUX	QC-M12 8way 250mm Pigtail
204300-Z	KM-SS-Z (S/Steel)	Stainless Steel		

Standard	Flat	Plastic Flexible	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
A	F	PF	HF	HFH

SALES NUMBER	DESCRIPTION
140101	M12 Female 5m. 8 way
140102	M12 Female 10m. 8 way
140210-Z	Z-Range 8 ports, 8-pin M12 sockets, 24 VDC LED indicator(s)
140201	Patch Cord M12 Male to Female 2m
140202	Patch Cord M12 Male to Female 5m
140203	Patch Cord M12 Male to Female 10m
140206	T-Port M12 Connector
140207	M12 Short Plug

KOBRA - Tongue Operated Safety Interlock Switches

APPLICATION:

IDEM Tongue operated Safety Interlock switches are designed to fit to the leading edge of sliding, hinged or lift off machine guards to provide positively operated switching contacts and provide a tamper resistant, not easily defeatable key mechanism.
They are designed to provide robust position interlock detection for moving guards.
Depending upon the risk assessment for the application, they can be used independently to provide positively operated contacts to EN60947-5-1 or they can be used in combination with any dual channel safety monitoring relays to provide up to Category 4 PLe ISO13849-1.
They are available in various materials and housing styles to provide complete flexibility of choice depending upon the application.
They offer a choice of contact blocks (including Explosion Proof) and various actuators to aid installation and maintain durability.

OPERATION:

The switch is rigidly mounted to the frame of the guard or machine. The actuator is fitted to the moving part (frame) of the guard and is aligned to the switch entry aperture. The actuator profile is designed to match a cam mechanism within the switch head and provides a positively operated not easily defeatable interlock switch. When the actuator is inserted into the switch the safety contacts close and allow the machine start circuit to be enabled. When the actuator is withdrawn from the switch the safety contacts are positively opened and the machine circuit is broken. Standard versions use high specification plastic or die-cast housings and are sealed to IP67 and provide long term protection against moisture ingress. For harsh applications like Food Processing, Pharmaceutical and Petro-Chemical Industries the Stainless Steel 316 range offers protection up to IP69K for use in high pressure chemical cleaning or CIP/SIP applications.

INCH-1 (Plastic)

8 Actuator entry positions - designed with a rotatable Stainless Steel 316 head.
2 pole contact blocks.
IP67 ingress protection.
Miniature housing:
25mm wide 77mm long 18mm fixing

INCH-3 (Plastic)

8 Actuator entry positions - designed with a rotatable Stainless Steel 316 head.
3 pole contact blocks.
Choice of 3 conduit entries.
IP67 ingress protection.
25mm wide 103mm long 18mm fixing

IDIS-1 (Plastic)

8 Actuator entry positions - designed with a rotatable head.
3 pole contact blocks or 2 pole snap action.
32mm wide 97mm long 22mm fixing
IP67 ingress protection rating.

K-15 (Plastic)

4 Actuator entry positions - designed with a rotatable head.
Compact body with 3 conduit entries
3 pole contact blocks.
54mm wide 86mm long 40mm fixing
Plastic or Stainless Steel 316 Head options
IP67 ingress protection rating.

KP (Plastic)

4 Actuator entry positions - designed with a rotatable head.
3 pole or 4 pole contact blocks.
3 conduit entries.
52mm wide 98mm long 40mm fixing
Plastic or Stainless Steel 316 Head options
IP67 ingress protection rating.

KM (Die Cast Metal)

8 Actuator entry positions - designed with a rotatable head.
3 pole or 4 pole contact blocks.
40mm wide 118mm long 30mm fixing
IP67 ingress protection rating.

KP and KM also provide the option of Explosion Proof pre-wired versions.

MK1-SS (Fully Stainless Steel 316)

8 Actuator entry positions - designed with a rotatable head.
3 pole contact blocks.
Compact 30mm housing.
IP69K ingress protection.
30mm wide 98mm long 22mm fixing

KM-SS (Fully Stainless Steel 316)

8 Actuator entry positions - designed with a rotatable head.
3 pole or 4 pole contact blocks.
42mm wide 118mm long 30mm fixing
IP69K ingress protection rating - high. temperature hose down.

K-SS (Fully Stainless Steel 316)

4 Actuator entry positions - designed with a rotatable head.
3 pole or 4 pole contact blocks.
3 conduit entries.
52mm wide 99mm long 40mm fixing
IP69K ingress protection rating.

KM-SS and K-SS also provide the option of Explosion Proof pre-wired versions.

Tongue Interlock Safety Switch: **INCH-1**

FEATURES:

IDEM INCH-1 Compact Safety Interlock switches are designed to provide position interlock detection for small moving guards.

They are designed to fit to the leading edge of sliding, hinged or lift off machine guards.

The rugged Stainless Steel actuator profile is designed to match a cam mechanism to provide a positively operated not easily defeated interlock mechanism.

The compact body only 25mm wide with 18mm fixing centres and rotatable head make them easy to install where space is restricted.

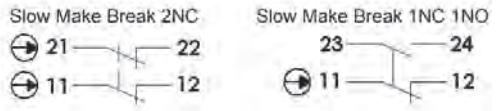
The rotatable heads have dual actuator entry positions to give up to 8 different entry positions.

A Plastic Flexible Actuator is available for tight radius guards.

Contact blocks are replaceable 2NC or 1NC 1NO.

STAINLESS STEEL HEAD

CONTACT BLOCK OPTIONS:



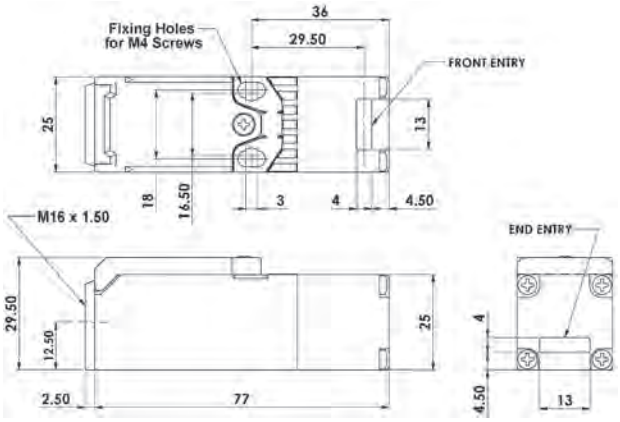
INCH-1 ACTUATOR OPTIONS:

Angled

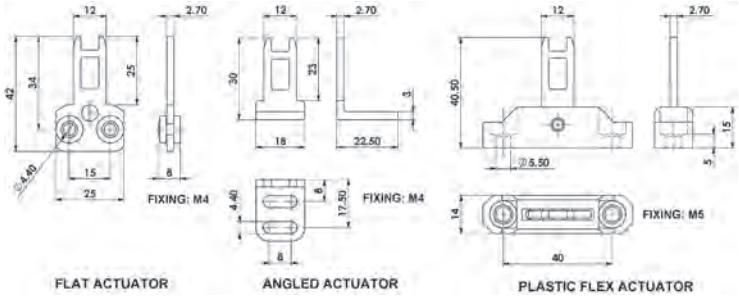
Flat

Plastic Flexible

PRODUCT DIMENSIONS:



ACTUATOR DIMENSIONS:



CONTACT OPERATION:

2NC: 4.0 0mm

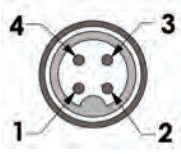
11/12	Open	
21/22	Open	

1NC 1NO: 4.5 4.0 0mm

11/12	Open	
23/24		Open

Stainless Steel Guide:
To assist with guard alignment IDEM recommend that you use the Stainless Steel Guide accessory (supplied with two x M3 stainless steel screws).

SALES NUMBER - INCH 1 STAINLESS STEEL GUIDE	140179



Switch Circuit	Quick Connect (QC) M12 4 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 3
21/22 or 23/24	4 2

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current	10A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	6mm
Actuator Entry Minimum Radius	150mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	UL approved glass fibre Polyester
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	M16
Fixing	2 x M4

PRODUCT	CONTACTS	SALES NUMBER M16	SALES NUMBER QC M12 4 WAY
INCH-1 Switch	2NC	222001	222002
INCH-1 Switch	1NC 1NO	222003	222004
Actuator	Flat	Add F to Sales Number	
Actuator	Angled	Add A to Sales Number	
Actuator	Plastic Flexible	Add PF to Sales Number	

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 222001-GC

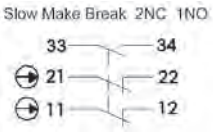
Tongue Interlock Safety Switch: **INCH-3**

FEATURES:

IDEM INCH-3 Compact Safety Interlock switches are designed to provide position interlock detection for small moving guards.
They are designed to fit to the leading edge of sliding, hinged or lift off machine guards.
The rugged Stainless Steel actuator profile is designed to match a cam mechanism to provide a positively operated not easily defeated interlock mechanism.
The compact body, 18mm fixing profile and rotatable head make them easy to install where space is restricted.
The rotatable heads have dual actuator entry positions to give up to 8 different entry positions.
3 conduit entry points are available to give flexible mounting options.
Contact blocks are replaceable.

STAINLESS STEEL HEAD

CONTACT BLOCK:



CONTACT OPERATION:

2NC 1NO 4.5 4.0 0mm

11/12	Open	
21/22	Open	
33/34		Open

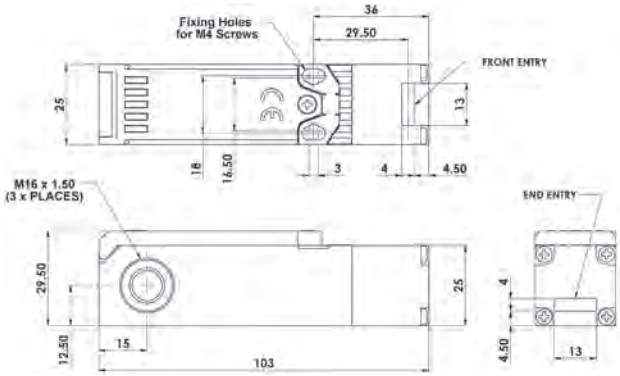
INCH-3 ACTUATOR OPTIONS:

Angled

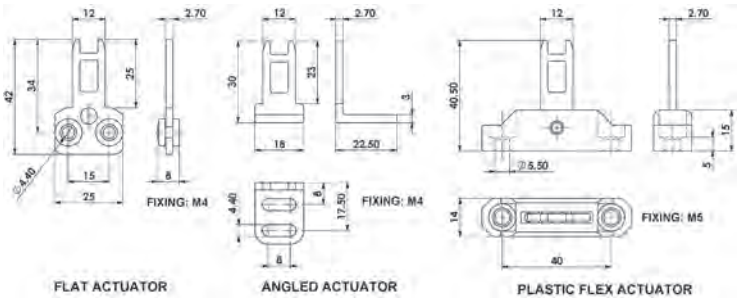
Flat

Plastic Flexible

PRODUCT DIMENSIONS:

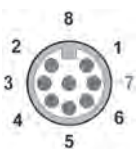


ACTUATOR DIMENSIONS:



Stainless Steel Guide:
To assist with guard alignment IDEM recommend that you use the Stainless Steel Guide accessory (supplied with two x M3 stainless steel screws).

SALES NUMBER - INCH 3 STAINLESS STEEL GUIDE	140179



Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 7
21/22	6 5
33/34	4 3

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

Utilization Category	AC15 A300 3A
Thermal Current	10A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	6mm
Actuator Entry Minimum Radius	150mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	UL approved glass fibre Polyester
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	3xM16
Fixing	2 x M4

PRODUCT	CONTACTS	SALES NUMBER	
		M16	QC M12 8 WAY
INCH-3 Switch	2NC 1NO	223001	223002
Actuator	Flat	Add F to Sales Number	
Actuator	Angled	Add A to Sales Number	
Actuator	Plastic Flexible	Add PF to Sales Number	

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 223001-GC

Tongue Interlock Safety Switch: **IDIS-1**

FEATURES:

IDEM IDIS-1 Compact Safety Interlock switches are designed to provide position interlock detection for small moving guards.

They are designed to fit to the leading edge of sliding, hinged or lift off machine guards.

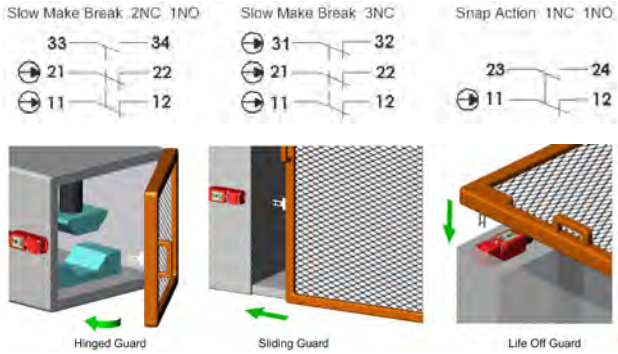
The rugged Stainless Steel actuator profile is designed to match a cam mechanism to provide a positively operated not easily defeatable interlock mechanism.

The compact body, 22mm fixing profile and rotatable head make them easy to install where space is restricted.

A Plastic Flexible Actuator is available for tight radius guards.

Contact blocks are replaceable with optional slow or snap break operation.

CONTACT BLOCK OPTIONS:



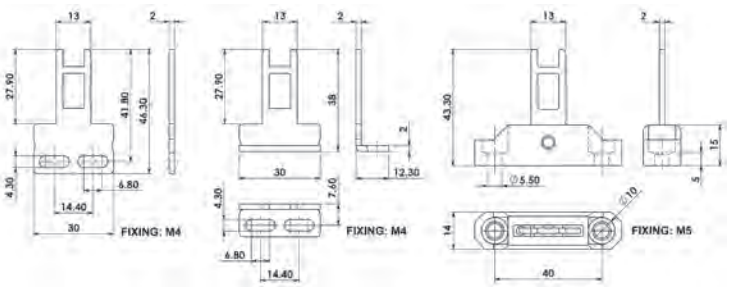
ACTUATOR OPTIONS:

Angled

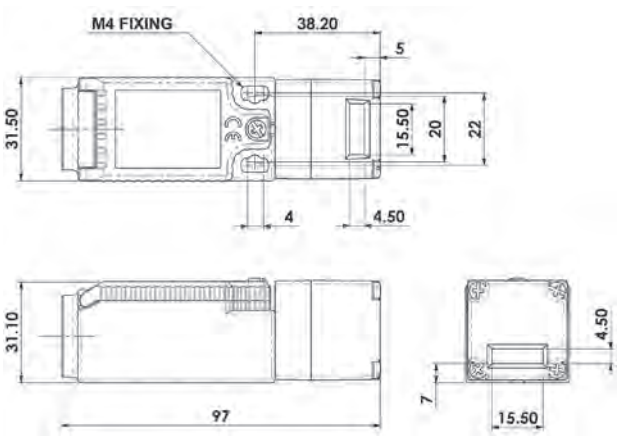
Flat

Plastic Flexible

ACTUATOR DIMENSIONS:



DIMENSIONS:



Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

Utilization Category	AC15 A300 3A
Thermal Current	10A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	6mm
Actuator Entry Minimum Radius	175mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	Polyester
Enclosure Protection	IP67
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M4

Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 7
21/22 or 23/24	6 5
33/34 or 31/32	4 3

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

		SALES NUMBER		
PRODUCT	CONTACTS	M20	1/2" NPT	QC M12 8 WAY
IDIS-1 Switch	2NC 1NO	190050	190051	190053
IDIS-1 Switch	3NC	190054	190055	190057
IDIS-1 Switch	1NC 1NO Snap	190058	190059	190061
Actuator	Flat	Add F to Sales Number		
Actuator	Angled	Add A to Sales Number		
Actuator	Plastic Flexible	Add PF to Sales Number		

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 190050-GC

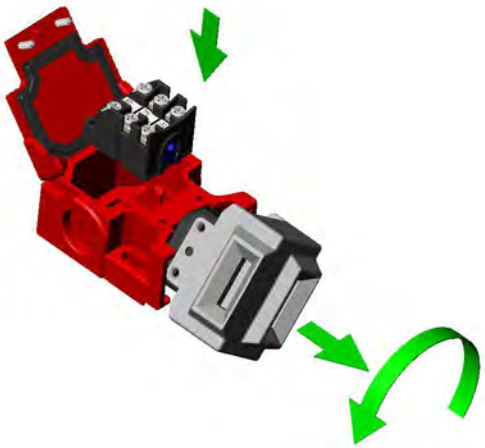
KOBRA - Tongue Operated Switch: K-15

FEATURES:

The K-15 Safety Interlock switch is designed to provide position interlock detection for moving guards.

Designed to fit to the leading edge of sliding, hinged or lift off machine guards.

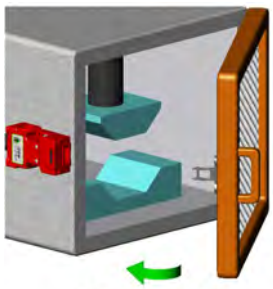
Offering a compact 86mm long body to fit to applications where space is restricted, yet offer 3 pole contacts and choice of 3 conduit entries for wiring versatility.



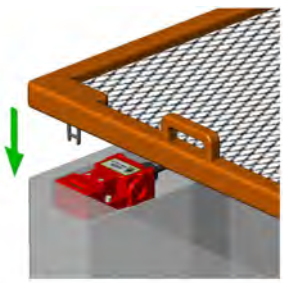
The head can be rotated to give 4 actuator entry positions.

Designed with a hinged lid to fit replaceable contact blocks.

Flexible actuators are available and the K-15 is available with a Stainless Steel head.



Hinged Guard



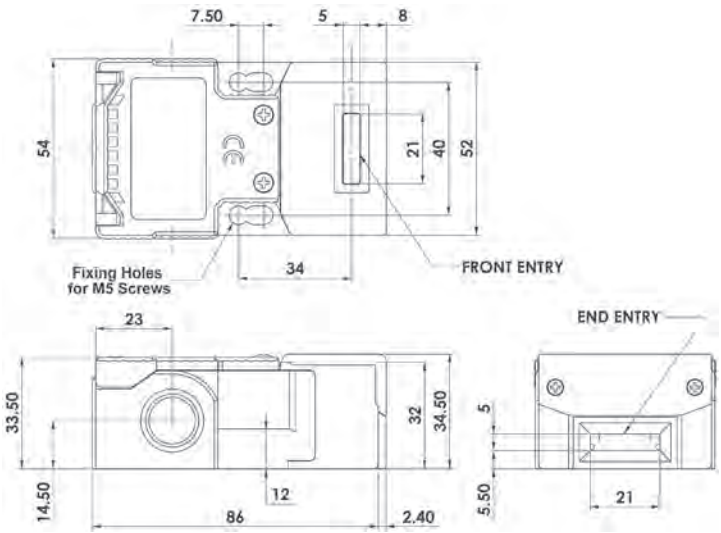
Lift Off Guard

Sliding Guard

Stainless Steel Head

Plastic Head

DIMENSIONS:



Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	500Vac/2500Vac
Travel for Positive Opening	8mm
Actuator Entry Minimum Radius	175mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	Polyester
Head Material	Polyester or Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

KOBRA - Tongue Operated Switch: **K-15**

ACTUATOR OPTIONS (see p154)

A F PF HF HFH

CONTACT BLOCK OPTIONS:

ACCESSORIES (see p155)

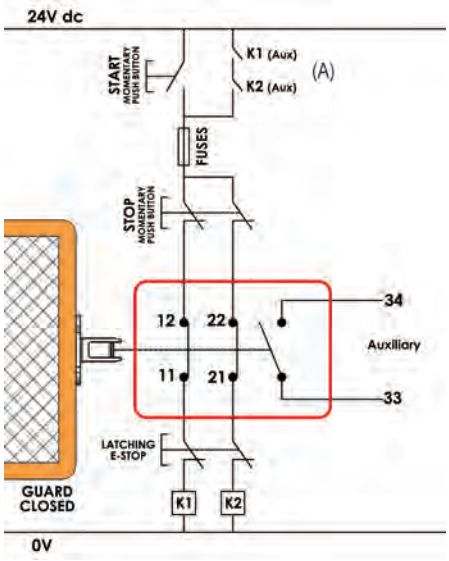
Maintenance Lockout Actuator

Fits to switch aperture during maintenance and provides multiple padlock holes.

Flat Actuator supplied with 300mm (12") chain. Can be used where poor alignment exists and provides manual insertion of actuator by operator.

2 colour LED (3 wires) Steady Red and Steady Green. Fits to conduit entry and provides option for LED indication based upon switch contacts.

APPLICATION EXAMPLE



Guard Door Interlocked - Dual Channel (Non Monitored)

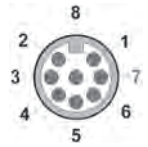
This system shows interlock switch circuits in position (A) 11-12 and 21-22 configured to allow direct feed to contactor coils K1 and K2.

This provides Dual Channel wiring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

Opening the interlock switch or depressing the Emergency Stop will isolate power to the contactor coils.

Re-start can only occur providing the Guard is closed, and the Emergency Stop is reset.

The system is shown with the Machine Stopped, the Guard Closed and the contactors able to be energised.



Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 7
21/22 or 23/24	6 5
33/34 or 31/32	4 3

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

SALES NUMBER	CONTACTS	M20	1/2" NPT	QC M12 8 WAY
K-15 Switch	2NC 1NO	207001	207002	207008
K-15 Switch	3NC	207004	207005	207009

Actuator	Standard	Add A to Sales Part Number
Actuator	Flat	Add F to Sales Part Number
Actuator	Plastic Flexible	Add PF to Sales Part Number
Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Actuator	Heavy Duty S/Steel	Add HFH to Sales Part Number
Stainless Steel Head Version		Add SS to Sales Part Number
Actuator Holding 40N		Add 40N to Sales Part Number

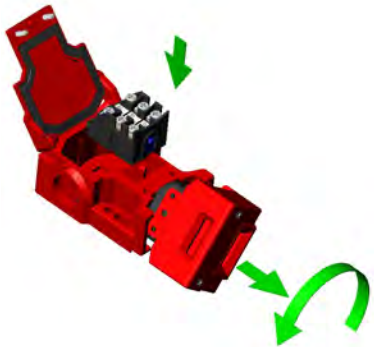
Ordering example: Kobra K-15 M20 2NC 1NO with Standard Actuator and Stainless Steel Header Sales Number: 207001-A-SS
Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 207001-A-GC
Also available with 3NO Contacts for use as indication purposes only.
Please contact us for further information.

KOBRA - Tongue Operated Switch: KP

FEATURES:

Plastic Head

Stainless Steel Head



The head can be rotated to give 4 actuator entry positions.

Designed with a hinged lid to fit replaceable contact blocks.

Flexible actuators are available and the KP is available with a Stainless Steel head.

IDEM KP Interlock switches are designed to provide position interlock detection for moving guards.

They are designed to fit to the leading edge of sliding, hinged or lift off machine guards.

They provide a forced disconnect of the safety contacts at the withdrawal of the actuator and have an anti-tamper not easily defeatable mechanism.

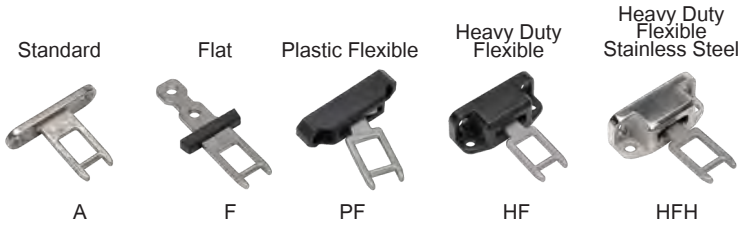
The head can be rotated to give 4 actuator entry positions. For extra durability, Flexible Actuators and Stainless Steel head versions are available.

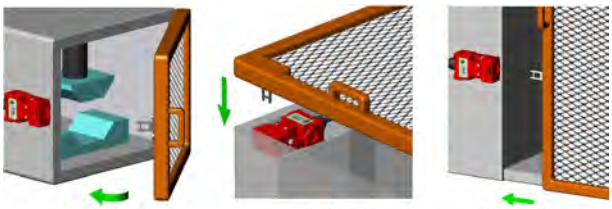
Contact blocks are replaceable with optional explosion proof versions. They are sealed to IP67 and survive most wash down solutions due to the high specification materials.

FUNCTIONAL SPECIFICATIONS:

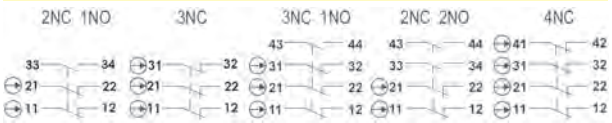
Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
3 pole, 4 pole or Explosion Proof Contact Blocks
Stainless Steel Head version available
Connects to most Safety Relays to give up to PLe Cat.4
Industry Standard Fitting:
52mm wide 98mm long 40mm fixing

ACTUATOR OPTIONS (see p154)

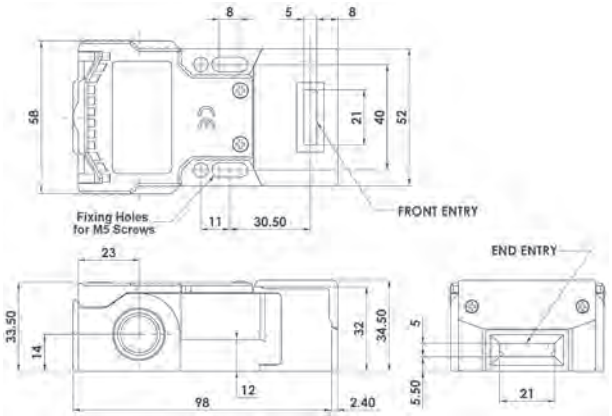




CONTACT BLOCK OPTIONS:



DIMENSIONS:



PRE-WIRED EXPLOSIVE ENVIRONMENTS:

CLASSIFICATION:
Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Technical Specification:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	500Vac/2500Vac
Travel for Positive Opening	8mm
Actuator Entry Minimum Radius	175mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	Polyester
Head Material	Polyester or Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

KOBRA - Tongue Operated Switch: **KP**

CONTACT OPERATION AT WITHDRAWAL OF ACTUATOR:

2NC 1NO — 6.8 6.0 — 0mm

11/12	Open	
21/22	Open	
33/34		Open

3NC 1NO — 6.8 6.0 — 0mm

11/12	Open	
21/22	Open	
31/32	Open	
43/44		Open

4NC — 6.0 — 0mm

11/12	Open	
21/22	Open	
31/32	Open	
41/42	Open	

2NC 2NO — 6.8 6.0 — 0mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

ACCESSORIES (see p155)

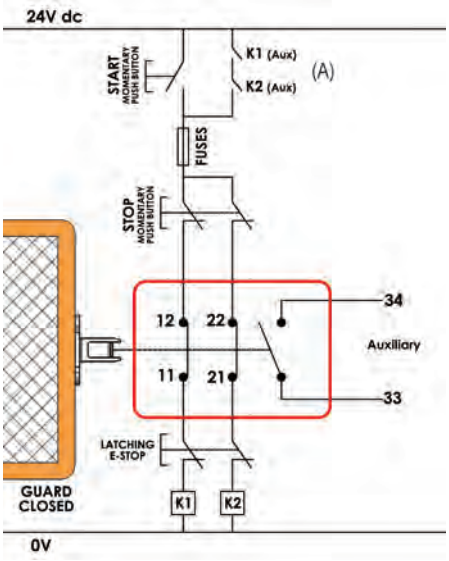
Maintenance Lockout Actuator

Fits to switch aperture during maintenance and provides multiple padlock holes.

Flat Actuator supplied with 300mm (12") chain. Can be used where poor alignment exists and provides manual insertion of actuator by operator.

2 colour LED (3 wires) Steady Red and Steady Green. Fits to conduit entry and provides option for LED indication based upon switch contacts.

APPLICATION EXAMPLE:



Guard Door Interlocked - Dual Channel (Non Monitored)

This system shows interlock switch circuits 11-12 and 21-22 configured to allow direct feed to contactor coils K1 and K2.

This provides Dual Channel wiring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

Opening the interlock switch or depressing the Emergency Stop will isolate power to the contactor coils.

Re-start can only occur providing the Guard is closed, and the Emergency Stop is reset.

The system is shown with the Machine Stopped, the Guard Closed and the contactors able to be energised.

Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 7
21/22	6 5
33/34 or 31/32	4 3
41/42 or 43/44	8 2

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

SALES NUMBER	CONTACTS	M20	1/2" NPT	QC M12 8 WAY
Kobra KP Switch	2NC 1NO	200001	200002	200021
Kobra KP Switch	3NC	200004	200005	200022
Kobra KP Switch	3NC 1NO	200007	200008	200023
Kobra KP Switch	2NC 2NO	200010	200011	200024
Kobra KP Switch	4NC	200013	200014	200025
Kobra KP Switch	1NC 1NO Ex	200016	3m 4 Core Ex	
Kobra KP Switch	2NC Ex	200019	3m 4 Core Ex	
Kobra KP Switch	2NC 2NO Ex	200026	3m 8 Core Ex	
Actuator	Standard	Add A to Sales Part Number		
Actuator	Flat	Add F to Sales Part Number		
Actuator	Plastic Flexible	Add PF to Sales Part Number		
Actuator	Heavy Duty Flexible	Add HF to Sales Part Number		
Actuator	Heavy Duty S/Steel	Add HFH to Sales Part Number		
Stainless Steel Head Version		Add SS to Sales Part Number		
Actuator Holding 40N (3 pole version only)		Add 40N to Sales Part Number		

Ordering example: Kobra KP M20 2NC 1NO with Stainless Steel Head and Heavy Duty Flexible Actuator Sales Number: 200001-HF-SS
Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 200001-A-GC

Also available with 3NO Contacts for use as indication purposes only. Please contact us for further information.

SALES NUMBER	CONTACTS	M20
Kobra KP Switch	3NO	200030

KOBRA - Tongue Operated Switch (Metal): KM

FEATURES:

Painted Head

Stainless Steel Head

IDEM KM Interlock switches are designed to provide position interlock detection for medium to heavy duty moving guards.

They have robust die-cast housings and are designed to fit to the leading edge of sliding, hinged or lift off machine guards. They provide a forced disconnect of the safety contacts at the withdrawal of the actuator and have an anti-tamper mechanism.

The rotatable heads have dual actuator entry positions to give up to 8 different entry positions. For extra durability, Flexible Actuators and Stainless Steel head versions are available.

Contact blocks are replaceable with optional explosion proof versions. High holding force versions are available for applications where vibration can be a nuisance.

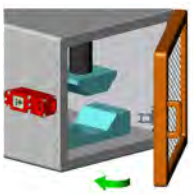
The head can be rotated to give 8 actuator entry positions.

Designed with a removable lid to fit replaceable contact blocks.

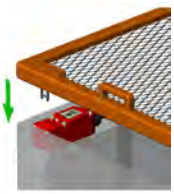
Flexible actuators are available and the KM is available with a Stainless Steel head.

FUNCTIONAL SPECIFICATIONS:

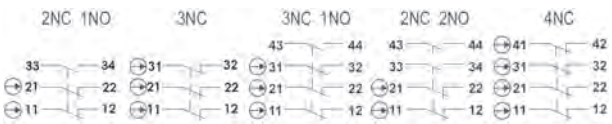
Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
3 pole, 4 pole or Explosion Proof Contact Blocks
Stainless Steel Head version available
Connects to most Safety Relays to give up to PLe Cat.4
Industry Standard Fitting:
118mm long 40mm wide 30mm fixing


Hinged Guard

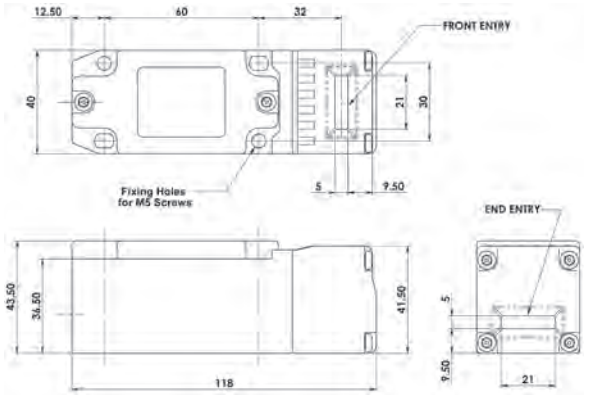
Sliding Guard


Lift Off Guard

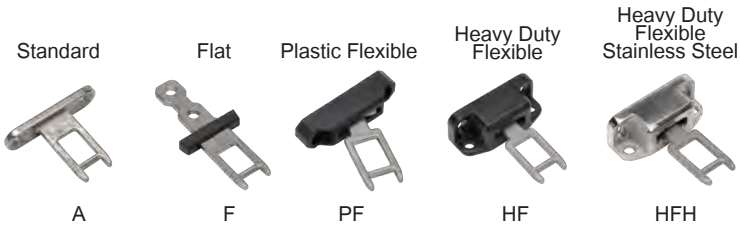
CONTACT BLOCK OPTIONS:



DIMENSIONS:



ACTUATOR OPTIONS (see p154)



PRE-WIRED EXPLOSIVE ENVIRONMENTS:

CLASSIFICATION:
Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Technical Specification:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	500Vac/2500Vac
Travel for Positive Opening	8mm
Actuator Entry Minimum Radius	175mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	Die Cast (Painted Red)
Head Material	Die Cast (Painted Red) or Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

KOBRA - Tongue Operated Switch (Metal): **KM**

CONTACT OPERATION AT WITHDRAWAL OF ACTUATOR

2NC 1NO — 6.8 6.0 — 0mm

11/12	Open	
21/22	Open	
33/34		Open

3NC 1NO — 6.8 6.0 — 0mm

11/12	Open	
21/22	Open	
31/32	Open	
43/44		Open

4NC — 6.0 — 0mm

11/12	Open	
21/22	Open	
31/32	Open	
41/42	Open	

2NC 2NO — 6.8 6.0 — 0mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

ACCESSORIES (see p155)

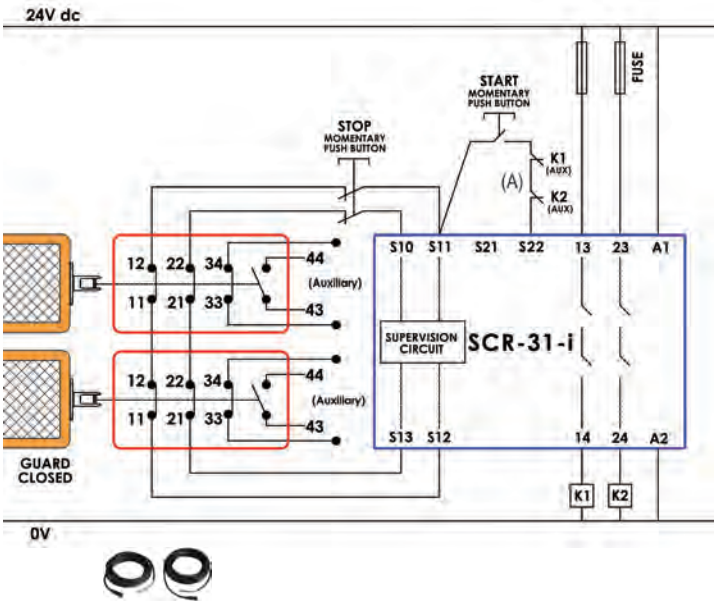
Maintenance Lockout Actuator

Fits to switch aperture during maintenance and provides multiple padlock holes.

Flat Actuator supplied with 300mm (12") chain. Can be used where poor alignment exists and provides manual insertion of actuator by operator.

GBA-1 Gate Bolt
Shown fitted with KM Tongue Switch.

APPLICATION EXAMPLE



Multiple Guard Door Interlocks - Dual Channel (Monitored)

The switch contacts 11-12 and 21-22 from each switch are wired in series to an SCR-31-i Safety Relay to monitor for wiring short circuits.

This provides Dual Channel monitoring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

The SCR-31-i monitors the switch and the contactors K1 and K2 and provides its own self-monitoring via force guided internal relays.

The system is shown with the Machine Stopped, Guards Closed and the contactors able to be energised.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

Quick Connect (QC) M23 12 Way Male (connector length 26mm) Pin View from Switch	Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
1 3	11/12	1 7
4 6	21/22	6 5
7 8	33/34 or 31/32	4 3
9 10	41/42 or 43/44	
12	Earth	8

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

SALES NUMBER	CONTACTS	M20	1/2" NPT	QC M23 12 WAY	QC M12 8 WAY
Kobra KM Switch	2NC 1NO	203001	203002	203003	203021
Kobra KM Switch	3NC	203004	203005	203006	203022
Kobra KM Switch	3NC 1NO	203007	203008	203009	
Kobra KM Switch	2NC 2NO	203010	203011	203012	
Kobra KM Switch	4NC	203013	203014	203015	
Kobra KM Switch	1NC 1NO Ex	203016	3m 4 Core Ex		
Kobra KM Switch	2NC Ex	203019	3m 4 Core Ex		
Kobra KM Switch	2NC 2NO Ex	203026	3m 8 Core Ex		
Actuator	Standard	Add A to Sales Part Number			
Actuator	Flat	Add F to Sales Part Number			
Actuator	Plastic Flexible	Add PF to Sales Part Number			
Actuator	Heavy Duty Flexible	Add HF to Sales Part Number			
Actuator	Heavy Duty S/Steel	Add HFH to Sales Part Number			
Stainless Steel Head Version		Add SS to Sales Part Number			
Actuator Holding 40N (3 pole version only)		Add 40N to Sales Part Number			

Ordering example: Kobra KM M20 2NC 1NO with Heavy Duty Flexible Actuator: Sales Number: 203001-HF
Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 203001-A-GC

Also available with 3NO Contacts for use as indication purposes only. Please contact us for further information.

KOBRA - Stainless Steel Switch: HYGIECAM MK1-SS

FEATURES:

MK1-SS Compact Safety Interlock switches are designed to provide position interlock detection for small moving guards.

They are designed to fit to the leading edge of sliding, hinged or lift off machine guards.

Mirror polished surface finish to RA10 makes the MK1-SS ideally suited to the food processing and packaging environments.

The rugged Stainless Steel actuator profile is designed to match a cam mechanism to provide a positively operated not easily defeatable interlock mechanism.

The compact body, 30mm wide with 22mm fixing centres and rotatable head make them easy to install where space is restricted.

The rotatable heads have dual actuator entry positions to give up to 8 different entry positions.

A Plastic Flexible Actuator is available for tight radius guards.

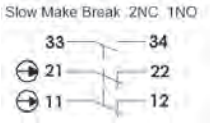
Contact blocks are replaceable.

IP69K

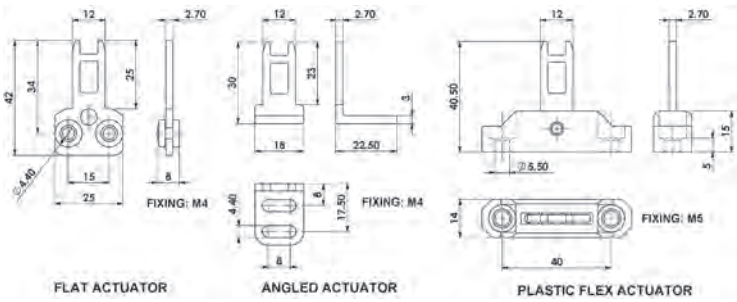
ACTUATOR OPTIONS (p154):

Angled | Flat | Plastic Flexible

CONTACT BLOCK:



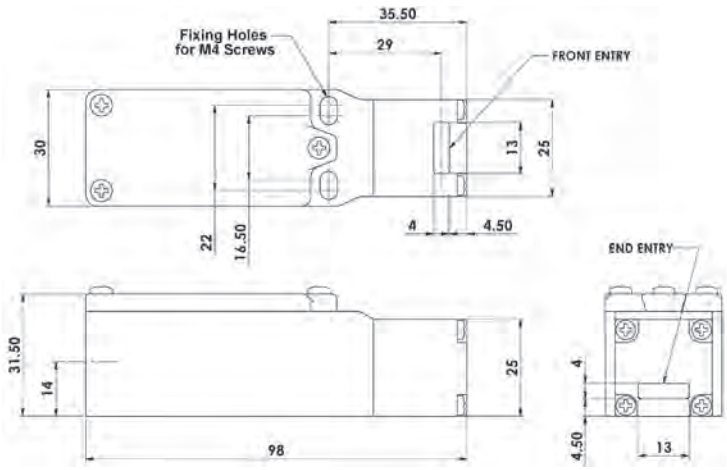
ACTUATOR DIMENSIONS:



FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
3 pole
Connects to most Safety Relays to give up to PLe Cat.4
Industry Standard Fitting:
98mm long 30mm wide 22mm fixing

PRODUCT DIMENSIONS:



Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 7
21/22	6 5
33/34	4 3
Earth	8

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

		SALES NUMBER		
PRODUCT	CONTACTS	M20	1/2" NPT	QC M12 8 WAY
MK1-SS Switch	2NC 1NO	224001	224002	224003
Actuator	Flat	Add F to Sales Number		
Actuator	Angled	Add A to Sales Number		
Actuator	Plastic Flexible	Add PF to Sales Number		

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 224001-GC

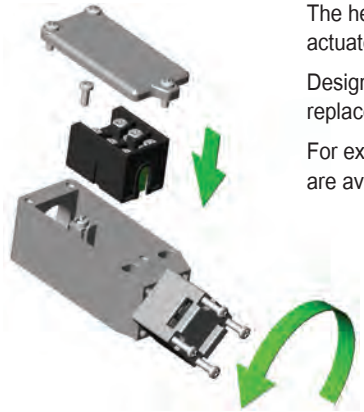
KOBRA - Stainless Steel Switch: **HYGIECAM MK1-SS**

CONTACT OPERATION AT WITHDRAWAL OF ACTUATOR:

2NC 1NO	4.5	4.0	0mm
11/12	Open		
21/22	Open		
33/34		Open	

Stainless Steel Guide:
To assist with guard alignment IDEM recommend that you use the Stainless Steel Guide accessory (supplied with two x M3 stainless steel screws).

SALES NUMBER - MK1-SS STAINLESS STEEL GUIDE	140179

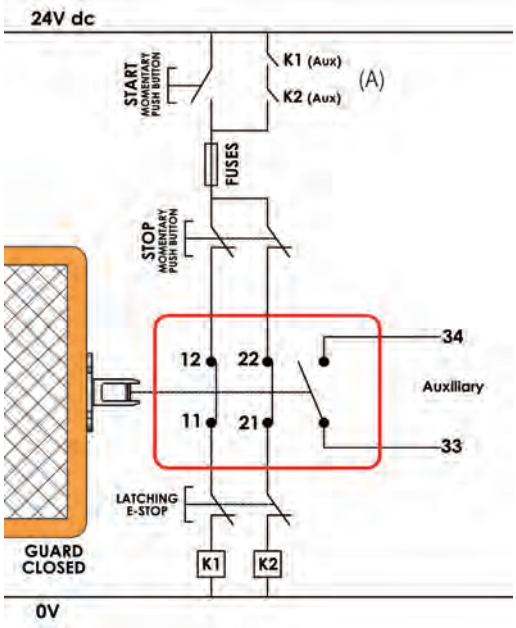


The head can be rotated to give 8 actuator entry positions.

Designed with a removable lid to fit replaceable contact blocks.

For extra durability flexible actuators are available.

APPLICATION EXAMPLE



Guard Door Interlocked - Dual Channel (Non Monitored)

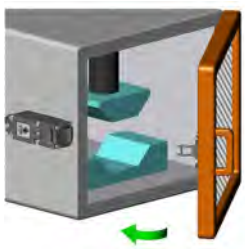
This system shows interlock switch circuits 11-12 and 21-22 configured to allow direct feed to contactor coils K1 and K2.

This provides Dual Channel wiring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

Opening the interlock switch or depressing the Emergency Stop will isolate power to the contactor coils.

Re-start can only occur providing the Guard is closed, and the Emergency Stop is reset.

The system is shown with the Machine Stopped, the Guard Closed and the contactors able to be energised.


Hinged Guard

Sliding Guard

Lift Off Guard

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:
Mechanical Reliability B10d2.5 x 10^6 operations at 100mA load

ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current	10A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	6mm
Actuator Entry Minimum Radius	150mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	Stainless Steel 316 (mirror polished finish)
Enclosure Protection	IP69K
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M4
Mounting Position	Any

IDEM recommend using our Stainless Steel 316 Gland with this switch.

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

KOBRA - Stainless Steel Switch: **HYGIECAM K-SS**

FEATURES:

IDEM's HYGIECAM Series of Interlock Switches have a rugged Stainless Steel 316 body and have been designed to cope with the rigorous applications of the Food Processing, Pharmaceutical, Packaging and Petro-Chemical Industries.

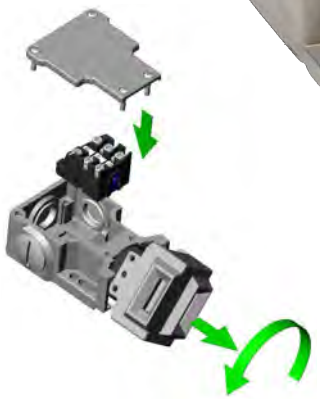
They have IP69K enclosure protection (maintained by a double seal lid gasket and seals) and can be high pressure hosed with detergent at high pressure and high temperature.

Designed to fit to the leading edge of sliding, hinged or lift off machine guards. They provide a forced disconnect of the safety contacts at the withdrawal of the actuator and have an anti-tamper mechanism.

The head can be rotated to give 4 actuator entry positions. For extra durability, Flexible Actuators are available.

Contact blocks are replaceable with optional explosion proof versions.

Sealed to IP69K and survive most caustic wash down solutions.



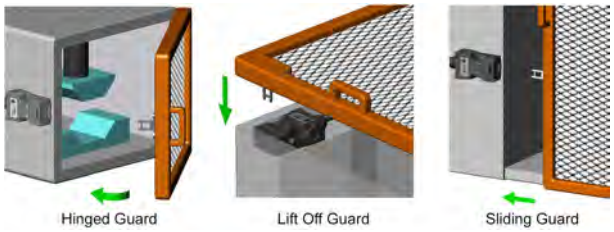
The head can be rotated to give 4 actuator entry positions.

Designed with a removable lid to fit replaceable contact blocks.

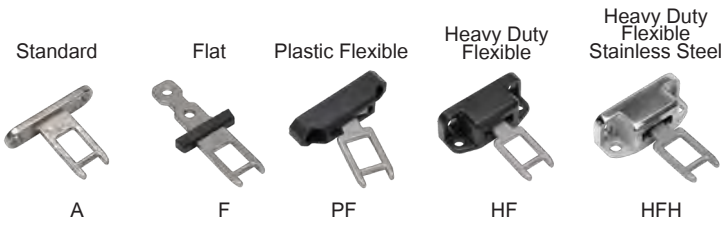
For extra durability flexible actuators are available.

FUNCTIONAL SPECIFICATIONS:

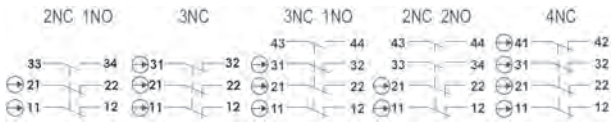
Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
3 pole, 4 pole or Explosion Proof Contact Blocks
Stainless Steel 316 Body and External Fixings
Connects to most Safety Relays to give up to PLe Cat.4
Industry Standard Housing - will fit on 40mm fixing centres
IP69K - suitable for SIP and CIP Processes



ACTUATOR OPTIONS (see p154)



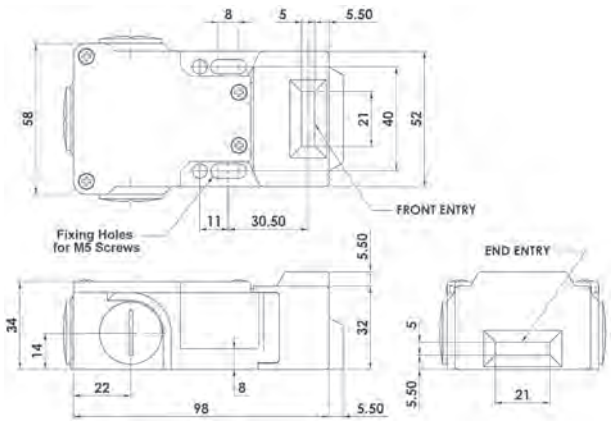
CONTACT BLOCK OPTIONS:



PRE-WIRED EXPLOSIVE ENVIRONMENTS:

CLASSIFICATION:
Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

DIMENSIONS:



Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Technical Specification:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	500Vac/2500Vac
Travel for Positive Opening	8mm
Actuator Entry Minimum Radius	175mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	Stainless Steel 316
Head Material	Stainless Steel 316
Enclosure Protection	IP67 IP69K
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

KOBRA - Stainless Steel Switch: **HYGIECAM K-SS**

CONTACT OPERATION AT WITHDRAWAL OF ACTUATOR:

2NC 1NO 6.8 6.0 0mm

11/12	Open	
21/22	Open	
33/34		Open

3NC 1NO 6.8 6.0 0mm

11/12	Open	
21/22	Open	
31/32	Open	
43/44		Open

4NC 6.0 0mm

11/12	Open	
21/22	Open	
31/32	Open	
41/42	Open	

2NC 2NO 6.8 6.0 0mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

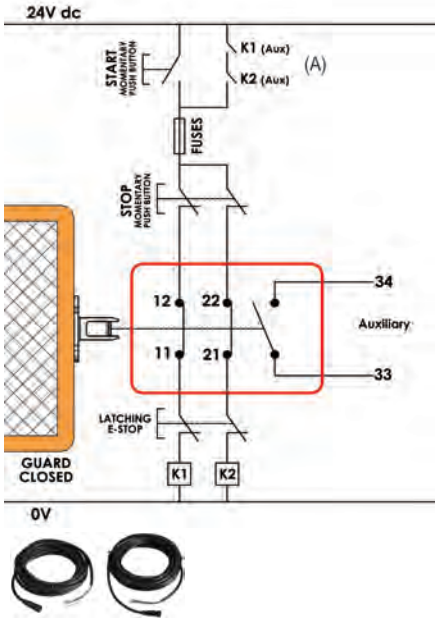
ACCESSORIES (see p155)

Maintenance Lockout Actuator

Fits to switch aperture during maintenance and provides multiple padlock holes.

Flat Actuator supplied with 300mm (12") chain. Can be used where poor alignment exists and provides manual insertion of actuator by operator.

APPLICATION EXAMPLE



Guard Door Interlocked - Dual Channel (Non Monitored)

This system shows interlock switch circuits 11-12 and 21-22 configured to allow direct feed to contactor coils K1 and K2.

This provides Dual Channel wiring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

Opening the interlock switch or depressing the Emergency Stop will isolate power to the contactor coils.

Re-start can only occur providing the Guard is closed, and the Emergency Stop is reset.

The system is shown with the Machine Stopped, the Guard Closed and the contactors able to be energised.

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

Quick Connect (QC) M23 12 Way Male (connector length 26mm) Pin View from Switch	Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
1 3	11/12	1 7
4 6	21/22	6 5
7 8	33/34 or 31/32	4 3
9 10	41/42 or 43/44	
12	Earth	8

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

SALES NUMBER	CONTACTS	M20	1/2" NPT	QC M23 12 WAY	QC M12 8 WAY
Kobra K-SS Switch	2NC 1NO	208001	208002	208003	208021
Kobra K-SS Switch	3NC	208004	208005	208006	208022
Kobra K-SS Switch	3NC 1NO	208007	208008	208009	
Kobra K-SS Switch	2NC 2NO	208010	208011	208012	
Kobra K-SS Switch	4NC	208013	208014	208015	
Kobra K-SS Switch	1NC 1NO Ex	208016	3m 4 Core Ex		
Kobra K-SS Switch	2NC Ex	208019	3m 4 Core Ex		
Kobra K-SS Switch	2NC 2NO Ex	208026	3m 8 Core Ex		
Actuator	Standard	Add A to Sales Part Number			
Actuator	Flat	Add F to Sales Part Number			
Actuator	Plastic Flexible	Add PF to Sales Part Number			
Actuator	Heavy Duty Flexible	Add HF to Sales Part Number			
Actuator	Heavy Duty S/Steel	Add HFH to Sales Part Number			
Actuator Holding 40N (3 pole versions only)		Add 40N to Sales Part Number			

Ordering example: Kobra K-SS M20 3NC 1NO with Standard Actuator:
Sales Number: 208007-A
Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 208001-A-GC

Also available with 3NO Contacts for use as indication purposes only.
Please contact us for further information.

KOBRA - Stainless Steel Switch: HYGIECAM KM-SS

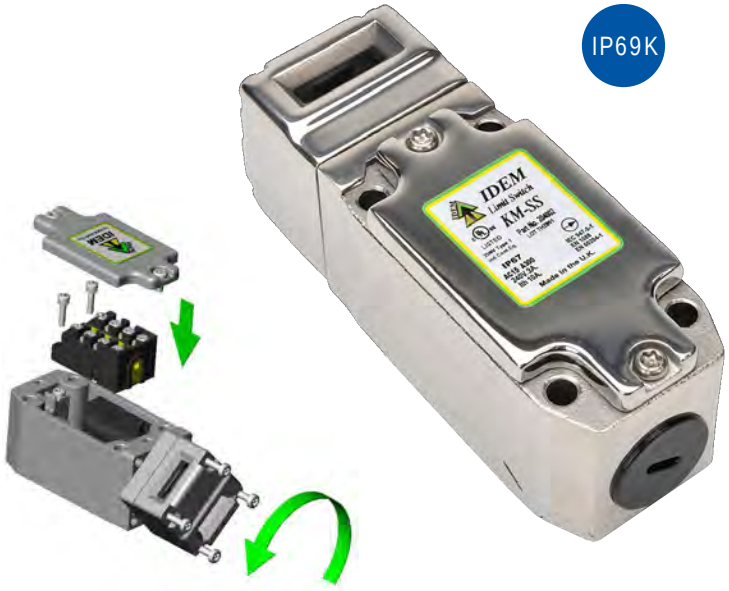
FEATURES:

HYGIECAM Series Interlock Switches have a rugged Stainless Steel 316 body and have been designed to cope with the rigorous applications of the Food Processing, Pharmaceutical, Packaging and Petro-Chemical Industries. The surface finish is mirror polished to Ra10 to resist the accumulation of food debris and is suitable for high pressure hosing at high temperature.

Offering a compact slimline housing which will fit to areas where there are space restrictions and are sealed to IP69K enclosure protection. They can be high pressure hosed with most detergents at high temperature.

Designed to fit to the leading edge of sliding, hinged or lift off machine guards. They provide a forced disconnect of the safety contacts at the withdrawal of the actuator and have an anti-tamper not easily defeatable mechanism.

The rotatable heads have dual actuator entry positions to give up to 8 different entry positions. High holding force versions are available for applications where vibration can be a nuisance.



The head can be rotated to give 8 actuator entry positions.

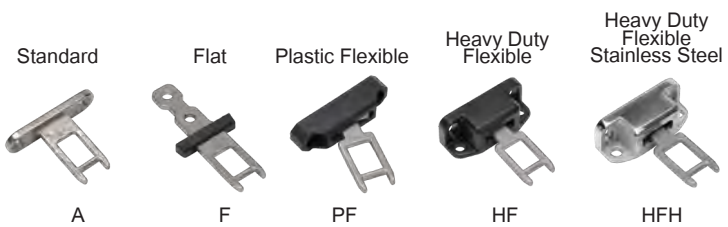
Designed with a removable lid to fit replaceable contact blocks.

For extra durability flexible actuators are available.

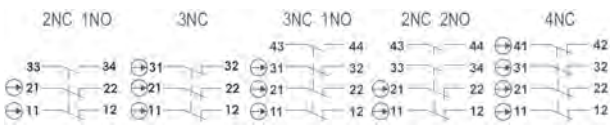
FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
3 pole, 4 pole or Explosion Proof Contact Blocks
Stainless Steel 316 Body and External Fixings
Connects to most Safety Relays to give up to PLe Cat.4
IP69K - suitable for SIP and CIP Processes
Will fit on 30mm fixing centres - DIN standard body mounting

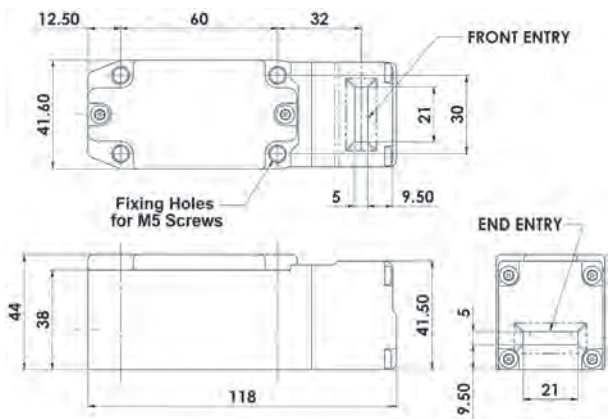
ACTUATOR OPTIONS (see p154)



CONTACT BLOCK OPTIONS:



DIMENSIONS:



PRE-WIRED EXPLOSIVE ENVIRONMENTS:

CLASSIFICATION:
Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Technical Specification:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	500Vac/2500Vac
Travel for Positive Opening	8mm
Actuator Entry Minimum Radius	175mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	Stainless Steel 316
Head Material	Stainless Steel 316
Enclosure Protection	IP67 IP69K
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

KOBRA - Stainless Steel Switch: **HYGIECAM KM-SS**

CONTACT OPERATION AT WITHDRAWAL OF ACTUATOR

2NC 1NO 6.8 6.0 0mm

11/12	Open	
21/22	Open	
33/34		Open

3NC 1NO 6.8 6.0 0mm

11/12	Open	
21/22	Open	
31/32	Open	
43/44		Open

4NC 6.0 0mm

11/12	Open	
21/22	Open	
31/32	Open	
41/42	Open	

2NC 2NO 6.8 6.0 0mm

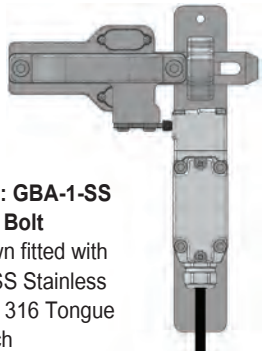
11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

ACCESSORIES (see p155)

Maintenance Lockout Actuator

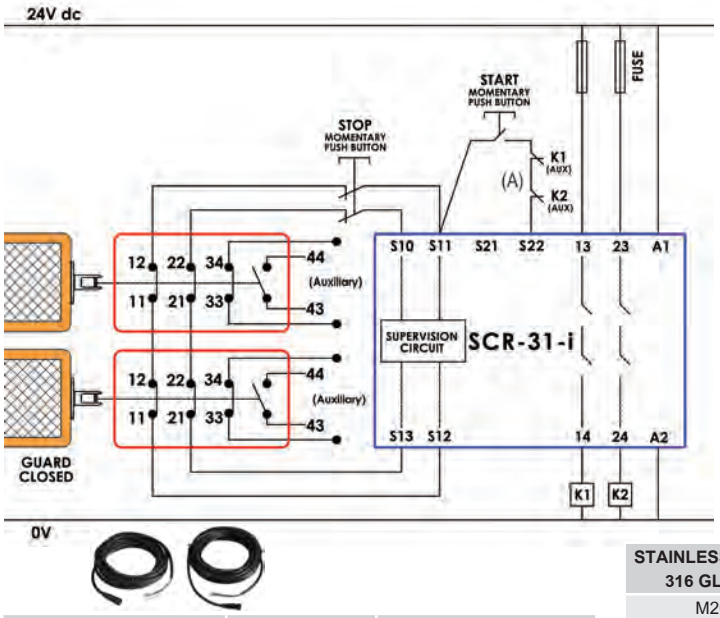
Fits to switch aperture during maintenance and provides multiple padlock holes.

Flat Actuator supplied with 300mm (12") chain. Can be used where poor alignment exists and provides manual insertion of actuator by operator.



Type: GBA-1-SS Gate Bolt
Shown fitted with KM-SS Stainless Steel 316 Tongue Switch

APPLICATION EXAMPLE



Multiple Guard Door Interlocks - Dual Channel (Monitored)

The switch contacts 11-12 and 21-22 from each switch are wired in series to an SCR-31-i Safety Relay to monitor for wiring short circuits.

This provides Dual Channel monitoring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

The SCR-31-i monitors the switch and the contactors K1 and K2 and provides its own self-monitoring via force guided internal relays.

The system is shown with the Machine Stopped, Guards Closed and the contactors able to be energised.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

Quick Connect (QC) M23 12 Way Male (connector length 26mm) Pin View from Switch	Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
1 3	11/12	1 7
4 6	21/22	6 5
7 8	33/34 or 31/32	4 3
9 10	41/42 or 43/44	
12	Earth	8

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER	CONTACTS	M20	1/2" NPT	QC M23 12 WAY	QC M12 8 WAY
Kobra KM-SS Switch	2NC 1NO	204001	204002	204003	204021
Kobra KM-SS Switch	3NC	204004	204005	204006	204022
Kobra KM-SS Switch	3NC 1NO	204007	204008	204009	
Kobra KM-SS Switch	2NC 2NO	204010	204011	204012	
Kobra KM-SS Switch	4NC	204013	204014	204015	
Kobra KM-SS Switch	1NC 1NO Ex	204016	3m 4 Core Ex		
Kobra KM-SS Switch	2NC Ex	204019	3m 4 Core Ex		
Kobra KM-SS Switch	2NC 2NO Ex	204026	3m 8 Core Ex		
Actuator	Standard	Add A to Sales Part Number			
Actuator	Flat	Add F to Sales Part Number			
Actuator	Plastic Flexible	Add PF to Sales Part Number			
Actuator	Heavy Duty Flexible	Add HF to Sales Part Number			
Actuator	Heavy Duty S/Steel	Add HFH to Sales Part Number			
Actuator Holding 40N (3 pole version only)		Add 40N to Sales Part Number			

Ordering example: Kobra KM-SS 1/2" NPT 2NC 2NO with Heavy Flexible Actuator: Sales Number: 204011-HF
Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 204001-A-GC

Also available with 3NO Contacts for use as indication purposes only. Please contact us for further information.

Gate Bolt for Tongue Interlocks: **GBA-1, GBA-1-SS**

FEATURES & APPLICATION:

The GBL-1 and GBA-1 Gate Bolts are available in either steel or 316-grade stainless steel. These bolts can withstand shearing forces of up to 10,000 Newtons (F1Max) on large hinged doors.

They are easy to install on both hinged and sliding guards using four M6 mounting bolts, with no need for additional brackets or door handles once in place.

The design ensures resistance to misalignment damage, and operators must manually close the guard, preventing accidental closure.

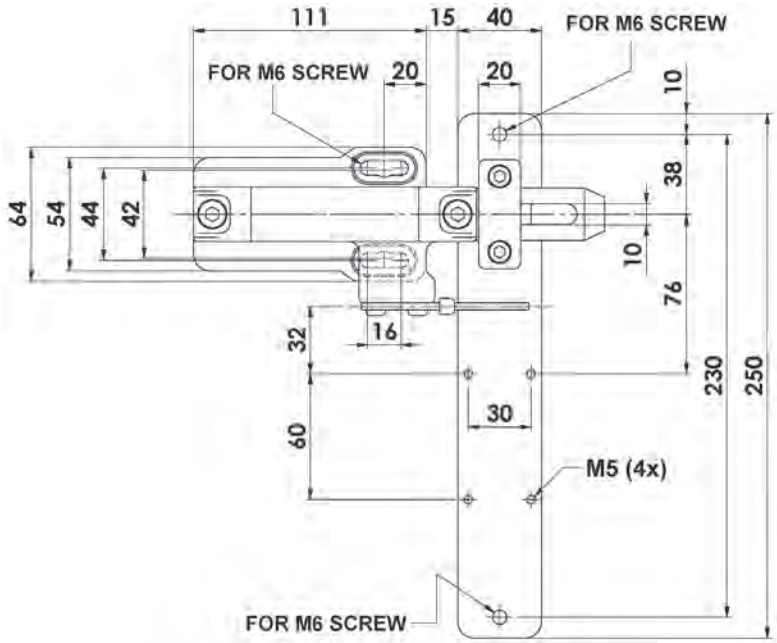
A padlock hole is included, allowing the handle to be locked open, ensuring the guard remains open and the machine cannot be started during maintenance.

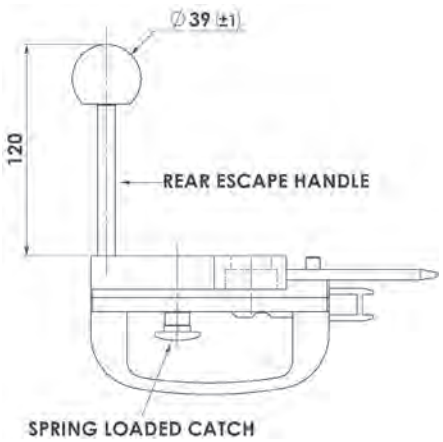
The metal version is finished in yellow and black to enhance hazard identification.

Supplied with Handle and Flat Actuator (Type F).

DIMENSIONS:

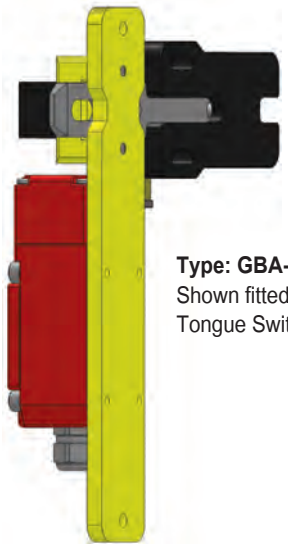
Type: GBA-1 & GBA-1-SS





Gate Bolt for Tongue Interlocks: **GBA-1, GBA-1-SS**

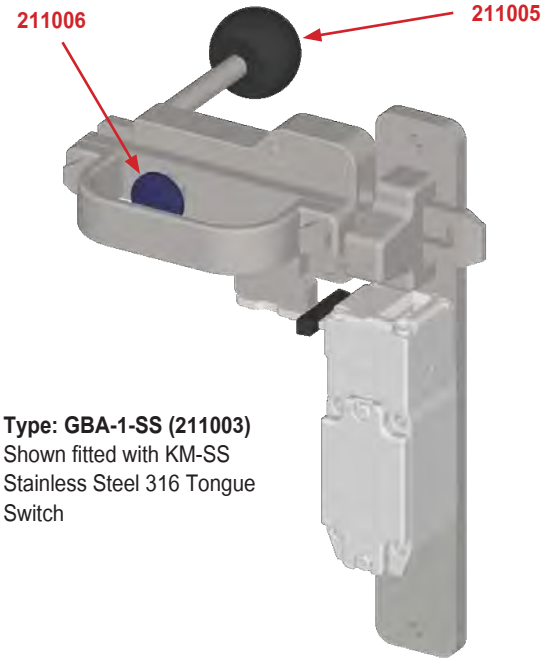
PART NUMBERS FOR DIE-CAST VERSIONS:



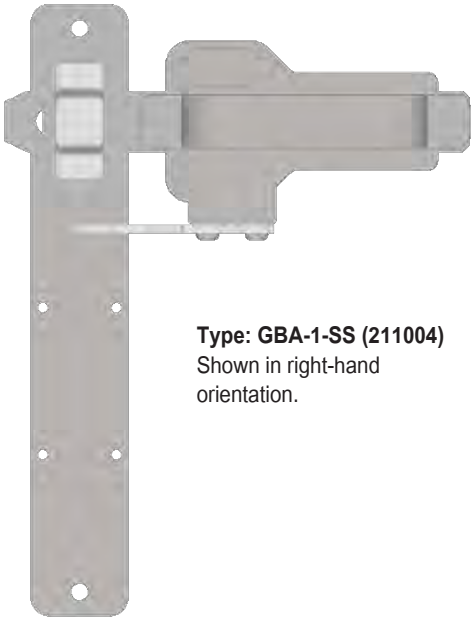
Type: GBA-1
Shown fitted with KM
Tongue Switch

DESCRIPTION	SALES NUMBER	SUITABILITY
Gate Bolt Tongue GBA-1 Left Hand	210003	Suitable for Switch Type: KM
Gate Bolt Tongue GBA-1 Right Hand	210004	
Rear Handle	210005	Suitable for GBL-1 and GBA-1
Spring Loaded Catch	210006	Suitable for GBL-1 and GBA-1

PART NUMBERS FOR STAINLESS STEEL VERSIONS:



Type: GBA-1-SS (211003)
Shown fitted with KM-SS
Stainless Steel 316 Tongue
Switch



Type: GBA-1-SS (211004)
Shown in right-hand
orientation.

DESCRIPTION	SALES NUMBER	SUITABILITY
Gate Bolt Tongue GBA-1-SS Left Hand	211003	Suitable for Switch Type: KM-SS
Gate Bolt Tongue GBA-1-SS Right Hand	211004	
Rear Handle - Stainles Steel	211005	Suitable for GBL-1-SS and GBA-1-SS
Spring Loaded Catch - Stainless Steel	211006	Suitable for GBL-1-SS and GBA-1-SS

Guard Locking Safety Interlock Switches

APPLICATION:

IDEM Guard Locking Interlock switches are engineered to deliver robust position interlock detection for moving guards, featuring a locking mechanism to secure the guard until the hazard is eliminated.

These tongue-operated switches are designed for installation on the leading edge of sliding or hinged machine guards, ensuring positively operated switching contacts and incorporating a tamper-resistant key mechanism that is difficult to defeat.

Available in various materials and housing styles, these switches offer complete flexibility for different applications. They come with a selection of output circuits, LED diagnostics, and various actuators, facilitating installation and maintaining durability across demanding applications in Factory Automation, Packaging, Food Processing, Pharmaceutical, and Petrochemical industries.

OPERATION:

The switch is firmly mounted to the guard or machine frame, while the actuator is attached to the moving part of the guard and aligned with the switch entry aperture. The actuator's profile matches a cam mechanism within the switch head, creating a positively operated interlock switch.

In both Standard and RFID versions, inserting the actuator into the switch closes the safety contacts, enabling the machine start circuit. When the solenoid receives the appropriate signal, the safety contacts open, breaking the machine circuit and allowing the guard door to be opened.

These switches can be used with safety timers to delay guard opening, which is useful for machines that require a run-down period.

For Power to Lock (P2L) versions, the safety circuits close and the switch locks only when power is applied to the solenoid.

The switches are available in high-specification plastic or die-cast housings, sealed to IP67 for long-term moisture protection. For harsh environments like Food Processing, Pharmaceutical, and Petrochemical industries, the Stainless Steel 316 range offers IP69K protection, suitable for high-pressure chemical cleaning or CIP/SIP applications.

FEATURES:

- Large Range of Housings Available.
- Plastic, Die-Cast and Stainless Steel 316 Options.
- Up to 4000N Holding Force (Model Dependant).
- Optional Rear Release.
- Versions with Integrated Machine Control Function.
- Direct Machine Frame Mounting.
- Self Monitoring on Z-Range Versions.

FUNCTION GUIDE:

All Guard Locking Switches are designed to prevent operators from accidentally opening a guard door and being exposed to hazards.

When selecting the appropriate switch, consider the dimensions and weight of the guard door, ensuring the switch is installed to avoid unnecessary forces on the locking mechanism during normal use.

Each switch is specified with a holding force value (Fzh). It is crucial to choose a switch that can withstand the static forces during normal use and ensure that dynamic effects, such as guard bouncing, do not create an impact reaction force exceeding the holding force. If expected impact reaction forces exceed the specified holding force, design measures must be implemented to mitigate the force.

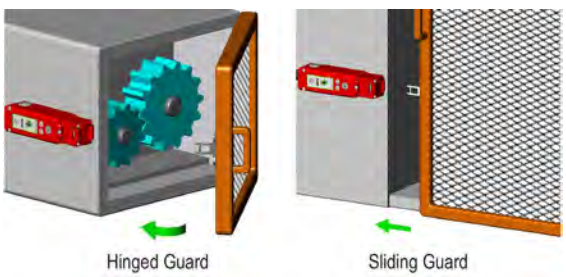
Additional components such as door catches, stops, and guides should be fitted alongside the safety switch to prevent damage. When the guard is closed, the switch actuator automatically locks, and the safety contacts close.

The guard remains closed and can only be opened after the switch solenoid is energized, unlocking the actuator.

Operators cannot accidentally open the guard until the hazard is removed. Upon energizing the solenoid, the safety contacts open, allowing the actuator to be released.

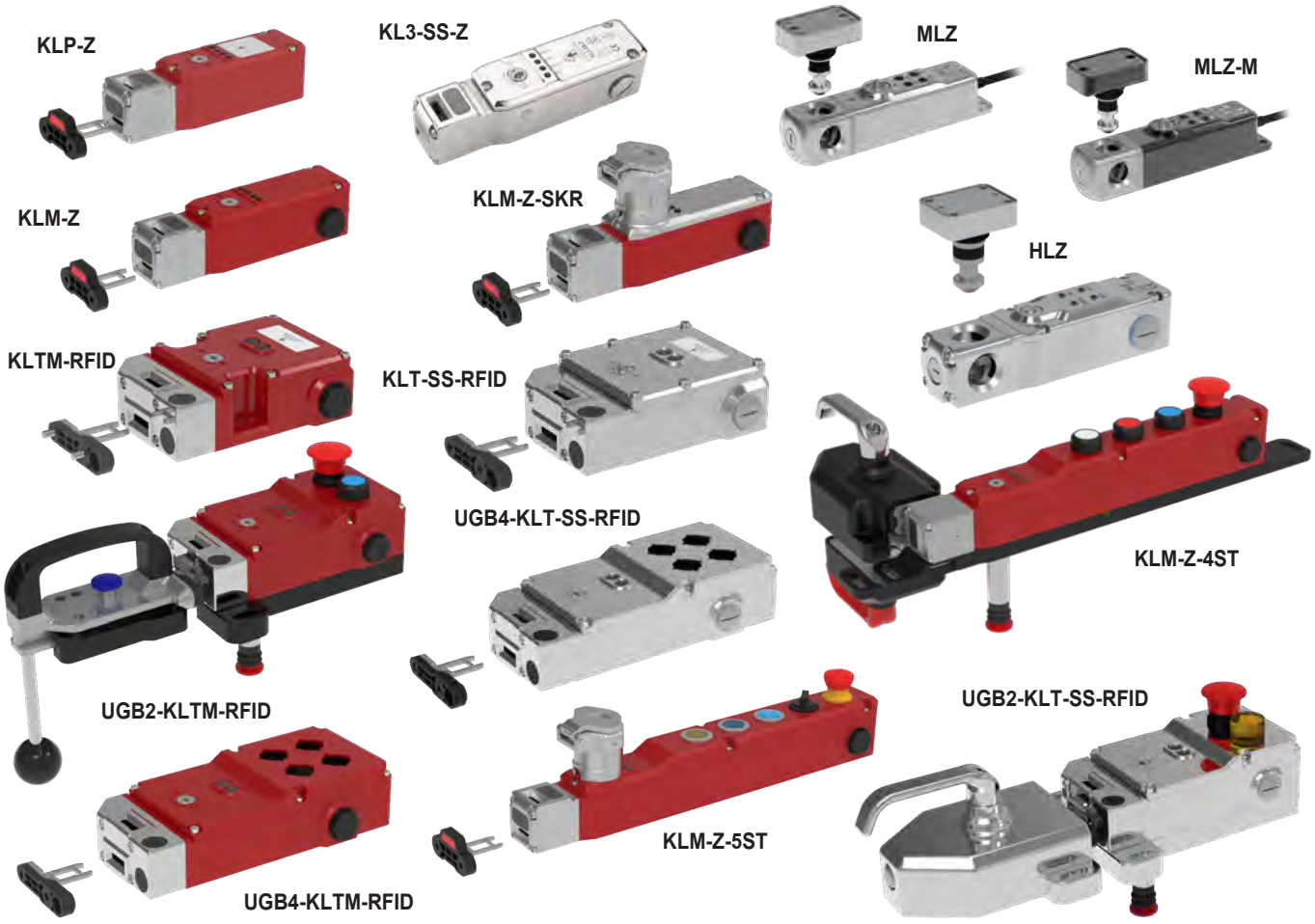
Depending on the risk assessment for the application, the solenoid is typically energized by:

1. A request push button (for applications with immediate removal of the hazard).
2. A request push button and safety timer (for applications with a run down hazard after removing the machine power).
3. From a PLC or if necessary a Safety PLC via a machine control command.



Guard Locking Safety Interlock Switches

RFID INTEGRATED VERSIONS (Uses RFID Interlocking with Solid State Outputs):



POWER-TO-UNLOCK VERSIONS:

POWER-TO-LOCK VERSIONS:

Only suitable for applications where immediate unlocking is required at removal or loss of solenoid power.
Not suitable for machines with a running down time.

RFID Guard Locking Switch Metal: **MLZ-M**

FEATURES:

NEW

TYPE 4 INTERLOCK

3 Actuator entry positions for maximum compatibility with mounting.

Adjustable spring ball catch for increasing or decreasing latching force.

MLZ-M is compatible with rear release accessory (PN 470401)

Flexible actuator with bevelled plunger for reducing friction on entry and ensuring a long mechanical life cycle.

Rugged and Reliable

Introducing the MLZ-M, a Type 4 guard locking switch with RFID technology, designed to prevent unintended access to hazardous areas and eliminate costly machine stoppages by securely locking units during machine operation.

Compact and Versatile Design

The MLZ-M features a small physical footprint, ensuring seamless integration into any machine setup. Its unobtrusive design enhances mounting versatility, reduces the risk of tampering, and minimizes potential damage.

Exceptional Holding Force

With an impressive holding force of 4000N, the MLZ-M ensures operators cannot forcibly enter hazardous areas when locked, providing unparalleled safety and security.

Instant Status Identification

The MLZ-M is equipped with high-brightness, angular cut indicators that allow for easy recognition of the open/close status of all access points at a quick glance. Conveniently located, these indicators are visible from a distance and multiple directions, ensuring instant status identification.

Effortless Mounting

Mounting the MLZ-M is straightforward with its built-in mounting holes, allowing direct installation onto a machine frame. The MLZ-M also features three actuator entry points to accommodate any door style, making it one of the most flexible solutions on the market.

Unmatched Flexibility

The MLZ-M offers a level of flexibility unmatched by other locking type interlocks. It includes a flexible locking bolt and beveled entry points, ensuring proper mating even if a door sags, providing reliable performance in various conditions.

Simplified Wiring

Wiring the MLZ-M is simpler and easier than ever, thanks to its built-in cascading function. Connect safety interlocks throughout the machine and reduce the total number of safety outputs to a single pair of OSSDs, simplifying your safety system setup.

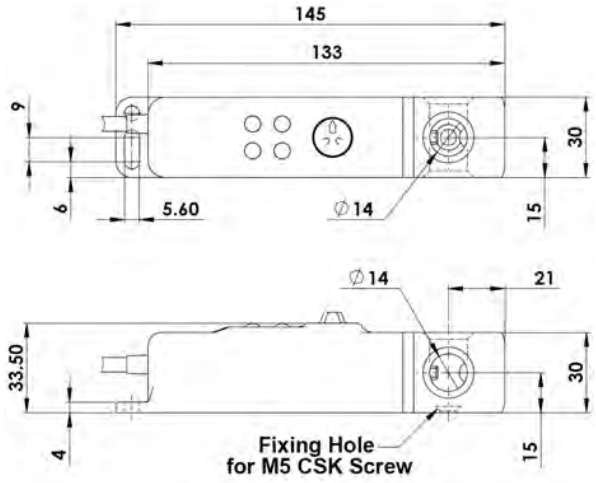
Features:

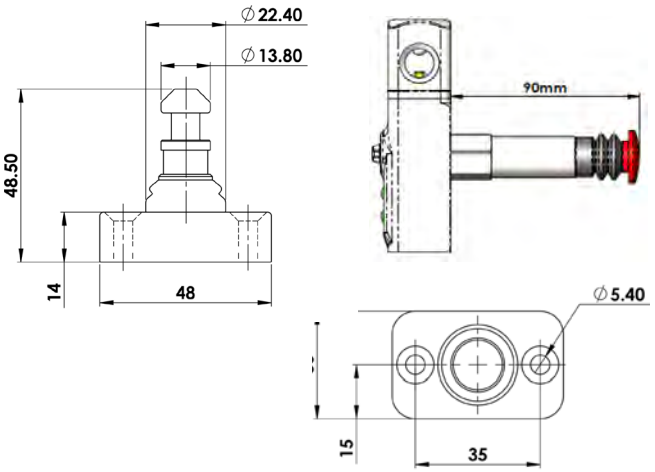
- Type 4 Guard Locking Switch with RFID
- Compact Design for Easy Integration
- 4000N Holding Force
- Rear escape release options.
- High-Visibility Status Indicators
- Direct Machine Frame Mounting
- Built-In Cascading Function

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	Fzh 4000N
Operating Frequency	1Hz
Material	Die-Cast Body / Stainless Steel 316 Head
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

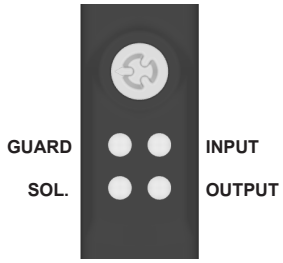
RFID Guard Locking Switch Metal: **MLZ-M**

DIMENSIONS:





INDICATION DIAGRAM:



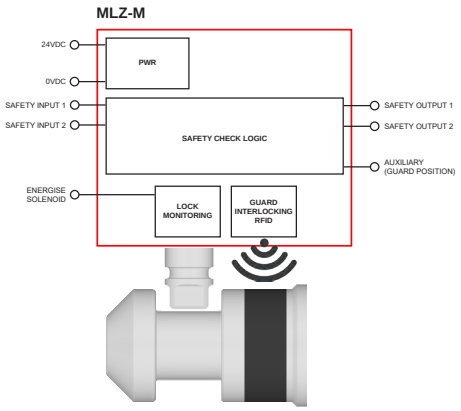
LED 1 Guard State	
Guard Locked	Green (Steady)
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green (Steady)
Safety Inputs Missing	Green (Flash)
Safety Inputs Off	Off
Internal Fault	Red (Steady)

LED 3 Output	
Safety Outputs On	Green (Steady)
Safety Outputs Off	Off
External Fault	Red (Flashng)

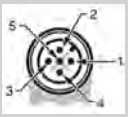
LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

CONNECTION DIAGRAM:



CONNECTIVITY:

Quick Connect Pin View from Switch (M12)	Flying Lead Colour	Switch Circuit
2	Red	Supply +24V.dc
3	Blue	Supply 0V.dc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
8	Orange	Guard open signal +24V.dc
5	Brown	Solenoid enable +24V.dc

Quick Connect Pin View from Switch (M12)	Switch Circuit
	
1	Supply +24V.dc
2	Safety Output 1
3	Supply 0V.dc
4	Safety Output 2
5	Unlock (Solenoid enable +24V.dc)

ORDERING:

Part Number	Description
473001	MLZ-M 24VDC, 5m Pre-Wired (Inc. Actuator)
473002	MLZ-M 24VDC, 10m Pre-Wired (Inc. Actuator)
473004	MLZ-M 24VDC, 15m Pre-Wired (Inc. Actuator)
473005	MLZ-M 24VDC, 20m Pre-Wired (Inc. Actuator)
473003	MLZ-M 24VDC, M12-QC 8way on 250mm Flying Lead (Inc. Actuator)
473103	MLZ-M 24VDC, M12-QC 5way on 250mm Flying Lead (Inc. Actuator)
473420	Spare / Replacement Actuator
Accessories	
470410-L	MLZ Single Action Latching Pull Handle SS (Left)
470410-R	MLZ Single Action Latching Pull Handle SS (Right)
470402	Sliding Handle (Gate Bolt)
470403	Optional Spring Catch for Sliding Handle
470401	Rear Release Button (90mm)
470404	Rear Gasket Set for Switch and Actuator

470402

470410-L

470410-R

470403

470404

470401

RFID Guard Locking Switch Plastic: **ARTALOCK KLP-Z**

FEATURES:

TYPE 4 INTERLOCK

Available with M12 quick connect

Solenoid Locking Interlock Safety Switch featuring RFID Interlocking

The KLP-Z Series Guard Locking switches have been designed to incorporate high anti-tamper RFID coding and provide PLe safety levels to ISO13849-1.

The RFID sensing is complemented by a traditional cam locking system which has been developed with a holding Force of 2000N to keep guard doors closed until hazards have been removed.

Unique rotating head to offer both Front and End actuation.

32 million RFID codes – each switch unique – high coding to ISO14119.

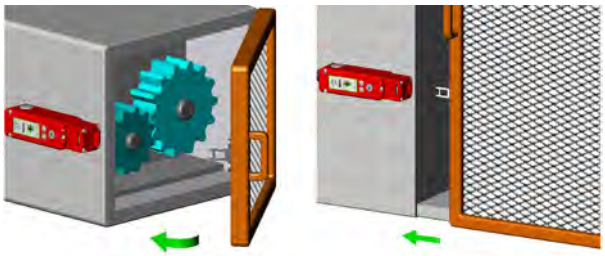
Rugged IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a slim profile and are designed to fit on 50mm (2in) frame sections or to applications where space is restricted and the head will rotate to provide up to 8 actuator entry positions and includes front and end entry sensing.

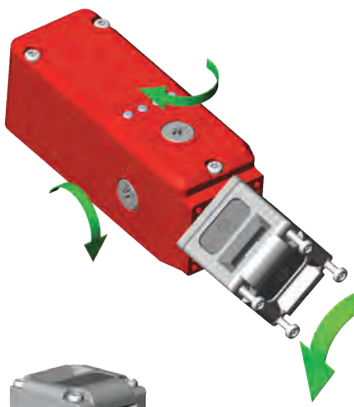
High specification plastic housing with robust Stainless Steel 316 head.

Choice of standard or flexible actuators.

M12 Quick connect version available.



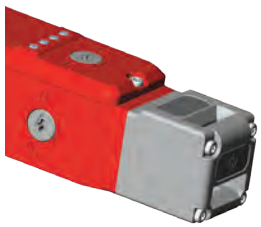
Hinged Guard | Sliding Guard



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

Front entry actuation direction.



End entry actuation direction.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

ACTUATOR OPTIONS:

AZ Standard Actuator

HFZ Flexible Actuator

Standards:	IEC60947-5-3 ISO14119 ISO13849-1 IEC62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.) S+ (500mA Max) (Solenoid)
Safety Circuits (11-12, 21-22)	24V 0.2A
Auxiliary Circuits (34 and 44)	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 2000N Fzh 1538N
Actuator insertion distance for assured locking	5mm
Sao Sar (RFID sensing)	Sao 10mm Sar 20mm
Operating Frequency	1Hz
Actuator entry minimum radius	175mm Standard 100mm Flexible
Body Material	Polyester
Head Material	Stainless Steel 316
Actuator Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

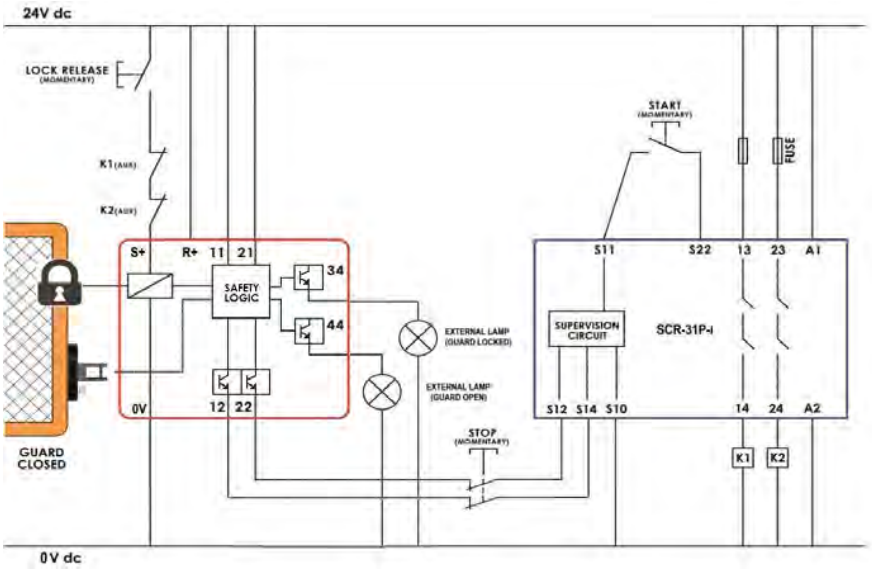
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Characteristic data according to EN ISO13849-1

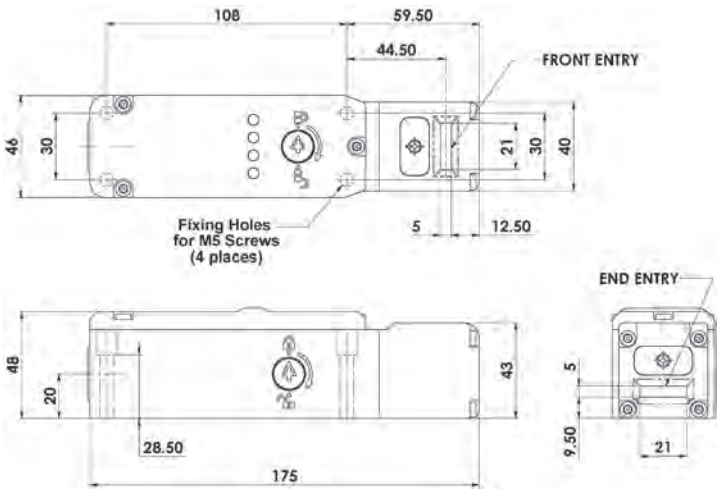
Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

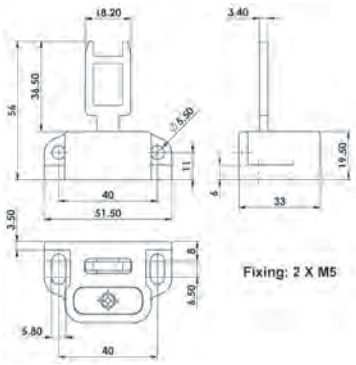
RFID Guard Locking Switch Plastic **Type: ARTALOCK KLP-Z**

CONNECTION EXAMPLE:

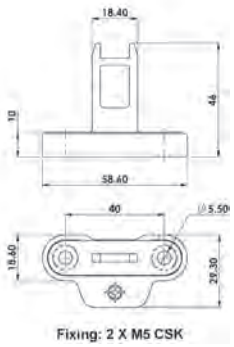


DIMENSIONS:





Heavy Duty Flexible Actuator (HFZ)



Standard Actuator (AZ)

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

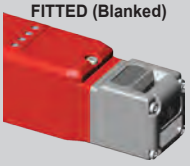
LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

Quick Connect (QC) M12 8 Way Male Plug Pin View from Switch	Terminal	Function	Switch Circuit	Rating
2	R+	24V dc	Supply 24V dc	50mA max.
3	0V	0V dc	Supply 24V dc (Ground)	
7	11	Safety Input 1	Safety Circuit 1	200mA max.
1	12	Safety Output 1		
4	21	Safety Input 2	Safety Circuit 2	200mA max.
6	22	Safety Output 2		
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
N/A	34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
5	S+	Unlocked	Unlock signal apply +24V dc	500mA max.

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

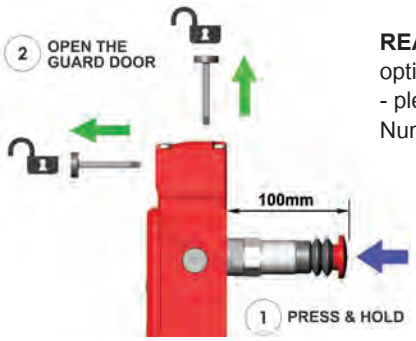
	STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
									
DESCRIPTION	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12
KLP-Z Switch with STANDARD Actuator	455001AZ	455002AZ	455003AZ	455401AZ	455402AZ	455403AZ	455301AZ	455302AZ	455303AZ
KLP-Z Switch with HEAVY DUTY FLEXIBLE Actuator	455001HFZ	455002HFZ	455003HFZ	455401HFZ	455402HFZ	455403HFZ	455301HFZ	455302HFZ	455303HFZ

RFID Guard Locking Switch Metal: **AYLOCK KLM-Z**

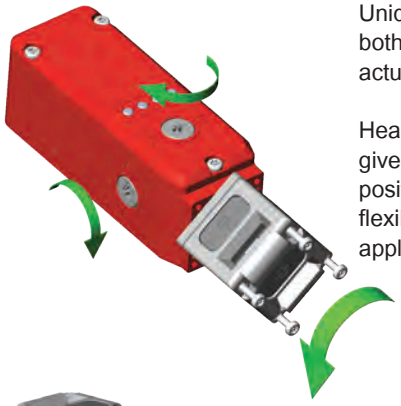
FEATURES:

TYPE 4 INTERLOCK

Available with M12 quick connect



REAR RELEASE option also available - please see Sales Numbers.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

Front entry actuation direction.

End entry actuation direction.

Solenoid Locking Interlock Safety Switch featuring RFID Interlocking

The KLM-Z Series Guard Locking switches have been designed to incorporate high anti-tamper RFID coding and provide PLe safety levels to ISO13849-1.

The RFID sensing is complemented by a traditional cam locking system which has been developed with a holding Force of 3000N to keep guard doors closed until hazards have been removed.

Unique rotating head to offer both Front and End actuation.

32 million RFID codes – each switch unique – high coding to ISO14119.

The die cast metal IP67 enclosure protection is maintained by a double seal lid gasket design.

They have a slim profile and are designed to fit on 50mm (2in) frame sections or to applications where space is restricted and the head will rotate to provide up to 8 actuator entry positions and includes front and end entry sensing.

Die cast housing fitted with a robust Stainless Steel 316 head.

Choice of standard or flexible actuators.

M12 Quick connect version available.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

ACTUATOR OPTIONS:

AZ Standard Actuator

HFZ Flexible Actuator

Standards:	IEC60947-5-3 ISO14119 ISO13849-1 IEC62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.) S+ (500mA Max) (Solenoid)
Safety Circuits (11-12, 21-22)	24V 0.2A
Auxiliary Circuits (34 and 44)	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N Fzh 2307N
Actuator insertion distance for assured locking	5mm
Sao Sar (RFID sensing)	Sao 10mm Sar 20mm
Operating Frequency	1Hz
Actuator entry minimum radius	175mm Standard 100mm Flexible
Body Material	Die cast metal (painted red)
Head Material	Stainless Steel 316
Actuator Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

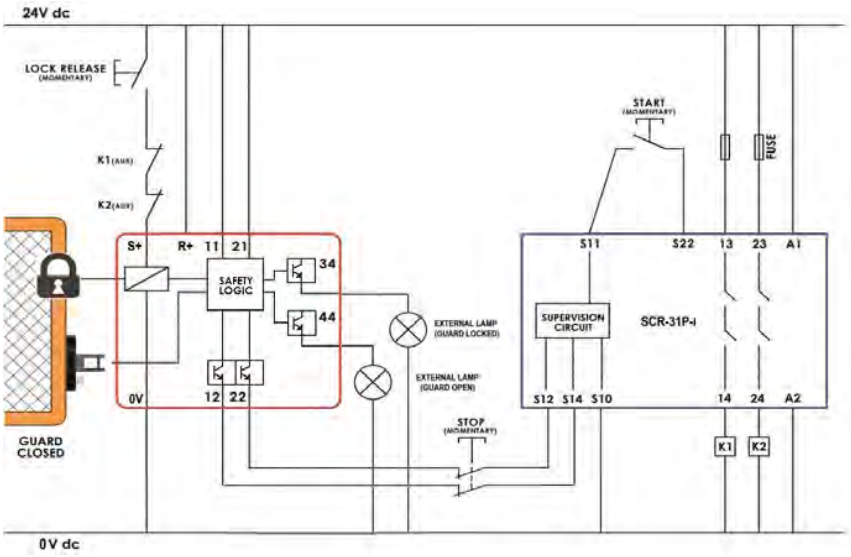
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

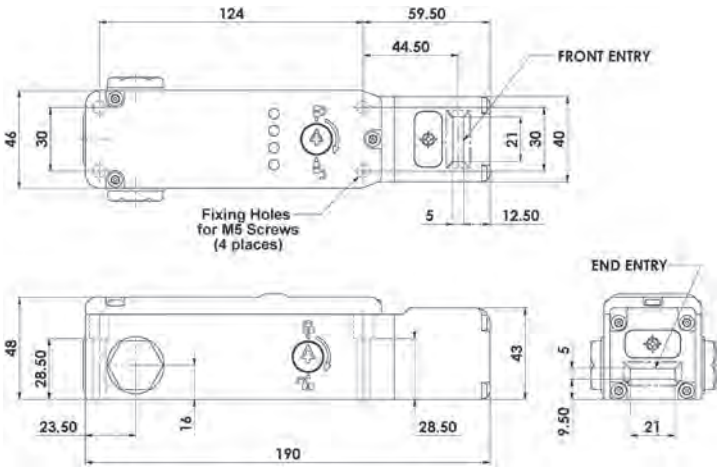
Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

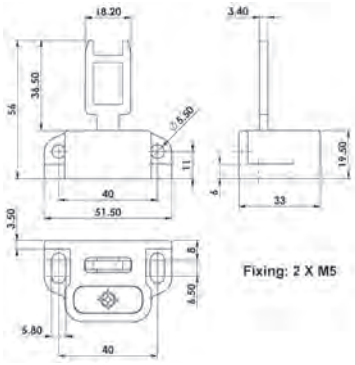
RFID Guard Locking Switch Metal: **AYLOCK KLM-Z**

CONNECTION EXAMPLE:

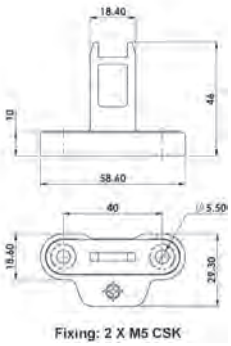


DIMENSIONS:





Heavy Duty Flexible Actuator (HFZ)



Standard Actuator (AZ)

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

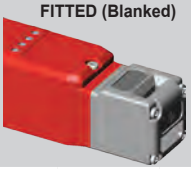
Quick Connect (QC) M12 8 Way Male Plug Pin View from Switch	Terminal	Function	Switch Circuit	Rating
2	R+	24V dc	Supply 24V dc	50mA max.
3	0V	0V dc	Supply 24V dc (Ground)	
7	11	Safety Input 1	Safety Circuit 1	200mA max.
1	12	Safety Output 1		
4	21	Safety Input 2	Safety Circuit 2	200mA max.
6	22	Safety Output 2		
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
N/A	34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
5	S+	Unlocked	Unlock signal apply +24V dc	500mA max.

LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

	STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
									
SALES NUMBERS	**M20**	**1/2" NPT**	**QC M12**	**M20**	**1/2" NPT**	**QC M12**	**M20**	**1/2" NPT**	**QC M12**
KLM-Z Switch with STANDARD Actuator	454001AZ	454002AZ	454003AZ	454401AZ	454402AZ	454403AZ	454301AZ	454302AZ	454303AZ
KLM-Z Switch with HEAVY DUTY FLEXIBLE Actuator	454001HFZ	454002HFZ	454003HFZ	454401HFZ	454402HFZ	454403HFZ	454301HFZ	454302HFZ	454303HFZ
REAR RELEASE OPTION SALES NUMBERS									
KLM-Z-RR Switch with STANDARD Actuator	454011AZ	454012AZ	454013AZ	454411AZ	454412AZ	454413AZ	454311AZ	454312AZ	454313AZ
KLM-Z-RR Switch with HEAVY DUTY FLEXIBLE Actuator	454011HFZ	454012HFZ	454013HFZ	454411HFZ	454412HFZ	454413HFH	454311HFZ	454312HFZ	454313HFZ

Hygienic RFID Guard Locking Switch S/Steel: **MLZ**

FEATURES:

NEW

TYPE 4 INTERLOCK

IP69K

3 Actuator entry positions for maximum compatibility with mounting.

Adjustable spring ball catch for increasing or decreasing latching force.

MLZ is compatible with rear release accessory (PN 470401)

Flexible actuator with bevelled plunger for reducing friction on entry and ensuring a long mechanical life cycle.

OVERVIEW:

MLZ is the World's Smallest Type 4 Hygienic Guard Lock with RFID. This Compact Hygienic Safety Interlock Switch is manufactured from mirror polished 316 Stainless Steel and Tested to IP67 and IP69K for Extreme Washdown Environments.

The MLZ Hygienic RFID Guard Locking Switch is a 30mm-wide Stainless Steel safety interlock switch that houses three entry actuation points. The device's super-compact size means it is compatible with the narrowest of machine guard rails and requires no mounting plate, making it simple to install.

With actuation capability on three sides, this small but mighty device is also incredibly versatile making it applicable for a vast range of guarding applications.

Manufactured from mirror-polished 316 Stainless Steel to Ra4 standard, the device's diminutive size belies its strength and durability. Tested to IP67 and IP69K and suitable for SIP and CIP cleaning, this robust interlock is ideal for outdoor use as well as for strict washdown environments, particularly food contact, beverage, and pharmaceutical manufacturing.

Features:

- Type 4 Guard Locking Switch with RFID
- Compact Design for Easy Integration
- 4000N Holding Force
- Rear escape release options.
- High-Visibility Status Indicators
- Direct Machine Frame Mounting
- Built-In Cascading Function

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1. Guard interlocking and lock monitoring to CAT 4, PL e and SIL 3. Safety ratings are maintained with up to 30 devices in series.

Safety circuits are active when the guard is closed and locked.
1 auxiliary circuits; guard position.

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	Fzh 4000N
Operating Frequency	1Hz
Material	Stainless Steel 316
Enclosure Protection	IP67/IP69K
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

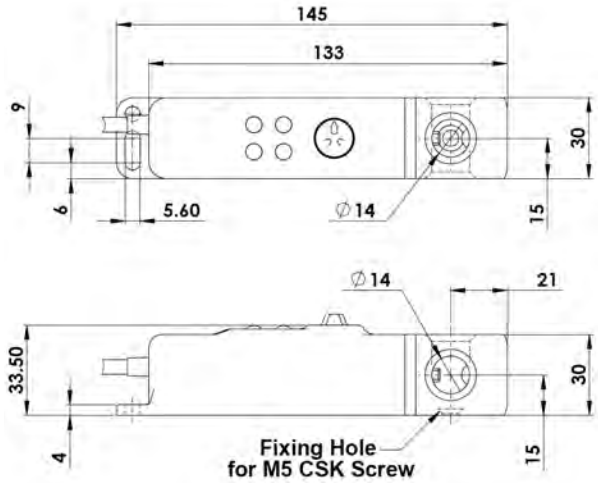
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

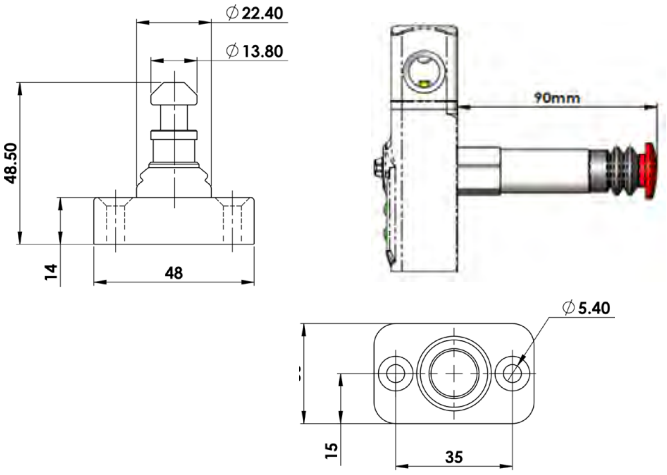
Charateristic data according to EN ISO13849-1

Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

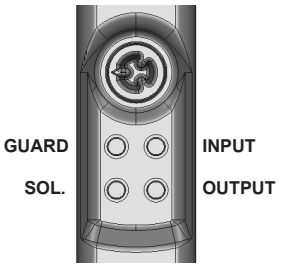
Hygienic RFID Guard Locking Switch S/Steel: **MLZ**

DIMENSIONS:





INDICATION DIAGRAM:



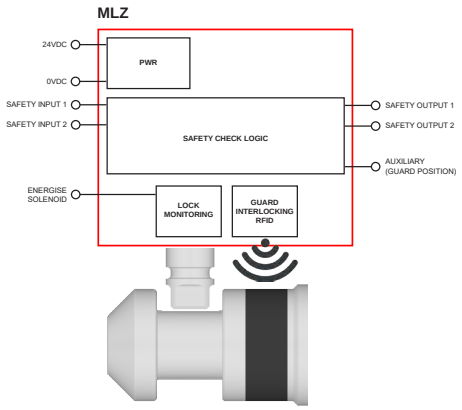
LED 1 Guard State	
Guard Locked	Green (Steady)
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green (Steady)
Safety Inputs Missing	Green (Flash)
Safety Inputs Off	Off
Internal Fault	Red (Steady)

LED 3 Output	
Safety Outputs On	Green (Steady)
Safety Outputs Off	Off
External Fault	Red (Flashng)

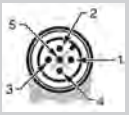
LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

CONNECTION DIAGRAM:



CONNECTIVITY:

Quick Connect Pin View from Switch (M12)	Flying Lead Colour	Switch Circuit
2	Red	Supply +24V.dc
3	Blue	Supply 0V.dc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
8	Orange	Guard open signal +24V.dc
5	Brown	Solenoid enable +24V.dc

Quick Connect Pin View from Switch (M12) 	Switch Circuit
1	Supply +24V.dc
2	Safety Output 1
3	Supply 0V.dc
4	Safety Output 2
5	Unlock (Solenoid enable +24V.dc)

ORDERING:

Part Number	Description
470001	MLZ 24VDC, 5m Pre-Wired (Inc. Actuator)
470002	MLZ 24VDC, 10m Pre-Wired (Inc. Actuator)
470004	MLZ 24VDC, 15m Pre-Wired (Inc. Actuator)
470005	MLZ 24VDC, 20m Pre-Wired (Inc. Actuator)
470003	MLZ 24VDC, M12-QC 8way on 250mm Flying Lead (Inc. Actuator)
470103	MLZ 24VDC, M12-QC 5way on 250mm Flying Lead (Inc. Actuator)
470420	Spare / Replacement Actuator
Accessories	
470410-L	MLZ Single Action Latching Pull Handle SS (Left)
470410-R	MLZ Single Action Latching Pull Handle SS (Right)
470402	Sliding Handle (Gate Bolt)
470403	Optional Spring Catch for Sliding Handle
470401	Rear Release Button (90mm)
470404	Rear Gasket Set for Switch and Actuator

470402

470410-L

470410-R

470403

470404

470401

Heavy-Duty Hygienic RFID Guard Locking Switch S/Steel **Type: HLZ**

FEATURES:

NEW

TYPE 4 INTERLOCK

11,000N HOLDING FORCE

Adjustable spring ball catch for increasing or decreasing latching force.

IP69K

MLZ is compatible with rear release accessory (PN 470401)

3 Actuator entry positions for maximum compatibility with mounting.

Flexible actuator with bevelled plunger for reducing friction on entry and ensuring a long mechanical life cycle.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1. Guard interlocking and lock monitoring to CAT 4, PL e and SIL 3. Safety ratings are maintained with up to 30 devices in series.

Safety circuits are active when the guard is closed and locked.
2 auxiliary circuits; one for guard position and one for lock position.

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 11,000N
Operating Frequency	1Hz
Material	Stainless Steel 316
Enclosure Protection	IP67/IP69K
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

The HLZ, is a Type 4 guard locking switch with RFID, designed for safety and reliability in even the most demanding environments. Engineered with precision and manufactured from premium 316 grade stainless steel, the HLZ boasts a stunning mirror-polished finish that is both durable and hygienic.

Manufactured from 316 grade stainless steel, the HLZ ensures superior resistance to corrosion and wear, making it a robust and long-lasting solution. It has been rigorously tested to meet IP69K standards, making it ideal for stringent washdown environments and offering protection against water and dust ingress.

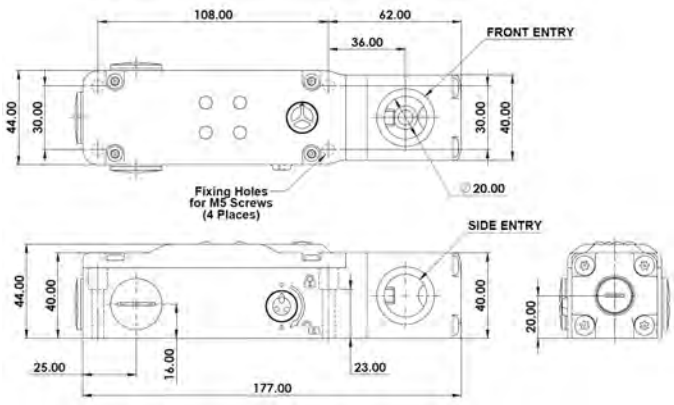
The HLZ incorporates an integrated RFID coded sensor for tamper proof security and reliability in guard locking applications. It delivers an impressive holding force of 11,000N, providing robust protection and stability. With OSSD outputs, the HLZ ensures safe and reliable operation, and it is suitable for series connectivity of up to 30 units while CAT / SIL is maintained due to OSSD technology, performance level is a measure of reliability of an individual device.

Designed for versatile mounting, the head of the HLZ features three entry positions, allowing for seamless integration into machine guarding systems. The spring-loaded tongue actuator accommodates greater tolerance to misalignment, ensuring consistent performance. Clear and easily visible LEDs on the lid display all device states, facilitating straightforward monitoring and maintenance. The spacious design of the HLZ supports pre-wiring via M20 conduit entries, simplifying installation and enhancing cable management.

The HLZ is perfect for a variety of industrial applications requiring stringent safety standards and reliable performance, including food and beverage processing, pharmaceutical manufacturing,

Heavy-Duty Hygienic RFID Guard Locking Switch S/Steel **Type: HLZ**

DIMENSIONS:



INDICATION DIAGRAM:

LED 1 Guard State	
Guard Locked	Green (Steady)
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

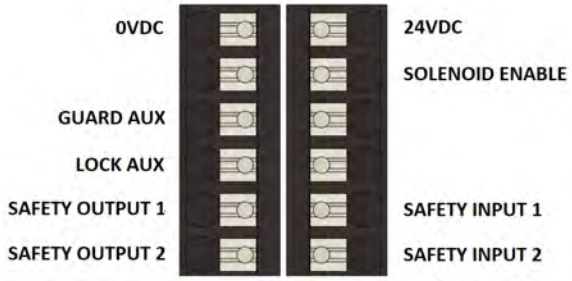
LED 2 Input	
Safety Inputs On	Green (Steady)
Safety Inputs Missing	Green (Flash)
Safety Inputs Off	Off
Internal Fault	Red (Steady)

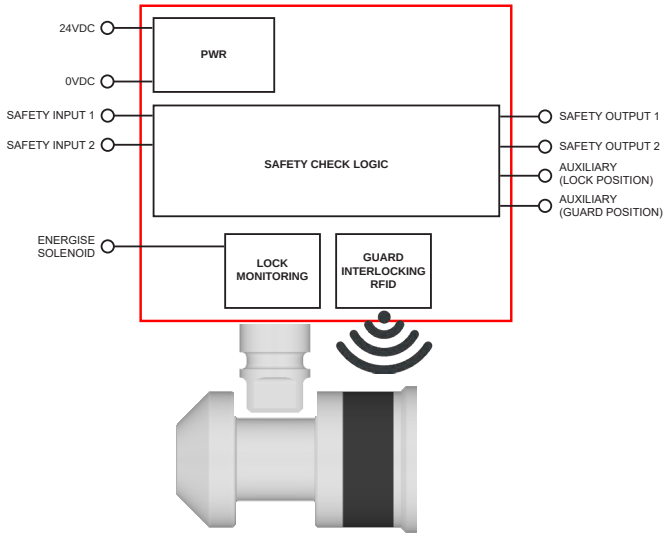
LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

LED 3 Output	
Safety Outputs On	Green (Steady)
Safety Outputs Off	Off
External Fault	Red (Flashng)

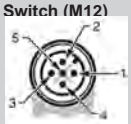
TERMINAL BLOCK:

For pre-wiring options, see terminal block layout below.





Quick Connect Pin View from Switch (M12)	Flying Lead Colour	Switch Circuit
2	Red	Supply +24V.dc
3	Blue	Supply 0V.dc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
8	Orange	Guard open signal +24V.dc
5	Brown	Solenoid enable +24V.dc

Quick Connect Pin View from Switch (M12) 	Switch Circuit
1	Supply +24V.dc
2	Safety Output 1
3	Supply 0V.dc
4	Safety Output 2
5	Unlock (Solenoid enable +24V.dc)

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

ORDERING:

Manual Release Key
(order separately - not supplied with switches)

Sales Number: 140123

STANDARD MANUAL RELEASE LID AND SIDE

MANUAL RELEASE LID ONLY (Not SIDE)

NO MANUAL RELEASE FITTED (Blanked)

SALES NUMBERS	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12
HLZ Switch with Standard Actuator	471001	471002	471003	471401	471402	471403	471301	471302	471303

140120

470401

Accessories	
470401	Rear Release Button (90mm)
140120	Stainless Steel M20 Gland for IP69K Seal

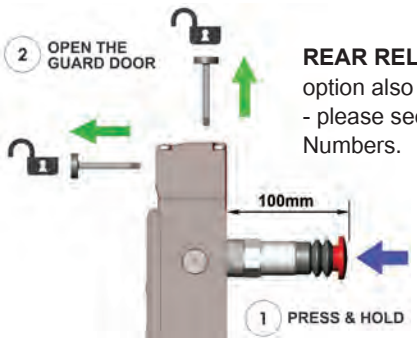
RFID Guard Locking Switch S/Steel: **PARSALOCK KL3-SS-Z**

FEATURES:

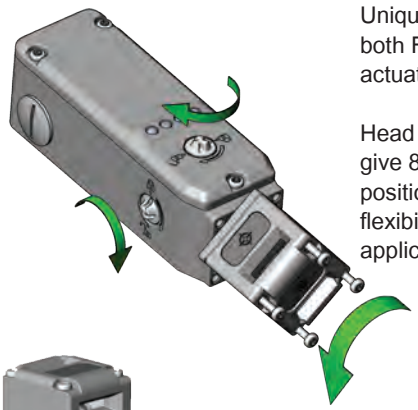
TYPE 4 INTERLOCK

IP69K

Available with M12 quick connect (IP67)



REAR RELEASE option also available - please see Sales Numbers.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

Front entry actuation direction.

End entry actuation direction.

Solenoid Locking Interlock Safety Switch featuring RFID Interlocking

The KL3-SS-Z Series Guard Locking switches have been designed to incorporate high anti-tamper RFID coding and provide PLe safety levels to ISO13849-1.

The RFID sensing is complemented by a traditional cam locking system which has been developed with a holding Force of 3000N to keep guard doors closed until hazards have been removed.

Unique rotating head to offer both Front and End actuation.

32 million RFID codes – each switch unique – high coding to ISO14119.

The fully Stainless Steel 316 enclosure has IP69K ingress protection which is maintained by a double seal lid gasket design.

They have a slim profile and are designed to fit on 50mm (2in) frame sections or to applications where space is restricted and the head will rotate to provide up to 8 actuator entry positions and includes front and end entry sensing.

Can be high pressure hosed at high temperature with detergent.

Choice of standard or flexible actuators.

M12 Quick connect version available.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

ACTUATOR OPTIONS:

AZ Standard Actuator

HFZ Flexible Actuator

Standards:	IEC60947-5-3 ISO14119 ISO13849-1 IEC62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.)
	S+ (500mA Max) (Solenoid)
Safety Circuits (11-12, 21-22)	24V 0.2A
Auxiliary Circuits (34 and 44)	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N Fzh 2307N
Actuator insertion distance for assured locking	5mm
Sao Sar (RFID sensing)	Sao 10mm Sar 20mm
Operating Frequency	1Hz
Actuator entry minimum radius	175mm Standard 100mm Flexible
Body Material	Stainless Steel 316
Head Material	Stainless Steel 316
Actuator Material	Stainless Steel 316
Enclosure Protection	IP67/IP69K
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

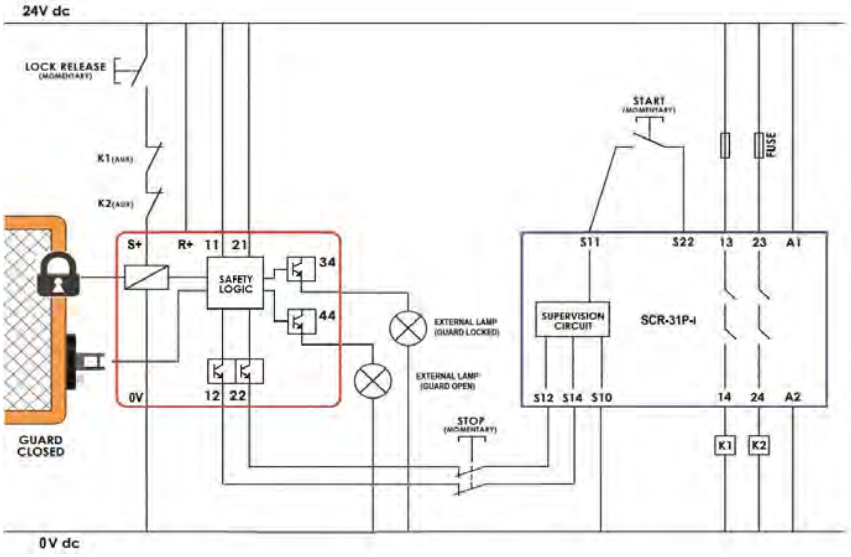
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

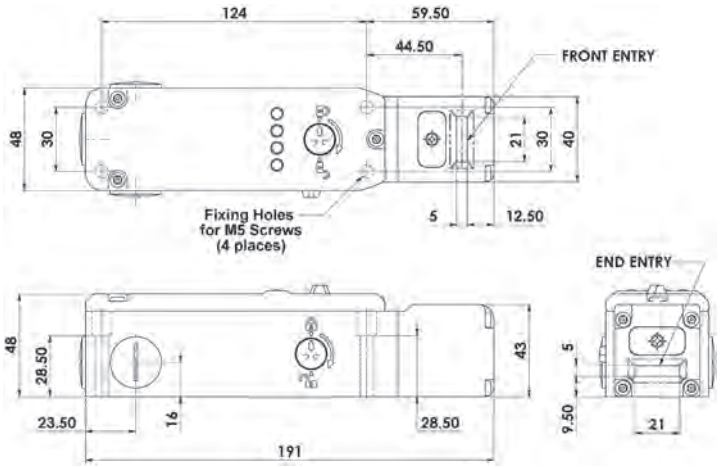
Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

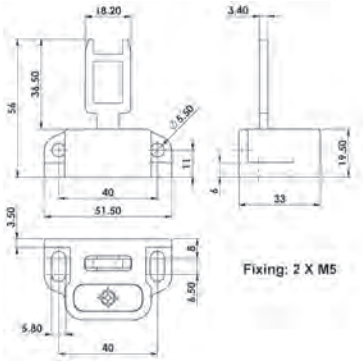
RFID Guard Locking Switch S/Steel: **PARSALOCK KL3-SS-Z**

CONNECTION EXAMPLE:

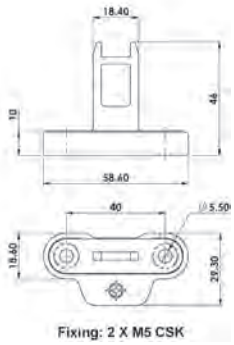


DIMENSIONS:





Heavy Duty Flexible Actuator (HFZ)



Standard Actuator (AZ)

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Quick Connect (QC) M12 8 Way Male Plug Pin View from Switch	Terminal	Function	Switch Circuit	Rating
2	R+	24V dc	Supply 24V dc	50mA max.
3	0V	0V dc	Supply 24V dc (Ground)	
7	11	Safety Input 1	Safety Circuit 1	200mA max.
1	12	Safety Output 1		
4	21	Safety Input 2	Safety Circuit 2	200mA max.
6	22	Safety Output 2		
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
N/A	34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
5	S+	Unlocked	Unlock signal apply +24V dc	500mA max.

LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

Manual Release Key
(order separately - not supplied with switches)

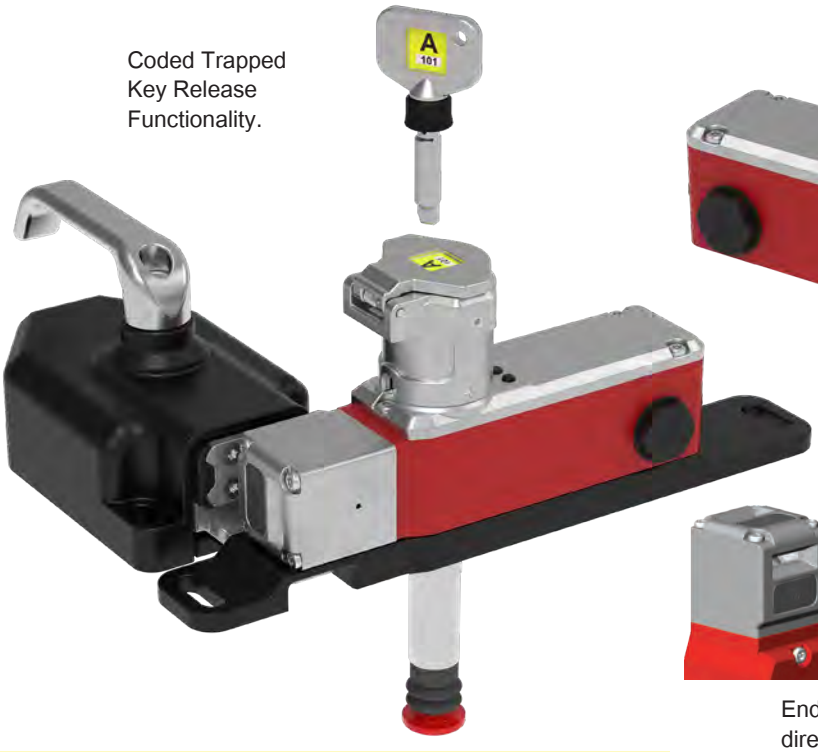
Sales Number: 140123

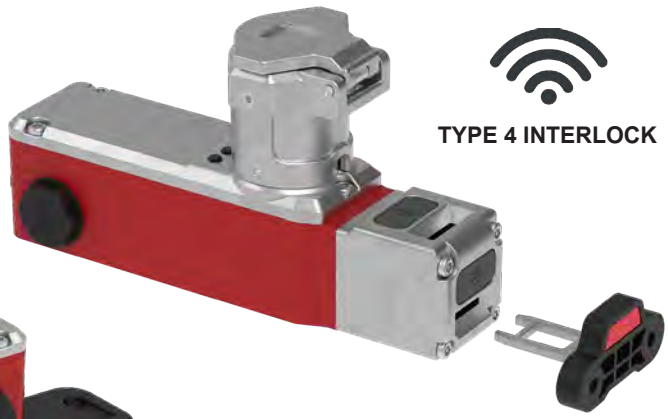
	STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
SALES NUMBERS	**M20**	**1/2" NPT**	**QC M12**	**M20**	**1/2" NPT**	**QC M12**	**M20**	**1/2" NPT**	**QC M12**
KL3-SS-Z Switch with Standard Actuator	456001AZ	456002AZ	456003AZ	456401AZ	456402AZ	456403AZ	456301AZ	456302AZ	456303AZ
KL3-SS-Z Switch with Heavy Duty Flexible Actuator	456001HFZ	456002HFZ	456003HFZ	456401HFZ	456402HFZ	456403HFZ	456301HFZ	456302HFZ	456303HFZ
REAR RELEASE OPTION SALES NUMBERS									
KL3-SS-Z-RR Switch with Standard Actuator	456011AZ	456012AZ	456013AZ	456411AZ	456412AZ	456413AZ	456311AZ	456312AZ	456313AZ
KL3-SS-Z-RR Switch with Heavy Duty Flexible Actuator	456011HFZ	456012HFZ	456013HFZ	456411HFZ	456412HFZ	456413HFZ	456311HFZ	456312HFZ	456313HFZ

RFID Guard Locking with Trapped Key: **KLM-Z-SKR**

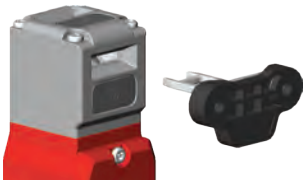
FEATURES:

Coded Trapped Key Release Functionality.





TYPE 4 INTERLOCK



End entry actuation direction.

Front entry actuation direction.

OVERVIEW:

Guard Locking Switch with RFID Interlocking and Coded Trapped Key.

The KLM-Z-SKR Guard Locking Switches are engineered with high anti-tamper RFID coding, providing PLe safety levels according to ISO13849-1.

Integrated Coded Key: The key is released when the unlock signal is present. The guard cannot be relocked until the key is trapped, reducing the risk of inadvertent startup.

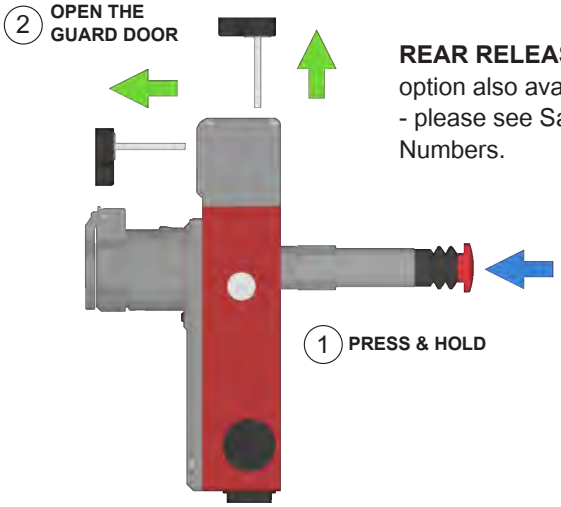
Dual Locking System: RFID sensing is complemented by a traditional cam locking system, designed with a holding force of 3000N to ensure guard doors remain closed until hazards are removed.

Rotating Head: Offers both front and end actuation.

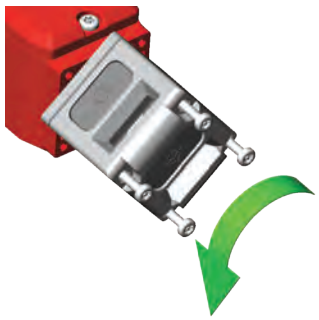
High Coding Level: Features 32 million unique RFID codes, meeting high coding standards per ISO14119.

Robust Construction: The die-cast metal enclosure is rated IP67, with a double seal lid gasket design for enhanced protection.

Compact Design: Slim profile suitable for 50mm (2in) frame sections or applications with limited space. The head rotates to provide up to 8 actuator entry positions, including front and end entry sensing.



REAR RELEASE option also available - please see Sales Numbers.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

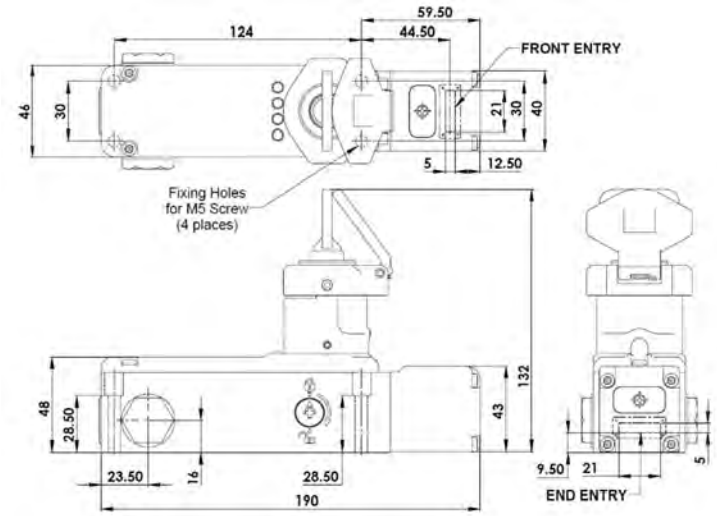
ACTUATOR OPTIONS:

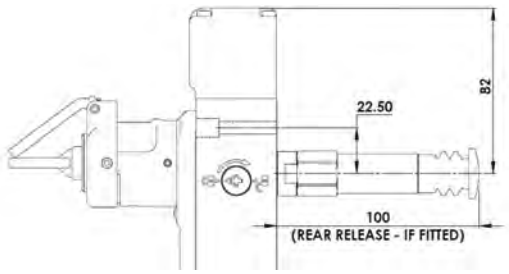
AZ Standard Actuator

HFZ Flexible Actuator

RFID Guard Locking with Trapped Key: **KLM-Z-SKR**

DIMENSIONS:





INDICATION DIAGRAM:

LED 1	Guard State
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2	Input
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3	Output
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4	Solenoid
Solenoid Energised	Red
Solenoid De-energised	Off

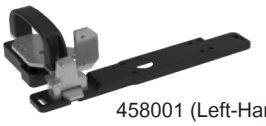
Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.) S+ (500mA Max) (Solenoid)
Safety Circuits	24V 0.2A
Auxiliary Circuits	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N
Operating Frequency	1Hz
Material	Die-Cast Metal (Painted Red)
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

CONNECTIVITY:

Quick Connect (QC) M12 8 Way Male Plug	Terminal	Function	Switch Circuit
2	R+	24V dc	Supply 24V dc
3	0V	0V dc	Supply 24V dc (Ground)
7	11	Safety Input 1	Safety Circuit 1
1	12	Safety Output 1	
4	21	Safety Input 2	Safety Circuit 2
6	22	Safety Output 2	
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out
N/A	34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out
5	S+	Unlocked	Unlock signal apply +24V dc

ACCESSORIES:

458007 (Left-Hand)
458008 (Right-hand)



458001 (Left-Hand)
458002 (Right-hand)

Key sold separately
(see page 263)

527005-L
527005-R

210005

ORDERING:

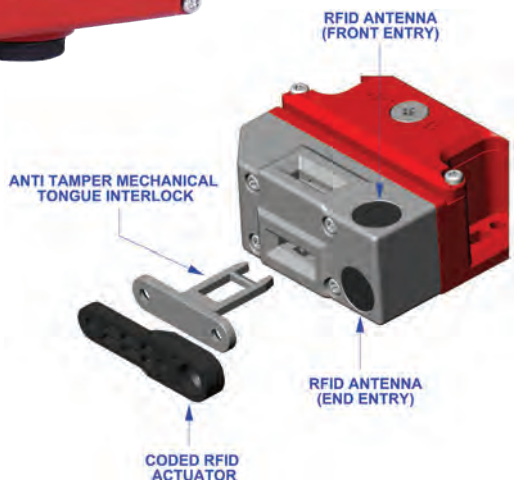
KLM-Z-SKR (Configuration Descriptor)	With Side Manual Release			Without Side Manual Release		
	M20	*1/2" NPT*	*M12-QC*	*M20*	*1/2" NPT*	*QC-M12*
Standard (KLM-Z-SKR)	454004	454005	454006	454304	454305	454306
Rear Release (KLM-Z-SKR-RR)	454014	454015	454016	454314	454314	454316

RFID Guard Locking Switch Metal: **RAMZLOCK KLTM-RFID**

FEATURES:

TYPE 4 INTERLOCK

Spring to lock when actuator is inserted. Energise solenoid to unlock.



Solenoid Locking Door Interlock Safety Switch with Integral Unique RFID Coding featuring Guard Holding up to 3000N (300Kg) (F1Max)

IDEM's KLTM-RFID Series Guard Locking switches are advanced tongue-type safety interlock devices that integrate traditional mechanical anti-tamper technology, featuring IDEM's patented cam system, with uniquely coded RFID non-contact sensor technology in a single unit.

These switches effectively interlock and securely hold guard doors closed, safeguarding operators from exposure to moving or hazardous machinery. They are particularly well-suited for environments that demand high-level anti-tamper protection to prevent accidental or intentional attempts to bypass the interlock system.

To start the machine, both the mechanical and RFID technologies must be engaged.

Built with a rugged metal body, these switches offer a maximum holding force of 3000N, making them ideal for securing medium to large guard doors until all hazards have been addressed.

The IP67-rated enclosure protection is ensured through a double-seal lid gasket design and metal fixings, providing robust durability in challenging environments.

Featuring a low-profile design and industry-standard 73mm center mounting holes, these switches are easily retrofitted to both new and existing guards, particularly in applications where additional anti-tamper measures are required.

CONTACTS:

KLTM-RFID (incorporating RFID coding)

4NC Safety Contacts

1NO Auxiliary PNP Signal (Guard Open)
1NO Auxiliary PNP Signal (Guard Locked)

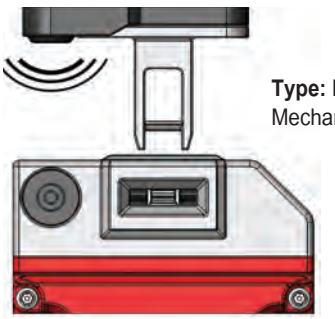
LED1 RED Solenoid Power On
LED2 GREEN Switch Locked
LED2 YELLOW Diagnostic Fault

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Rugged Die Cast Metal Housing with Stainless Steel 316 Head
Will fit on 73mm fixing centres
Connects to most Safety Relays to give up to PLe Cat.4
M23 Quick Connector version available for ease of installation
2 manual override points
LED diagnostics for Solenoid, Lock and faults

ACTUATOR:

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

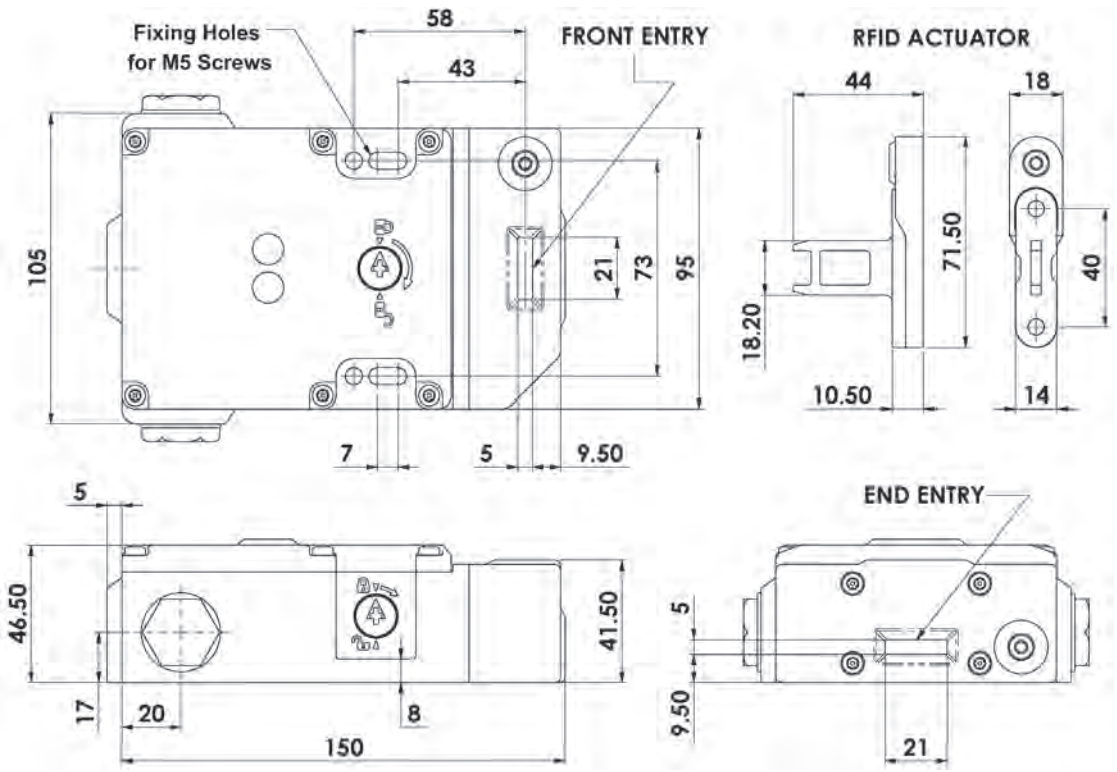


Type: KLTM-RFID
Mechanical and RFID Coding

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
KLTM-RFID Supply/Solenoid Voltage	24Vdc
Solenoid Wattage	12W
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast Metal (painted red)
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

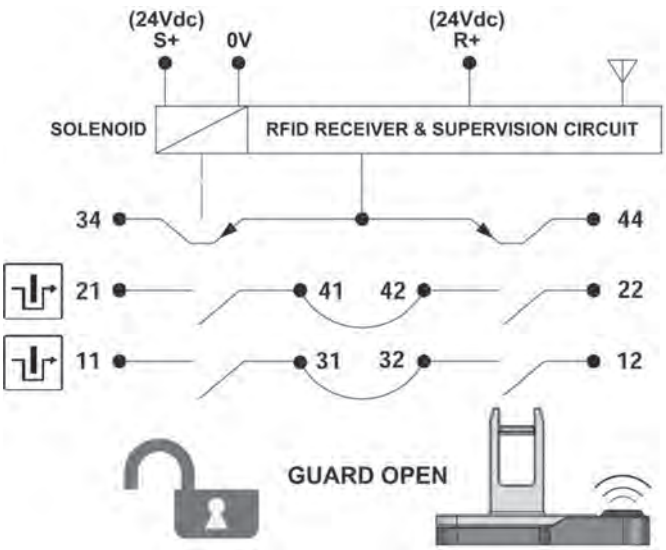
RFID Guard Locking Switch Metal: **RAMZLOCK KLTM-RFID**

DIMENSIONS:

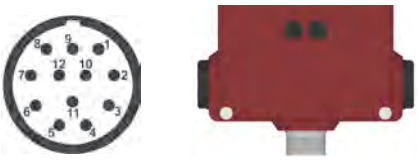


SCHEMATIC CIRCUIT:

KLTM-RFID Version (incorporating RFID Coding)



Connector Rated IP67



Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLTM-RFID Switch Circuit
1	0V
2	R+ 24V dc
3	S+ 24V dc
4 6	11/12
7 8	21/22
5	44
9	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

SALES NUMBER		SUPPLY VOLTAGE/HEAD POSITION	M20	1/2" NPT	QC M23
RAMZLOCK KLTM-RFID Switch Supplied complete with uniquely coded actuator		24V dc Actuator Entry Positions: Front Entry End Entry (Lower)	450201	450202	450203
		24V dc Actuator Entry Positions: Rear Entry Front Entry (Upper)	450301	450302	450303

RFID Guard Locking Switch Stainless Steel: **KLT-SS-RFID**

FEATURES:

TYPE 4 INTERLOCK

IP69K

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Solenoid Locking Door Interlock Safety Switch with Integral Unique RFID Coding featuring Guard Holding up to 3000N (300Kg) (F1Max)

The KLT-SS-RFID Series Guard Locking switches are advanced tongue-type safety interlock devices that combine traditional mechanical anti-tamper technology, utilizing IDEM's patented cam system, with innovative RFID non-contact coded sensor technology in a single unit.

These switches secure and lock guard doors, ensuring operator safety by preventing access to moving or hazardous machinery. They are ideal for environments requiring high-level anti-tamper protection to guard against accidental or intentional bypassing of the interlock system.

To initiate the machine, both the mechanical and RFID technologies must be satisfied.

Constructed with a mirror-polished Stainless Steel 316 body, these switches deliver a maximum holding force of 3000N, making them suitable for keeping medium to large guard doors securely closed until all hazards are eliminated.

The IP69K-rated enclosure protection is achieved through a double-seal lid gasket design and metal fixings, ensuring durability in harsh conditions.

With a low-profile design and 73mm center mounting holes, these switches are easily retrofitted to both new and existing guards, especially in applications requiring enhanced anti-tamper protection.

CONTACTS:

KLT-SS-RFID (incorporating RFID coding)

4NC Safety Contacts

1NO Auxiliary PNP Signal (Guard Open)
1NO Auxiliary PNP Signal (Guard Locked)

LED1 RED Solenoid Power On
LED2 GREEN Switch Locked
LED2 YELLOW Diagnostic Fault

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Mirror Polished (Ra10) Stainless Steel 316
Will fit on 73mm fixing centres
Connects to most Safety Relays to give up to PLe Cat.4
M23 Quick Connector version available for ease of installation
1 manual override points
LED diagnostics for Solenoid, Lock and faults

ACTUATOR

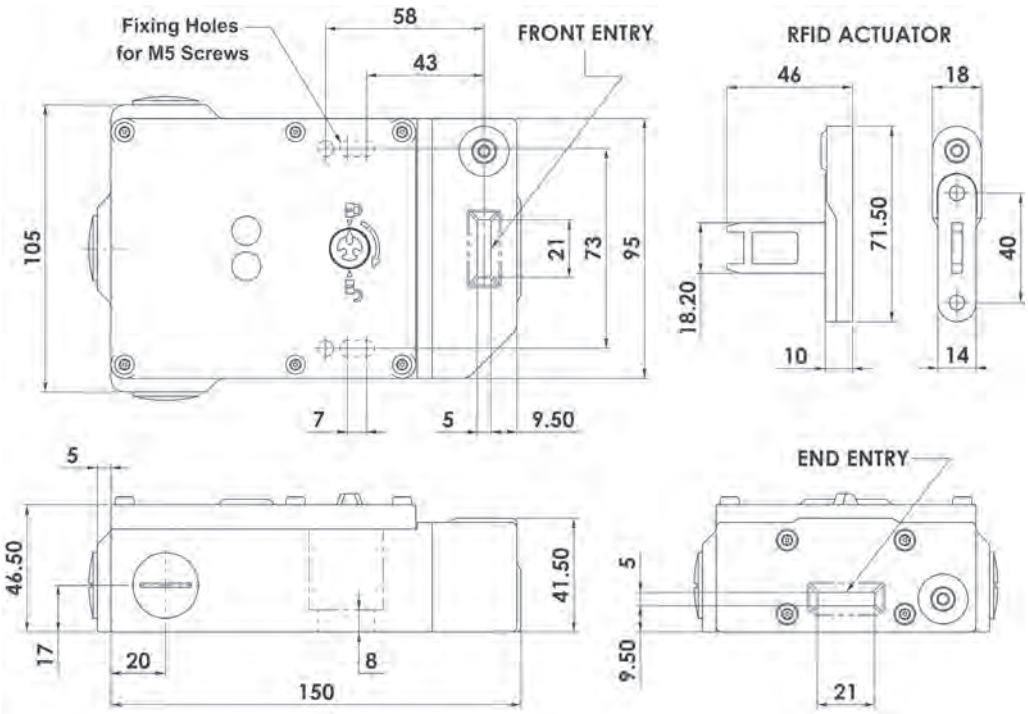
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Type: KLT-SS-RFID
Mechanical and RFID Coding

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
KLT-SS-RFID Supply/Solenoid Voltage	24V dc
Solenoid Wattage	12W
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Polished Stainless Steel 316
Head Material	Polished Stainless Steel 316
Enclosure Protection	IP69K
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

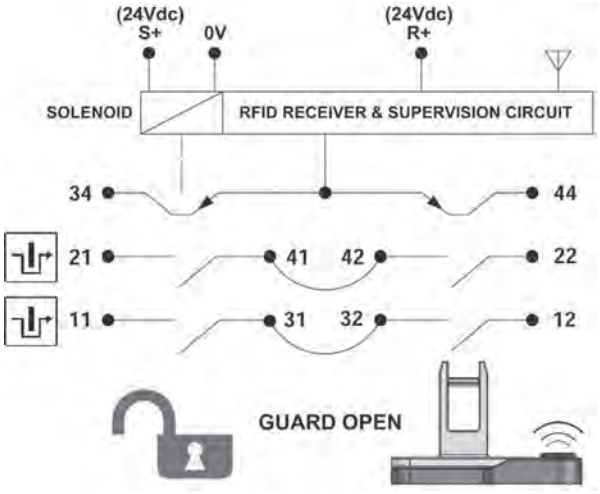
RFID Guard Locking Switch Stainless Steel: **KLT-SS-RFID**

DIMENSIONS:



SCHEMATIC CIRCUIT:

KLT-SS-RFID Version (incorporating RFID Coding)



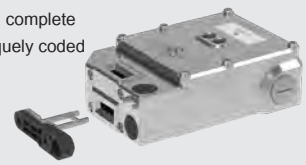
Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLT-SS-RFID Switch Circuit
1	0V
2	R+ 24V dc
3	S+ 24V dc
4 6	11/12
7 8	21/22
5	44
9	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER		SUPPLY VOLTAGE/HEAD POSITION	M20	1/2" NPT	QC M23
KLT-SS-RFID Switch Supplied complete with uniquely coded actuator 		24V dc Actuator Entry Positions: Front Entry End Entry (Lower)	451201	451202	451203
Manual Release Key (order separately - not supplied with switches) Sales Number: 140123		24V dc Actuator Entry Positions: Rear Entry Front Entry (Upper)	451301	451302	451303

Guard Locking Switch Plastic: **LEILOCK KL1-P**

FEATURES:

STAINLESS STEEL HEAD

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 1400N (140Kg) (F1Max)

The KL1-P Series Guard Locking switches have a compact plastic body design and have been developed with a holding force of 1400N to keep small to medium guard doors closed until hazards have been removed.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

The KL1-P switch has a low profile and fixing holes are on an industry standard 40mm centre to enable easy fitting to new or existing guards (or where replacement of a non locking tongue switch is required).

The head will rotate to provide up to 4 actuator entry positions.

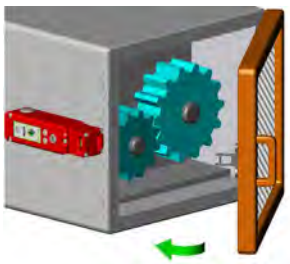
CONTACTS/LED DIAGNOSTICS:

STANDARD - Version 1:

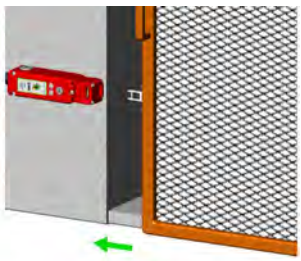
2NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Lock Open)
LED1 Solenoid Power

EXTRA LED2 - Version 2:

2NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
LED2 Lock Status:
Closed and Locked
LED1 Solenoid Power



Hinged Guard



Sliding Guard

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
High specification polyester housing with Stainless Steel Head
Connects to most Safety Relays to give up to PLe Cat.4
Will fit on 40mm fixing centres
2 manual override points
Universal M12 8 way microlock
Quick Connector version available for ease of installation

ACTUATOR OPTIONS (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
A	F	HF	HFH

ACCESSORIES (see p155)

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

INSERTION OF ACTUATOR

6.0 5.0 0mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

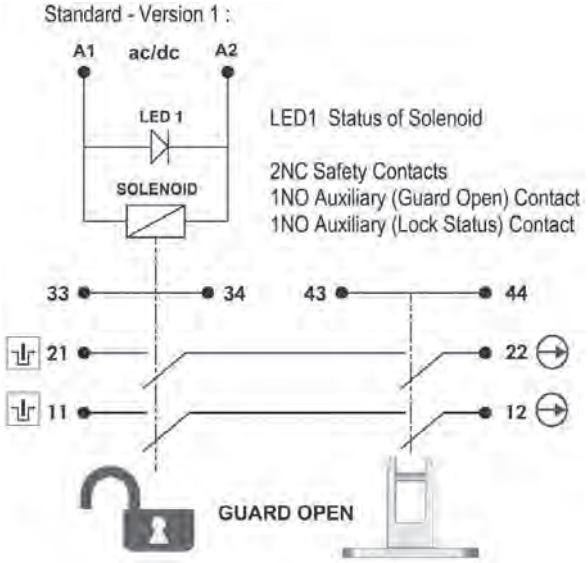
Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

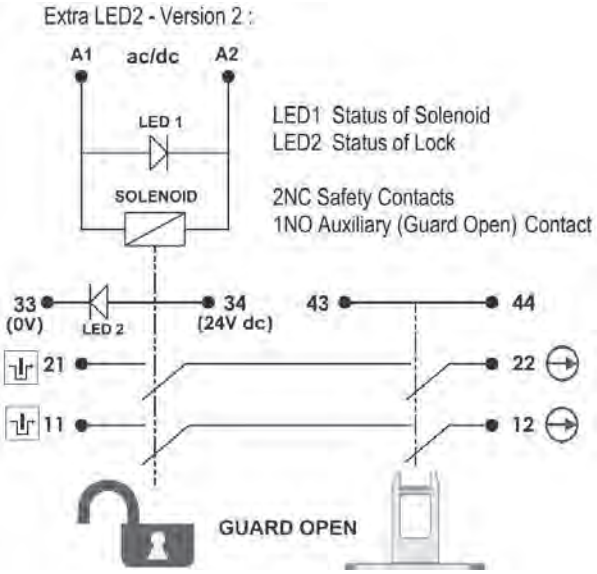
Safety Classification and Reliability Data:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED 2 Version Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 1400N Fzh 1076N
Body Material	Polyester
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

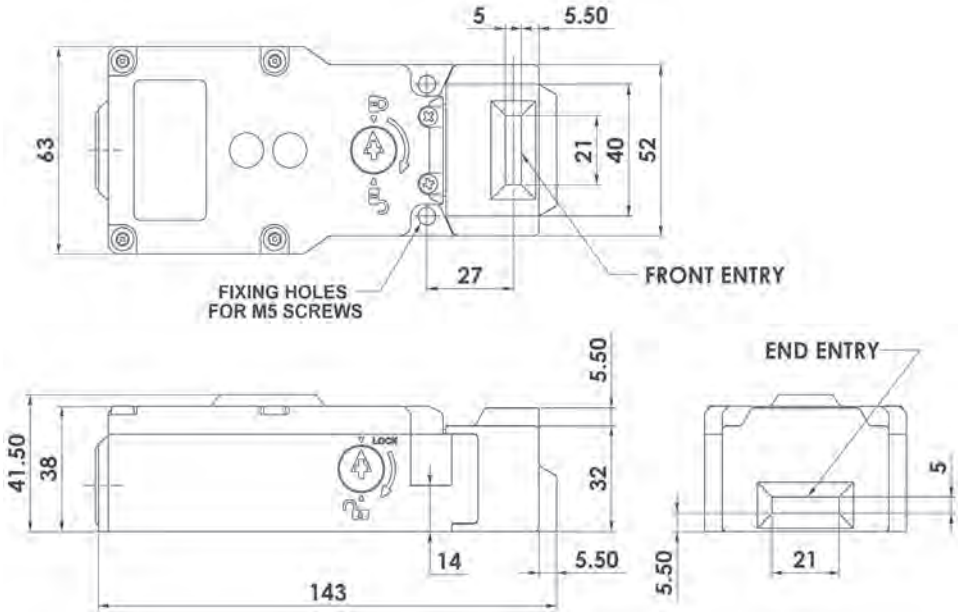
Guard Locking Switch Plastic: **LEILOCK KL1-P**

SCHEMATIC CIRCUITS:





DIMENSIONS:

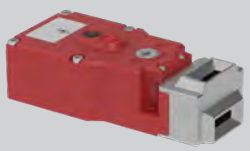


FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch	Switch Circuit
2 7	A1 A2
4 6	11/12
8 5	21/22
3 1	43/44

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

STANDARD VERSION 1
(Solenoid LED only)



EXTRA LED VERSION 2
(Lock Status)

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M12	M20	1/2" NPT
Kobra KL1-P Switch	24V ac/dc	221001	221002	221003	221301	221302
Kobra KL1-P Switch	110V ac	221004	221005	221006	221304	221305
Kobra KL1-P Switch	230V ac	221007	221008	221009	221307	221308

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number

Ordering Examples:
Kobra KL1-P 24V Solenoid M20 Conduit LED2 Version Heavy Flexible Actuator: Sales Number: 221301-HF
Kobra KL1-P 110V Solenoid 1/2" NPT Conduit Standard Version Standard Actuator: Sales Number: 221005-A

Guard Locking Switch Plastic: **SEZYLOCK KLP**

FEATURES:

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 2000N (200Kg) (F1Max)

The KLP Series of Guard Locking switches have a slim plastic body design and have been developed with a holding force of 2000N to keep medium guard doors closed until hazards have been removed.

The high specification polyester body has a high resistance to chemical and washdown solutions and the stainless steel head provides a durable robust protection of the cam interlock.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a slim profile and are designed to fit on 50mm (2") frame sections or to applications where space is restricted.

The Head will rotate to provide up to 8 actuator entry positions.

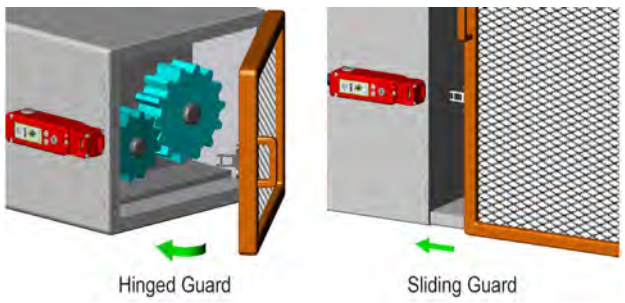
An LED is available to indicate Lock Status.

Accessories include a Sliding Handle Gate Bolt and lock off actuators.

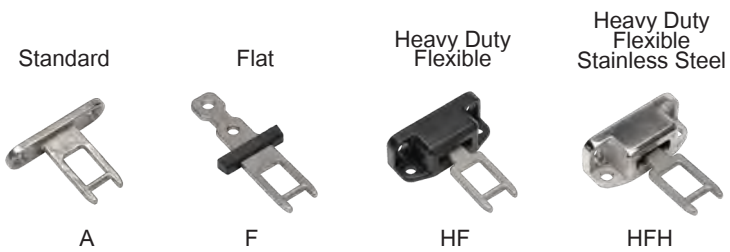
FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
High specification polyester housing with Stainless Steel Head
Connects to most Safety Relays to give up to PLe Cat.4
Will fit on 50mm (2") frame sections or where space is restricted
Quick Connector version available for ease of installation

2NC Safety Circuits:
Solenoid/Lock and Actuator/Guard wired in series
1NO Auxiliary Circuit:
For indication of Actuator Status
1NO Auxiliary Circuit:
For Lock Status (selectable with LED2)



ACTUATOR OPTIONS (see p154)



INSERTION OF ACTUATOR

	6.0	5.0	0mm
11/12	Open		
21/22	Open		
33/34			Open
43/44		Open	

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

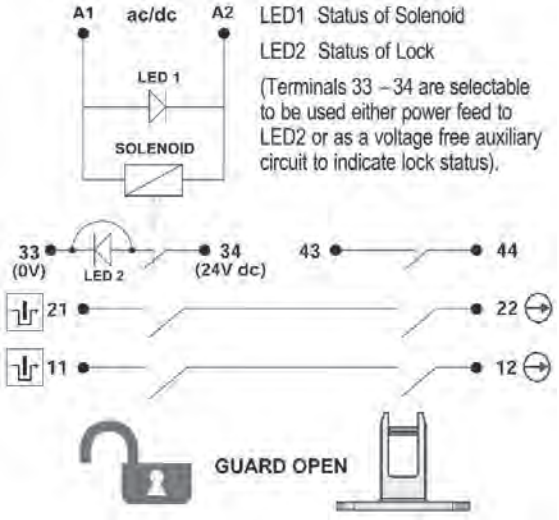
Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

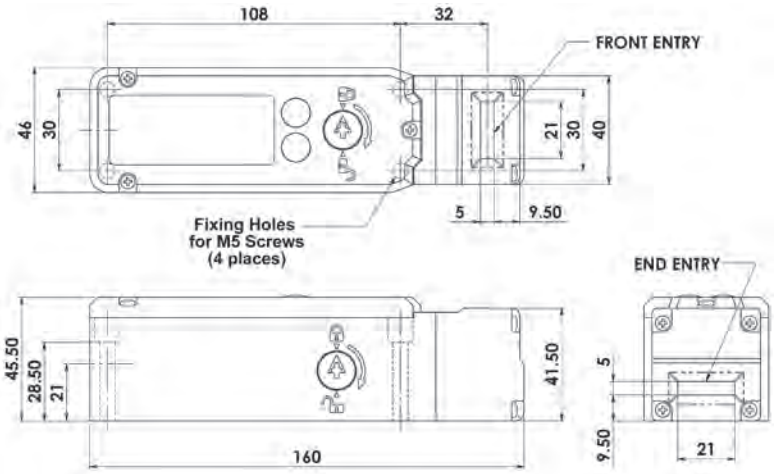
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED 2 Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 2000N Fzh 1538N
Body Material	Polyester
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Plastic: **SEZYLOCK KLP**

SCHEMATIC CIRCUIT:



DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p155)

GATE BOLT LOCK

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

Painted yellow and supplied with plastic handle and flat actuator.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9 10	33/34

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

		STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KLP Switch	24V ac/dc	201001	201002	201003	201401	201402	201403	201301	201302	201303
Kobra KLP Switch	110V ac	201004	201005	201006	201404	201405	201406	201304	201305	201306
Kobra KLP Switch	230V ac	201007	201008	201009	201407	201408	201409	201307	201308	201309
Kobra Actuator	Standard	Add A to Sales Part Number								
Kobra Actuator	Flat	Add F to Sales Part Number								
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number								
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number								

Ordering Examples:

Kobra KLP 24V Solenoid M20 Conduit Standard Manual Release Heavy Flexible Actuator: Sales Number: 201001-HF

Kobra KLP 110V Solenoid 1/2" NPT Conduit Manual Release Lid only Standard Actuator: Sales Number: 201405-A

Guard Locking Switch Metal: **SAMLOCK KLM**

FEATURES:

Spring to lock when actuator is inserted. Energise solenoid to unlock.

STAINLESS STEEL HEAD

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 3000N (300Kg) (F1Max)

The KLM Series Guard Locking safety switches feature rugged die-cast housings and are engineered with a high holding force of 3000N, ensuring that medium to large guard doors remain securely closed until all hazards are eliminated.

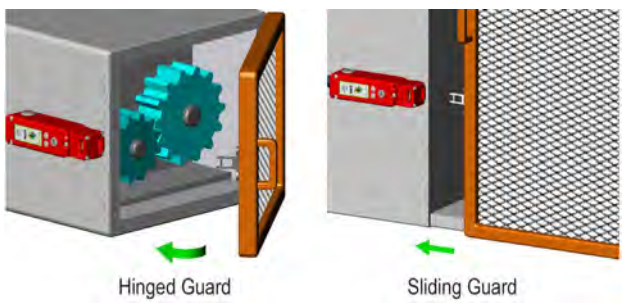
With a slim profile, these switches are designed to fit on 50mm (2") frame sections or in applications where space is limited.

The head can rotate to offer up to 8 actuator entry positions, providing flexibility in installation.

They are equipped with two independent contact blocks that separately monitor the Lock Status and Door Status, with an optional LED available to indicate Lock Status.

Versions of the KLM Series are available with a Rear Manual Escape Release for emergency situations.

Accessories include a Sliding Handle Bolt, ideal for securing heavy or hinged doors, as well as lock-off actuators.



FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Head version available
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation

4NC Safety Circuits:
2 Solenoid/Lock 2 Actuator/Guard
1NO Auxiliary Circuit:
For indication of Actuator Status (guard open)
1NO Auxiliary Circuit:
For Lock Status (selectable with LED2)

INSERTION OF ACTUATOR

6.0 5.0 0mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

ACTUATOR OPTIONS (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
A	F	HF	HFH

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

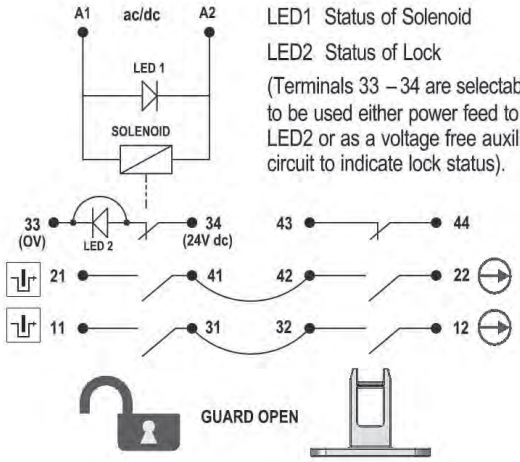
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED 2 Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast (painted red)
Head Material	Die Cast (painted red) or Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Metal: **SAMLOCK KLM**

SCHEMATIC CIRCUIT:

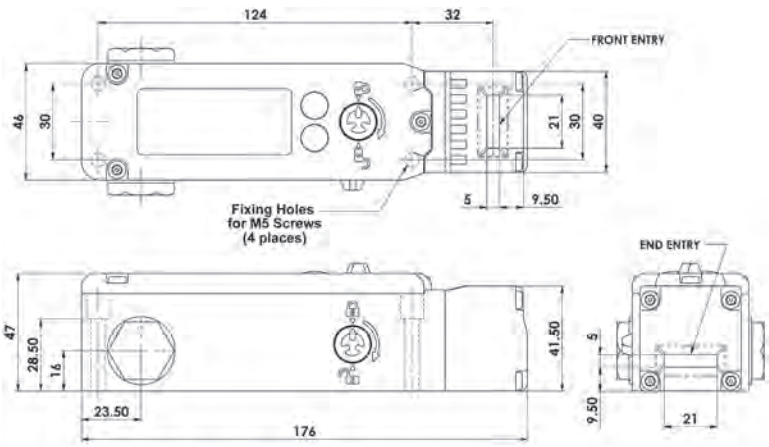


LED1 Status of Solenoid

LED2 Status of Lock

(Terminals 33 – 34 are selectable to be used either power feed to LED2 or as a voltage free auxiliary circuit to indicate lock status).

DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p155)

Sliding Handle Gate Bolt with Lock Off Feature

GATE BOLT LOCK

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

Painted yellow and comes with plastic handle and flat actuator.

REAR MANUAL RELEASE VERSION

Rear push button manual release version provides a means of escape from inside the guarded area.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

		STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KLM Switch	24V ac/dc	202001	202002	202003	202401	202402	202403	202301	202302	202303
Kobra KLM Switch	110V ac	202004	202005	202006	202404	202405	202406	202304	202305	202306
Kobra KLM Switch	230V ac	202007	202008	202009	202407	202408	202409	202307	202308	202309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number
Stainless Steel Head Versions		Add SS to Sales Part Number

Ordering Examples:

Kobra KLM 24V Solenoid M20 Conduit Standard Manual Release Stainless Steel Head Flat Actuator: Sales Number: 202001-SS-F

Kobra KLM 110V Solenoid 1/2" NPT Conduit No Manual Release Standard Actuator: Sales Number: 202305-A

Guard Locking Switch Metal: **RAMZLOCK KLTM**

FEATURES:

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Solenoid Locking Door Interlock Safety Switch
Guard Holding up to 3000N (300Kg) (F1Max)

The KLTM Series Guard Locking switch is a tongue-type safety interlock device that integrates traditional mechanical anti-tamper technology, utilizing IDEM Safety Switches' patented cam system.

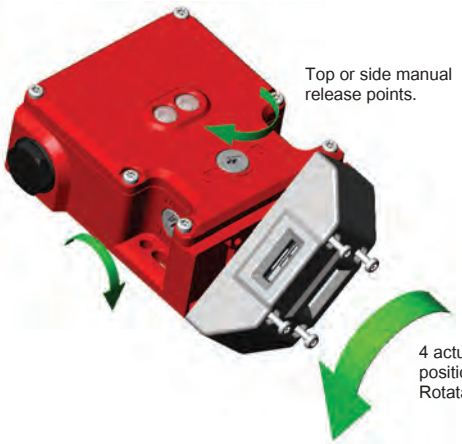
These switches securely interlock and hold guard doors closed, safeguarding operators from moving or hazardous machinery. They are particularly well-suited for applications where high anti-tamper protection is essential to prevent accidental or intentional attempts to bypass the interlock.

The KLTM solenoid locking switch features a robust metal body, designed to deliver a maximum holding force of 3000N, ensuring that medium to large guard doors remain securely closed until all hazards have been removed.

With IP67 enclosure protection, provided by a specialized double-seal lid gasket design and metal fixings, these switches are built to withstand challenging environments.

The KLTM has a low-profile design, with industry-standard 73mm center mounting holes, allowing for easy retrofitting to both new and existing guards, especially in scenarios requiring enhanced anti-tamper measures.

The head is designed to rotate, offering up to 4 actuator entry positions for flexible installation.



Top or side manual release points.

4 actuator entry positions. Rotatable head.

CONTACTS:

KLTM

4NC Safety Contacts

1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Guard Locked)
(selectable option for LED2 Guard Locked)

LED1 RED Solenoid Power On
LED2 GREEN Switch Locked (if selected)

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
Rugged Die Cast Metal Housing with Stainless Steel 316 Head
Will fit on 73mm fixing centres
Connects to most Safety Relays to give up to PLe Cat.4
M23 Quick Connector version available for ease of installation
2 manual override points
LED diagnostics for Solenoid, Lock and faults

ACTUATOR OPTIONS (see p154)

Standard

A

Flat

F

Heavy Duty Flexible

HF

Heavy Duty Flexible Stainless Steel

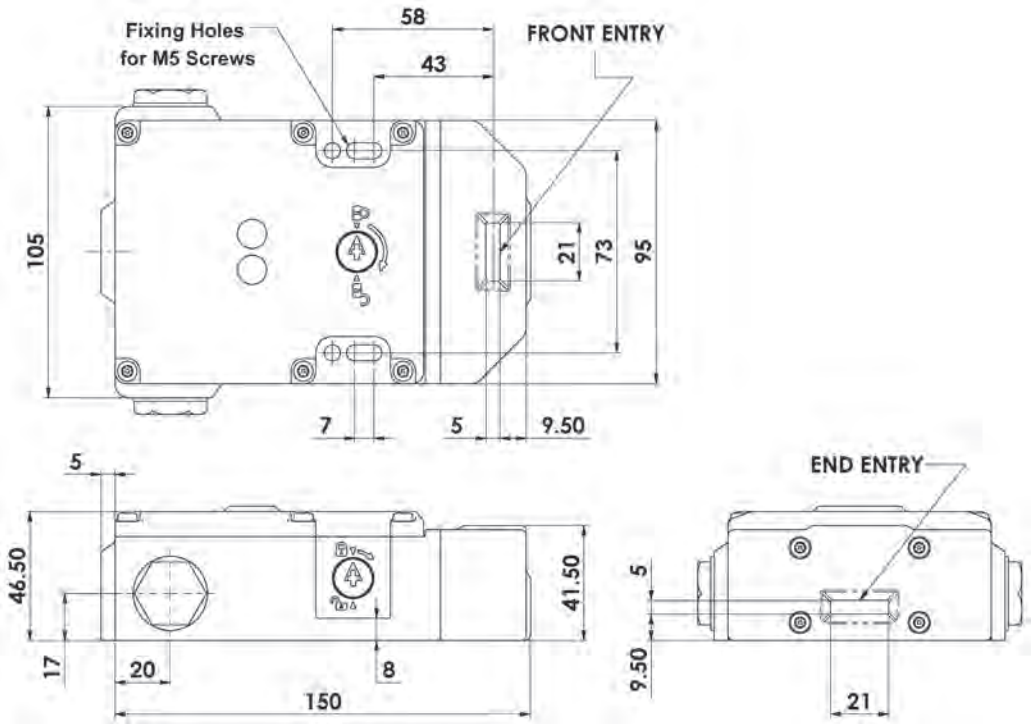
HFH

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Technical Specification:	
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast Metal (painted red)
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

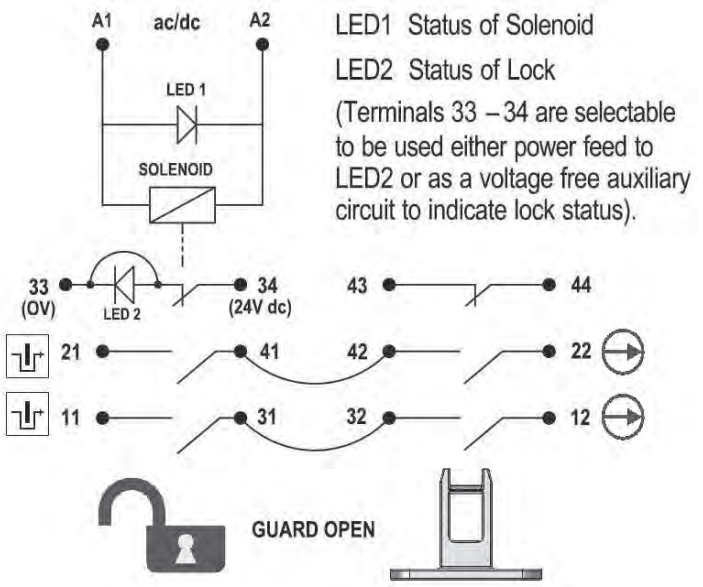
Guard Locking Switch Metal: **RAMZLOCK KLTM**

DIMENSIONS:



SCHEMATIC CIRCUIT:

KLTM Version (Mechanical only)



Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLTM Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
RAMZLOCK KLTM Switch	24V ac/dc	450001	450002	450003
RAMZLOCK KLTM Switch	110V ac	450004	450005	450006
RAMZLOCK KLTM Switch	230V ac	450007	450008	450009
RAMZLOCK KLTM Actuator	Standard	Add A to Sales Part Number		
RAMZLOCK KLTM Actuator	Flat	Add F to Sales Part Number		
RAMZLOCK KLTM Actuator	Heavy Duty Flexible	Add HF to Sales Part Number		
RAMZLOCK KLTM Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number		

Ordering Example: KLTM M20 24V ac/dc Heavy Duty Flexible Actuator: Sales Number: 450001-HF

Guard Locking Switch Stainless Steel: **RYANLOCK KL1-SS**

FEATURES:

IP69K

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 2000N (200Kg) (F1Max)

The KL1-SS Series Guard Locking switches have a rugged Stainless Steel 316 body and have been developed with a holding force of 2000N to keep medium to large guard doors closed until hazards have been removed.

They are designed to cope with the rigorous applications of the Food Processing, Packaging, Pharmaceutical and Petro-Chemical Industries.

They have IP69K enclosure protection (maintained by a double seal lid gasket and seals) and can be high pressure hosed with detergent at high temperature.

They have a low profile compact body profile with fixing holes on an industry standard 40mm centre to enable easy fitting to new or existing guards (or where replacement of a non locking tongue switch is required).

The Head will rotate to provide up to 4 actuator entry positions.

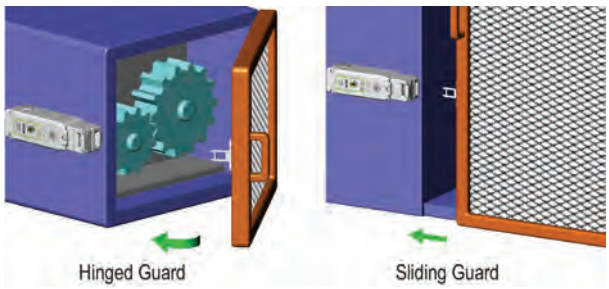
CONTACTS/LED DIAGNOSTICS:

STANDARD - Version 1:

2NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Lock Open)
LED1 Solenoid Power

EXTRA LED2 - Version 2:

2NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
LED2 Lock Status:
Closed and Locked
LED1 Solenoid Power



FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Body and Head
Connects to most Safety Relays to give up to PLe Cat.4
Universal 8 Way MicroLock Connector version available
2 manual override points
IP69K suitable for SIP and CIP Processes
Will fit on 40mm fixing centres

ACTUATOR OPTIONS (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
A	F	HF	HFH

ACCESSORIES (see p155)

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

INSERTION OF ACTUATOR

6.0 5.0 0mm

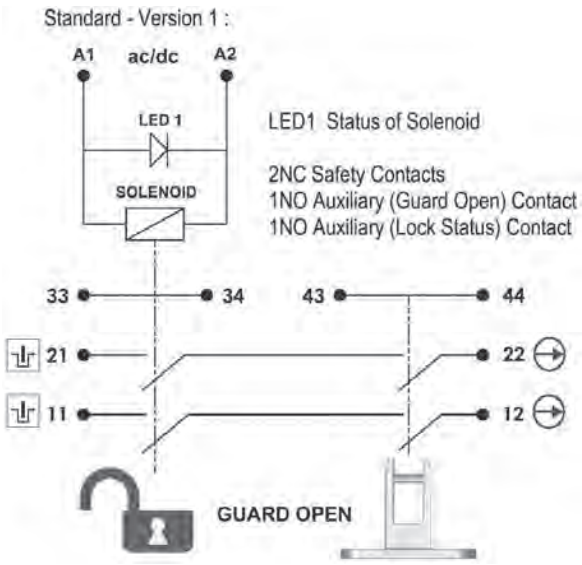
11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

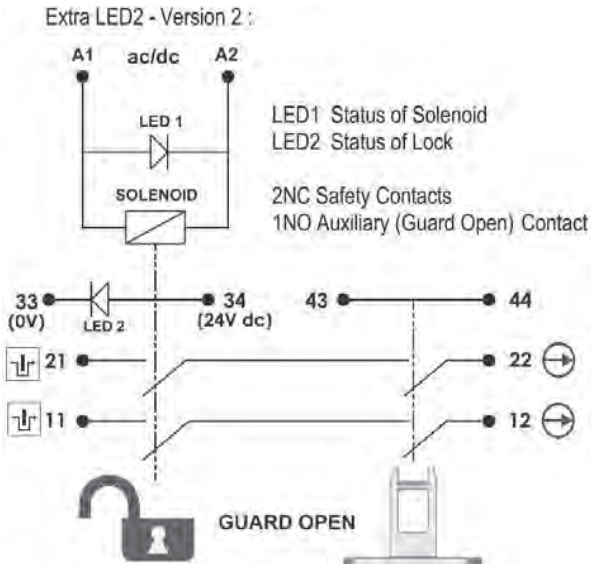
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Technical Specification:	
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 2000N Fzh 1538N
Body Material	Stainless Steel 316
Enclosure Protection	IP69K IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

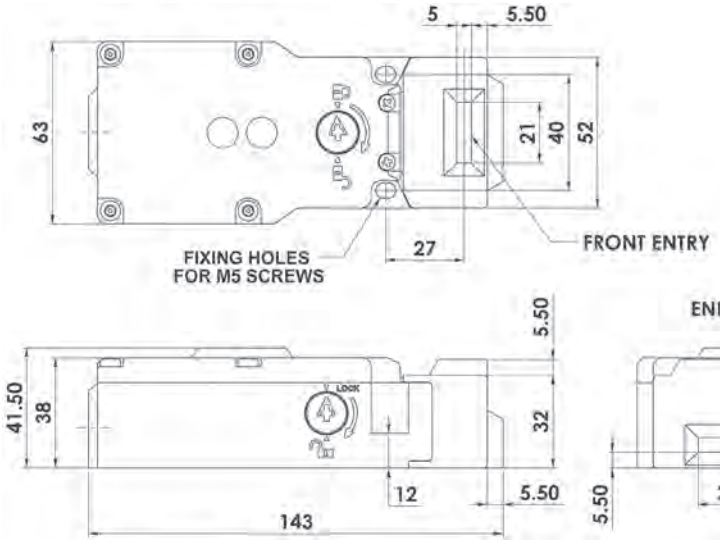
Guard Locking Switch Stainless Steel: **RYANLOCK KL1-SS**

SCHEMATIC CIRCUITS:





DIMENSIONS:

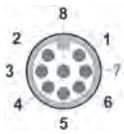


QC Quick Connect
M12 8 Pin Flying Lead 250mm (10")
Available on Standard Version only
Connector Rated IP67

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.



Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch	Switch Circuit
2 7	A1 A2
4 6	11/12
8 5	21/22
3 1	43/44

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

STANDARD VERSION 1 (Solenoid LED only)

EXTRA LED VERSION 2 (Lock Status)

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M12	M20	1/2" NPT
Kobra KL1-SS Switch	24V ac/dc	220001	220002	220003	220301	220302
Kobra KL1-SS Switch	110V ac	220004	220005	220006	220304	220305
Kobra KL1-SS Switch	230V ac	220007	220008	220009	220307	220308
Kobra Actuator	Standard	Add A to Sales Part Number				
Kobra Actuator	Flat	Add F to Sales Part Number				
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number				
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number				

Ordering Examples:
Kobra KL1-SS 24V Solenoid M20 Conduit LED2 Version Heavy Flexible Actuator: Sales Number: 220301-HF
Kobra KL1-SS 110V Solenoid 1/2" NPT Conduit Standard Version Standard Actuator: Sales Number: 220005-A

Guard Locking Switch Stainless Steel: **HYGIELOCK KL3-SS**

FEATURES:

IP69K

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Manual override available on the lid and side. Requires manual release key.

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 3000N (300Kg) (F1Max)

The KL3-SS Series guard locking switches have a rugged Stainless Steel 316 body and have been developed with a holding force of 3000N to keep medium to large guard doors closed until hazards have been removed.

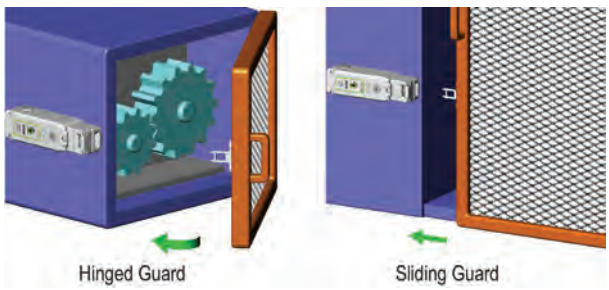
They are designed in accordance with EHEDG guidelines for hygienic design (EHEDG European Hygienic Engineering & Design Group). The mirror-polished surface to Ra10 is designed to cope with direct food splash and cleaning found in the tough applications of the Food Processing Industries.

They have IP69K enclosure protection and can be high pressure hosed with detergent at high temperature.

Designed with slim body under 50mm wide the KL3-SS series can be fitted to 50mm (2") frame sections or to applications where space is restricted.

The head will rotate to provide up to 8 actuator entry positions.

2 Manual override points are provided (by using anti-tamper key).

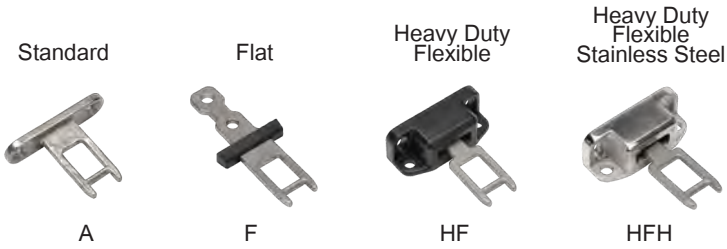


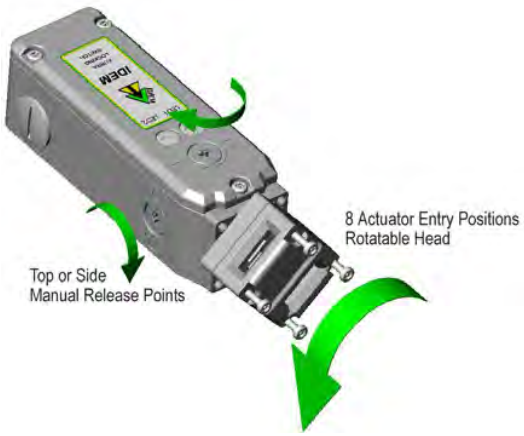
CONTACTS/LED DIAGNOSTICS:

A unique mechanical design featuring 2 independent contact blocks gives a high function and diagnostic specification.

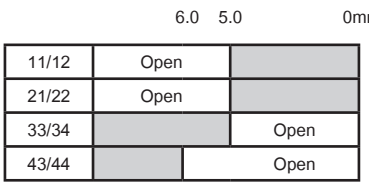
4NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
LED1 Solenoid Power
LED2 Lock Status indication or 1NO Auxiliary Contact (Lock Open)

ACTUATOR OPTIONS (see p154)





INSERTION OF ACTUATOR



For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

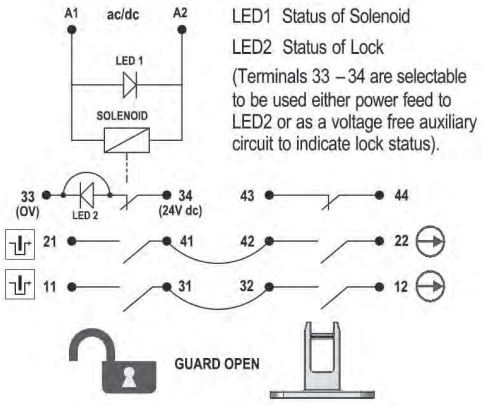
FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Body and Head - Mirror Polished to Ra10
Connects to most Safety Relays to give up to PLe Cat.4
IP69K suitable for SIP and CIP Processes
Will fit on 50mm frame sections or where space is restricted
4NC Safety Contacts independently selectable

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED2 Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Stainless Steel 316
Enclosure Protection	IP69K IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Stainless Steel: **HYGIELOCK KL3-SS**

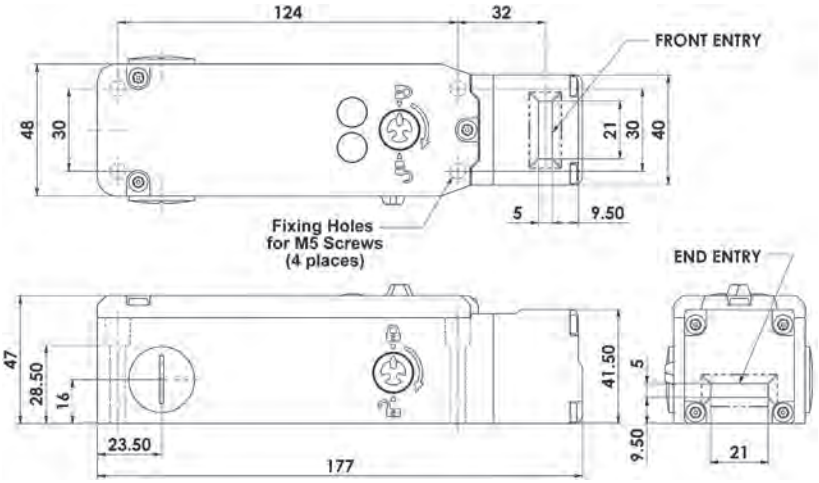
SCHEMATIC CIRCUIT & DIMENSIONS:



LED1 Status of Solenoid

LED2 Status of Lock

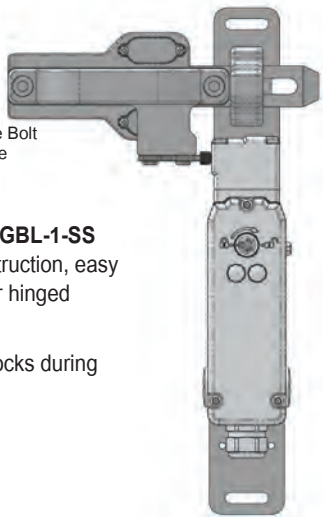
(Terminals 33 – 34 are selectable to be used either power feed to LED2 or as a voltage free auxiliary circuit to indicate lock status).



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
Earth	12

ACCESSORIES (see p151)



Sliding Handle Gate Bolt with Lock Off feature

GATE BOLT LOCK GBL-1-SS

Stainless Steel construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

STANDARD MANUAL RELEASE LID AND SIDE

MANUAL RELEASE LID ONLY (Not SIDE)

NO MANUAL RELEASE FITTED (Blanked)

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KL3-SS Switch	24V ac/dc	205001	205002	205003	205401	205402	205403	205301	205302	205303
Kobra KL3-SS Switch	110V ac	205004	205005	205006	205404	205405	205406	205304	205305	205306
Kobra KL3-SS Switch	230V ac	205007	205008	205009	205407	205408	205409	205307	205308	205309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number

Manual Release Key
(order separately - not supplied with switches)

Sales Number: 140123

Ordering Examples:
24V Solenoid M20 Conduit Standard Manual Release Flat Actuator: Sales Number: 205001-F
110V Solenoid 1/2" NPT Conduit No Manual Release Standard Actuator: Sales Number: 205305-A

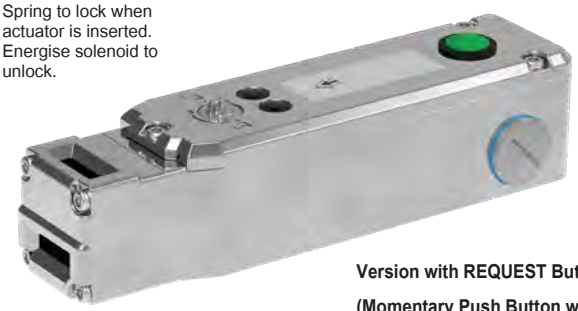
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Guard Locking Switch Stainless Steel: **HYGIELOCK KL4-SS**

FEATURES:

IP69K

Spring to lock when actuator is inserted. Energise solenoid to unlock.



Version with REQUEST Button

(Momentary Push Button with 1 set of changeover contacts in Lid Assembly)

Version without Request button.

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 3000N (300Kg) (F1Max)

The KL4-SS Series Guard Locking switches have a rugged Stainless Steel 316 body and have been developed with a holding force of 3000N to keep medium to large guard doors closed until hazards have been removed.

They are designed to cope with the rigorous applications of the Food Processing, Packaging, Pharmaceutical and Petro-Chemical Industries.

They have IP69K enclosure protection and can be high pressure hosed with detergent at high temperature.

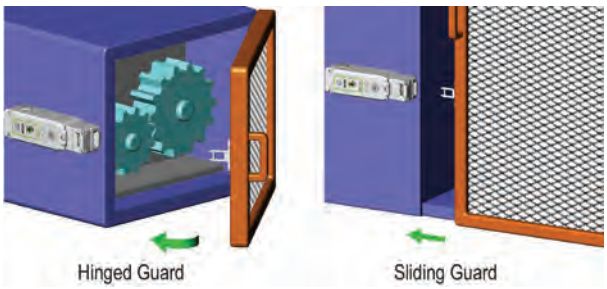
With a slim body design of under 50mm wide they can be fitted to 50mm (2") frame sections or to applications where space is restricted. The Head will rotate to provide up to 8 actuator entry positions.

2 manual override points are provided (this is achieved by using an anti-tamper key).

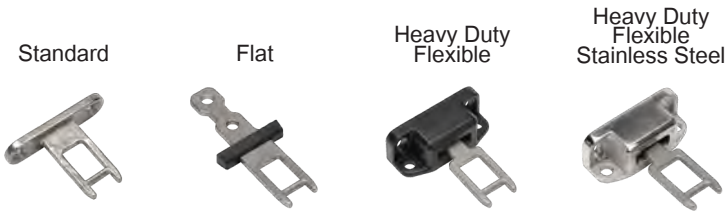
CONTACTS/LED DIAGNOSTICS:

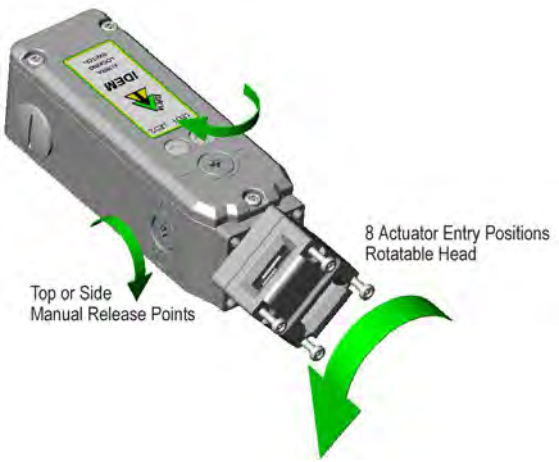
A unique mechanical design featuring 2 independent contact blocks gives a high function and diagnostic specification.

4NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
LED1 Solenoid Power
LED2 Lock Status indication or 1NO Auxiliary Contact (Lock Open)



ACTUATOR OPTIONS (see p154)





FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Housings
Connects to most Safety Relays to give up to PLe Cat.4
IP69K suitable for SIP and CIP Processes
Will fit on 50mm frame sections or where space is restricted
4NC Safety Contacts independently selectable

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Technical Specification:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED2 Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Stainless Steel 316
Enclosure Protection	IP69K IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

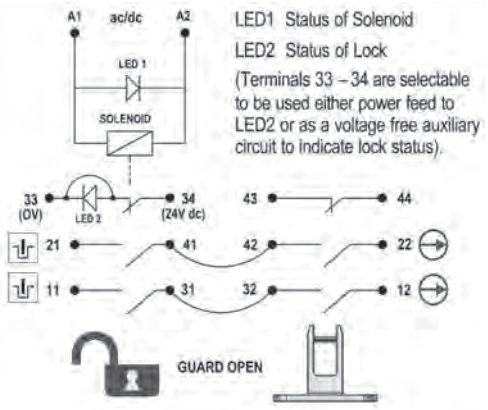
INSERTION OF ACTUATOR

	6.0	5.0	0mm
11/12	Open		
21/22	Open		
33/34			Open
43/44			Open

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Guard Locking Switch Stainless Steel: **HYGIELOCK KL4-SS**

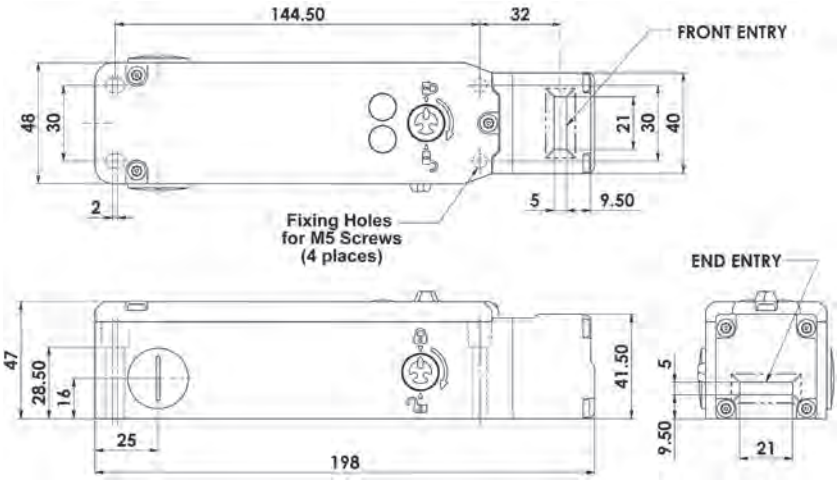
SCHEMATIC CIRCUIT & DIMENSIONS:



LED1 Status of Solenoid

LED2 Status of Lock

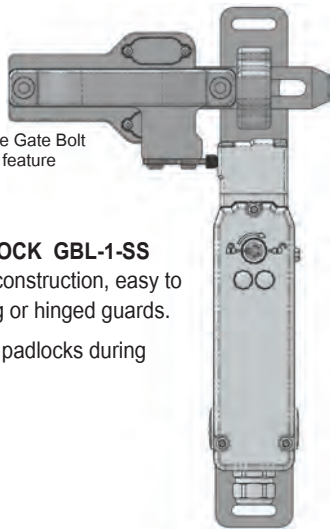
(Terminals 33 – 34 are selectable to be used either power feed to LED2 or as a voltage free auxiliary circuit to indicate lock status).



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
Earth	12

ACCESSORIES (see p151)



Sliding Handle Gate Bolt with Lock Off feature

GATE BOLT LOCK GBL-1-SS

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

		STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
SALES NUMBER	**SOLENOID VOLTAGE**	**M20**	**1/2" NPT**	**QC M23**	**M20**	**1/2" NPT**	**QC M23**	**M20**	**1/2" NPT**	**QC M23**
Kobra KL4-SS Switch	24V ac/dc	209001	209002	209003	209401	209402	209403	209301	209302	209303
Kobra KL4-SS Switch	110V ac	209004	209005	209006	209404	209405	209406	209304	209305	209306
Kobra KL4-SS Switch	230V ac	209007	209008	209009	209407	209408	209409	209307	209308	209309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number
Momentary Request Push Button (fitted to Lid) 1 x Changeover Contact	Common - Closed/Open	Add PB to Sales Part Number
Manual Release Key (order separately - not supplied with switches) Sales Number: 140123		**Ordering Examples:** 24V Solenoid M20 Conduit Standard Manual Release Flat Actuator: Sales Number: 209001-F 110V Solenoid 1/2" NPT Conduit No Manual Release Push Button Standard Actuator: Sales Number: 209305-A-PB 24V Solenoid M20 Conduit No Manual Release S/Steel Heavy Flexible Actuator: Sales Number: 209301-HFH

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Guard Locking Switch Stainless Steel: **KLT-SS**

FEATURES:

Spring to lock when actuator is inserted. Energise solenoid to unlock.

IP69K

Solenoid Locking Door Interlock Safety Switch with Guard Holding up to 3000N (300Kg) (F1Max)

The KLT-SS Series Guard Locking switch is a tongue-type safety interlock device that incorporates traditional mechanical anti-tamper technology, utilizing IDEM Safety Switches' patented cam system.

These switches effectively interlock and secure guard doors, ensuring operator safety by preventing access to moving or hazardous machinery. They are especially suited for applications requiring a high level of anti-tamper protection to prevent accidental or intentional bypassing of the interlock.

The KLT-SS Solenoid Locking Switch features a mirror-polished Stainless Steel 316 body, designed to deliver a maximum holding force of 3000N, ensuring medium to large guard doors remain securely closed until all hazards are eliminated.

With IP69K enclosure protection, achieved through a double-seal lid gasket design and metal fixings, these switches are built for durability in harsh environments.

The KLT-SS has a low-profile design, with industry-standard 73mm center mounting holes, making it easy to retrofit to both new and existing guards, particularly in situations where additional anti-tamper measures are needed.

The head is designed to rotate, allowing for up to 4 actuator entry positions, providing flexibility in installation.

CONTACTS:

KLT-SS

4NC Safety Contacts

1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Guard Locked)
(selectable option for LED2 Guard Locked)

LED1 RED Solenoid Power On
LED2 GREEN Switch Locked (if selected)

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
Mirror Polished (Ra10) Stainless Steel 316
Will fit on 73mm fixing centres
Connects to most Safety Relays to give up to PLe Cat.4
M23 Quick Connector version available for ease of installation
1 manual override points
LED diagnostics for Solenoid, Lock and faults

ACTUATOR OPTIONS (see p154)

Standard

A

Flat

F

Heavy Duty Flexible

HF

Heavy Duty Flexible Stainless Steel

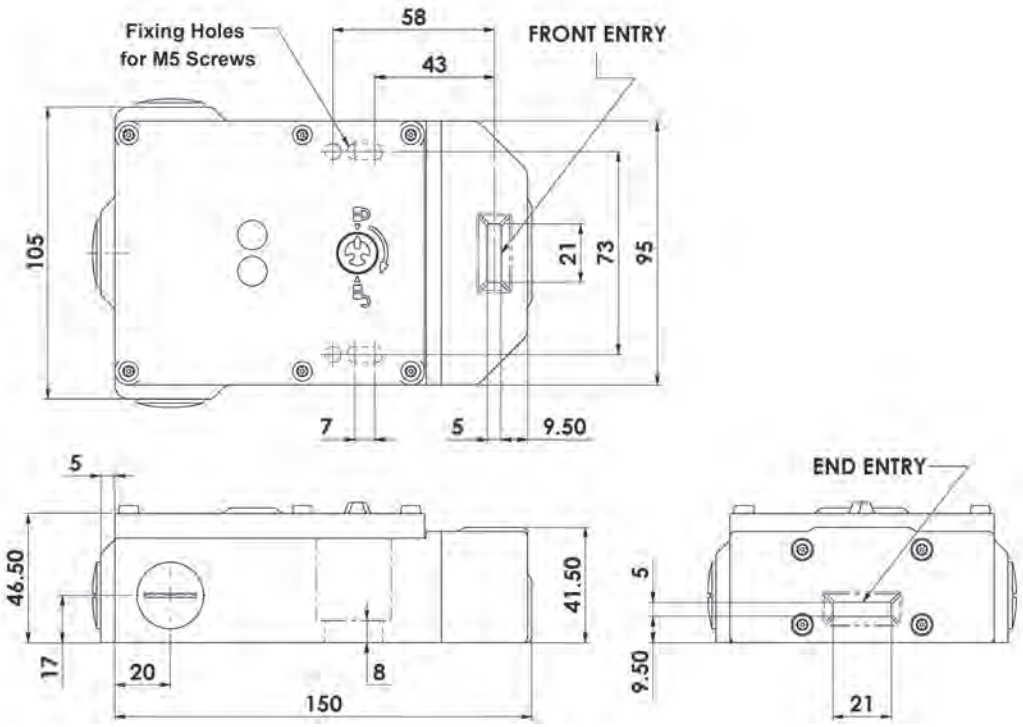
HFH

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Technical Specification:	
Solenoid Voltage (by Sales Number)	24V ac/dc or 110V ac or 230V ac
Solenoid Wattage	12W
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Polished Stainless Steel 316
Head Material	Polished Stainless Steel 316
Enclosure Protection	IP69K
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

Guard Locking Switch Stainless Steel: **KLT-SS**

DIMENSIONS:

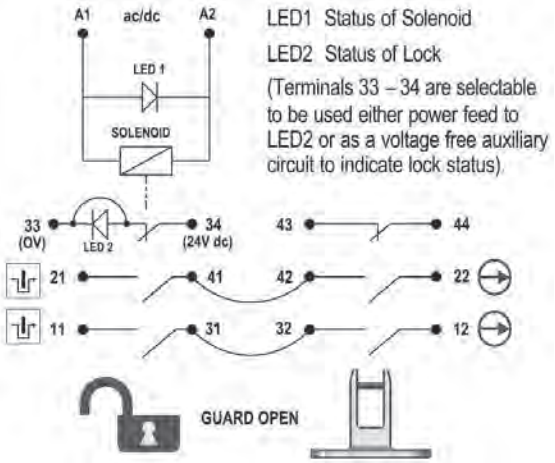


Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLT-SS Switch Circuit
1 3	A1 A2
4	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

SCHEMATIC CIRCUIT:

KLT-SS Version (Mechanical only)



FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
KLT-SS Switch	24V ac/dc	451001	451002	451003
KLT-SS Switch	110V ac	451004	451005	451006
KLT-SS Switch	230V ac	451007	451008	451009
KLT-SS Actuator	Standard	Add A	to Sales Part Number	
KLT-SS Actuator	Flat	Add F	to Sales Part Number	
KLT-SS Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
KLT-SS Actuator	Stainless Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Ordering Example: KLT-SS M20 24V ac/dc Heavy Duty Flexible Actuator: Sales Number: 451001-HF

Guard Locking - Rear Manual Escape Release Switches
KLM-RR & HYGIELOCK KL3-SS-RR

FEATURES & APPLICATION:

KLM-RR - IP67 Die-Cast (painted red)

Spring to lock when actuator is inserted. Energise solenoid to unlock or press rear release button.

KL3-SS-RR - IP69K
Stainless Steel 316 Housing with mirror polished finish (Ra10)

Spring to lock when actuator is inserted. Energise solenoid to unlock or press rear release button.

Solenoid Locking Door Interlock Safety Switches featuring Guard Holding up to 3000N (300Kg) (F1Max) and Rear Manual Escape Release

All the features and specifications of the standard KLM and KL3-SS are maintained with the addition of an extra Rear Manual Escape Release button being provided at the rear of the housing.

APPLICATION:

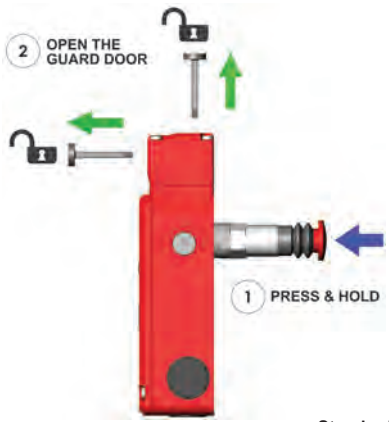
Where the risk assessment for the application permits, a non-latching manual escape release is provided to enable quick release of the switch lock in case of emergency.

The switch can be mounted such that access to the release button is available from inside the active guard area.

Pressing and holding the red button will release the lock mechanism and open the lock monitoring contacts whilst the guard can be pushed open.

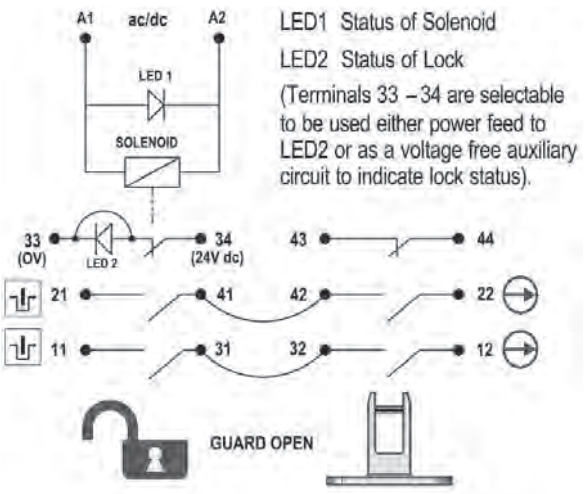
ACTUATOR OPTIONS (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
A	F	HF	HFH



Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

SCHEMATIC CIRCUIT:



LED1 Status of Solenoid
LED2 Status of Lock
(Terminals 33 – 34 are selectable to be used either power feed to LED2 or as a voltage free auxiliary circuit to indicate lock status).

Safety Classification and Reliability Data:

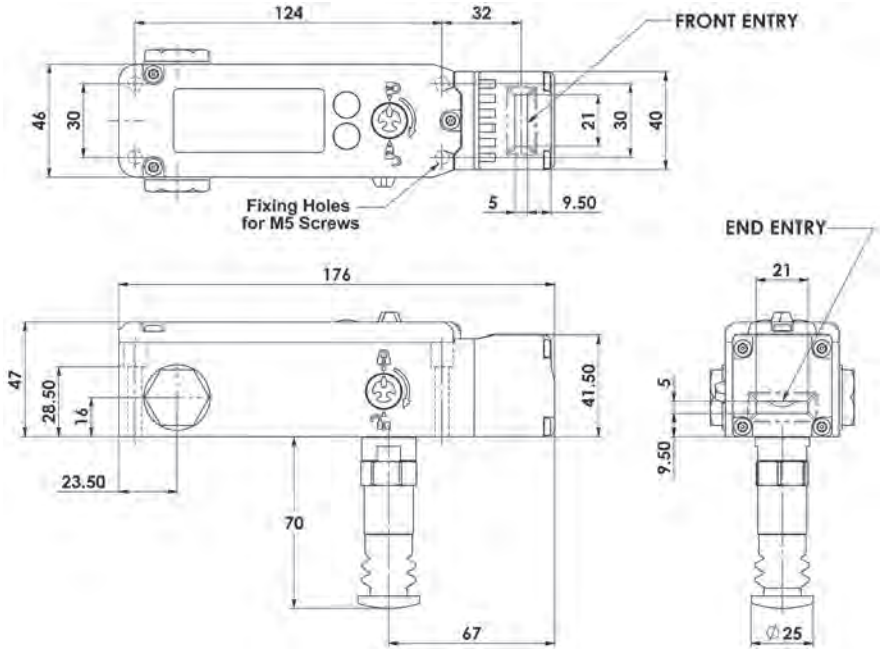
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

KLT-SS - Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED 2 Supply Voltage	24Vac
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	KLM-RR Die Cast (painted red)
	KL3-SS-RR Polished Stainless Steel 316
Head Material	KLM-RR Die Cast or Stainless Steel 316
	KL3-SS-RR Polished Stainless Steel 316
Enclosure Protection	KLM-RR IP67
	KL3-SS-RR IP69K
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking - Rear Manual Escape Release Switches
KLM-RR & HYGIELOCK KL3-SS-RR

DIMENSIONS:



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
Earth	12

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

KLM-RR
Die Cast painted red
(Stainless Steel Head option available)

STANDARD MANUAL RELEASE LID AND SIDE

MANUAL RELEASE LID ONLY (Not SIDE)

NO MANUAL RELEASE FITTED (Blanked)

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KLM-RR Switch	24V ac/dc	212001	212002	212003	212401	212402	212403	212301	212302	212303
Kobra KLM-RR Switch	110V ac	212004	212005	212006	212404	212405	212406	212304	212305	212306
Kobra KLM-RR Switch	230V ac	212007	212008	212009	212407	212408	212409	212307	212308	212309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number
Stainless Steel Head Versions		Add SS to Sales Part Number

Ordering Example: 24V Solenoid M20 Conduit Standard Manual Release Standard Actuator: Sales Number: 212001-A

KL3-SS-RR
Stainless Steel 316
(Mirror Polished Finish to Ra10)

STANDARD MANUAL RELEASE LID AND SIDE

MANUAL RELEASE LID ONLY (Not SIDE)

NO MANUAL RELEASE FITTED (Blanked)

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KL3-SS-RR Switch	24V ac/dc	215001	215002	215003	215401	215402	215403	215301	215302	215303
Kobra KL3-SS-RR Switch	110V ac	215004	215005	215006	215404	215405	215406	215304	215305	215306
Kobra KL3-SS-RR Switch	230V ac	215007	215008	215009	215407	215408	215409	215307	215308	215309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number

Manual Release Key
(order separately - not supplied with switches)

Sales Number: 140123

Ordering Example:
24V Solenoid 1/2" NPT Conduit Manual Release Lid Only Flat Actuator: Sales Number: 215402-F

Z-Range with OSSD: **KLP-Z-P2L, KLM-Z-P2L**

FEATURES:

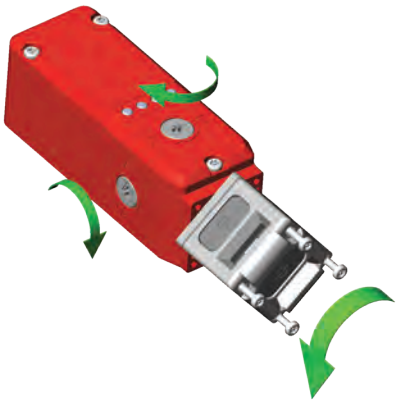
Power to Lock Guard Locking Switches: RFID-Coded with OSSD Outputs for CAT4, SIL3, PLe Safety in Accordance with the Latest Internatonal Safety Standards.

The KLP-Z-P2L and KLM-Z-P2L Series Guard Locking switches feature an RFID-coded sensor and OSSD outputs, ensuring reliable safety and security. These switches have a slim plastic or die-cast metal body design, developed with a holding force of 2000N (plastic) and 3000N (die-cast) to keep medium to large guard doors securely closed until hazards have been removed.

They operate on a **Power to Lock** - Spring to Unlock mechanism, making them suitable for applications where immediate unlocking is necessary upon removal or loss of power. (Note: They are not suitable for machines with a running down time.)

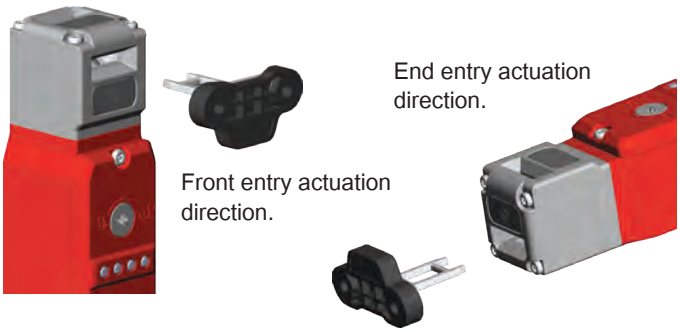
The high-specification plastic body offers high resistance to chemicals and washdown solutions, while the Stainless Steel Head provides robust protection of the cam interlock. The die-cast body is designed to withstand high levels of shock, making it ideal for exposed areas of machine guarding.

IP67 enclosure protection is ensured by a double seal lid gasket design and metal fixings, maintaining durability in demanding environments. With a slim profile, these switches are designed to fit on 50mm (2") frame sections or in applications where space is limited. Additionally, the head rotates to provide up to 8 actuator entry positions.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.



End entry actuation direction.

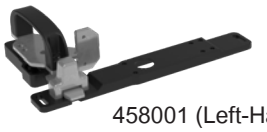
Front entry actuation direction.

TECHNICAL SPECIFICATIONS:

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	KLP (F1 Max 2000N) / KLM (F1 Max 3000)
Operating Frequency	1Hz
Material	KLP (Polyester) / KLM (Die-Cast)
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

COMPATIBLE ACCESSORIES:

458007 (Left-Hand)
458008 (Right-hand)



458001 (Left-Hand)
458002 (Right-hand)

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

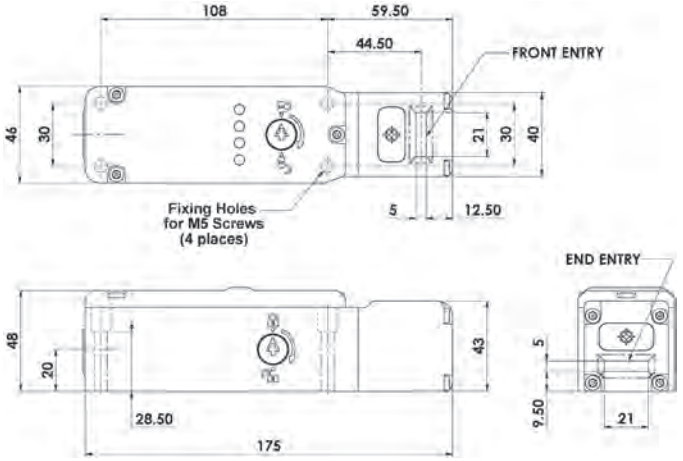
2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

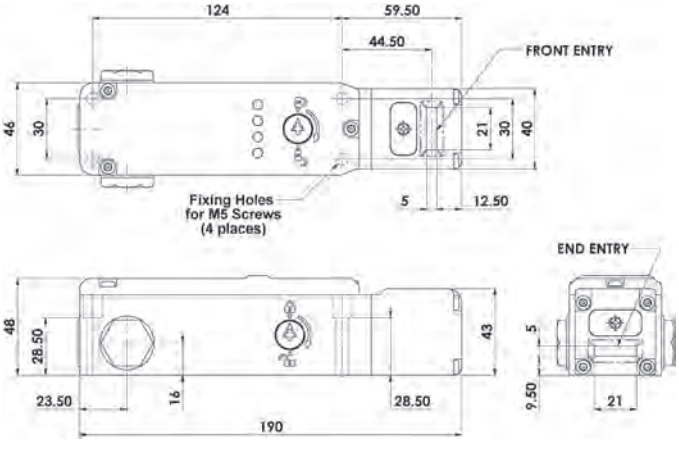
Z-Range with OSSD: **KLP-Z-P2L, KLM-Z-P2L**

DIMENSIONS:

KLP-Z-P2L



KLM-Z-P2L



INDICATION:

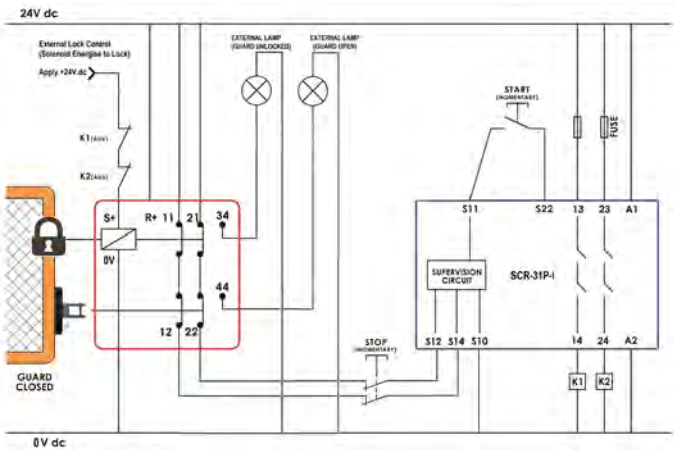
LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

CONNECTION DIAGRAM:



CONNECTIVITY:

250mm Pigtail Connector

Quick Connect (QC) M12 8 Way Male Plug Pin View from Switch	Terminal	Function	Switch Circuit	Rating
2	R+	24V dc	Supply 24V dc	50mA max.
3	0V	0V dc	Supply 0V dc (Ground)	
7	11	Safety Input 1	Safety Circuit 1	200mA max.
1	12	Safety Output 1		
4	21	Safety Input 2	Safety Circuit 2	200mA max.
6	22	Safety Output 2		
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
N/A	34	Auxiliary (Guard Locked)	Guard unlocked signal +24V dc out	200mA max.
5	S+	Lock	Lock signal apply +24V dc	500mA max.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

ORDERING:

KLP-Z-P2L

Part Number	Description	Material
455021AZ	KLP-Z-P2L M20 - Std Actuator	Plastic
455021HFZ	KLP-Z-P2L M20 - Heavy Duty Actuator	Plastic
455022AZ	KLP-Z-P2L 1/2" NPT - Std Actuator	Plastic
455022HFZ	KLP-Z-P2L 1/2" NPT - Heavy Duty Actuator	Plastic
455023AZ	KLP-Z-P2L QC-M12 - Std Actuator	Plastic
455023HFZ	KLP-Z-P2L QC-M12 - Heavy Duty Actuator	Plastic

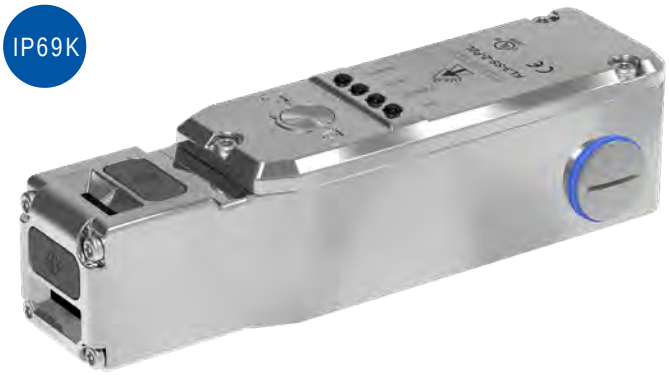
KLM-Z-P2L

Part Number	Description	Material
454021AZ	KLM-Z-P2L M20 - Std Actuator	Die-Cast
454021HFZ	KLM-Z-P2L M20 - Heavy Duty Actuator	Die-Cast
454022AZ	KLM-Z-P2L 1/2" NPT - Std Actuator	Die-Cast
454022HFZ	KLM-Z-P2L 1/2" NPT - Heavy Duty Actuator	Die-Cast
454023AZ	KLM-Z-P2L QC-M12 - Std Actuator	Die-Cast
454023HFZ	KLM-Z-P2L QC-M12 - Heavy Duty Actuator	Die-Cast

Z-Range with OSSD Stainless Steel: **KL3-SS-Z-P2L**

FEATURES:

IP69K



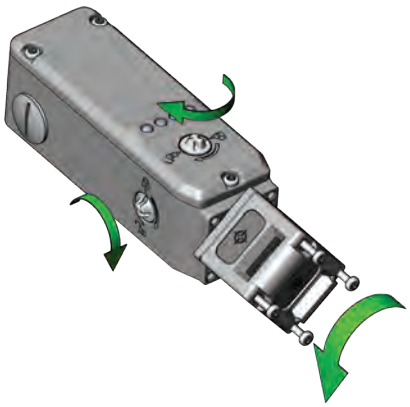
Power to Lock Guard Locking Switches: RFID-Coded with OSSD Outputs for CAT4, SIL3, PLe Safety in Accordance with the Latest Internatonal Safety Standards.

The KL3-SS-Z-P2L Series Guard Locking switches feature an RFID-coded sensor and OSSD outputs, ensuring reliable safety and security. These switches have a rugged 316 stainless steel body design, developed with a holding force of 3000N to keep medium to large guard doors securely closed until hazards have been removed.

They operate on a **Power to Lock** - Spring to Unlock mechanism, making them suitable for applications where immediate unlocking is necessary upon removal or loss of power. (Note: They are not suitable for machines with a running down time.)

The 316 grade stainless steel has a high resistance to chemicals and washdown solutions, while provideing a robust interlocking solution. The robust design can withstand high levels of shock, making it ideal for exposed areas of machine guarding.

IP69K enclosure protection is ensured by a double seal lid gasket design and metal fixings, maintaining durability in demanding environments. With a slim profile, these switches are designed to fit on 50mm (2") frame sections or in applications where space is limited. Additionally, the head rotates to provide up to 8 actuator entry positions.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

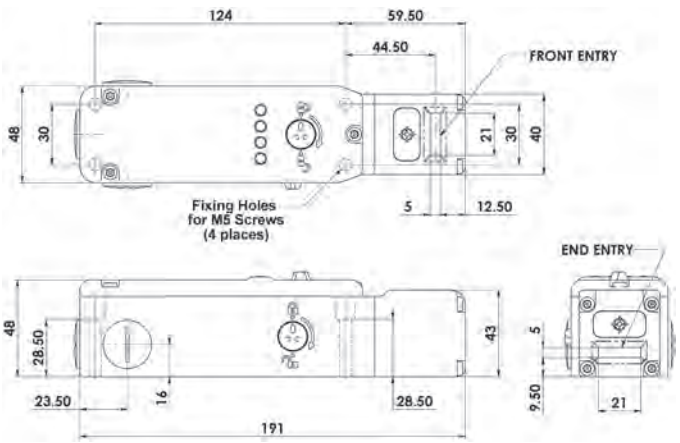
Front entry actuation direction.

End entry actuation direction.

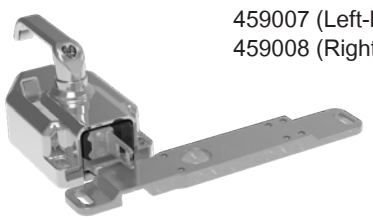
TECHNICAL SPECIFICATIONS:

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N
Operating Frequency	1Hz
Material	Stainless Steel 316
Enclosure Protection	IP67 IP69K
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

DIMENSIONS:



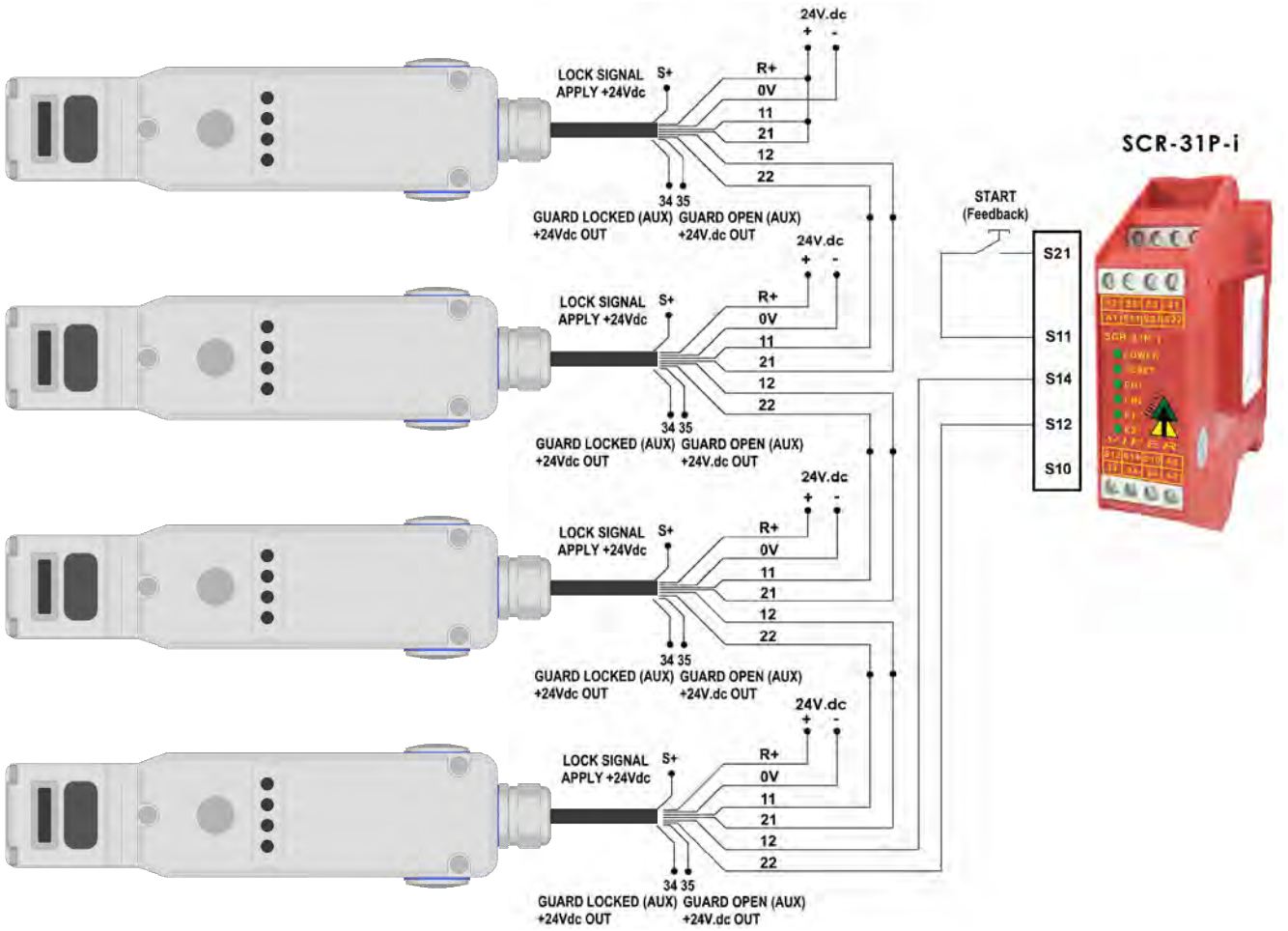
COMPATIBLE ACCESSORIES:



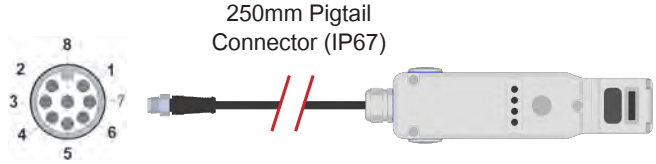
459007 (Left-Hand)
459008 (Right-hand)

Z-Range with OSSD Stainless Steel: **KL3-SS-Z-P2L**

CONNECTION DIAGRAM:



CONNECTIVITY:



Quick Connect (QC) M12 8 Way Male	Terminal	Function	Switch Circuit
2	R+	24V dc	Supply 24V dc
3	0V	0V dc	Supply 0V dc (Ground)
7	11	Safety Input 1	Safety Circuit 1
1	12	Safety Output 1	
4	21	Safety Input 2	Safety Circuit 2
6	22	Safety Output 2	
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out
N/A	34	Auxiliary (Guard Locked)	Guard unlocked signal +24V dc out
5	S+	Lock	Lock signal apply +24V dc

INDICATION:

LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

ORDERING:

Part Number	Description	Material
456021AZ	KL3-SS-Z-P2L M20 - Std Actuator	316 S/Steel
456021HFZ	KL3-SS-Z-P2L M20 - Heavy Duty Actuator	316 S/Steel
456021AZ	KL3-SS-Z-P2L 1/2" NPT - Std Actuator	316 S/Steel
456021HFZ	KL3-SS-Z-P2L 1/2" NPT - Heavy Duty Actuator	316 S/Steel
456021AZ	KL3-SS-Z-P2L QC-M12 - Std Actuator	316 S/Steel
456021HFZ	KL3-SS-Z-P2L QC-M12 - Heavy Duty Actuator	316 S/Steel

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Guard Locking Switch Plastic: **SEZYLOCK KLP-P2L**

FEATURES:

POWER TO LOCK

Energise solenoid to lock.

Spring to unlock when solenoid is de-energised.

Solenoid Locking Interlock Safety Switch featuring
POWER TO LOCK with Guard Holding up to 2000N (200Kg) (F1Max)

The KLP-P2L Series Guard Locking switches have a slim plastic body design and have been developed with a holding force of 2000N to keep medium guard doors closed until hazards have been removed.

They are Power to Lock - Spring to Unlock, suitable for applications where immediate unlocking is required at removal or loss of power.
(They are NOT suitable for machines with a running down time).

The high specification plastic body has a high resistance to chemical and washdown solutions, and the Stainless Steel Head provides a durable robust protection of the cam interlock.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a slim profile and are designed to fit on 50mm (2") frame sections or to applications where space is restricted.

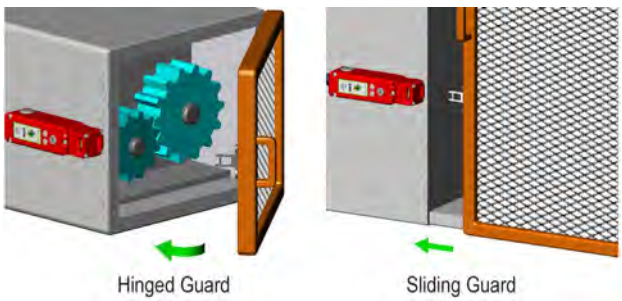
The head will rotate to provide up to 8 actuator entry positions.

FUNCTIONAL SPECIFICATIONS:

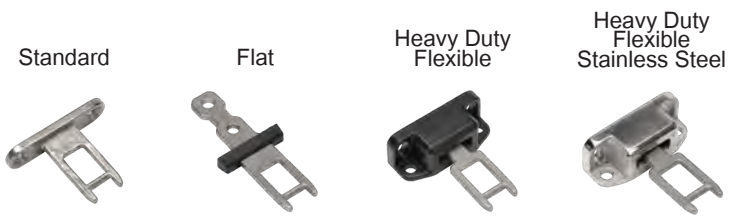
Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
High Specification Polyester Housing
Stainless Steel 316 Head
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation
Machine safety contacts open when power is released
LED Status of Solenoid Power

2NC Safety Circuits:

1NC 1NO Auxiliary circuits - Actuator/Door Status



ACTUATOR OPTIONS (see p154)



INSERTION OF ACTUATOR

	6.0	5.0	0mm
11/12	Open		Solenoid Energised
21/22	Open		Solenoid Energised
33/34	Open		Tongue Inserted
43/44		Open	Tongue Inserted

For all IDEM Power to Lock switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted and power is applied to the solenoid.

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

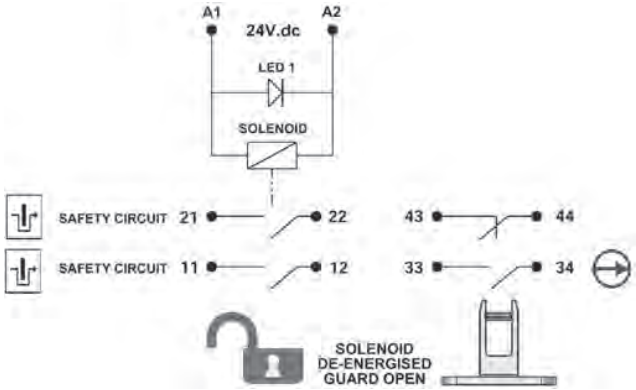
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

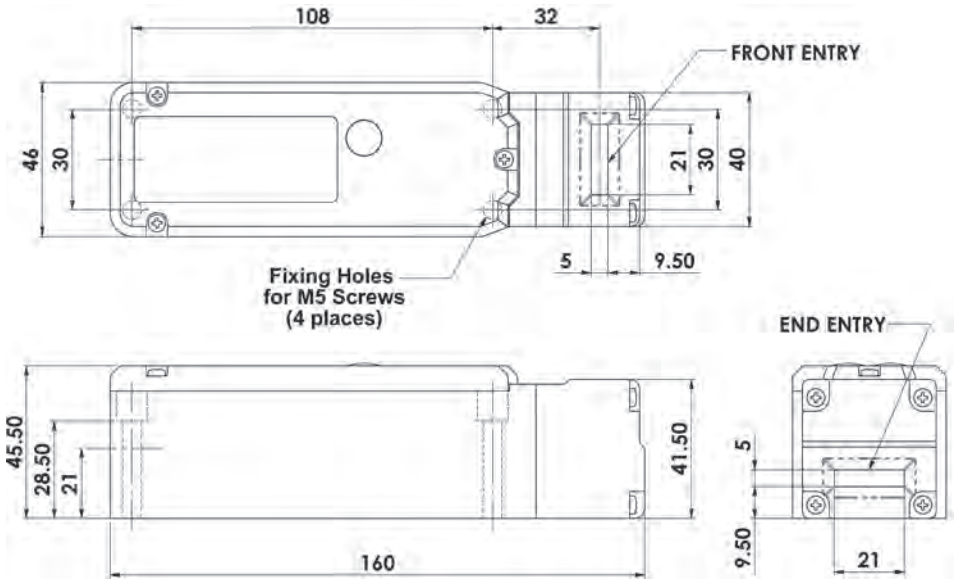
Solenoid Voltage (by Sales Number)	24Vdc
Solenoid Wattage	12W (Inrush 50W)
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 2000N Fzh 1538N
Body Material	Polyester
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Plastic: **SEZYLOCK KLP-P2L**

SCHEMATIC CIRCUIT:

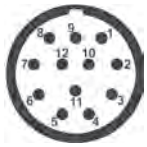


DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p150)

Connector Rated IP67



Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34

GATE BOLT LOCK

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

Painted yellow and comes with plastic handle and flat actuator.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
Kobra KLP-P2L Switch	24V dc	201021	201022	201023
To order Switch with Actuator				
Kobra Actuator	Standard	Add A	to Sales Part Number	
Kobra Actuator	Flat	Add F	to Sales Part Number	
Kobra Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Guard Locking Switch Metal: **SAMLOCK KLM-P2L**

FEATURES:

POWER TO LOCK

Energise solenoid to lock.

Spring to unlock when solenoid is de-energised.

STAINLESS STEEL HEAD

Solenoid Locking Interlock Safety Switch featuring POWER TO LOCK with Guard Holding to 3000N (300Kg) (F1Max)

The KLM-P2L Series Guard Locking switches have a slim metal body design and have been developed with a holding force of 3000N to keep large guard doors closed until hazards have been removed.

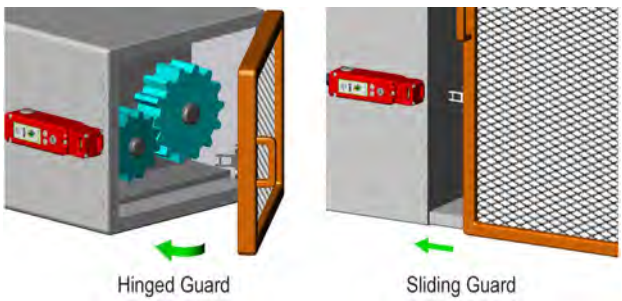
They are Power to Lock - Spring to Unlock - suitable for applications where immediate unlocking is required at removal or loss of power. (They are NOT suitable for machines with a running down time).

The rugged die cast body provides a durable robust hold closed interlock protection and is available with Stainless Steel Heads for extra durability. Flexible actuators are available to aid where some alignment is a problem.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a slim profile and are designed to fit on 50mm (2") frame sections or to applications where space is restricted.

The head will rotate to provide up to 8 actuator entry positions.

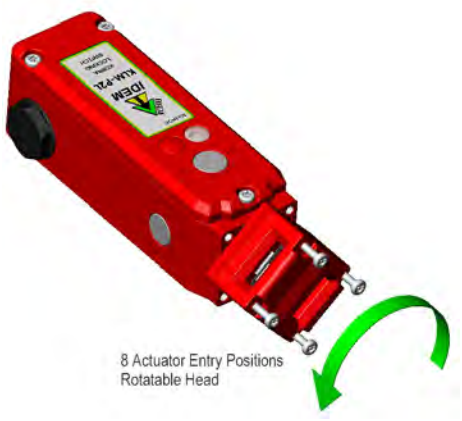


FUNCTIONAL SPECIFICATIONS:

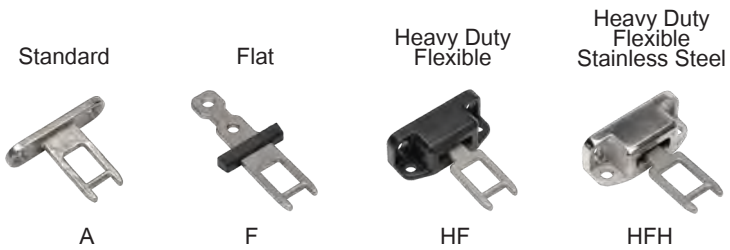
Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Die Cast Metal Housing (painted red)
Stainless Steel Head version available
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation
Machine safety contacts open when power is released
LED Status of Solenoid Power

2NC Safety Circuits:

1NC 1NO Auxiliary circuits - Actuator/Door Status



ACTUATOR OPTIONS (see p154)



INSERTION OF ACTUATOR

6.0 5.0 0mm

11/12	Open		Solenoid Energised
21/22	Open		Solenoid Energised
33/34	Open		Tongue Inserted
43/44		Open	Tongue Inserted

For all IDEM Power to Lock switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted and power is applied to the solenoid.

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

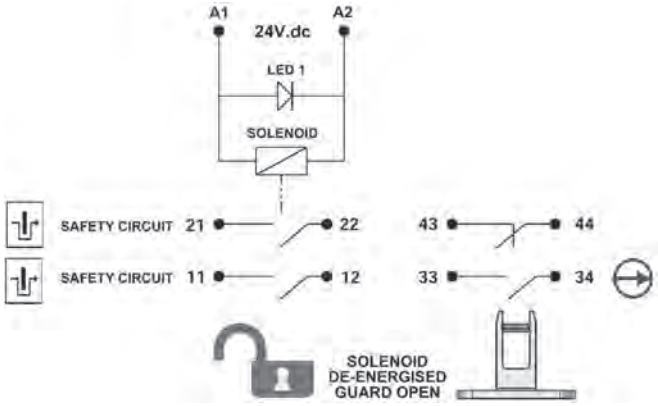
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

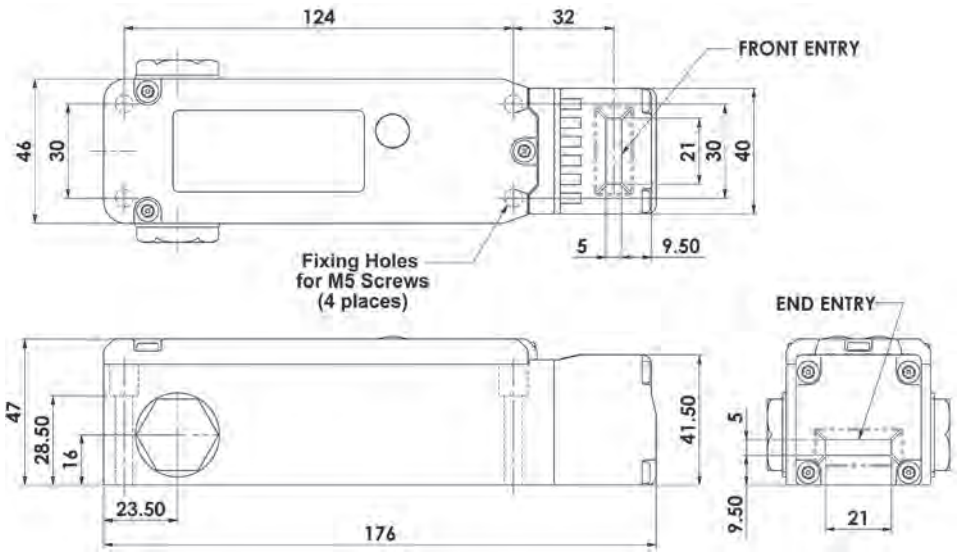
Solenoid Voltage (by Sales Number)	24Vdc
Solenoid Wattage	12W (Inrush 50W)
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast (painted red)
Head Material	Die Cast (painted red) or Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Metal: **SAMLOCK KLM-P2L**

SCHEMATIC CIRCUIT:



DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p150)

Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

Sliding Handle Gate Bolt with Lock Off Feature

GATE BOLT LOCK

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

Painted yellow and comes with plastic handle and flat actuator.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
Kobra KLM-P2L Switch	24V dc	202021	202022	202023
To order Switch with Actuator				
Kobra Actuator	Standard	Add A	to Sales Part Number	
Kobra Actuator	Flat	Add F	to Sales Part Number	
Kobra Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	
Stainless Steel Head Version		Add SS to Sales Part Number		

Guard Locking Switch Metal: **RAMZLOCK KLTM-P2L**

FEATURES:

POWER TO LOCK

Energise solenoid to lock.

Spring to unlock when solenoid is de-energised.

STAINLESS STEEL HEAD

Solenoid Locking Interlock Safety Switch featuring POWER TO LOCK with Guard Holding up to 3000N (300Kg) (F1Max)

KLTM-P2L Series Guard Locking switches have a rugged die cast metal body design with a stainless steel head. They have been developed with a holding force of 3000N to keep large guard doors closed until hazards have been removed.

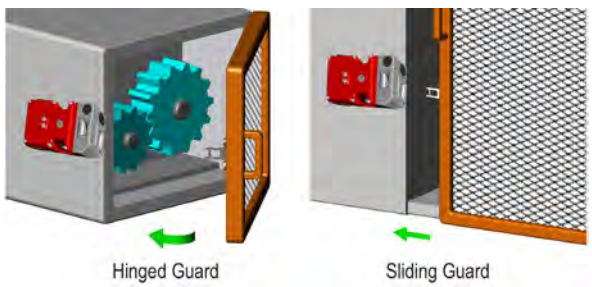
They are Power to Lock - Spring to Unlock - suitable for applications where immediate unlocking is required at removal or loss of power.
(They are NOT suitable for machines with a running down time).

The rugged die cast body provides a durable robust hold closed interlock protection and the stainless steel head provides extra durability. Flexible actuators are available to aid where some alignment is a problem.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a low profile and fixing holes are on an industry standard 73mm centre to enable easy retrofitting to new or existing guards.

The head will rotate to provide up to 4 actuator entry positions.



Hinged Guard Sliding Guard

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Die Cast Metal Housing (painted red)
Stainless Steel Head version available
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation
Machine safety contacts open when power is released
LED Status of Solenoid Power

4NC Safety Circuits:

1NC 1NO Auxiliary circuits - Actuator/Door Status

KLTM-P2L

4NC Safety Contacts:
2 Guard Closed
2 Switch Locked
1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Guard Locked)

LED RED Solenoid Power On

ACTUATOR OPTIONS (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
A	F	HF	HFH

Standards: EN14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

Safety Classification and Reliability Data:

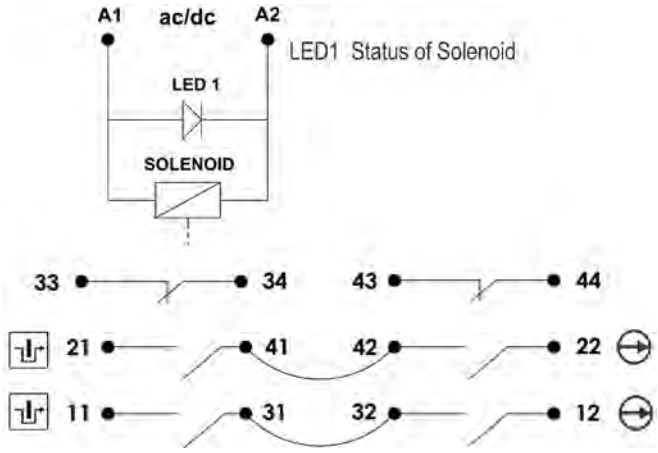
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

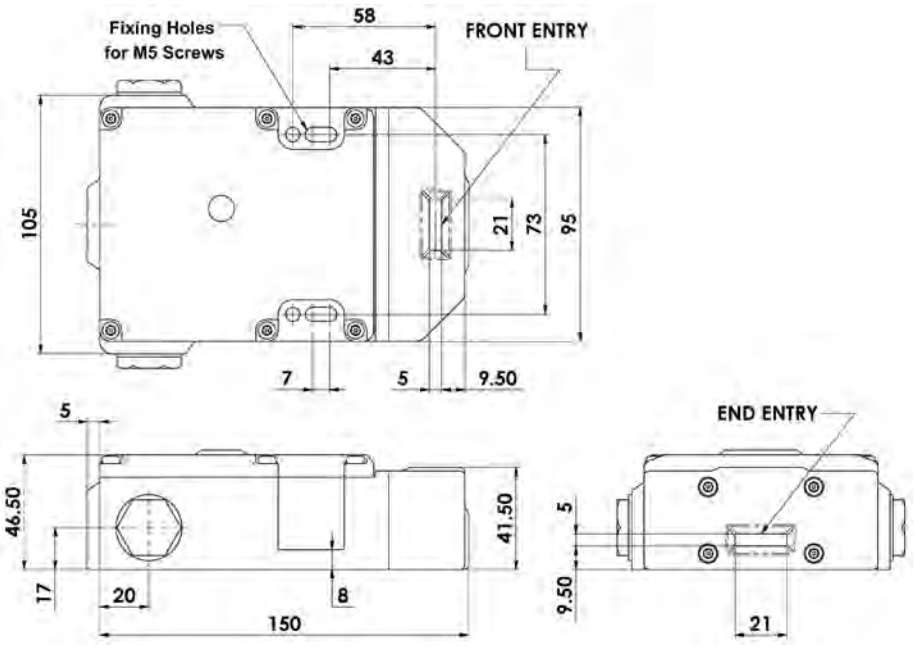
Solenoid Voltage (by Sales Number)	24Vdc
Solenoid Wattage	12W (Inrush 50W)
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast (painted red)
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Metal: **RAMZLOCK KLTM-P2L**

SCHEMATIC CIRCUIT:



DIMENSIONS:



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLTM Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

For all IDEM Power to Lock switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted and power is applied to the solenoid.

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
Kobra KLTM-P2L Switch	24V dc	450021	450022	450023
To order Switch with Actuator				
Kobra Actuator	Standard	Add A	to Sales Part Number	
Kobra Actuator	Flat	Add F	to Sales Part Number	
Kobra Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Guard Locking Switch Stainless Steel: **KL3-SS-P2L**

FEATURES:

IP69K

POWER TO LOCK

Energise solenoid to lock.

Spring to unlock when solenoid is de-energised.

Solenoid Locking Interlock Safety Switch featuring POWER TO LOCK with Guard Holding to 3000N (300Kg) (F1Max)

The KL3-SS-P2L Series Guard Locking switches feature a slim, stainless steel 316 body, engineered with a holding force of 3000N to securely close large guard doors until all hazards have been eliminated.

These switches operate on a Power to Lock - Spring to Unlock principle, making them ideal for applications requiring immediate unlocking upon power loss or removal. (They are not suitable for machines with a run-down time.)

The durable Stainless Steel 316 housing ensures a strong and reliable hold, and flexible actuators are available to accommodate situations where alignment may be challenging.

IP69K enclosure protection is achieved through a double-seal lid gasket design and metal fixings, ensuring robustness in harsh environments.

With a slim profile, these switches are designed to fit on 50mm (2") frame sections or in applications where space is limited.

The head can rotate to provide up to 8 actuator entry positions, offering versatile installation options.

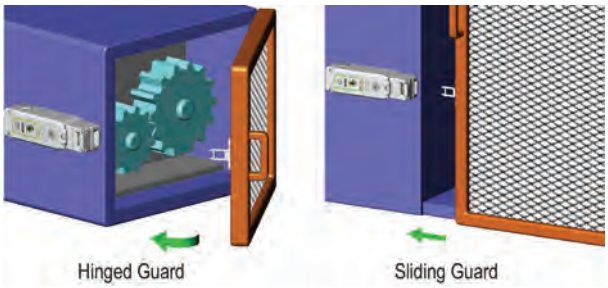
FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Housing and fittings
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation
Machine safety contacts open when power is released
LED Status of Solenoid Power

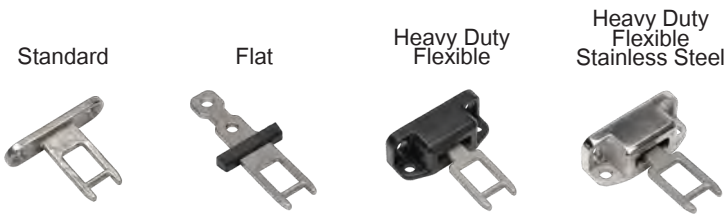
2NC Safety Circuits:

1NC 1NO Auxiliary circuits - Actuator/Door Status

8 Actuator Entry Positions
Rotatable Head



ACTUATOR OPTIONS (see p154)



INSERTION OF ACTUATOR

6.0 5.0 0mm

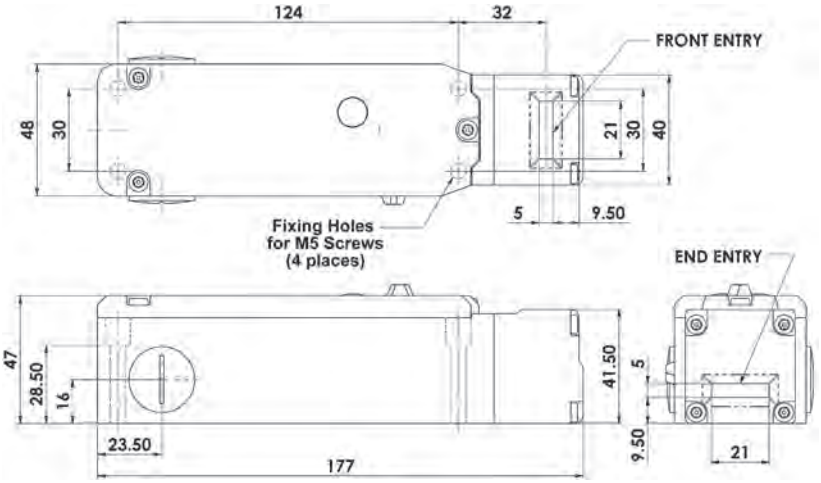
11/12	Open		Solenoid Energised
21/22	Open		Solenoid Energised
33/34	Open		Tongue Inserted
43/44		Open	Tongue Inserted

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

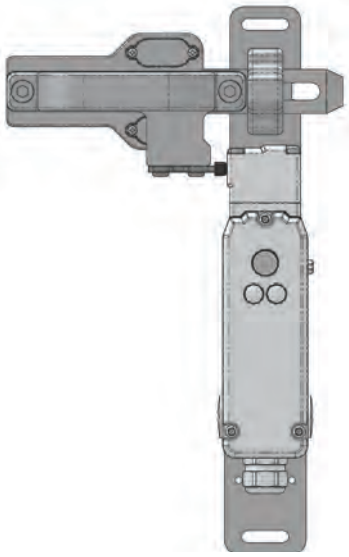
Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Technical Specification:	
Solenoid Voltage (by Sales Number)	24V dc
Solenoid Wattage	12W (Inrush 50W)
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Stainless Steel 316
Enclosure Protection	IP69K
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Stainless Steel: **KL3-SS-P2L**

DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p150)



GATE BOLT LOCK

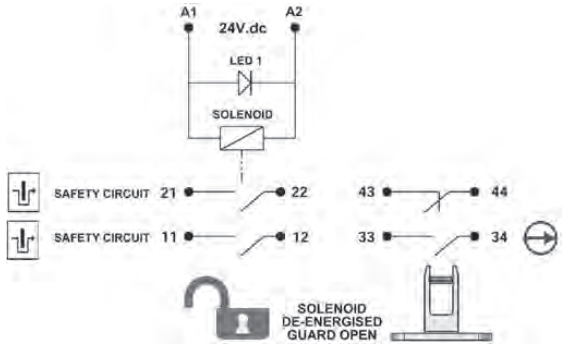
Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

SCHEMATIC CIRCUIT:



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
Kobra KL3-SS-P2L	24V dc	205021	205022	205023
To order Switch with Actuator				
Kobra Actuator	Standard	Add A	to Sales Part Number	
Kobra Actuator	Flat	Add F	to Sales Part Number	
Kobra Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	
Stainless Steel Head Version		Add SS to Sales Part Number		

Guard Locking - Rear Manual Escape Release Switches
KLTM-RR & KLT-SS-RR (also with RFID)

FEATURES & APPLICATION:

KLTM-RFID-RR - IP67 Die-Cast (painted red)

Spring to lock when actuator is inserted. Energise solenoid to unlock or press rear release button.

KLT-RFID-SS-RR - IP69K Stainless Steel 316 Housing with mirror polished finish (Ra10)

Spring to lock when actuator is inserted. Energise solenoid to unlock or press rear release button.

TYPE 4 INTERLOCK

Solenoid Locking Door Interlock Safety Switches featuring Guard Holding up to 3000N (300Kg) (F1Max) and Rear Manual Escape Release

All the features and specifications of the standard KLTM and KLT-SS are maintained with the addition of an extra Rear Manual Escape Release button being provided at the rear of the housing.

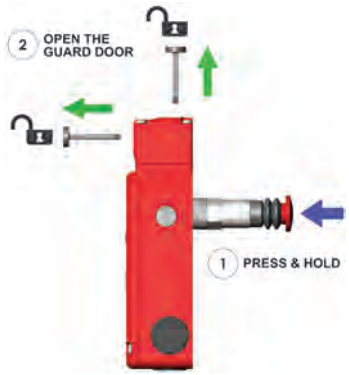
Also available with RFID coding.

APPLICATION:

Where the risk assessment for the application permits, a non-latching manual escape release is provided to enable quick release of the switch lock in case of emergency.

The switch can be mounted such that access to the release button is available from inside the active guard area.

Pressing and holding the red button will release the lock mechanism and open the lock monitoring contacts whilst the guard can be pushed open.



ACTUATORS (KLTM-RR & KLT-SS-RR) (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
A	F	HF	HFH

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

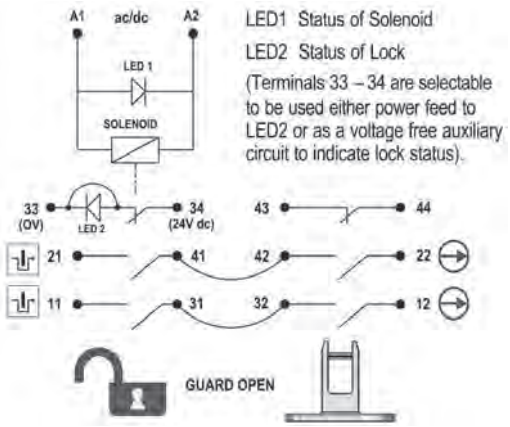
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

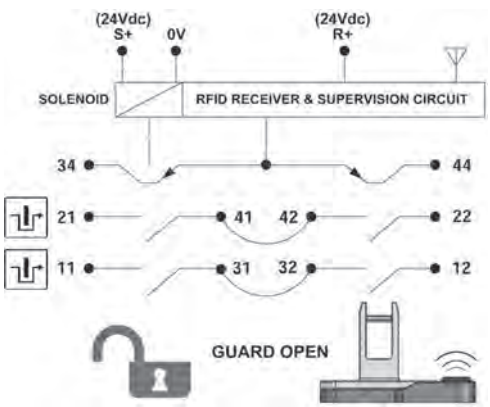
KLTM-RR & KLT-SS-RR Solenoid Voltage	24V ac/dc or 110Vac or 230Vac (by Sales No.)
Solenoid Wattage	12W
LED 2 Supply Voltage	24Vac
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	KLTM-RR Die Cast (painted red) KLT-SS-RR Polished Stainless Steel 316
Head Material	KLTM-RR Die Cast (painted red) KLT-SS-RR Polished Stainless Steel 316
Enclosure Protection	KLTM-RR IP67 KLT-SS-RR IP69K
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

SCHEMATIC CIRCUITS:

KLTM-RR KLT-SS-RR (Mechnical only version):

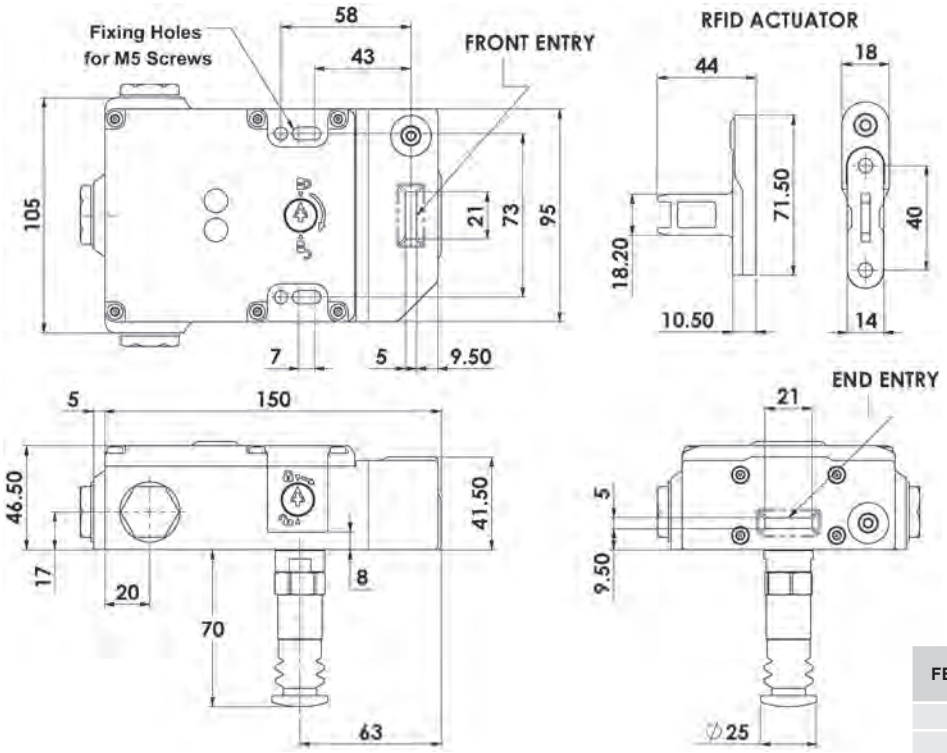


KLTM-RFID-RR KLT-SS-RFID-RR (RFID version):



Guard Locking - Rear Manual Escape Release Switches
KLTM-RR & KLT-SS-RR (also with RFID)

DIMENSIONS:



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
Earth	12

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

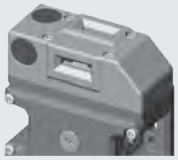
SALES NUMBER		SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
RAMZLOCK KLTM-RR Switch (Mechanical only)		24V ac/dc	452001	452002	452003
RAMZLOCK KLTM-RR Switch (Mechanical only)		110V ac	452004	452005	452006
RAMZLOCK KLTM-RR Switch (Mechanical only)		230V ac	452007	452008	452009
RAMZLOCK KLTM Actuator		Standard	Add A	to Sales Part Number	
RAMZLOCK KLTM Actuator		Flat	Add F	to Sales Part Number	
RAMZLOCK KLTM Actuator		Heavy Duty Flexible	Add HF	to Sales Part Number	
RAMZLOCK KLTM Actuator		S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Ordering Example: KLTM-RR M20 24V ac/dc Heavy Duty Flexible Actuator: Sales Number: 452001-HF

SALES NUMBER		SUPPLY VOLTAGE/HEAD POSITION	M20	1/2" NPT	QC M23
RAMZLOCK KLTM-RFID-RR Switch Supplied complete with uniquely coded actuator 		24V dc Actuator Entry Positions: Front Entry End Entry (Lower)	452201	452202	452203

SALES NUMBER		SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
KLT-SS-RR Switch (Mechanical only)		24V ac/dc	453001	453002	453003
KLT-SS-RR Switch (Mechanical only)		110V ac	453004	453005	453006
KLT-SS-RR Switch (Mechanical only)		230V ac	453007	453008	453009
KLT-SS Actuator		Standard	Add A	to Sales Part Number	
KLT-SS Actuator		Flat	Add F	to Sales Part Number	
KLT-SS Actuator		Heavy Duty Flexible	Add HF	to Sales Part Number	
KLT-SS Actuator		Stainless Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Ordering Example: KLT-SS-RR M20 24V ac/dc Heavy Duty Flexible Actuator: Sales Number: 453001-HF

SALES NUMBER		SUPPLY VOLTAGE/HEAD POSITION	M20	1/2" NPT	QC M23
KLT-SS-RFID-RR Switch Supplied complete with uniquely coded actuator 		24V dc Actuator Entry Positions: Front Entry End Entry (Lower)	453201	453202	453203

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

Gate Bolts for Tongue Switches: **GBL-1**

FEATURES & APPLICATION:

GBL-1 shown fitted with KLM
Left Hand Version shown

GBL-1-SS shown fitted with KL3-SS
Left Hand Version shown

The GBL-1 Gate Bolts are available in either steel or 316-grade stainless steel. These bolts can withstand shearing forces of up to 10,000 Newtons (F1Max) on large hinged doors.

They are easy to install on both hinged and sliding guards using four M6 mounting bolts, with no need for additional brackets or door handles once in place.

The design ensures resistance to misalignment damage, and operators must manually close the guard, preventing accidental closure.

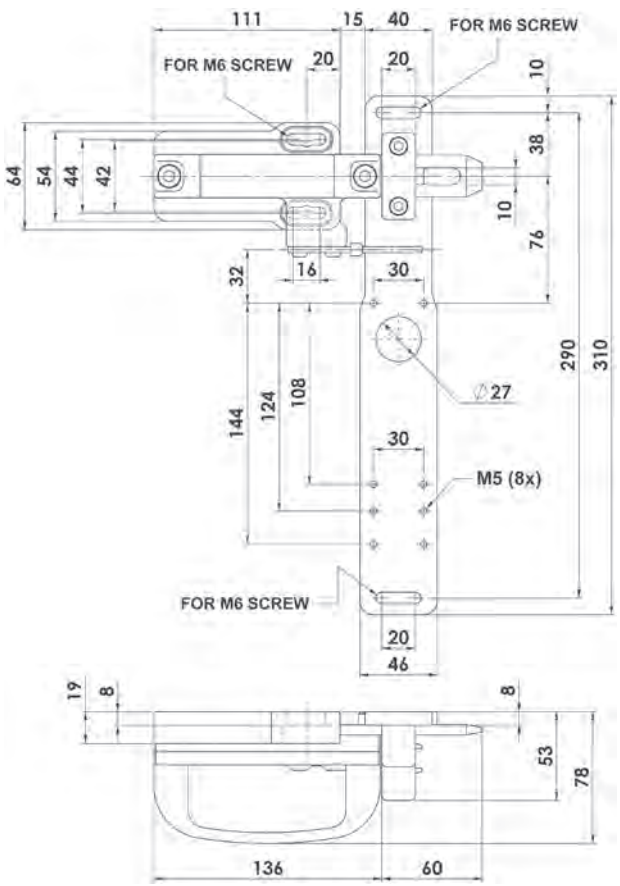
A padlock hole is included, allowing the handle to be locked open, ensuring the guard remains open and the machine cannot be started during maintenance.

The metal version is finished in yellow and black to enhance hazard identification.

Supplied with Handle and Flat Actuator (Type F).

DIMENSIONS:

Type: GBL-1 & GBL-1-SS



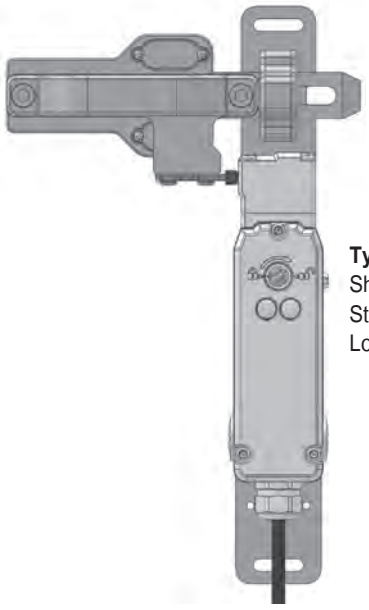
Gate Bolts for Tongue Switches: **GBL-1**

PART NUMBERS FOR DIE-CAST VERSIONS:

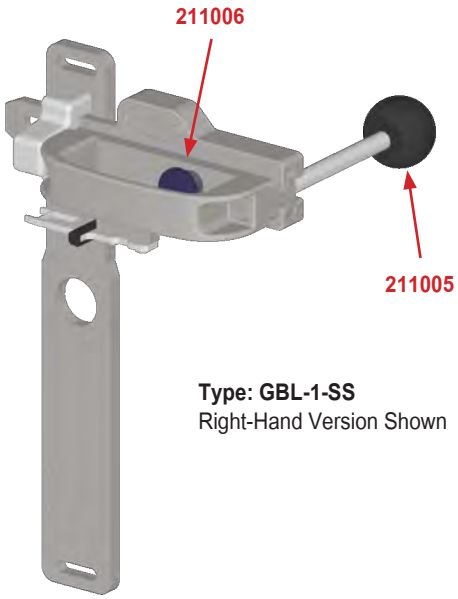
Type: GBL-1
Shown fitted with KLM-RR Solenoid Locking Tongue Switch with optional extra Rear Handle

DESCRIPTION	SALES NUMBER	SUITABILITY
Gate Bolt Lock GBL-1 Left Hand	210001	Suitable for Switch Types: KLP KLM KLM-RR KL4-SS
Gate Bolt Lock GBL-1 Right Hand	210002	
Rear Handle	210005	Suitable for GBL-1 and GBA-1
Spring Loaded Catch	210006	Suitable for GBL-1 and GBA-1

PART NUMBERS FOR STAINLESS STEEL VERSIONS:



Type: GBL-1-SS
Shown fitted with KL3-SS Stainless Steel 316 Solenoid Locking Tongue Switch

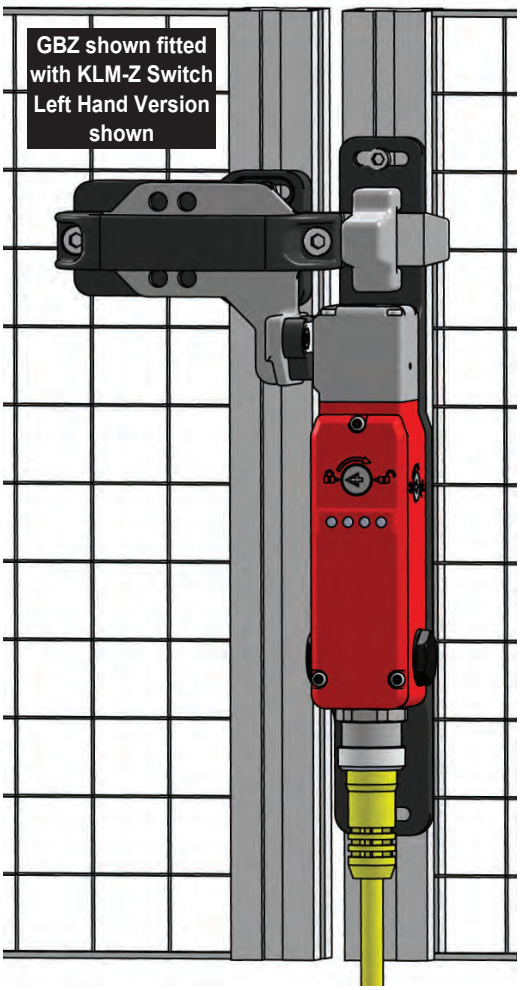


Type: GBL-1-SS
Right-Hand Version Shown

DESCRIPTION	SALES NUMBER	SUITABILITY
Gate Bolt Lock GBL-1 -SS Left Hand	211001	Suitable for Switch Types: KL3-SS KL3-SS-RR KL4-SS
Gate Bolt Lock GBL-1 -SS Right Hand	211002	
Rear Handle - Stainles Steel	211005	Suitable for GBL-1-SS and GBA-1-SS
Spring Loaded Catch - Stainless Steel	211006	Suitable for GBL-1-SS and GBA-1-SS

Gate Bolt for KLM-Z Switch: **GBZ Sliding Gate Bolt**

FEATURES & APPLICATION:



GBZ GATE BOLT SUITABLE FOR KLP-Z and KLM-Z SWITCHES

GBZ Gate Bolts are manufactured with a rugged die-cast metal and steel construction and provide shearing forces up to 10,000N (F1Max) on large hinged doors.

Easy to install on hinged or sliding guards. (4 x M6 Mounting Bolts).

Once installed there is no need for extra brackets or door handles.

Not susceptible to misalignment damage.

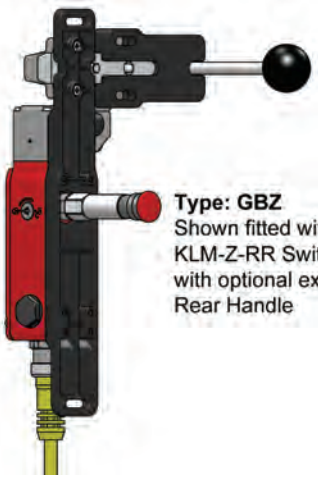
Operators are required to manually close the guard, they cannot close accidentally.

Padlock holes are provided as a means of locking open the handle to prevent the guard from being closed and the machine started during maintenance.

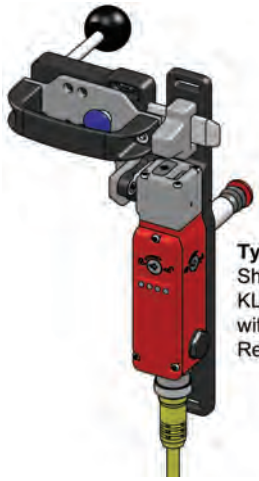
Optional Accessories (which can be fitted later after installation):

Rear Handle where there is a requirement to move the handle from inside the guarded area.

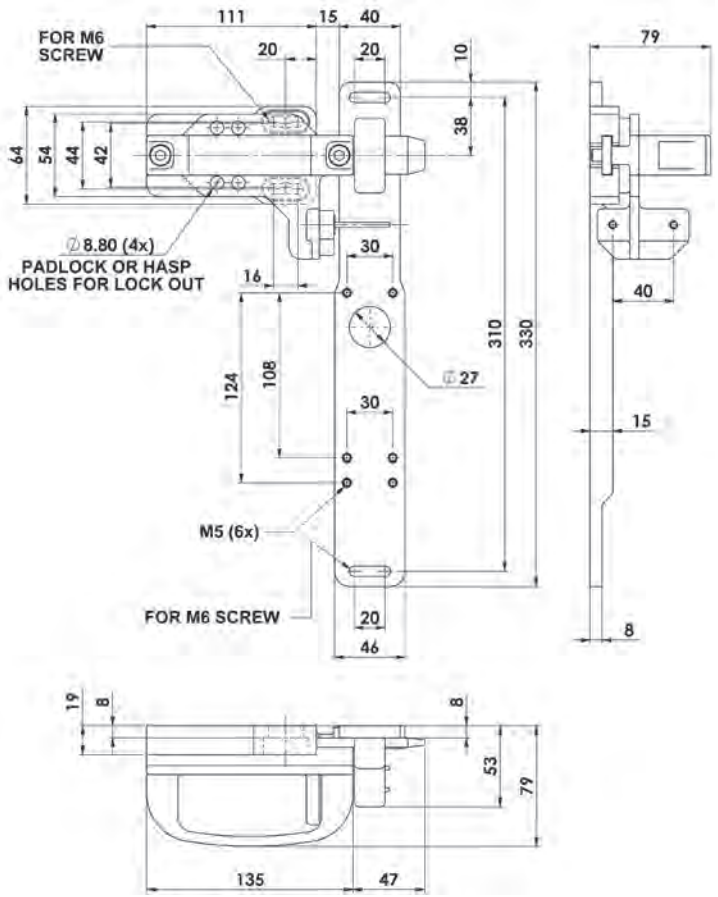
Spring Loaded Catch: To prevent accidental actuation after opening of the handle.

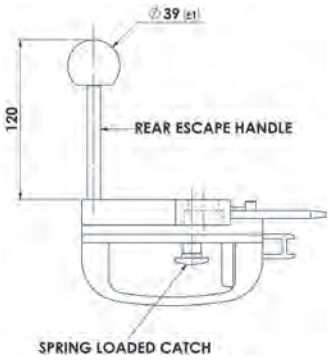


Type: GBZ
Shown fitted with KLM-Z-RR Switch with optional extra Rear Handle



Type: GBZ
Shown fitted with KLM-Z-RR Switch with optional extra Rear Handle





DESCRIPTION (Suitable for Switch Types: KLP-Z and KLM-Z)		SALES NUMBER
Gate Bolt Lock	GBZ Left Hand	458001
Gate Bolt Lock	GBZ Right Hand	458002

DESCRIPTION (Accessories)	SALES NUMBER
Rear Handle (can be fitted later)	210005
Spring Loaded Catch (can be fitted later)	210006

Gate Bolt for KL-Z Switches: **GBZ Rotary Gate Bolt**

FEATURES & APPLICATION:

GBZ ROTARY GATE BOLT SUITABLE FOR KLM-Z, KLM-Z-SKR and KL3-SS-Z SWITCHES

GBZ Rotary Gate Bolts are manufactured with a rugged die-cast metal and 316 stainless steel, providing shearing forces up to 10,000N (F1Max) on large hinged doors.

Easy to install on hinged or sliding guards. (4 x M6 Mounting Bolts).

Once installed there is no need for extra brackets or door handles.

Not susceptible to misalignment damage.

Operators are required to manually close the guard, they cannot close accidentally.

Padlock holes are provided as a means of locking open the handle to prevent the guard from being closed and the machine started during maintenance.

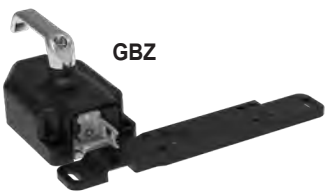
Optional Accessories

Rear Handle where there is a requirement to move the handle from inside the guarded area.

GBZ Rotary Handle
Shown fitted with KLM-Z-SKR-RR switch with rear rotary release.

GBZ-SS Rotary Handle
Shown fitted with KL3-SS-Z-RR switch with rear rotary release.

ORDERING:



GBZ

GBZ-SS

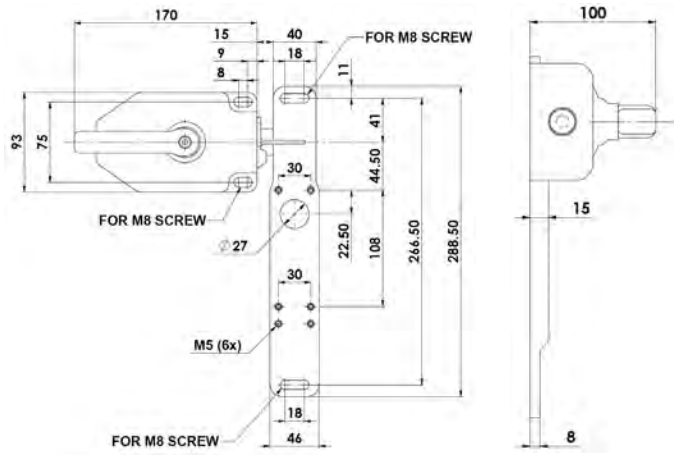
DESCRIPTION (Suitable for Switch Types: KLM-Z, KLM-Z-SKR, KL3-SS-Z)		SALES NUMBER
Rotary Gate Bolt	GBZ Left Hand	458007
Rotary Gate Bolt	GBZ Right Hand	458008
Rotary Gate Bolt S/Steel	GBZ-SS Left Hand	459007
Rotary Gate Bolt S/Steel	GBZ-SS Right Hand	459008

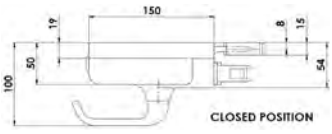
UGB-RERH-M

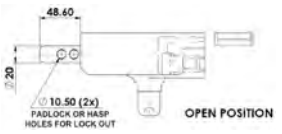
UGB-RERH-SS

DESCRIPTION (Accessories)		SALES NUMBER
Rear Rotary Handle	UGB-RERH-M Left Hand	527005-L
Rear Rotary Handle	UGB-RERH-M Right Hand	527005-R
Rear Rotary Handle S/Steel	UGB-RERH-SS Left Hand	522005-L
Rear Rotary Handle S/Steel	UGB-RERH-SS Right Hand	522005-R

DIMENSIONS:







Accessories for: **Tongue & Locking Switches**

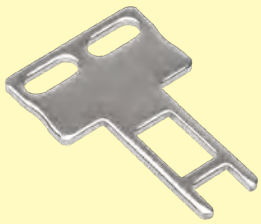
ANGLED ACTUATOR

SALES NUMBER
140103
FITS MODELS
IDIS-1

PLASTIC FLEXIBLE ACTUATOR

SALES NUMBER
140109
FITS MODELS
K-15 KP KM KM-SS K-SS

FLAT ACTUATOR



SALES NUMBER
140104
FITS MODELS
IDIS-1

HEAVY FLEXIBLE ACTUATOR

SALES NUMBER
140110
FITS MODELS
KP K15 KM KLP KLM KL1-P KLTM

PLASTIC FLEXIBLE ACTUATOR

SALES NUMBER
140105
FITS MODELS
IDIS-1

STAINLESS STEEL HEAVY FLEXIBLE ACTUATOR

SALES NUMBER
140111
FITS MODELS
KM-SS K-SS KL1-SS KL3-SS KL4-SS KLT-SS

STANDARD ACTUATOR

SALES NUMBER
140106
FITS MODELS
KP KP-15 (Plastic Heads)

MINIATURE ANGLED ACTUATOR

SALES NUMBER
140180
FITS MODELS
INCH-1 INCH-3 MK1-SS

STANDARD ACTUATOR

SALES NUMBER
140107
FITS MODELS
KP-SS K15-SS K-SS KM KM-SS KLP KLM KL3-SS KL4-SS KL1-P KL1-SS KLTM KLT-SS

MINIATURE FLAT ACTUATOR

SALES NUMBER
140181
FITS MODELS
INCH-1 INCH-3 MK1-SS

FLAT ACTUATOR

SALES NUMBER
140108
FITS MODELS
KP-SS K15-SS K-SS KM KM-SS KLP KLM KL3-SS KL4-SS KL1-P KL1-SS KLTM KLT-SS

MINIATURE PLASTIC FLEXIBLE ACTUATOR

SALES NUMBER
140182
FITS MODELS
INCH-1 INCH-3 MK1-SS

Accessories for: **Tongue & Locking Switches**

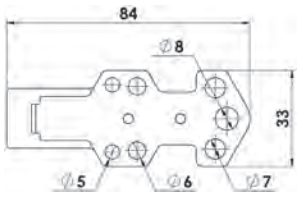
PLASTIC FLEXIBLE ACTUATOR	
	SALES NUMBER 140185 **FITS MODELS** KLP-Z, KLM-Z, KL3-SS-Z

STAINLESS STEEL GUIDE (complete with screws)		
	SALES NUMBER	
	For INCH-1	140179
	For INCH-3	140179
	For MK1-SS	140179-SS
	MK1-SS supplied with two M3 stainless steel screws. INCH-1 and INCH-3 supplied with two self-tapping screws.	

MANUAL RELEASE KEY	
	SALES NUMBER 140123 STAINLESS STEEL KL3-SS KL4-SS KLT-SS KL3-SS-Z

STAINLESS STEEL MOUNTING SPACERS Sold in Packs of 4 Length of Spacer: 20mm		
	M4 Clearance Hole	Sales Number: 140171
	M5 Clearance Hole	Sales Number: 140172

Maintenance Lock Out Actuator:



Maintenance Lock Out Actuator. Fits to IDEM Tongue Switches.
Manufactured in Stainless Steel.
Fits to switch aperture during maintenance and provides multiple padlock holes.
Shown fitted to KM Switch (padlock not included).

DESCRIPTION	SALES NUMBER
Lockout Actuator	140130

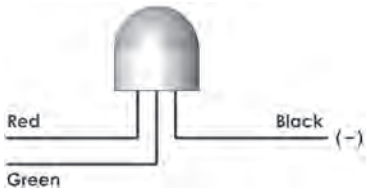
Actuator with Chain Attachment:

Flat Actuator supplied with 300mm (12") chain.
Can be used where poor alignment exists and provides manual insertion of actuator by operator.
Manufactured in Stainless Steel.

DESCRIPTION	SALES NUMBER
Flat Actuator with Chain	140131

CONDUIT FITTING LED BEACON:

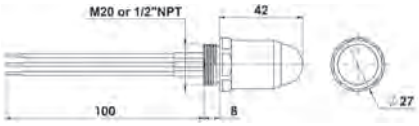
2 colour LED (3 wires) Steady Red and Steady Green.
Fits to conduit entry of most switches and provides option for LED indication based upon switch contacts.
The dome shaped LED is visible from narrow angles.
Available voltages 24Vdc, 110Vac or 230Vac and either M20 or 1/2" NPT conduit thread.
PVC conductors, fully encapsulated IP67.
Maximum temperature: 60C.
Housing material is polyester.



Black is common
(0Vdc or negative for ac versions).

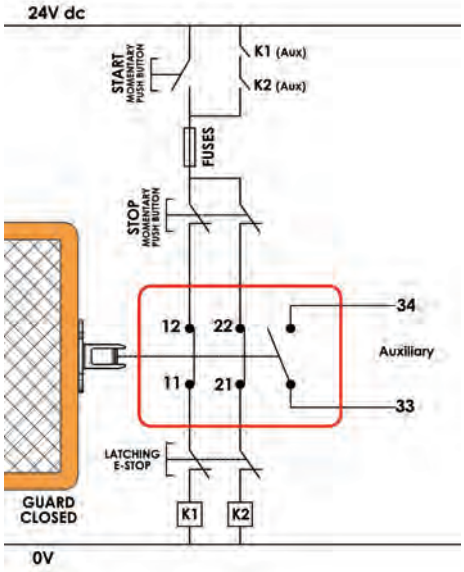
When power is applied to the RED wire the lamp will illuminate Red.

When power is applied to the GREEN wire the lamp will illuminate Green.



DESCRIPTION			SALES NUMBER
Conduit LED Beacon	24Vdc	M20 conduit thread	140134
Conduit LED Beacon	110Vac	M20 conduit thread	140136
Conduit LED Beacon	230Vac	M20 conduit thread	140138
Conduit LED Beacon	24Vdc	1/2" NPT conduit thread	140135
Conduit LED Beacon	110Vac	1/2" NPT conduit thread	140137
Conduit LED Beacon	230Vac	1/2" NPT conduit thread	140139

Kobra Tongue Switches **Application Examples**



Guard Door Mechanical Interlock and E Stop - Dual Channel Non Monitored

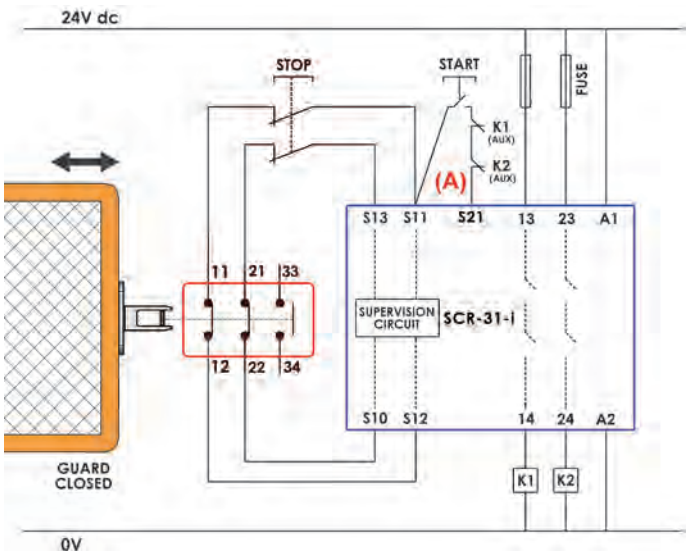
System shows interlock switch circuits 11-12 and 21-22 configured to allow direct feed to contactor coils K1 and K2.

Opening the interlock switch or depressing the E stop will isolate power to the contactor coils.

Re-start can only occur providing the guard is closed and the E stop is reset.

System is shown with machine stopped, guard closed and the contactors able to be energised.

Contacts 33-34 provide an auxiliary circuit for signalling guard open or closed.



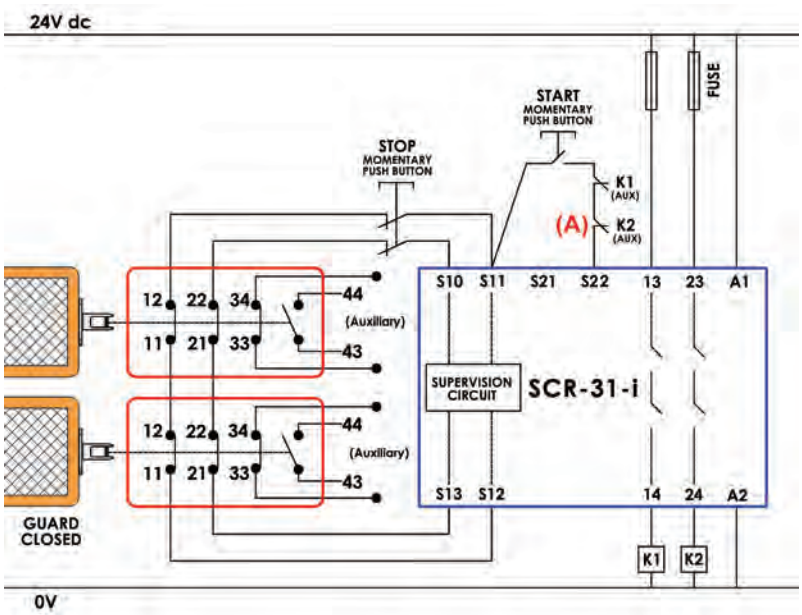
One Guard Door Mechanical Interlock - Dual Channel

The positively operated interlock contacts from circuit 11-12 and 21-22 are connected dual channel input to S11-S12 and S10-S13 on the SCR-31-i Safety Relay.

This provides a positively operated dual channel circuit and provides a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2. The SCR-31-i monitors the switch circuit and the contactors K1and K2 and provides it's own self-monitoring via force guided internal relays.

Opening the guard or pressing the stop button will cause the machine to stop. Re-start can only be achieved if the guard is closed and the contactors K1 and K2 have both opened and the start button is pressed.

System is shown with machine stopped, guards closed and the contactors able to be energised.



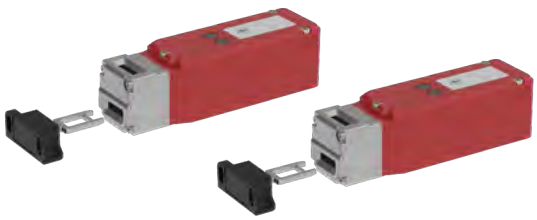
Two Guard Door Mechanical Interlocks in series - Dual Channel

The safety category can be enhanced by connecting two switch circuits 11-12 and 21-22 from mechanical interlocks to an SCR-31-i Safety Relay to monitor for wiring short circuits.

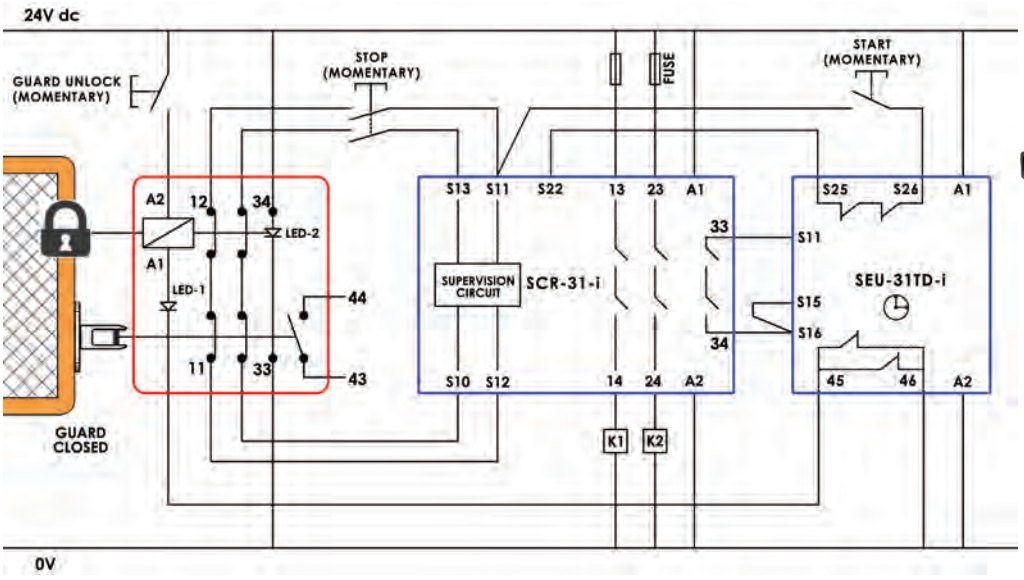
This provides dual channel monitoring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

The SCR-31-i monitors the switch circuits and the contactors K1 and K2 and provides it's own self-monitoring via force guided internal relays.

System is shown with machine stopped, guards closed and the contactors able to be energised.



Kobra Tongue Switches **Application Examples**



Solenoid Locking Guard Switch Dual Channel monitored with time delayed guard opening (manual unlock)

For systems requiring run down after activating a stop, a time delay can be added by connecting the delayed output from an SEU-31TD-i to the solenoid feed.

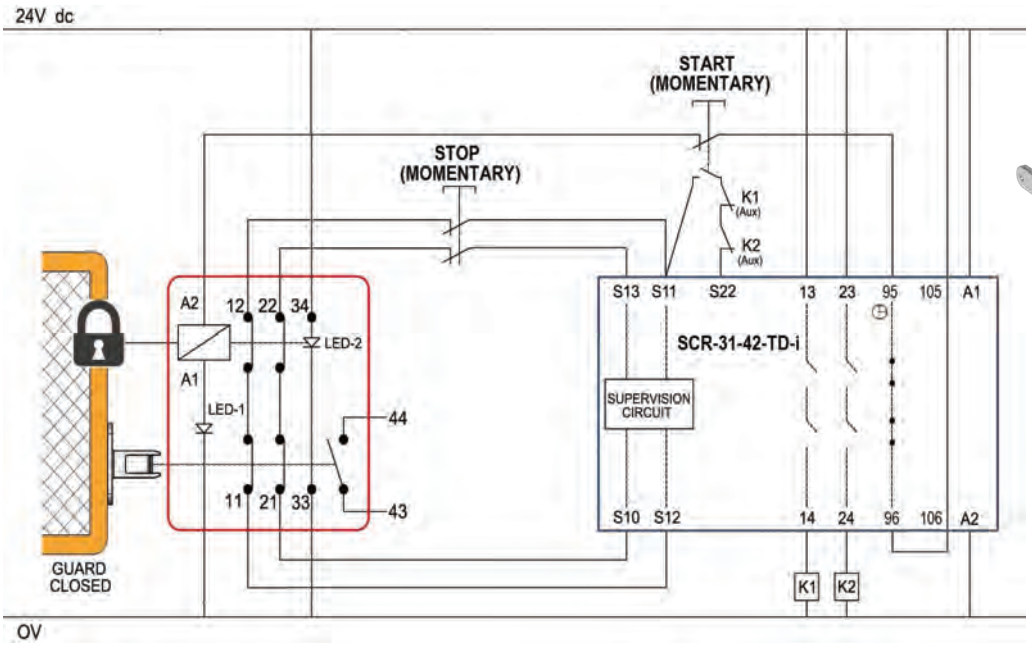
The output contacts 33-34 of the SCR-31-i provide the input to the SEU-31TD-i.

Pressing the top button causes the SCR-31-i contacts to open immediately and isolate power to contactors K1 and K2.

Also the input to the SEU-31TD-i will be opened and activate the preset time delay contacts.

Only when the set time delay has lapsed will the SEU-31TD-i allow the guard unlock button to supply power to the solenoid and enable the guard to be opened.

Providing that the guard is closed and locked the machine can start when the momentary start button is pressed.



Solenoid Locking Guard Switch Dual Channel Monitored with time delayed guard opening (Auto unlock)

Auto unlock after run down can be achieved by using the SCR-31-42-TD-i relay.

Pressing the STOP button causes the SCR-31-42-TD-i instant contacts to open and isolate the power to contactors K1 and K2.

The delayed contacts from 95-105 will supply power to the switch solenoid only after the set delay has been achieved.
The switch will auto unlock and the guard can be opened without pressing a manual button.

Providing that the guard is closed and locked, the machine can start when the START button is pressed.

Non-Contact RFID Locking Switch: **MGL-Series**

SPECIAL FEATURES:

Heavy Duty or Medium holding force versions.
Available in Stainless Steel 316 (with Stainless Magnet), robust Plastic or Die-Cast Metal.
RFID Master Coded or Unique Coding.

High Specification Polyester

Die-Cast Metal

Stainless Steel 316 with Stainless Steel Magnet

IP69K

MGL-3P

DESCRIPTION:

The MGL range of Non-Contact RFID Coded switches has been designed to ensure a high level of functional safety while delivering reliable magnetic door interlocking.

To accommodate various application needs, the switches offer flexibility in holding force, available in two sizes: Heavy Duty and Medium Duty. The Heavy Duty option provides a maximum holding force (F1Max) of 1100N for the Stainless Steel version and 1500N for the Plastic and Die-Cast versions. The Medium Duty option offers 600N (F1Max) for Stainless Steel and 1000N (F1Max) for Plastic and Die-Cast versions.

These switches use a combination of magnetic and RFID technologies for coding, requiring both methods to be satisfied for safe operation.

The MGL range is compatible with most standard safety relays, enabling it to achieve up to PLe/Category 4 safety level according to ISO13849-1.

Available in robust housings made from Stainless Steel 316, high-specification Plastic, or Die-Cast Metal, the MGL switch is suitable for use in a wide range of environments, including those requiring high-pressure cleaning after exposure to contaminants. The Stainless Steel 316 version is particularly suited for CIP (Clean-in-Place) and SIP (Sterilize-in-Place) processes, thanks to its Stainless Steel magnet and IP69K rating.

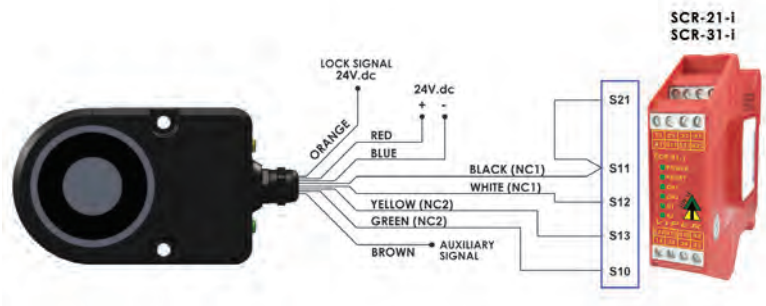
RFID CODING OPTIONS:

The RFID coding is offered in two types and can be either coded by series or uniquely coded.

Type 1: Master Code - by series (any actuator will operate any switch) this is used when unique door activation is not required, but the benefit of RFID makes it virtually impossible to be overridden or by-passed by simple means.
Type 2: 32,000,000 Unique Codes - the switch is factory set and used when unique activation is required in areas where there are many interlocked doors and security of individual areas is required.

The MGL combines magnetic sensing and RFID technology to provide non contact operation and high anti-tamper coding. In addition an electromagnet is used to lock machine guards.

CONNECTION EXAMPLE:



FUNCTIONAL SPECIFICATIONS:

Heavy Duty: 1100N S/Steel, 1500N Plastic and Die Cast
Medium Duty: 600N S/Steel, 1000N Plastic and Die Cast
(All values quoted are F1Max.)

2NC Safety Outputs overload protected

1NO Auxiliary Output for indication of door open

No moving parts - high switch life and provides resistance to Shock and Vibration.

Offered in: Stainless Steel 316 (with Stainless Steel Magnet), High Specification and robust Polyester housings, or Die Cast Metal.

Non-Contact RFID Locking Switch: **MGL-Series**

FEATURES:

Heavy Duty or Medium Duty holding forces available (comprising 6 models - 2 Stainless Steel, 2 High Specification Plastic and 2 Die-Cast Metal).

RFID provides a high degree of anti-tamper - virtually impossible to override.

Uniquely coded RFID or Series Coded RFID available - depending upon user's risk assessment for application.

The actuator (plastic or stainless steel) has been designed to be flexible and therefore has a degree of tolerance to misalignment.

Able to connect to most popular safety relays to achieve up to PLe and Cat.4 for ISO3849-1.

Connect up to 20 switches in series.

Ability to connect other switches and E-Stops in series.

Stainless Steel 316 model available for food processing applications (IP69K rating).

Unique triggering of solenoid latching mechanism to maintain close control of actuator position.

Choices of 8-core cable or M12 quick connect (QC).

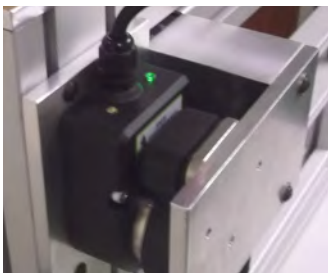
Remanence magnetization holding technique acts as a light magnetic latch after unlocking.

Shown in Guard Open position.

Yellow LED indicates OPEN.

Shown in Guard Closed position.

Green LED indicates CLOSED.



LED OPERATION & SWITCH STATUS INDICATION:

The MGL switch uses 2 LEDs to indicate all the different possible switch states.

The LEDs are in a clearly visible location at either side of the cable exit point.

SWITCH STATUS	GUARD	GREEN LED	YELLOW LED
Locked	Closed	Steady	Off
Solenoid Power OFF (Unlocked)	Closed	Flashing	Off
Guard Open	Open	Off	Steady
Door Forced Open	Open	Off	Flashing

MGL Operating Directions

SPECIFICATIONS:

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Switching Distance:	Sao 1mm Close Sar 10mm Open
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	MGL-*P = Plastic MGL-*M = Die-Cast Metal MGL-*SS = Stainless Steel 316
Temperature Range:	-25C to +40C
Enclosure Protection:	IP67
Cable Type:	PVC 6 or 8 core 6mm OD
Mounting Bolts:	2 x M5 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d:	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

8-CORE 2M, 5M, 10M CABLE	CONDUCTOR COLOURS	FUNCTION
	Blue	0Vdc
	Red	24Vdc
	Orange	Lock Applied (24Vdc)
	Black	Safety Output 1
	White	Safety Output 1
	Yellow	Safety Output 2
	Green	Safety Output 2
	Brown	Auxiliary Signal

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

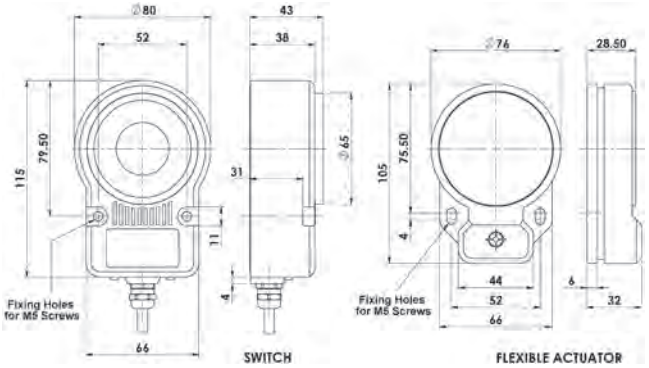
Pin view from Switch on flying lead 250mm (10")

Quick Connect (QC) M12 8 Way Male	Switch Circuit
3	0Vdc
2	24Vdc
8	Lock Applied (24Vdc)
7	Safety Output 1
1	Safety Output 1
4	Safety Output 2
6	Safety Output 2
5	Auxiliary Signal

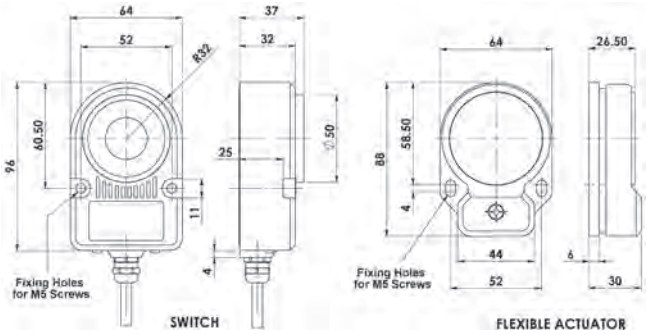
Non-Contact RFID Locking Switch: **MGL-Series**

DIMENSIONS:

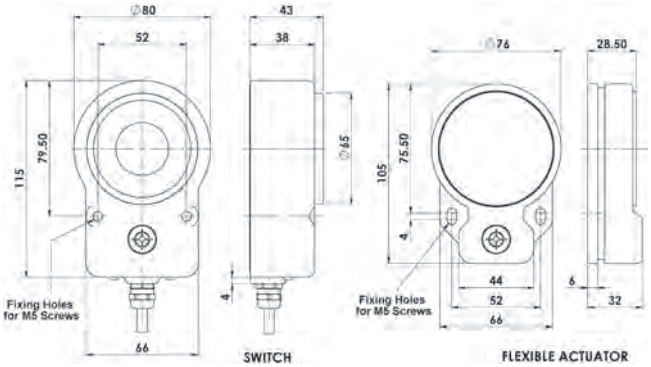
MGL-1P



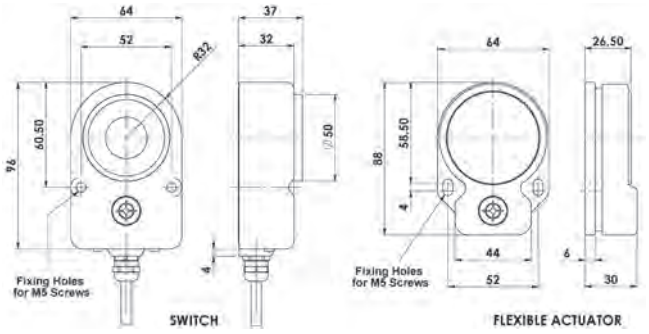
MGL-2P



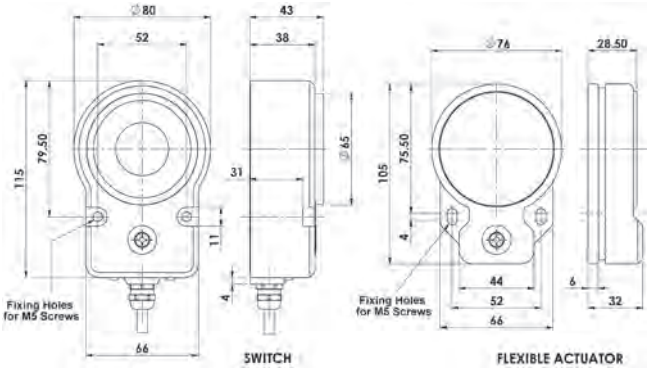
MGL-1SS



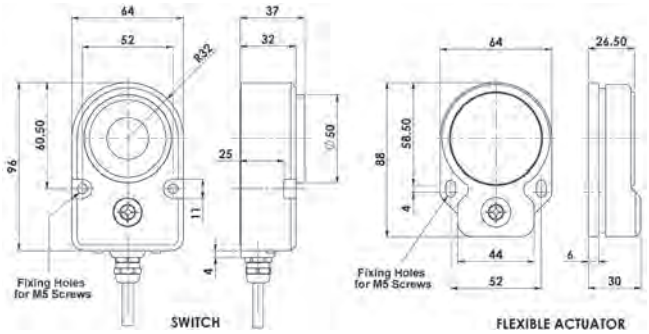
MGL-2SS



MGL-1M



MGL-2M



HOLDING FORCES:

STAINLESS STEEL VERSIONS:

1100N

MGL-1SS

600N

MGL-2SS

DIE-CAST METAL VERSIONS:

1500N

MGL-1M

1000N

MGL-2M

PLASTIC VERSIONS:

1500N

MGL-1P

1000N

MGL-2P

Non-Contact RFID Locking Switch: **MGL-Series**

STAINLESS STEEL VERSIONS:

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
462001	MGL-1SS-U	5m
462002	MGL-1SS-U	10m
462003	MGL-1SS-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
462004	MGL-1SS-M	5m
462005	MGL-1SS-M	10m
462006	MGL-1SS-M	QC-M12
462102	Replacement Actuator (Master Code)	

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
460001	MGL-2SS-U	5m
460002	MGL-2SS-U	10m
460003	MGL-2SS-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
460004	MGL-2SS-M	5m
460005	MGL-2SS-M	10m
460006	MGL-2SS-M	QC-M12
460102	Replacement Actuator (Master Code)	

DIE-CAST METAL VERSIONS:

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
464001	MGL-1M-U	5m
464002	MGL-1M-U	10m
464003	MGL-1M-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
464004	MGL-1M-M	5m
464005	MGL-1M-M	10m
464006	MGL-1M-M	QC-M12
464102	Replacement Actuator (Master Code)	

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
465001	MGL-2M-U	5m
465002	MGL-2M-U	10m
465003	MGL-2M-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
465004	MGL-2M-M	5m
465005	MGL-2M-M	10m
465006	MGL-2M-M	QC-M12
465102	Replacement Actuator (Master Code)	

PLASTIC VERSIONS:

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
463001	MGL-1P-U	5m
463002	MGL-1P-U	10m
463003	MGL-1P-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
463004	MGL-1P-M	5m
463005	MGL-1P-M	10m
463006	MGL-1P-M	QC-M12
463102	Replacement Actuator (Master Code)	

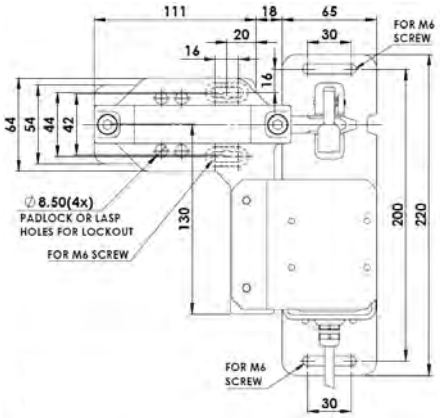
SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
461001	MGL-2P-U	5m
461002	MGL-2P-U	10m
461003	MGL-2P-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
461004	MGL-2P-M	5m
461005	MGL-2P-M	10m
461006	MGL-2P-M	QC-M12
461102	Replacement Actuator (Master Code)	

MGL-GBN-3 GATE BOLT:

NEW

SALES NUMBER	DESCRIPTION	ORIENTATION
210070	MGL-GBN-3 GATE BOLT	LEFT-HAND
210071	MGL-GBN-3 GATE BOLT	RIGHT-HAND



Electromagnetic RFID Locking Switch: **MGL-3P**

APPLICATIONS & FEATURES:

NEW

The MGL-3P is designed for secure and reliable machine safety. This advanced electromagnetic safety switch features an RFID coded sensor and robust guard locking mechanism, ensuring that only authorized access is granted. With a holding force of up to 1000N, the MGL-3P provides unmatched security and peace of mind in industrial settings.

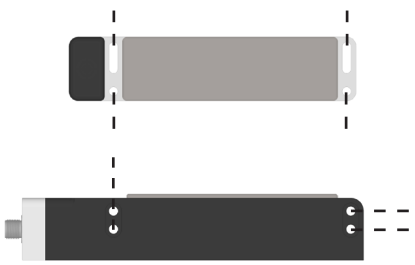
Designed for maximum versatility, the MGL-3P offers multiple mounting points, making it adaptable to a wide range of applications and easy to integrate into existing systems. Its user-friendly installation process allows for quick setup and secure attachment, saving you time and effort.

One of the standout features of the MGL-3P is its large LED lens, strategically located at the bottom of the switch. This LED provides clear and comprehensive visibility of the device status from all angles, ensuring that operators can easily monitor the system's condition at a glance. Whether you're managing a complex assembly line or a single workstation, the MGL-3P's LED indicator helps maintain safety and efficiency.

Ideal for industries requiring stringent safety protocols, the MGL-3P is perfect for protecting personnel and equipment in environments such as manufacturing, packaging, and automation. With its combination of high security, flexibility, and ease of use, the MGL-3P is the ideal choice for modern safety solutions.

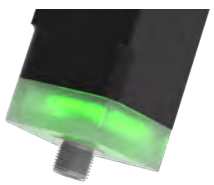
- Robust Polyester Housing with Metal Mounting Plate
- High Coded RFID in Accordance with EN ISO 14119
- 40mm Profile and Side Mounting Points for Easy Installation
- Spring Loaded Actuator for Flexibility
- Large LED for Instant Visibility on Device Status

Fixed or adjustable mounting points for direct installation onto guard frames.

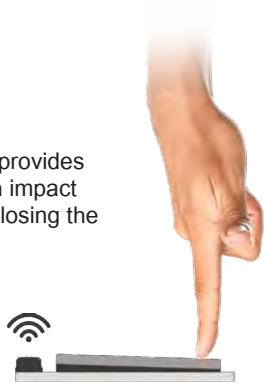


Wrap-around LED lens for maximum visibility from all angles.

Quick installation via integrated M12 connector.



Flexible actuator provides resistance to high impact scenarios when closing the guard door.



Electromagnetic RFID Locking Switch: **MGL-3P**

INDICATION:

SWITCH STATUS	GUARD	GREEN LED	YELLOW LED
Locked	Closed	Steady	Off
Solenoid Power OFF (Unlocked)	Closed	Flashing	Off
Guard Open	Open	Off	Steady
Door Forced Open	Open	Off	Flashing

CONNECTIVITY:

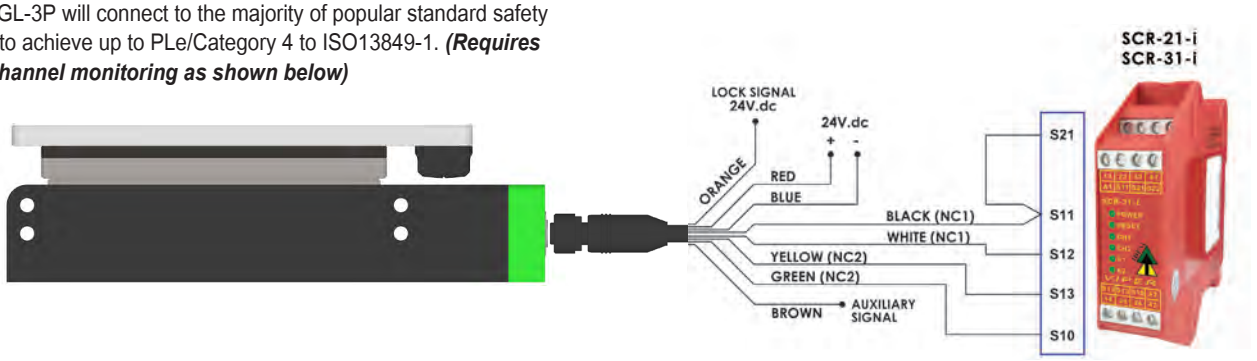
Pin view from Switch on flying lead 250mm (10")

Quick Connect (QC) M12 8 Way Male	Switch Circuit
3	0Vdc
2	24Vdc
8	Lock Applied (24Vdc)
7	Safety Output 1
1	Safety Output 1
4	Safety Output 2
6	Safety Output 2
5	Auxiliary Signal

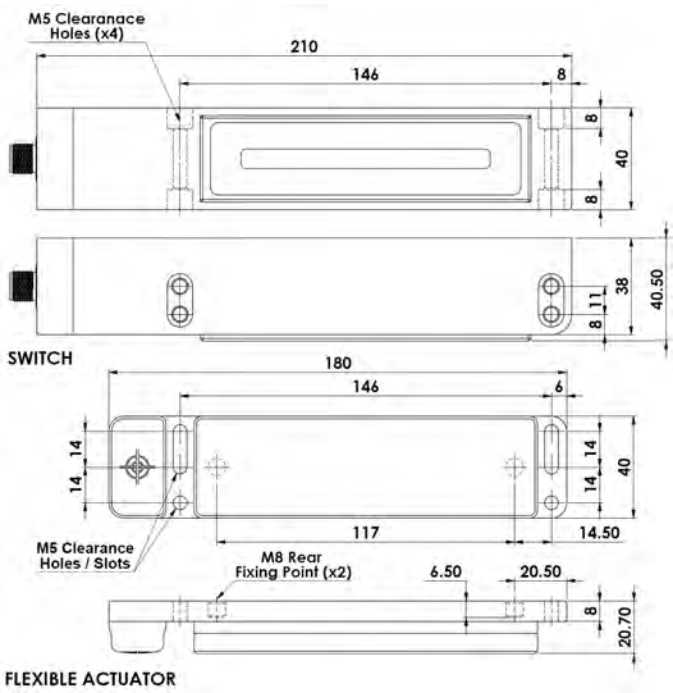
FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

CONNECTION EXAMPLE:

The MGL-3P will connect to the majority of popular standard safety relays to achieve up to PLe/Category 4 to ISO13849-1. ***(Requires dual channel monitoring as shown below)***



DIMENSIONS:



TECHNICAL SPECIFICATIONS:

Technical Specification	
Supply Voltage	24Vdc +/- 10%
Supply Current	75mA
Solenoid Current	500mA
Output Rating	24V 0.2A
Output Type	Voltage-Free
Aux. Rating	24V 0.2A
Aux. Type	PNP
Body material	Polyester
Temperature Range	-25C to +40C
Enclosure Protection	IP67
Connectivity	M12 Bulkhead Connector
Mounting Bolts	2 x M5
Mounting Position	Any (see L-Bracket for more options)

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

ORDERING:

Part Number	Description	Coding
467006	MGL-3P-M QC-M12 8-Way	Master Coding
467003	MGL-3P-U QC-M12 8-Way	Unique Coding
Accessories		
467102	MGL-3P Replacement Actuator	
467200	Mounting L-Bracket	

Z-Range with OSSD: **HS-SS-Z and HSM-Z**

FEATURES & APPLICATION:

IDEM's HS-SS-Z and HSM-Z Hinge Interlock Safety Switches have been developed to provide and maintain a high level of functional safety.

They will connect to most popular standard Safety Relays to maintain a PLe Safety Level even with switches connected in series.

They have easy to understand LED diagnostic functions and provide auxiliary outputs for extra diagnostic signals to PLCs.

The HS-SS-Z and HSM-Z Hinge Switches are designed to be mounted for interlock position sensing of hinged moving guards. They have been designed to be fitted to the hinged axis of machine guard doors and provide a robust hinge function in addition to interlock position sensing.

Enclosures are protected to IP67 / IP69K with a low profile, hygienic design for washdown.

The HS-Z hinge switches must be used in combination with a dual channel safety control device e.g. Safety Relay or Safety Controller. They can provide protection to Ple/Cat.4 to ISO 13849-1, and will maintain Ple with other Idem Z-type switches connected in series due to internal test functions of the switches. In addition, each switch provides input, output and guard state LED's.

A maximum of 30 switches can be connected in series.

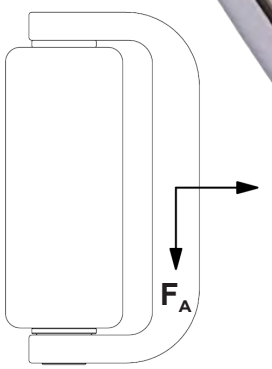
Operation is achieved by the rotating action of an enclosed cam profile and sensing components within the switch.

The hinge switch can be adjusted upon installation to provide guard-open output signal anywhere between 0 to 10 degrees.

All HS-Z switches are factory set to provide the guard open output signal at 3 degrees. Once set during installation the HS-Z is permanently pinned in order to provide a fully tamper-resistant switching point.

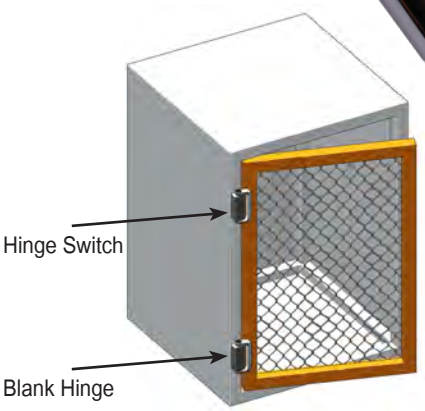
IP69K

HS-SS-Z Hinge Switch
Stainless Steel 316
Mirror Polished Housing



F_R = 800 N
F_A = 800 N

HSM-Z Hinge Switch
Die Cast Mirror
Polished Housing



SAFETY RELIABILITY:

IDEM's HS-SS-Z and HSM-Z Hinge Switches employ two microprocessors and they use IDEM's intelligent system to constantly check all switches.

Safety Reliability up to ISO13849-1 PLe.

MAIN USER BENEFITS:

- Connect up to 30 switches in series.
- Able to connect to most popular Safety Relays without the need for special controllers.
- Ability to connect to other switches and Emergency Stops in series.
- Up to 800N axial force.
- Blank hinges are available.
- Mounting brackets available for ease of fixing.

FUNCTIONAL SPECIFICATION:

High Functional Safety to ISO13849-1 - connects to most Safety Relays to maintain PLe.

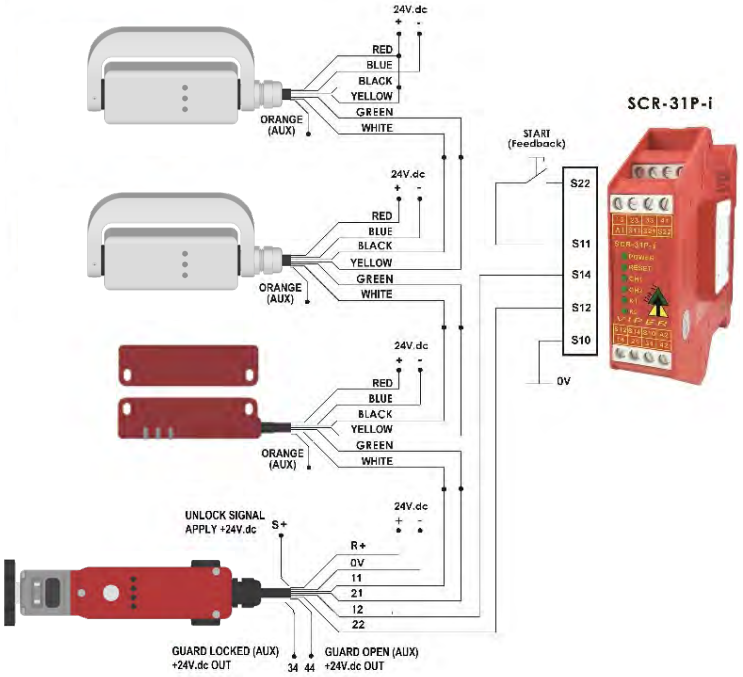
Safety Outputs short circuit protected.

One Auxiliary circuit for indication of door open.

Z-Range with OSSD: **HS-SS-Z and HSM-Z**

CONNECTION EXAMPLE:

Multiple switches connected to SCR-31P-i Safety Relay (Viper series)



Standards: ISO 14119 IEC 60947-5-1 EN62061 EN60204-1 ISO 13849-1 UL 60947-5-1

Technical Data:

Rated Operating Voltage	24 Vdc -15% +10%Use SELV/PELV
Power Consumption	0.7 W
Outputs Rated Voltage	24 Vdc
Outputs Max. Current	0.2 A
Outputs Min. Current	1 mA
Outputs Type	PNP
Inputs Rated Voltage	24 Vdc
Inputs Rated Current	2 mA
Auxiliary Signalling	Output Rated Voltage 24 Vdc
Auxiliary Signalling	Output Max. Current 0.2 A
Signalling Output Type	PNP
Assured Switching Angles	Off 10 Degrees
Typical Switching Angles	Off 0 – 10 Degrees (Adjustable)
Response Time Guard Open	60ms max.
Response Time Inputs Off	20ms max.
Operating Temperature	-25 / 55C
Storage Temperature	-25 / 80C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms
Enclosure Protection	IP67 / IP69K
Vibration	IEC 68-2-6 10-55Hz+1Hz
Excursion: 0.35mm, 1 octave/min	
Conduit Entry	Various (see sales part numbers)
Fixing	7 x M5
Mounting Position	Any

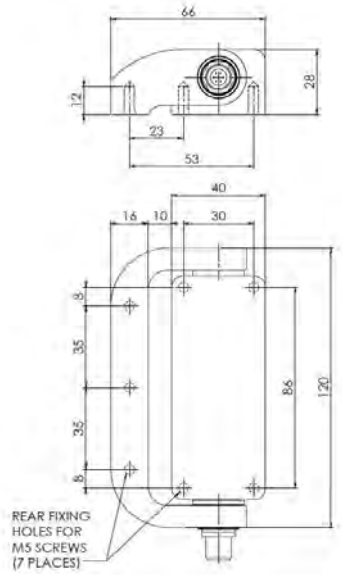
Characteristic Data according to IEC62061 (used as a sub system):

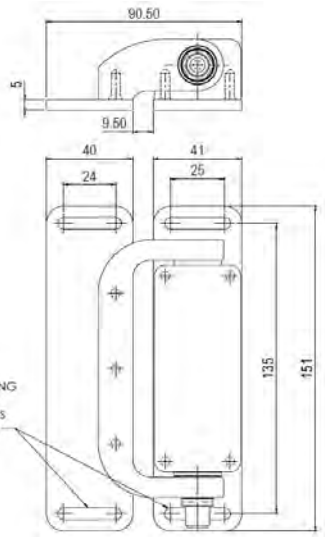
Safety Integrity Level	SIL3
PFH (1/h)	1.0 E-09 Corresponds to 1% of SIL3
PFD	8.7 E-05 Corresponds to 9% of SIL3
Proof Test Interval T1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e
Category	4
MTTFd	771a

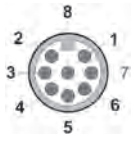
DIMENSIONS:





Blank Hinges

Shown with mounting brackets.



140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
8	Orange	Auxiliary Signal Output +24Vdc
5	Brown	Not used
4	Yellow	Safety Input 1
6	Green	Safety Output 1
7	Black	Safety Input 2
1	White	Safety Output 2
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

SALES NUMBER	SWITCH	CABLE LENGTH	ORIENTATION
HS-SS-Z HINGE SWITCH (Stainless Steel 316)			
352001	**HS-SS-Z**	5m	Right Handed
352002	**HS-SS-Z**	10m	Right Handed
352003	**HS-SS-Z**	QC-M12	Right Handed
352004	**HS-SS-Z**	5m	Left Handed
352005	**HS-SS-Z**	10m	Left Handed
352006	**HS-SS-Z**	QC-M12	Left Handed
350020	Blank Hinge Stainless Steel		
HSM-Z HINGE SWITCH (Die Cast Mirror Polished)			
353001	**HSM-Z**	5m	Right Handed
353002	**HSM-Z**	10m	Right Handed
353003	**HSM-Z**	QC-M12	Right Handed
353004	**HSM-Z**	5m	Left Handed
353005	**HSM-Z**	10m	Left Handed
353006	**HSM-Z**	QC-M12	Left Handed
351020	Blank Hinge Die Cast		
350025	Hinge Switch Mounting Brackets		

Hinge Interlock Safety Switch: **HSM**

FEATURES:

IDEM's HSM Hinge Switch has a die cast housing with a mirror polished finish and has been designed to be mounted for interlock position sensing of hinged moving guards.

The HSM has been designed to be fitted to the hinged axis of machine guard doors and provide a robust hinge function in addition to interlock position sensing.

It has positive opening contacts in accordance with IEC 60947-5-1 and after fitting the switch offers a very high degree of anti-tamper.

The HSM is used to mount the machine guard door into the machine guard frame and contact blocks are available in slow make/break 3NC 1NO, or 2NC 2NO.

The enclosure is protected to IP67 with a low profile.

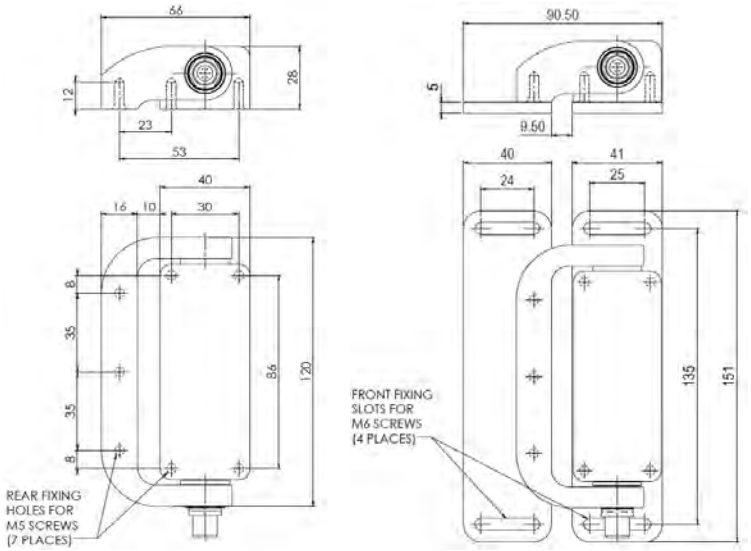
MIRROR POLISHED DIE CAST HOUSING

OPERATION:

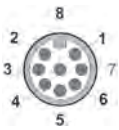
Operation of the switches is achieved by the rotating action of a cam and actuator to cause deflection of the switch plunger.

Positive actuation of the contacts is achieved at only 6 degrees of opening of the guard and can be adjusted up to 12 degrees if required upon installation.

DIMENSIONS:



FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102



Standards: ISO 14119, IEC 60947-5-1, EN60204-1
ISO 13849-1, EN62061

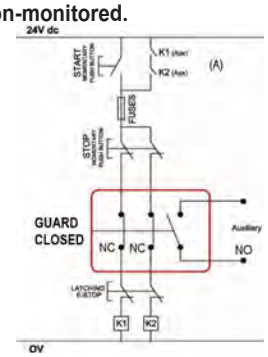
Technical Specification:

Mechanical Reliability B10d	1.5 x 106 operations at 100mA load
ISO 13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Overload protection fuse (fuse externally)	10A (FF)
Rated Insulation/Withstand Voltages	600VAC/2500VAC
Actuator Rotation for Positive Opening	6 degrees 0.5Nm (Type Zb contacts)
Maximum Approach Withdrawal Speed	600mm/s
Body Material	Die Cast (black plated mirror finish)
Enclosure Protection	IP67 / IP69K
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz+1Hz Excursion: 0.35mm, 1 octave/min
Conduit Entry	Various (see sales part numbers)
Fixing	7 x M5
Tightening Torque (all mounting bolts)	4Nm
Mounting Position	Any
Pollution Degree	3
Short Circuit Overload Protection	Fuse externally 10A (FF)

Blank Hinge

APPLICATION EXAMPLE:

Door Interlock - Dual Channel non-monitored.



This system shows interlock switch circuits configured to allow dual circuit direct feeds to contactor coils K1 and K2.

When the start button is pressed and then released, the auxiliary contacts (A) of contactors K1 and K2 maintain the feed to the contactor coils.

Opening of the Interlock Switch or depressing the E Stop will isolate power to the contactor coils.

Re-start can only occur providing the Guard is closed and the E Stop is reset. System is shown with the guards closed and machine able to start.

Function	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
NC3 or NO2 (optional)	4
NC3 or NO2 (optional)	3
NO (auxiliary)	2
NO (auxiliary)	8
NC1	7
NC1	1
NC2	6
NC2	5

SALES NUMBER	CONTACTS	CABLE LENGTH	ORIENTATION
351001	3NC 1NO	5m	Right Handed
351002	3NC 1NO	10m	Right Handed
351003	3NC 1NO	QC-M12	Right Handed
351004	2NC 2NO	5m	Right Handed
351005	2NC 2NO	10m	Right Handed
351006	2NC 2NO	QC-M12	Right Handed
351007	3NC 1NO	5m	Left Handed
351008	3NC 1NO	10m	Left Handed
351009	3NC 1NO	QC-M12	Left Handed
351010	2NC 2NO	5m	Left Handed
351011	2NC 2NO	10m	Left Handed
351012	2NC 2NO	QC-M12	Left Handed
351020	Blank Hinge Die-Cast		
350025	Hinge Switch Mounting Brackets		

Hinge Interlock Safety Switch: **HS-SS**

FEATURES:

IDEM's HS-SS Stainless Steel 316 Hinge Switch with a mirror polished finish has been designed to be mounted for interlock position sensing of hinged moving guards.

The HS-SS has been designed to be fitted to the hinged axis of machine guard doors and provide a robust hinge function in addition to interlock position sensing.

It has positive opening contacts in accordance with IEC 60947-5-1 and after fitting the switch offers a very high degree of anti-tamper.

The HS-SS is used to mount the machine guard door into the machine guard frame and contact blocks are available in slow make/break 3NC 1NO, or 2NC 2NO.

Enclosures are protected to IP67 / IP69K with a low profile, hygienic design for washdown.

IP69K

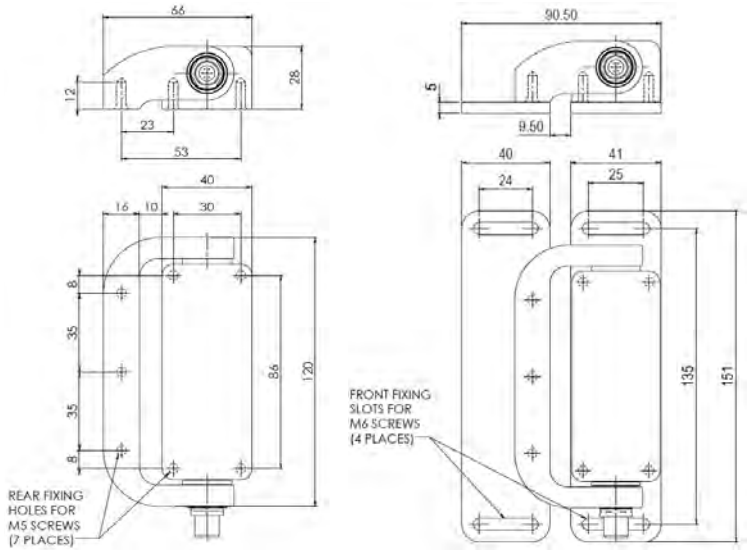
STAINLESS STEEL 316 MIRROR POLISHED HOUSING

OPERATION:

Operation of the switches is achieved by the rotating action of a cam and actuator to cause deflection of the switch plunger.

Positive actuation of the contacts is achieved at only 6 degrees of opening of the guard and can be adjusted up to 12 degrees if required upon installation.

DIMENSIONS:



FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Standards: ISO 14119, IEC 60947-5-1, EN60204-1
ISO 13849-1, EN62061

Technical Specification:

Mechanical Reliability B10d	1.5 x 106 operations at 100mA load
ISO 13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days
	MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Overload protection fuse (fuse externally)	10A (FF)
Rated Insulation/Withstand Voltages	600VAC/2500VAC
Actuator Rotation for Positive Opening	6 degrees 0.5Nm (Type Zb contacts)
Maximum Approach Withdrawal Speed	600mm/s
Body Material	Stainless Steel 316 (mirror polished finish)
Enclosure Protection	IP67 / IP69K
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz+1Hz
	Excursion: 0.35mm, 1 octave/min
Conduit Entry	Various (see sales part numbers)
Fixing	7 x M5
Tightening Torque (all mounting bolts)	4Nm
Mounting Position	Any
Pollution Degree	3
Short Circuit Overload Protection	Fuse externally 10A (FF)

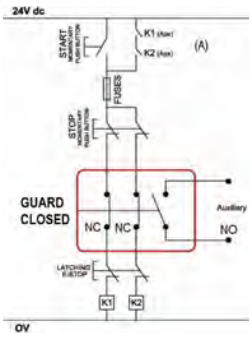
Blank Hinge

APPLICATION EXAMPLE:

Door Interlock - Dual Channel non-monitored.

This system shows interlock switch circuits configured to allow dual circuit direct feeds to contactor coils K1 and K2.

When the start button is pressed and then released, the auxiliary contacts (A) of contactors K1 and K2 maintain the feed to the contactor coils.



Opening of the Interlock Switch or depressing the E Stop will isolate power to the contactor coils.

Re-start can only occur providing the Guard is closed and the E Stop is reset. System is shown with the guards closed and machine able to start.

Function	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
NC3 or NO2 (optional)	4
NC3 or NO2 (optional)	3
NO (auxiliary)	2
NO (auxiliary)	8
NC1	7
NC1	1
NC2	6
NC2	5

SALES NUMBER	CONTACTS	CABLE LENGTH	ORIENTATION
350001	3NC 1NO	5m	Right Handed
350002	3NC 1NO	10m	Right Handed
350003	3NC 1NO	QC-M12	Right Handed
350004	2NC 2NO	5m	Right Handed
350005	2NC 2NO	10m	Right Handed
350006	2NC 2NO	QC-M12	Right Handed
350007	3NC 1NO	5m	Left Handed
350008	3NC 1NO	10m	Left Handed
350009	3NC 1NO	QC-M12	Left Handed
350010	2NC 2NO	5m	Left Handed
350011	2NC 2NO	10m	Left Handed
350012	2NC 2NO	QC-M12	Left Handed
350020	Blank Hinge Stainless Steel		
350025	Hinge Switch Mounting Brackets		

Hinge Interlock Safety Switch: **HINGECAM HC-3**

FEATURES:

IDEM's HC-3 is a member of the HINGECAM family which is a range of Compact Hinge Safety Interlock switches and has been designed to provide position interlock detection for moving guards.

They are designed to fit to the hinged axis of machine guard doors. The switch body fits to the door frame and the shaft fits to the door.

The rugged Stainless Steel shaft profile is designed to fix to the door and provide a positively operated not easily defeatable interlock mechanism. They can be mounted unobtrusively away from direct vision or contact.

The compact body and 18mm fixing profile make them easy to install where space is restricted.

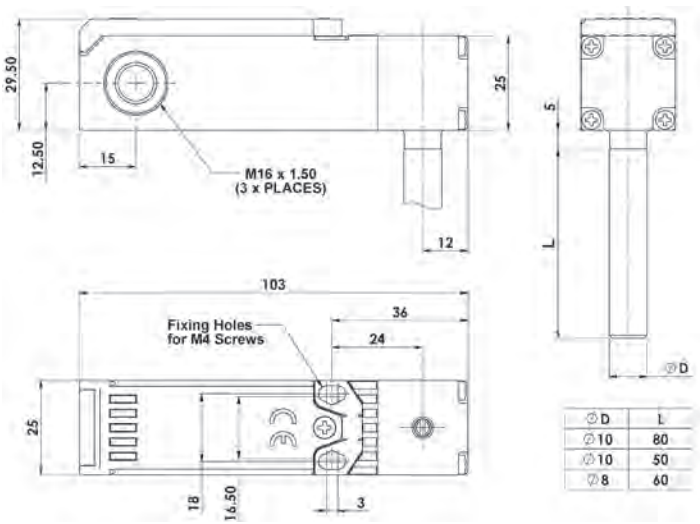
The head can be rotated through 90 degree increments to provide ease of mounting in 4 positions.

Contact blocks are replaceable.

Solid shafts are available as: 10mm dia. and 50 or 80mm long or as 8mm dia. and 60mm long.

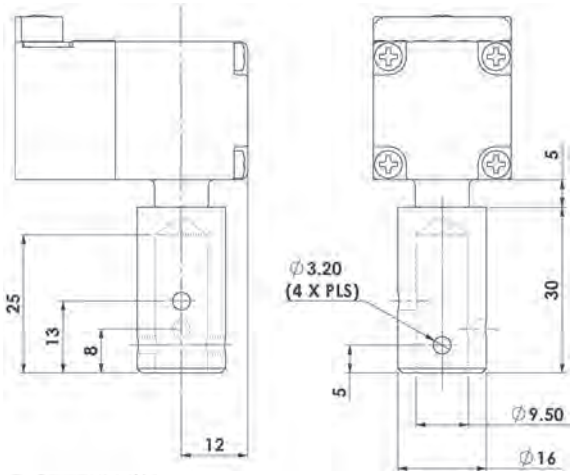
Hollow shafts also available (see dimensions opposite).

DIMENSIONS:



ØD	L
Ø10	80
Ø10	50
Ø8	60

HOLLOW SHAFT DIMENSIONS:

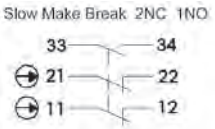


FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 7
21/22	6 5
33/34	4 3

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Actuator Rotation for Positive Opening	7 degrees 0.5Nm
Housing Materials	UL Approved Glass Fibre Polyester
Shaft Material	Stainless Steel
Enclosure Protection	IP67
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	3xM16
Fixing	2 x M4

CONTACT BLOCK:



SALES NUMBER	CONTACTS	SHAFT	M16	QC M12 8 WAY
HC-3	2NC 1NO	Dia. 10mm x 80mm	194001	194002
		Dia. 10mm x 50mm	194003	194004
		Dia. 8mm x 60mm	194005	194006
		Hollow Dia. 16mm x 30mm	194007	194008

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 194001-GC

Hinge Interlock Safety Switch: **HINGECAM HC-SS**

FEATURES:

IDEM's HC-SS is a member of the HINGECAM family which is a range of Compact Hinge Safety Interlock switches and has been designed to provide position interlock detection for moving guards.

They are designed to fit to the hinged axis of machine guard doors. The switch body fits to the door frame and the shaft fits to the door.

The rugged Stainless Steel 316 body and Stainless Steel shaft profile is designed to fix to the door and provide a positively operated not easily defeatable interlock mechanism. They can be mounted unobtrusively away from direct vision or contact.

The compact body and 22mm fixing profile make them easy to install where space is restricted.

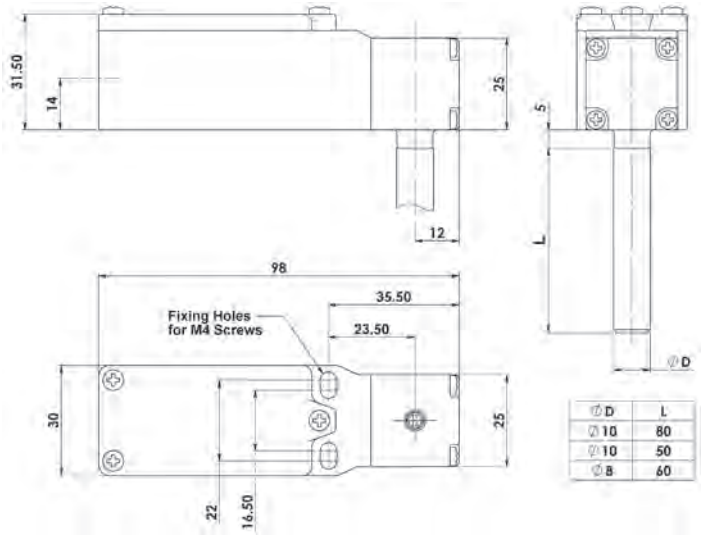
The head can be rotated through 90 degree increments to provide ease of mounting in 4 positions.

Contact blocks are replaceable.

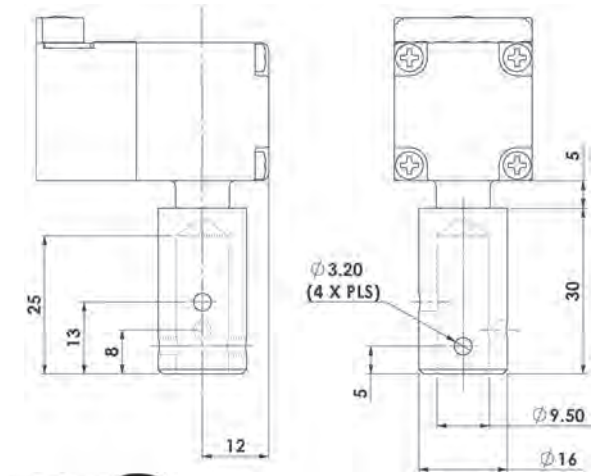
Solid shafts are available as: 10mm dia. and 50 or 80mm long or as 8mm dia. and 60mm long.

Hollow shafts also available (see dimensions opposite).

DIMENSIONS:



HOLLOW SHAFT DIMENSIONS:

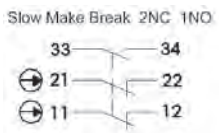


FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 7
21/22	6 5
33/34	4 3

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Actuator Rotation for Positive Opening	7 degrees 0.5Nm
Housing Materials	Stainless Steel 316
Shaft Material	Stainless Steel
Enclosure Protection	IP69K
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (see Sales Number)
Fixing	2 x M4

CONTACT BLOCK:



SALES NUMBER	CONTACTS	SHAFT	M20	1/2" NPT	QC M12 8 WAY
HC-SS	2NC 1NO	Dia. 10mm x 80mm	195001	195002	195003
		Dia. 10mm x 50mm	195004	195005	195006
		Dia. 8mm x 60mm	195007	195008	195009
		Hollow Dia. 16mm x 30mm	195010	195011	195012

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 195001-GC

Hinge Interlock Safety Switch: **IDIS-2**

FEATURES:

IDEM IDIS-2 Compact Hinge Safety Interlock switches are designed to provide position interlock detection for moving guards.

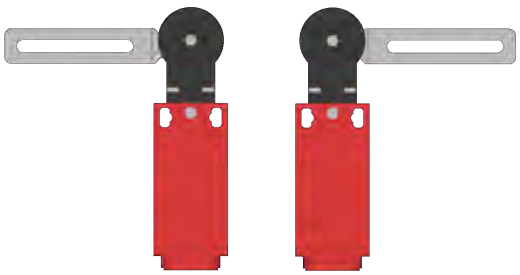
They are designed to fit to the hinged axis of machine guard doors. The switch body fits to the door frame and the leaf actuator fits to the door.

The rugged Stainless Steel actuator profile is designed to fix to the door and provide a positively operated not easily defeatable interlock mechanism. They can be mounted unobtrusively away from direct vision or contact.

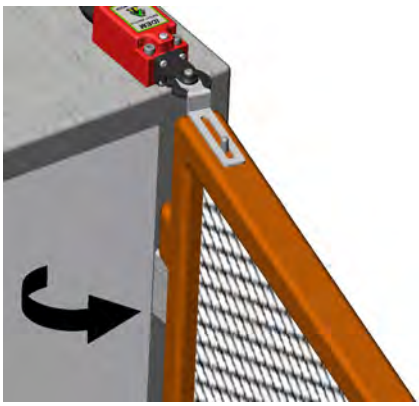
The compact body and 22mm fixing profile make them easy to install where space is restricted.

The head can be rotated through 90 degree increments to provide ease of mounting in 4 positions.

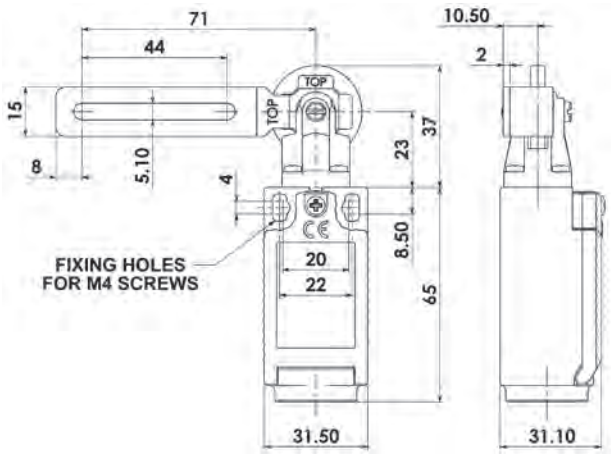
Contact blocks are replaceable with optional slow or snap break operation.



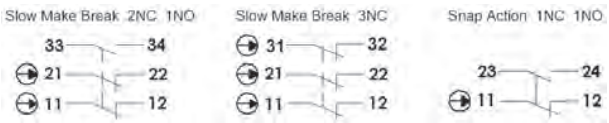
Universal fitting - Opening Angle 180 degrees for swing doors



DIMENSIONS:



CONTACT BLOCK OPTIONS:



Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 7
21/22 or 23/24	6 5
33/34 or 31/32	4 3

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Actuator Rotation for Positive Opening	7 degrees 0.5Nm
Materials	UL Approved Glass Fibre Polyester
Enclosure Protection	IP67
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M4

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

SALES NUMBER	CONTACTS	M20	1/2" NPT	QC M12 8 WAY
Universal Actuator	2NC 1NO	192001	192002	192022
Universal Actuator	3NC	192004	192005	192023
Universal Actuator	1NC 1NO Snap	192007	192008	192024

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 192001-GC

Hinge Interlock Safety Switch: **HINGECAM HC-1**

FEATURES:

IDEM's HC-1 is a member of the HINGECAM family which is a range of Compact Hinge Safety Interlock switches and has been designed to provide position interlock detection for moving guards.

They are designed to fit to the hinged axis of machine guard doors. The switch body fits to the door frame and the shaft fits to the door.

The rugged Stainless Steel shaft profile is designed to fix to the door and provide a positively operated not easily defeatable interlock mechanism. They can be mounted unobtrusively away from direct vision or contact.

The compact body and 18mm fixing profile make them easy to install where space is restricted.

The head can be rotated through 90 degree increments to provide ease of mounting in 4 positions.

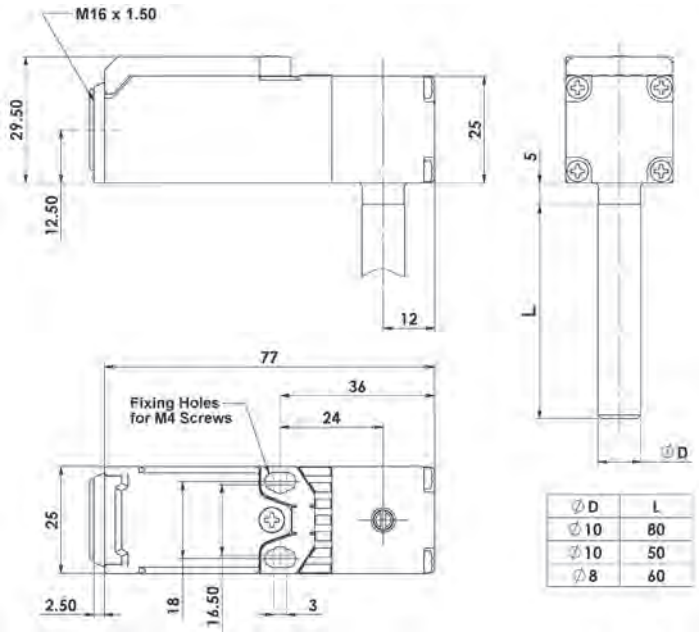
Contact blocks are replaceable.

Solid shafts are available as: 10mm dia. and 50 or 80mm long or as 8mm dia. and 60mm long.

Hollow shafts also available (see dimensions opposite).

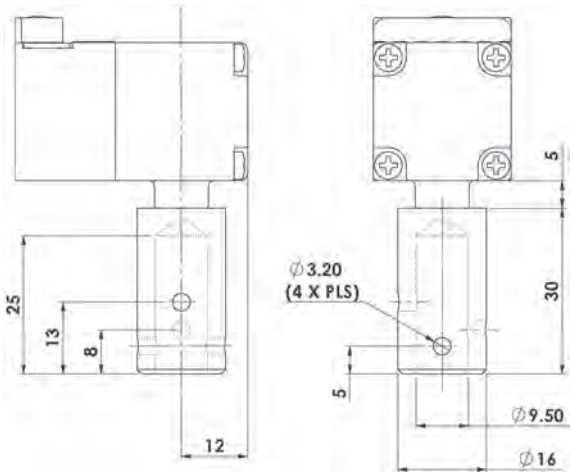
STAINLESS STEEL HEAD

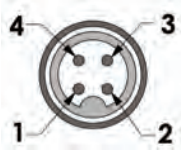
DIMENSIONS:



ØD	L
Ø10	80
Ø10	50
Ø8	60

HOLLOW SHAFT DIMENSIONS:





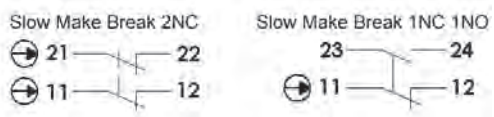
Switch Circuit	Quick Connect (QC) M12 4 Way Male (on Flying Lead 250mm) Pin View from Switch
11/12	1 3
21/22 or 23/24	4 2

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Actuator Rotation for Positive Opening	7 degrees 0.5Nm
Housing Materials	UL Approved Glass Fibre Polyester
Shaft Material	Stainless Steel
Enclosure Protection	IP67
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	M16
Fixing	2 x M4

CONTACT BLOCK OPTIONS:



SALES NUMBER	CONTACTS	SHAFT	M16	QC M12 4 WAY
HC-1	2NC	Dia. 10mm x 80mm	193001	193002
		Dia. 10mm x 50mm	193003	193004
		Dia. 8mm x 60mm	193005	193006
		Hollow Dia. 16mm x 30mm	193007	193008
HC-1	1NC 1NO	Dia. 10mm x 80mm	193009	193010
		Dia. 10mm x 50mm	193011	193012
		Dia. 8mm x 60mm	193013	193014
		Hollow Dia. 16mm x 30mm	193015	193016

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 193001-GC

VIPER Safety Relays Type: SCR-i (with added diagnostics)

SAFETY RELAY FUNCTION:

IDEM's VIPER SCR-i range of Safety Relays have been designed in accordance with EN60204-1 for safety circuits and they can be used in conjunction with Mechanical Interlock Guard Switches, Emergency Stop Switches, Non Contact Guard Switches or Safety Light Curtains to achieve redundant monitoring and fault checking up to PLe/Cat4 ISO13849-1.

When dual circuit monitoring is being used they can check the switch contacts for correct opening and re-closing, monitor for wiring short circuits and can be configured to check for correct opening of external machine contactors. For applications requiring time controlled delay after opening of the guard switch, versions with time delayed output contacts are available (this is variable 0 to 30 seconds). Additional LED diagnostics have been incorporated into the design to show the status of input and output circuits and the reset (feedback) circuit.

FEATURES:

- Dual force guided relay output contacts with high current outputs up to 6A.
- Up to PLe/Cat.4 to ISO13849-1 and SIL3 to EN62061.
- Single or dual channel input.
- Feedback loop for monitoring contactors.
- Short circuit and earth fault monitoring.
- DIN rail mounting - either 22.5mm or 45mm wide housings.
- Automatic or manual start. Monitored manual.
- Instant or delayed contacts.

LED DIAGNOSTIC FEATURES:

See individual product listings.
All relays include a combination of the below diagnostics.

Power	Power applied to device
Reset	Reset Circuit is closed
CH1	External switch input 1 closed
CH2	External switch input 2 closed
K1	Internal relay safety output contacts closed
K2	Internal relay safety output contacts closed
K3	Internal relay safety output contacts closed
K4	Internal relay safety output contacts closed

THE VIPER SCR-i RANGE BASE UNITS:

SCR-21-i

SCR-31-i

SCR-31P-i

EXPANSION UNITS:

SCR-73-i

SCR-31-42TD-i

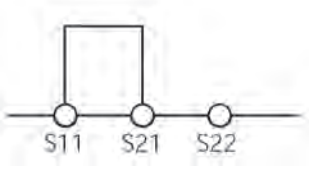
SEU-31-i

SEU-31TD-i

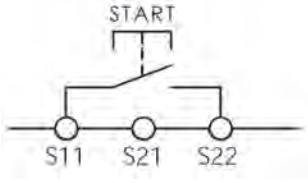
VIPER Safety Relays

FUNCTIONAL DESCRIPTION:

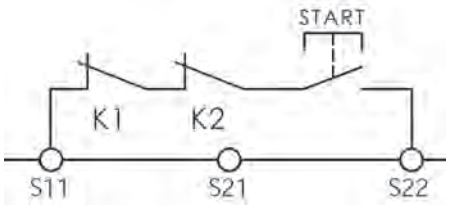
When the inputs are activated and the start/reset condition has been met the safety relay outputs close.
The safety relay outputs open when the inputs are de-activated or if there is a power failure.
Due to the cross monitoring logic of the internal relays the safety relay requires both internal relays to move to open position before the safety relay can be activated again.
When dual channel inputs are used it is not necessary to synchronise switching of the input channels.
When the start/reset circuit is configured to monitored manual reset the start button must perform a make-then-break action before the safety relay is allowed to energise.
External device feedback contacts can be monitored via the start/reset loop.



Auto Reset



Monitored Manual Reset



Contactor Feedback Check (Manual Reset)

INSTALLATION AND MAINTENANCE:

Installation as per EN 60204-1, the device is intended for installation in control cabinets with a minimum degree of protection of IP54.
The safety relay should be mounted on a 35mm DIN rail according to DIN EN 60715 TH35.

The device must be checked once per month for proper function and for signs of tampering and bypassing of the safety function.

SAFETY PRECAUTIONS:

- Installation and commissioning of the device must be performed only by authorized personnel.
- Observe the country-specific regulations when installing the device.
- The electrical connection of the device is only allowed to be made with the device isolated.
- The wiring of the device must comply with the instructions in this user information, otherwise there is a risk that the safety function will be lost.
- It is not allowed to open the device, tamper with the device or bypass the safety function.
- All relevant safety regulations and standards are to be observed.
- The overall concept of the control system in which the device is incorporated must be validated by the user.
- Failure to observe the safety regulations can result in death, serious injury and serious damage.

VIPER SCR-i PRODUCT SELECTION CHART:

	Supply Voltage	Manual/Automatic Reset	Single/Dual Channel	Instant Output Contacts	Time Delay Output Contacts	Time Delay Range	Diagnostic LEDs	Housing Width (mm)	ISO13849-1 PL (up to)	EN62061 SIL (up to)
Base Units										
SCR-21-i	24V dc/ac	M or A	S or D	2NC 1NO	-	-	6	22.5	PLe	SIL3
SCR-31-i	24V dc/ac	M or A	S or D	3NC 1NO	-	-	6	22.5	PLe	SIL3
SCR-31P-i	24V dc/ac	M or A	S or D	3NC 1NO	-	-	6	22.5	PLe	SIL3
SCR-73-i	24V dc/ac	M or A	S or D	7NC 3NO	-	-	6	45.0	PLe	SIL3
SCR-31-42TD-i	24V dc/ac	M or A	D	3NC 1NO	4NC 2NO	0 to 30 secs	8	45.0	PLe/PLd	SIL3/SIL2
Expansion Units (these can be slave wired to any base unit to increase the output contacts)										
SEU-31-i	24V dc/ac	M or A	N/A	3NC 1NO	-	-	3	22.5	PLe	SIL3
SEU-31TD-i	24V dc/ac	M or A	N/A	-	3NC 1NO	0 to 30 secs	3	22.5	SIL3/SIL2	SIL3/SIL2

Notes:
NC contacts are closed when safety relay is energised - machine is able to start.
NO contacts are closed when safety relay is de-energised - machine stopped or stopping

VIPER Safety Relays: **SCR-21-i** (with added diagnostics)

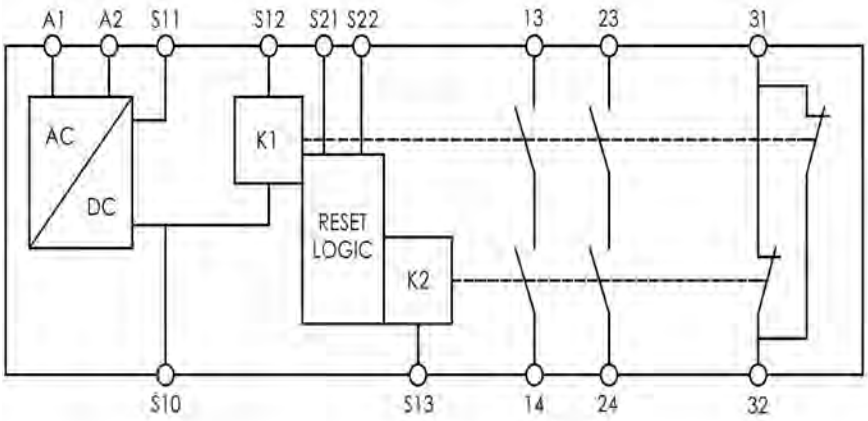
DESCRIPTION:

The Viper Safety Relays range from IDEM are designed to meet the latest safety standards and offer enhanced LED diagnostics and simplified wiring. Applications include the monitoring of safety interlock switches (guard door monitoring), emergency stop devices and sensors.
The SCR-21-i internal logic uses force guided relays to achieve cross monitoring, this ensures that a single fault does not lead to the loss of the safety function and that all faults are detected at or before the next safety demand.

FEATURES:

- Outputs 2NC contacts and 1NO contact.
- Feedback circuit to monitor external contacts.
- Easy diagnosis of status via visual indication of LEDs.
- Up to PLe, SILCL 3, Category 4.
- Monitored manual or automatic start.
- Single and dual channel operation.
- Output expansion units available to increase number of outputs.

BLOCK DIAGRAM AND ELECTRICAL CONNECTION:



Electrical Connection

A1 A2	Power 24Vac/dc
S11	Control Output
S10 S13 S12	Control Inputs
S21	Auto Reset Input
S22	Manual Reset Input
13-14	Safety Output Contact 1
23-24	Safety Output Contact 2
31-32	Auxiliary Output Contact

SPECIFICATIONS:

STANDARDS	
EN ISO13849-1 EN ISO13849-2 EN62061 EN60204-1 EN ISO12100	
POWER SUPPLY CIRCUIT	
Operating Voltage	24V AC/DC
Operating Voltage Tolerance	85-110%
Rated Supply Frequency	50Hz-60Hz
Power Consumption	2.5W (24V AC/DC)
CONTROL CIRCUITS	
Rated Output Voltage	24V DC (S11)
Output Current	100mA (S11)
Response Time	100ms
Release Time	25ms
Recovery Time	90ms
OUTPUT CIRCUITS	
Rated Output Voltage	250V AC
Maximum Current per Output	6A
Maximum Total Current all Outputs	8A
Safety Contact Breaking Capacity AC	250V, 1500VA, 6A, Ohmic 230V, 4A for AC-15
DC	24V, 30W, 1.25A, Ohmic
Minimum Contact Load	10V 10mA
Minimum Contact Fuses	4A slow blow, 6A fast blow
Contact Material	$AgSnO_2$
Contact Service Life	10×10^6
GENERAL DATE	
Rated Impulse Withstand Voltage	4kV
Rated Insulation Voltage	250V
Degree of Protection	IP20
Temperature Range	-20C to +55C
Degree of Contamination	2
Overvoltage Category	III
Weight	160gr (5.5 oz.)
Mounting	35mm DIN Rail

SAFETY CHARACTERISTICS		
EN62061	SIL3	
ISO13849-1	Ple Category 4	
PFH	4.1E-10 1/h	(0.4% of SIL3 (1 E-07 1/h))
PFD Av. (T=20a)	3.6E-05	(3.6% of SIL3 (1 E-03)
MTTFd	142a (High)	
DC Av.	99% (High)	

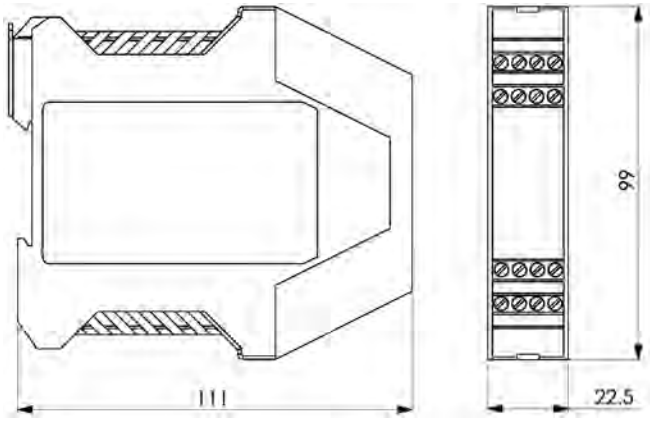
LED DIAGNOSTICS:

WHEN SAFETY RELAY IN OPERATION

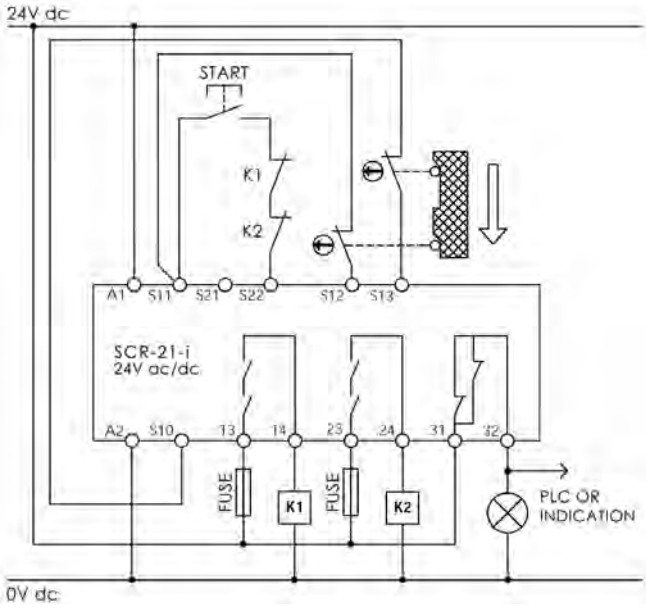
Power	Power applied to device
Reset	Reset Circuit is closed.
CH1	External switch input 1 closed.
CH2	External switch input 2 closed.
K1	Internal relay safety output contacts closed.
K2	Internal relay safety output contacts closed.

VIPER Safety Relays: **SCR-21-i** (with added diagnostics)

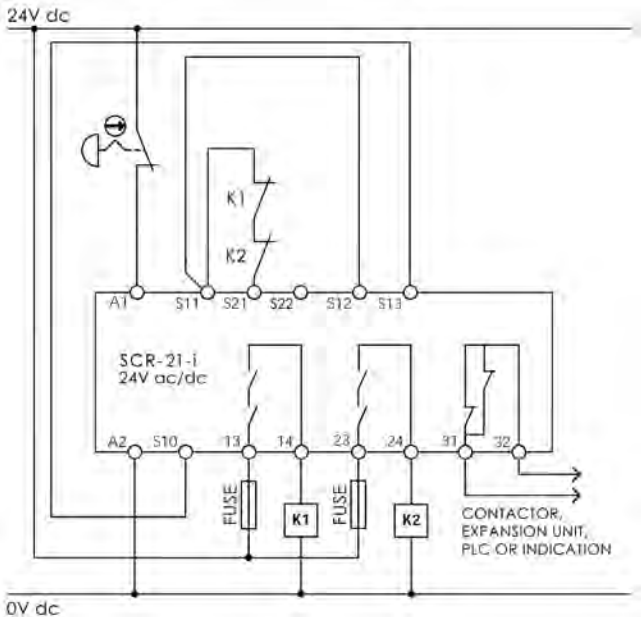
DIMENSIONS:



MANUAL RESTART MODE (Dual Channel) GUARD:



AUTOMATIC RESTART MODE (Single Channel) E-STOP:



SELECTION CHART & ORDERING:

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS
280001	SCR-21-i	Standard Screw Terminals	24Vac/dc	2NC	2NC 1NO
280001-P	SCR-21-i	Pluggable Screw Terminals	24Vac/dc	2NC	2NC 1NO

VIPER Safety Relays: **SCR-31-i** (with added diagnostics)

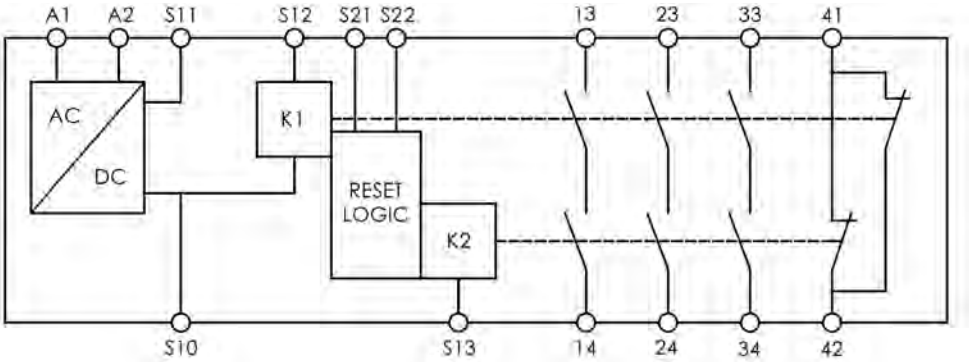
DESCRIPTION:

The Viper Safety Relays range from IDEM are designed to meet the latest safety standards and offer enhanced LED diagnostics and simplified wiring. Applications include the monitoring of safety interlock switches (guard door monitoring), emergency stop devices and sensors.
The SCR-31-i internal logic uses force guided relays to achieve cross monitoring, this ensures that a single fault does not lead to the loss of the safety function and that all faults are detected at or before the next safety demand.

FEATURES:

- Outputs 3NC contacts and 1NO contact.
- Feedback circuit to monitor external contacts.
- Easy diagnosis of status via visual indication of LEDs.
- Up to PLe, SILCL 3, Category 4.
- Monitored manual or automatic start.
- Single and dual channel operation.
- Output expansion units available to increase number of outputs.

BLOCK DIAGRAM AND ELECTRICAL CONNECTION:



Electrical Connection

A1 A2	Power 24Vac/dc
S11	Control Output
S10 S13 S12	Control Inputs
S21	Auto Reset Input
S22	Manual Reset Input
13-14	Safety Output Contact 1
23-24	Safety Output Contact 2
33-34	Safety Output Contact 3

SPECIFICATIONS:

STANDARDS	
EN ISO13849-1 EN62061 EN60204-1 EN ISO12100	
POWER SUPPLY CIRCUIT	
Operating Voltage	24V AC/DC
Operating Voltage Tolerance	85-110%
Rated Supply Frequency	50Hz-60Hz
Power Consumption	2.5W (24V AC/DC)
CONTROL CIRCUITS	
Rated Output Voltage	24V DC (S11)
Output Current	100mA (S11)
Response Time	100ms
Release Time	25ms
Recovery Time	90ms
OUTPUT CIRCUITS	
Rated Output Voltage	250V AC
Maximum Current per Output	6A
Maximum Total Current all Outputs	8A
Safety Contact Breaking Capacity AC	250V, 1500VA, 6A, Ohmic 230V, 4A for AC-15
DC	24V, 30W, 1.25A, Ohmic
Minimum Contact Load	10V 10mA
Minimum Contact Fuses	4A slow blow, 6A fast blow
Contact Material	$AgSnO_2$
Contact Service Life	10×10^6
GENERAL DATE	
Rated Impulse Withstand Voltage	4kV
Rated Insulation Voltage	250V
Degree of Protection	IP20
Temperature Range	-20C to +55C
Degree of Contamination	2
Overvoltage Category	III
Weight	160gr (5.5 oz.)
Mounting	35mm DIN Rail

SAFETY CHARACTERISTICS		
EN62061	SIL3	
ISO13849-1	Ple Category 4	
PFH	4.1E-10 1/h	(0.4% of SIL3 (1 E-07 1/h))
PFD Av. (T=20a)	3.6E-05	(3.6% of SIL3 (1 E-03)
MTTFd	142a (High)	
DC Av.	99% (High)	

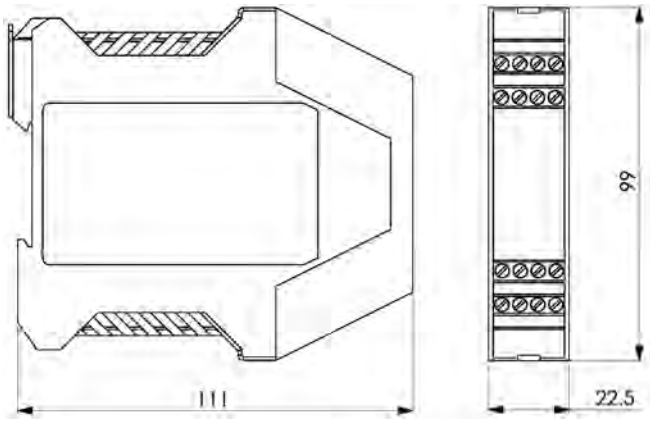
LED DIAGNOSTICS:

WHEN SAFETY RELAY IN OPERATION

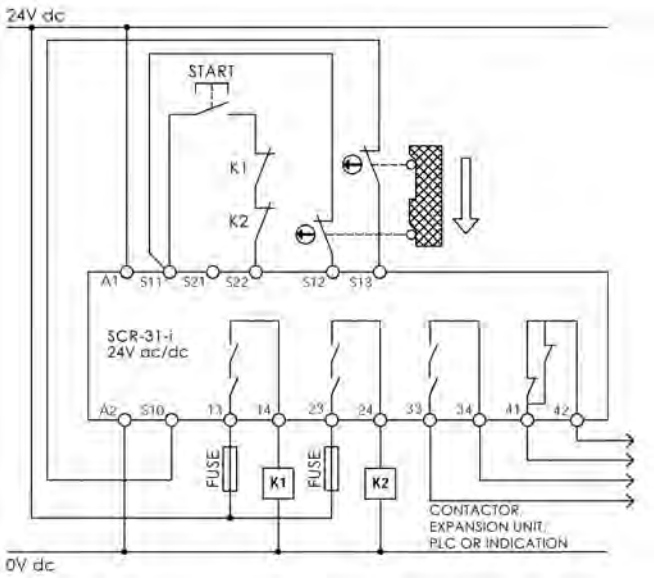
Power	Power applied to device
Reset	Reset Circuit is closed.
CH1	External switch input 1 closed.
CH2	External switch input 2 closed.
K1	Internal relay safety output contacts closed.
K2	Internal relay safety output contacts closed.

VIPER Safety Relays: **SCR-31-i** (with added diagnostics)

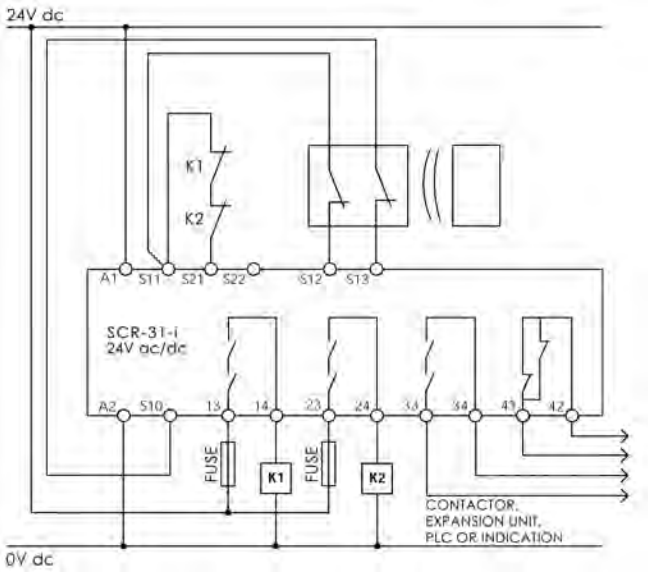
DIMENSIONS:



MANUAL RESTART MODE (Dual Channel) MECHANICAL SWITCHES:



AUTOMATIC RESTART MODE (Dual Channel) NON CONTACT:



SELECTION CHART & ORDERING:

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS
280002	SCR-31-i	Standard Screw Terminals	24Vac/dc	2NC	3NC 1NO
280002-P	SCR-31-i	Pluggable Screw Terminals	24Vac/dc	2NC	3NC 1NO

VIPER Safety Relays: **SCR-31P-i** (with added diagnostics)

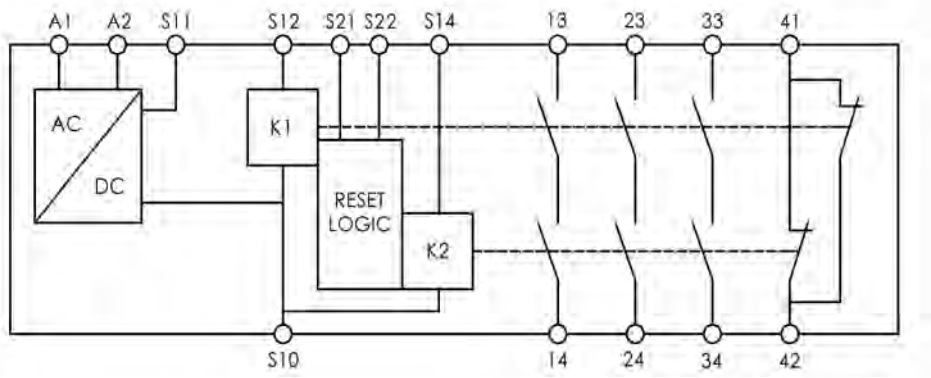
DESCRIPTION:

The Viper Safety Relays range from IDEM are designed to meet the latest safety standards and offer enhanced LED diagnostics and simplified wiring. Applications include the monitoring of safety interlock switches (guard door monitoring), emergency stop devices and sensors.
The SCR-31P-i is designed to be compatible with devices offering OSSD outputs (e.g. safety light curtains), MPZ, LPZ, BPZ, MMZ, LMZ, BMZ, KLP-Z, KLM-Z, MLZ-M, KLM-Z-4ST, KLM-Z-5ST, MLZ, KL3-SS-Z.

FEATURES:

- Outputs 3NC contacts and 1NO contact.
- Feedback circuit to monitor external contacts.
- Easy diagnosis of status via visual indication of LEDs.
- Up to PLe, SILCL 3, Category 4.
- Monitored manual or automatic start.
- Single and dual channel operation.
- Output expansion units available to increase number of outputs.

BLOCK DIAGRAM AND ELECTRICAL CONNECTION:



Electrical Connection

A1 A2	Power 24Vac/dc
S11	Control Output
S10 S14 S12	Control Inputs
S21	Auto Reset Input
S22	Manual Reset Input
13-14	Safety Output Contact 1
23-24	Safety Output Contact 2
33-34	Safety Output Contact 3
41-42	Auxiliary Output Contact

SPECIFICATIONS:

STANDARDS	
EN ISO13849-1 EN62061 EN60204-1 EN ISO12100	
POWER SUPPLY CIRCUIT	
Operating Voltage	24V AC/DC
Operating Voltage Tolerance	85-110%
Rated Supply Frequency	50Hz-60Hz
Power Consumption	2.5W (24V AC/DC)
CONTROL CIRCUITS	
Rated Output Voltage	24V DC (S11)
Output Current	100mA (S11)
Response Time	100ms
Release Time	25ms
Recovery Time	90ms
OUTPUT CIRCUITS	
Rated Output Voltage	250V AC
Maximum Current per Output	6A
Maximum Total Current all Outputs	8A
Safety Contact Breaking Capacity AC	250V, 1500VA, 6A, Ohmic 230V, 4A for AC-15
DC	24V, 30W, 1.25A, Ohmic
Minimum Contact Load	10V 10mA
Minimum Contact Fuses	4A slow blow, 6A fast blow
Contact Material	$AgSnO_2$
Contact Service Life	10×10^6
GENERAL DATA	
Rated Impulse Withstand Voltage	4kV
Rated Insulation Voltage	250V
Degree of Protection	IP20
Temperature Range	-20C to +55C
Degree of Contamination	2
Overvoltage Category	III
Weight	160gr (5.5 oz.)
Mounting	35mm DIN Rail

SAFETY CHARACTERISTICS		
EN62061	SIL3	
ISO13849-1	Ple Category 4	
PFH	4.1E-10 1/h	(0.4% of SIL3 (1 E-07 1/h))
PFD Av. (T=20a)	3.6E-05	(3.6% of SIL3 (1 E-03)
MTTFd	142a (High)	
DC Av.	99% (High)	

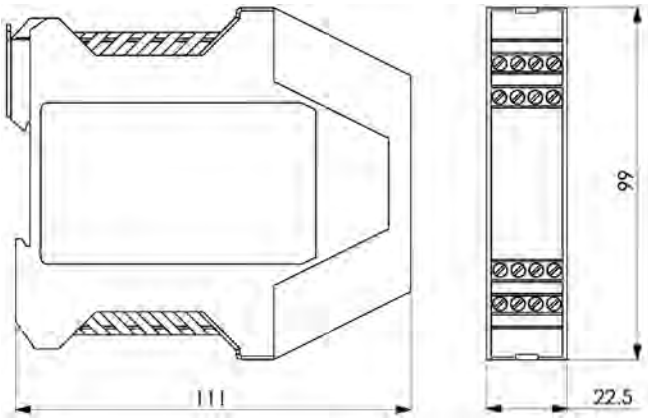
LED DIAGNOSTICS:

WHEN SAFETY RELAY IN OPERATION

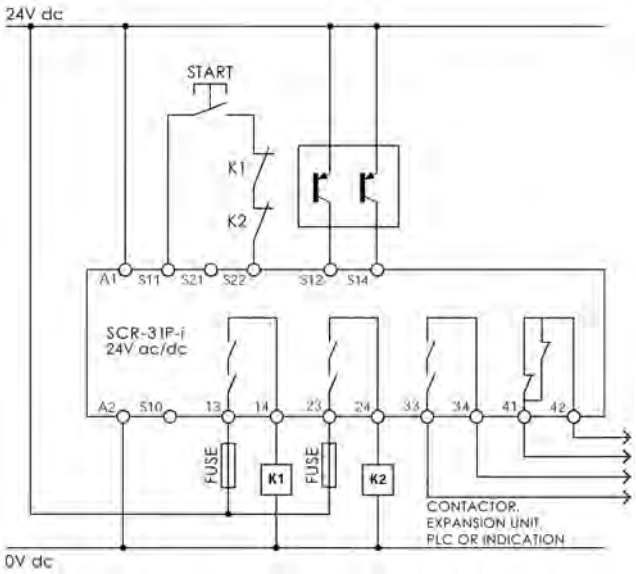
Power	Power applied to device
Reset	Reset Circuit is closed.
CH1	External switch input 1 closed.
CH2	External switch input 2 closed.
K1	Internal relay safety output contacts closed.
K2	Internal relay safety output contacts closed.

VIPER Safety Relays: **SCR-31P-i** (with added diagnostics)

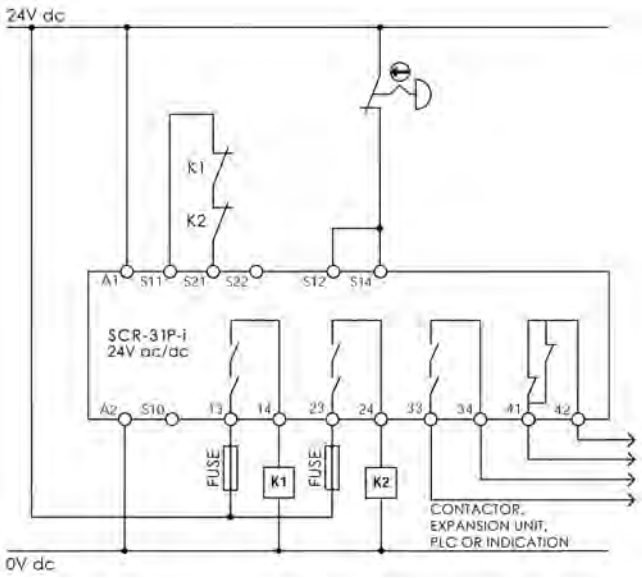
DIMENSIONS:



MANUAL RESTART MODE (Dual Channel) PNP INPUTS:



AUTOMATIC RESTART MODE (Single Channel) E-STOP INPUT:



SELECTION CHART & ORDERING:

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS
280003	SCR-31P-i	Standard Screw Terminals	24Vac/dc	2NC	3NC 1NO
280003-P	SCR-31P-i	Pluggable Screw Terminals	24Vac/dc	2NC	3NC 1NO

VIPER Safety Relays: **SCR-73-i** (with added diagnostics)

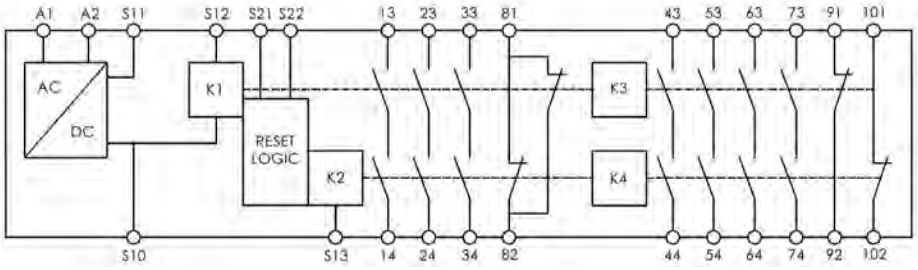
DESCRIPTION:

The Viper Safety Relays range from IDEM are designed to meet the latest safety standards and offer enhanced LED diagnostics and simplified wiring. Applications include the monitoring of safety interlock switches (guard door monitoring), emergency stop devices and sensors.
The SCR-73-i internal logic uses force guided relays to achieve cross monitoring, this ensures that a single fault does not lead to the loss of the safety function and that all faults are detected at or before the next safety demand.

FEATURES:

- Outputs 7NC contacts and 3NO contact.
- Feedback circuit to monitor external contacts.
- Easy diagnosis of status via visual indication of LEDs.
- Up to PLe, SILCL 3, Category 4.
- Monitored manual or automatic start.
- Single and dual channel operation.
- Output expansion units available to increase number of outputs.

BLOCK DIAGRAM:



Electrical Connection

A1 A2	Power 24Vac/dc	13-14	Safety Output Contact 1	63-64	Safety Output Contact 6
S11	Control Output	23-24	Safety Output Contact 2	73-74	Safety Output Contact 7
S10 S13 S12	Control Inputs	33-34	Safety Output Contact 3	81-82	Auxiliary Output Contact K1/K2
S21	Auto Reset Input	43-44	Safety Output Contact 4	91-92	Auxiliary Output Contact K3
S22	Manual Reset Input	53-54	Safety Output Contact 5	101-102	Auxiliary Output Contact K4

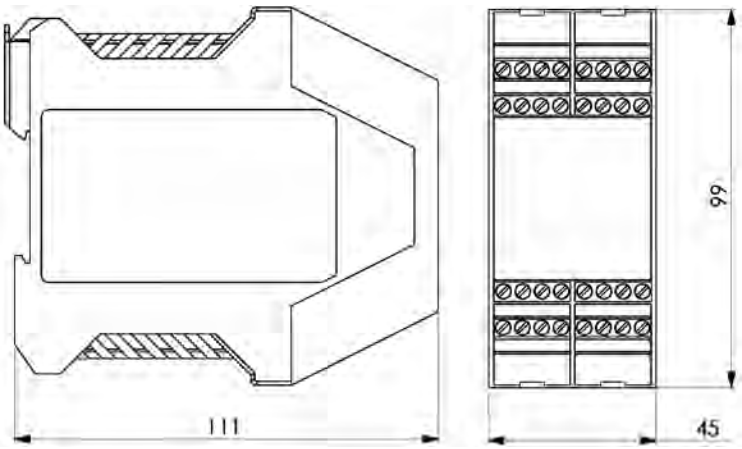
SPECIFICATIONS:

STANDARDS	
EN ISO13849-1 EN62061 EN60204-1 EN ISO12100	
POWER SUPPLY CIRCUIT	
Operating Voltage	24V AC/DC
Operating Voltage Tolerance	85-110%
Rated Supply Frequency	50Hz-60Hz
Power Consumption	5W (24V)
CONTROL CIRCUITS	
Rated Output Voltage	24V DC (S11)
Output Current	100mA (S11)
Response Time	100ms
Release Time	25ms
Recovery Time	90ms
OUTPUT CIRCUITS	
Rated Output Voltage	250V AC
Maximum Current per Output	6A
Maximum Total Current all Outputs	8A
Safety Contact Breaking Capacity AC	250V, 1500VA, 6A, Ohmic 230V, 4A for AC-15
DC	24V, 30W, 1.25A, Ohmic
Minimum Contact Load	10V 10mA
Minimum Contact Fuses	4A slow blow, 6A fast blow
Contact Material	$AgSnO_2$
Contact Service Life	10×10^6
GENERAL DATE	
Rated Impulse Withstand Voltage	4kV
Rated Insulation Voltage	250V
Degree of Protection	IP20
Temperature Range	-20C to +55C
Degree of Contamination	2
Overvoltage Category	III
Weight	300gr (10.5 oz.)
Mounting	35mm DIN Rail

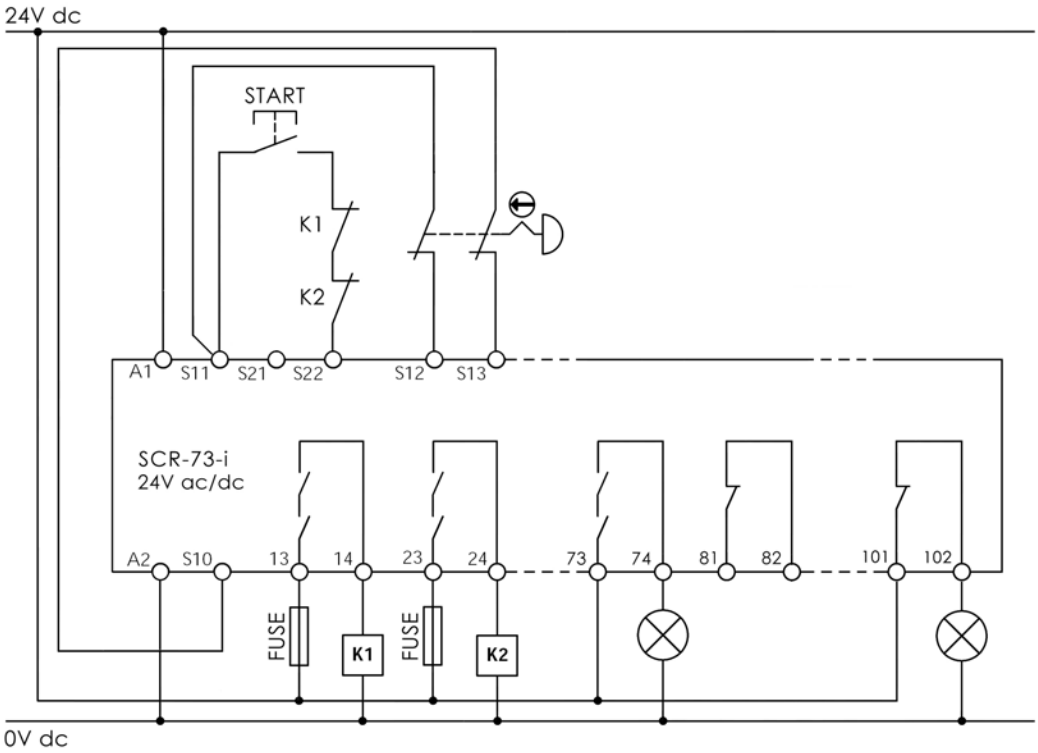
SAFETY CHARACTERISTICS	
EN62061	SIL3
ISO13849-1	Ple Category 4
PFH	8.4E-10 1/h (0.8% of SIL3 (1 E-07 1/h))
PFD Av. (T=20a)	7.2E-05 (7.2% of SIL3 (1 E-03)
MTTFd	71a (High)
DC Av.	99% (High)

VIPER Safety Relays: **SCR-73-i** (with added diagnostics)

DIMENSIONS:



MANUAL RESTART MODE (Dual Channel) E-STOP:



LED DIAGNOSTICS:

WHEN SAFETY RELAY IN OPERATION

Power	Power applied to device
Reset	Reset Circuit is closed.
CH1	External switch input 1 closed.
CH2	External switch input 2 closed.
K1	Internal relay safety output contacts closed.
K2	Internal relay safety output contacts closed.

SELECTION CHART & ORDERING:

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS
280005	SCR-73-i	Standard Screw Terminals	24Vac/dc	2NC	7NC 3NO
280005-P	SCR-73-i	Pluggable Screw Terminals	24Vac/dc	2NC	7NC 3NO

VIPER Safety Relays: **SCR-31-42TD-i** (added diagnostics)

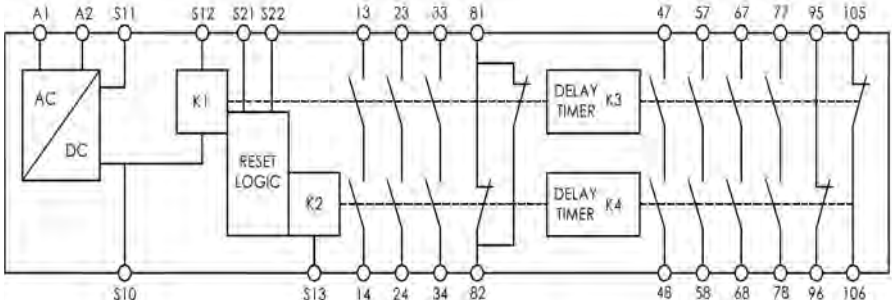
DESCRIPTION:

The Viper Safety Relays range from IDEM are designed to meet the latest safety standards and offer enhanced LED diagnostics and simplified wiring. Applications include the monitoring of safety interlock switches (guard door monitoring), emergency stop devices and sensors.
The SCR-31-42TD-i internal logic uses force guided relays to achieve cross monitoring, this ensures that a single fault does not lead to the loss of the safety function and that all faults are detected at or before the next safety demand.

FEATURES:

- Output contacts: 3NC 1NO Delayed contacts: 4NC and 2NO (0-30 seconds).
- Feedback circuit to monitor external contacts - used for reinforcement of contacts.
- Easy diagnosis of status via visual indication of LEDs.
- Up to PLe, SILCL 3, Category 4.
- Monitored manual or automatic start.
- Single and dual channel operation.
- Output expansion units available to increase number of outputs.

BLOCK DIAGRAM:



Electrical Connection

A1 A2	Power 24Vac/dc	13-14	Safety Output Contact 1	57-58	Delayed Safety Output Contact 2
S11	Control Output	23-24	Safety Output Contact 2	67-68	Delayed Safety Output Contact 3
S10 S13 S12	Control Inputs	33-34	Safety Output Contact 3	77-78	Delayed Safety Output Contact 4
S21	Auto Reset Input	81-82	Auxiliary Output Contact K1/K2	95-96	Delayed Auxiliary Output Contact K3
S22	Manual Reset Input	47-48	Delayed Safety Output Contact 1	105-106	Delayed Auxiliary Output Contact K4

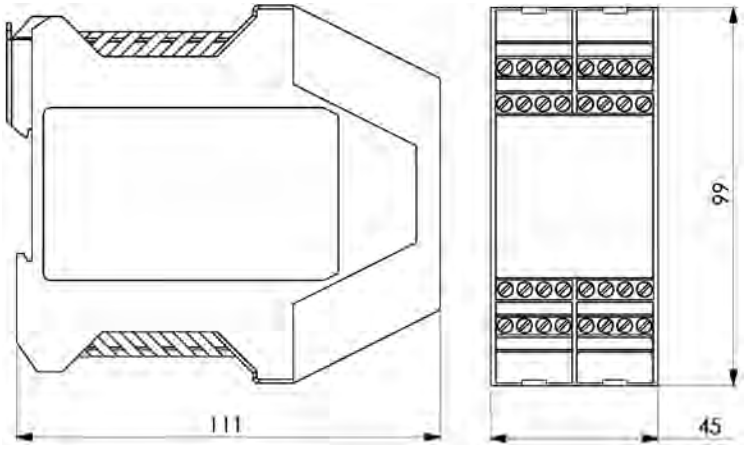
SPECIFICATIONS:

STANDARDS	
EN ISO13849-1 EN62061 EN60204-1 EN ISO12100	
POWER SUPPLY CIRCUIT	
Operating Voltage	24V AC/DC
Operating Voltage Tolerance	85-110%
Rated Supply Frequency	50Hz-60Hz
Power Consumption	5W (24V AC/DC)
CONTROL CIRCUITS	
Rated Output Voltage	24V DC (S11)
Output Current	100mA (S11)
Response Time	100ms
Release Time	25ms
Recovery Time	1s approx.
OUTPUT CIRCUITS	
Rated Output Voltage	250V AC
Maximum Current per Output	6A
Maximum Total Current all Outputs	8A
Safety Contact Breaking Capacity AC	250V, 1500VA, 6A, Ohmic 230V, 4A for AC-15
DC	24V, 30W, 1.25A, Ohmic
Minimum Contact Load	10V 10mA
Minimum Contact Fuses	4A slow blow, 6A fast blow
Contact Material	$AgSnO_2$
Contact Service Life	10×10^6
GENERAL DATE	
Rated Impulse Withstand Voltage	4kV
Rated Insulation Voltage	250V
Degree of Protection	IP20
Temperature Range	-20C to +55C
Degree of Contamination	2
Overvoltage Category	III
Weight	300gr (10.5 oz.)
Mounting	35mm DIN Rail

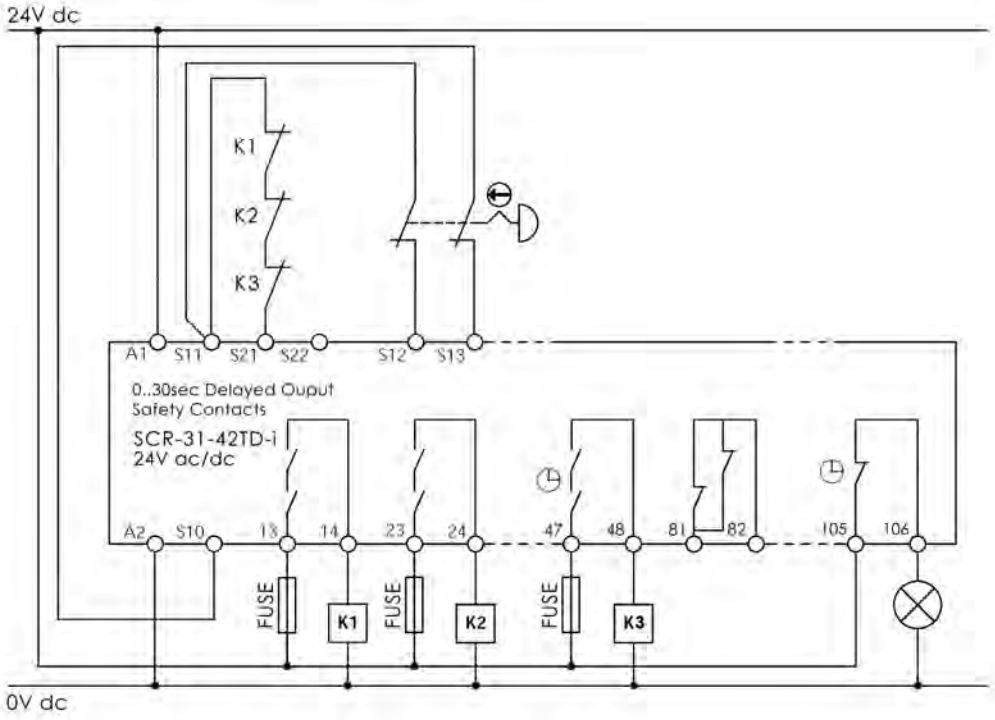
SAFETY CHARACTERISTICS	
EN62061	SIL3
ISO13849-1	Ple Category 4 (instant contacts)
	Ple Category 3 (delayed contacts)
PFH	2.3E-9 1/h (2.3% of SIL3 (1 E-07 1/h))
PFD Av. (T=20a)	2.0E-04 (20% of SIL3 (1 E-03)
MTTFd	134a (High)
DC Av.	95% (Medium)

VIPER Safety Relays: **SCR-31-42TD-i** (added diagnostics)

DIMENSIONS:



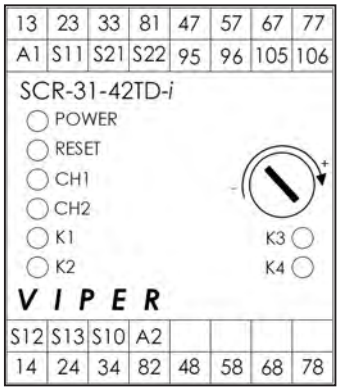
AUTOMATIC RESTART MODE (Dual Channel) E-STOP:



LED DIAGNOSTICS:

WHEN SAFETY RELAY IN OPERATION

Power	Power applied to device
Reset	Reset Circuit is closed.
CH1	External switch input 1 closed.
CH2	External switch input 2 closed.
K1	Internal relay safety output contacts closed.
K2	Internal relay safety output contacts closed.
K3	Internal relay safety output contacts closed.
K4	Internal relay safety output contacts closed.



SELECTION CHART & ORDERING:

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS	DELAYED CONTACTS
280006	SCR-31-42TD-i	Standard Screw Terminals	24Vac/dc	2NC	3NC 1NO	4NC 2NO
280006-P	SCR-31-42TD-i	Pluggable Screw Terminals	24Vac/dc	2NC	3NC 1NO	4NC 2NO

VIPER Safety Relays: **SEU-31-i** (with added diagnostics)

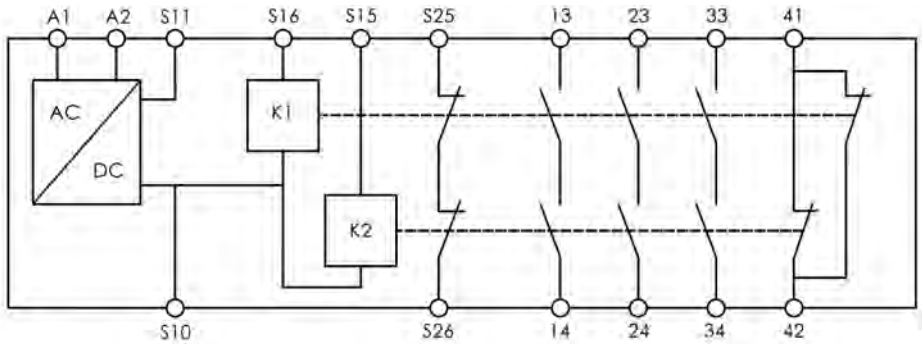
DESCRIPTION:

The Viper Safety Relays range from IDEM are designed to meet the latest safety standards and offer enhanced LED diagnostics and simplified wiring. Applications include the monitoring of safety interlock switches (guard door monitoring), emergency stop devices and sensors.
The SEU-31-i is an expansion unit designed to connect to a standard SCR-i relay to offer extra output contacts to the end user.

FEATURES:

- Output contacts: 3NC 1NO.
- Easy diagnosis of status via visual indication of LEDs.
- Up to PLe, SILCL 3, Category 4.
- Monitored manual or automatic start.
- Single and dual channel operation.
- Output expansion units available to increase number of outputs.

BLOCK DIAGRAM AND ELECTRICAL CONNECTION:



Electrical Connection

A1 A2	Power 24Vac/dc
S11	Control Output
S15 S16 S10	Control Inputs
S25 S26	Feedback Check Contacts
13-14	Safety Output Contact 1
23-24	Safety Output Contact 2
33-34	Safety Output Contact 3
41-42	Auxiliary Output Contact

SPECIFICATIONS:

STANDARDS	
EN ISO13849-1 EN62061 EN60204-1 EN ISO12100	
POWER SUPPLY CIRCUIT	
Operating Voltage	24V AC/DC
Operating Voltage Tolerance	85-110%
Rated Supply Frequency	50Hz-60Hz
Power Consumption	2.5W (24V AC/DC)
CONTROL CIRCUITS	
Rated Output Voltage	24V DC (S11)
Output Current	100mA (S11)
Response Time	30ms
Release Time	25ms
Recovery Time	90ms
OUTPUT CIRCUITS	
Rated Output Voltage	250V AC
Maximum Current per Output	6A
Maximum Total Current all Outputs	8A
Safety Contact Breaking Capacity AC	250V, 1500VA, 6A, Ohmic 230V, 4A for AC-15
DC	24V, 30W, 1.25A, Ohmic
Minimum Contact Load	10V 10mA
Minimum Contact Fuses	4A slow blow, 6A fast blow
Contact Material	$AgSnO_2$
Contact Service Life	10×10^6
GENERAL DATE	
Rated Impulse Withstand Voltage	4kV
Rated Insulation Voltage	250V
Degree of Protection	IP20
Temperature Range	-20C to +55C
Degree of Contamination	2
Overvoltage Category	III
Weight	160gr (5.5 oz.)
Mounting	35mm DIN Rail

SAFETY CHARACTERISTICS		
EN62061	SIL3	
ISO13849-1	Ple Category 4	
PFH	8.4E-10 1/h	(0.8% of SIL3 (1 E-07 1/h))
PFD Av. (T=20a)	7.2E-05	(7.2% of SIL3 (1 E-03)
MTTFd	71a (High)	
DC Av.	99% (High)	

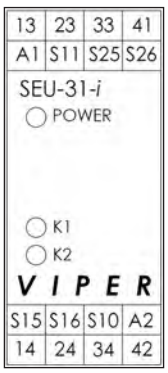
LED DIAGNOSTICS:

WHEN SAFETY RELAY IN OPERATION

Power Power applied to device

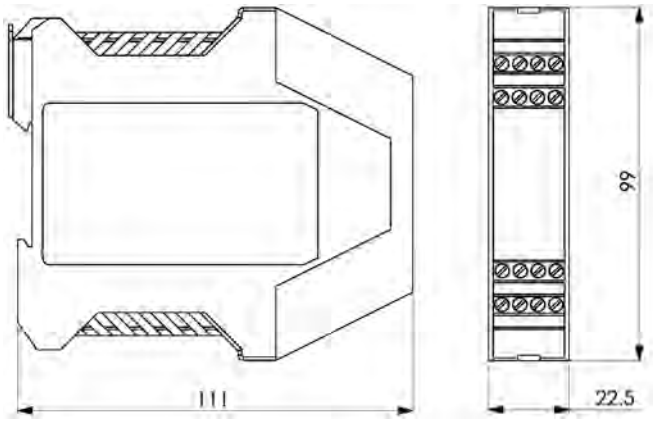
K1 Internal relay safety output contacts closed.

K2 Internal relay safety output contacts closed.

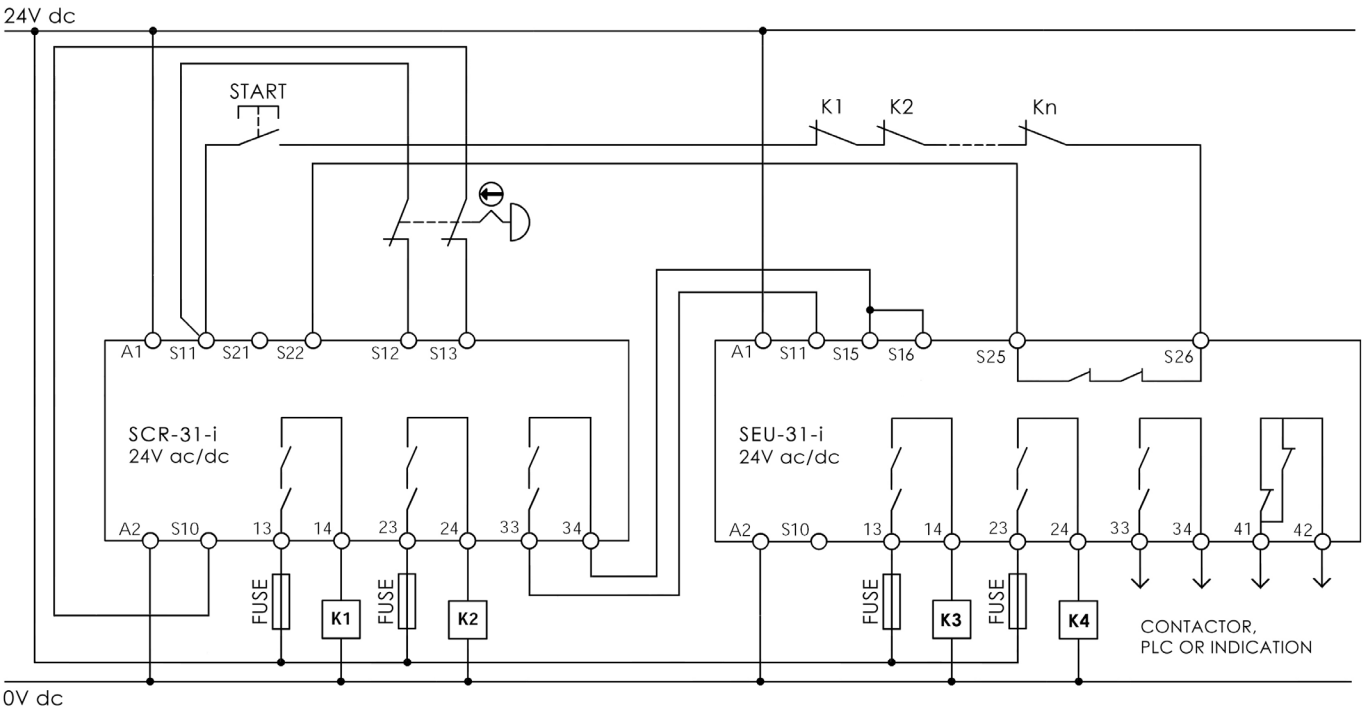


VIPER Safety Relays: **SEU-31-i** (with added diagnostics)

DIMENSIONS:



MANUAL RESTART MODE (Dual Channel) E-STOP (shown with SCR-31-i):



SELECTION CHART & ORDERING:

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	OUTPUT CONTACTS
280007	SEU-31-i	Standard Screw Terminals	24Vac/dc	2NC	3NC 1NO
280007-P	SEU-31-i	Pluggable Screw Terminals	24Vac/dc	2NC	3NC 1NO

VIPER Safety Relays: **SEU-31TD-i** (added diagnostics)

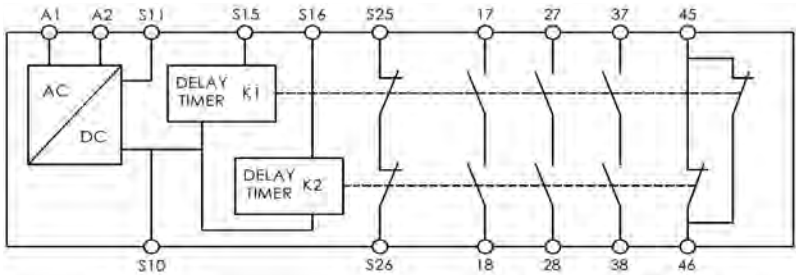
DESCRIPTION:

The Viper Safety Relays range from IDEM are designed to meet the latest safety standards and offer enhanced LED diagnostics and simplified wiring. Applications include the monitoring of safety interlock switches (guard door monitoring), emergency stop devices and sensors.
The SEU-31TD-i is an expansion unit with the added benefit of Time Delayed contacts.
It has been designed to connect to a standard SCR-i relay to offer extra time delayed output contacts to the end user.

FEATURES:

- Delayed contacts: 3NC 1NO (0-30 seconds).
- Feedback circuit to monitor external contacts - used for reinforcement of contacts.
- Easy diagnosis of status via visual indication of LEDs.
- Up to PLe, SILCL 3, Category 3.
- Monitored manual or automatic start.
- Single and dual channel operation.
- Output expansion units available to increase number of outputs.

BLOCK DIAGRAM AND ELECTRICAL CONNECTION:



Electrical Connection

A1 A2	Power 24Vac/dc
S11	Control Output
S15 S16 S10	Control Inputs
S25 S26	Feedback Check Contacts
17-18	Delayed Safety Output Contact 1
27-28	Delayed Safety Output Contact 2
37-38	Delayed Safety Output Contact 3
45-46	Delayed Auxiliary Output Contact

SPECIFICATIONS:

STANDARDS	
EN ISO13849-1 EN62061 EN60204-1 EN ISO12100	
POWER SUPPLY CIRCUIT	
Operating Voltage	24V AC/DC
Operating Voltage Tolerance	85-110%
Rated Supply Frequency	50Hz-60Hz
Power Consumption	2.5W (24V)
CONTROL CIRCUITS	
Rated Output Voltage	24V DC (S11)
Output Current	100mA (S11)
Response Time	10 0ms
Release Time	25ms
Recovery Time	90ms
OUTPUT CIRCUITS	
Rated Output Voltage	250V AC
Maximum Current per Output	6A
Maximum Total Current all Outputs	8A
Safety Contact Breaking Capacity AC	250V, 1500VA, 6A, Ohmic 230V, 4A for AC-15
DC	24V, 30W, 1.25A, Ohmic
Minimum Contact Load	10V 10mA
Minimum Contact Fuses	4A slow blow, 6A fast blow
Contact Material	$AgSnO_2$
Contact Service Life	10×10^6
GENERAL DATE	
Rated Impulse Withstand Voltage	4kV
Rated Insulation Voltage	250V
Degree of Protection	IP20
Temperature Range	-20C to +55C
Degree of Contamination	2
Overvoltage Category	III
Weight	160gr (5.5 oz.)
Mounting	35mm DIN Rail

SAFETY CHARACTERISTICS	
EN62061	SIL3
ISO13849-1	Ple Category 4 (instant contacts)
	Ple Category 3 (delayed contacts)
PFH	2.3E-9 1/h (2.3% of SIL3 (1 E-07 1/h))
PFD Av. (T=20a)	2.0E-04 (20% of SIL3 (1 E-03)
MTTFd	134a (High)
DC Av.	95% (Medium)

LED DIAGNOSTICS:

WHEN SAFETY RELAY IN OPERATION

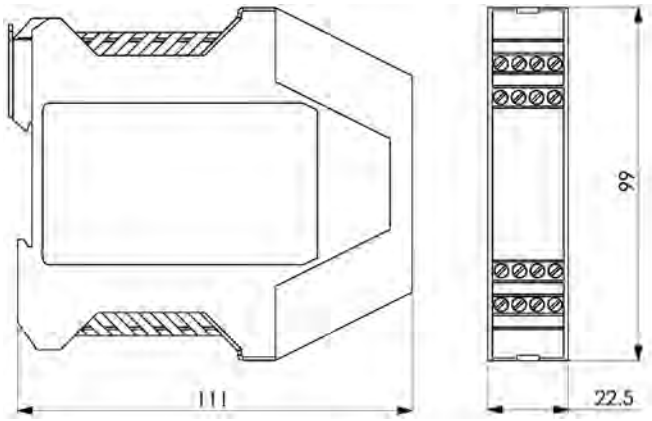
Power Power applied to device

K1 Internal relay safety output contacts closed.

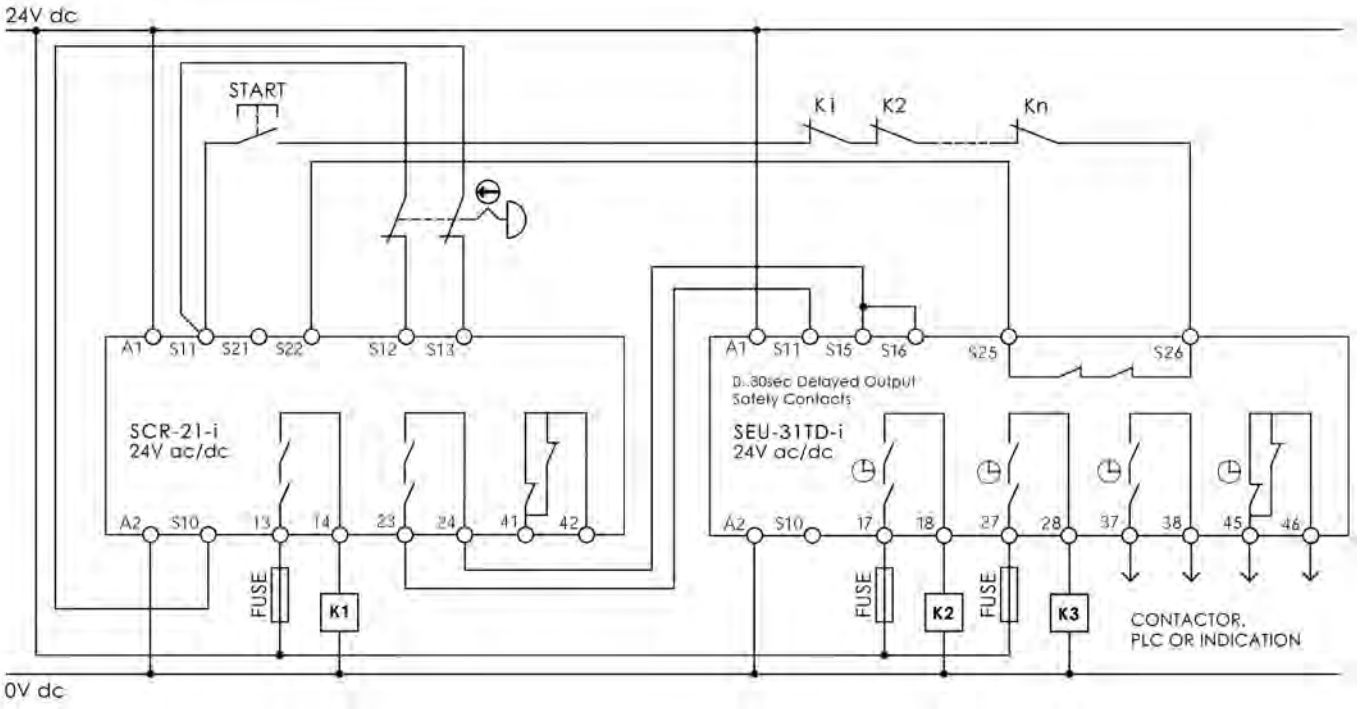
K2 Internal relay safety output contacts closed.

VIPER Safety Relays: **SEU-31TD-i** (added diagnostics)

DIMENSIONS:



MANUAL RESTART MODE (Dual Channel) E-STOP:



SELECTION CHART & ORDERING:

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	SWITCH INPUT CIRCUITS	DELAYED CONTACTS
280008	SEU-31TD-i	Standard Screw Terminals	24Vac/dc	2NC	3NC 1NO
280008-P	SEU-31TD-i	Pluggable Screw Terminals	24Vac/dc	2NC	3NC 1NO

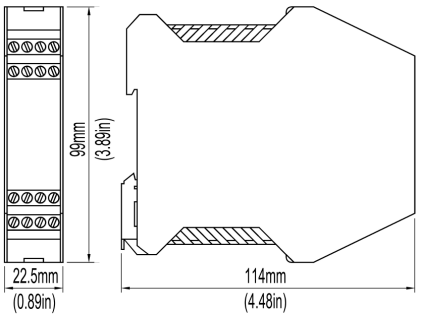
Safety Relays for Two-Hand Controls: **SCR-2H**

DESCRIPTION:

The SCR-2H is a compact, universal 2 hand control safety relay.
It complies with EN574, Type IIIC and is intended for use in safety circuits designed in accordance with EN60204-1.

Safety Monitoring Relay
2 Hand Control

DIMENSIONS:



FEATURES:

- 2 Force guided safety output contacts
- Standards: EN574, EN60204-1, ISO13849-1, EN62061
- Stop Category: 0
- Up to IIIC EN574
- Up to PLe to ISO13849-1
- SILCL3 EN62061
- Redundancy and cycle monitoring
- Short circuit monitoring
- 22mm DIN RAIL mounting
- Choice of 24Vac/dc, 110Vac or 230Vac supply (by Sales No.)

PRINCIPLE OF OPERATION:

The SCR-2H is suitable for connection of two hand buttons with one normally closed contact and one normally open contact.

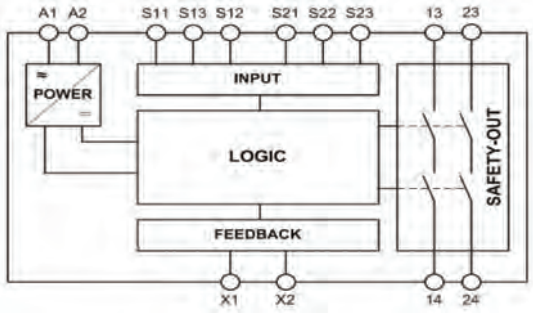
When the operating voltage is applied to A1 and A2 and the feedback loop X1 and X2 is closed the SCR-2H is ready for use.

The output contacts only close when the 2 hand buttons T1 and T2 are operated simultaneously (within 0.5s). The output contacts do not close if only one button is operated or the feedback loop is open. Short or open circuits are detected. In order to trigger a new operation both buttons must have been released and the feedback loop closed.

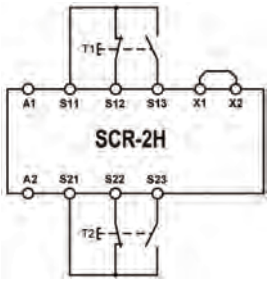
It is important to arrange the buttons such that accidental operation or easy bypass cannot be achieved, and in accordance with EN574 and EN999.

EN574 - the buttons must be arranged such that operation of both buttons using one hand is prevented i.e. a minimum distance apart of 260mm but also so as to prevent actuation by other parts of the body (forearm, elbow, hip, etc.).

EN999 - it is necessary to maintain a minimum distance between the 2 hand buttons and the hazard on the machine.



Block Diagram and Electrical Connection SCR-2H



Standards:	EN60204-1 ISO13849-1 EN574 EN62061
Safety Switching Outputs	2NC positively guided
Operating Voltage	24Vac/dc 110Vac or 230Vac
Supply Deviation	+/-10%
Control Voltage at S11	24Vdc
Control Current S11 to S14	20mA approx.
Release Time for the NC Contacts after Release of Buttons	<20ms
Synchronisation Time	<0.5s
Maximum Line Conductor Cross Section	2.5 sq mm
Maximum Length of Control Line	1000m with 0.75 sq mm
Contact Material	AgNi
Indication - Green	LED1 internal relay K1 energised LED2 internal relay K2 energised LED1 and 2 OSSD closed
Contact Service Life	Mechanical $1x10^7$ Electrical $1x10^5$
Safety Contact Breaking Capacity	AC 250V, 1500VA, 6A, ohmic 230V, 4A for AC15 DC 24V, 30W, 1.25A, ohmic 24V, 30W, 2.0A for DC-13
Auxiliary Contact Breaking Capacity	AC 250V, 500VA, 2A DC 50V, 30W, 1.25A ohmic
External Fuse Protection - Safety Outputs	4A slow blow or 6A quick blow
Minimum Voltage and Current	24V, 20mA dc
Rated Insulation Voltage	250V
Degree of Protection	IP20
Rated Impulse Withstand Voltage	4kV
Operating Temperature	-15C to +40C
IP Protection IEC529	Terminals IP20
Mounting	35mm DIN rail
Weight	200g approx.

Safety Classification and Reliability Data:	Specified PL or SILCL were determined under worst case conditions
ISO13849-1	
Performance Level	e
Category (ISO13849-1)	4
MTTFd	96.6 years
DC (average)	99%
Proof Test Interval (Life)	10 years
Safety Data Annual Usage	261 days per year 16 hours per day Test cycle 7.6 seconds/cycle Low load AC1
EN62061	
SILCL	3
Proof Test Interval (life)	10 years
Hardware Fault Tolerance	1
DC (average)	99%
PFHd	1.2×10^{-8}

SALES NUMBER	TYPE	TERMINAL TYPE	SUPPLY VOLTAGE	OUTPUT CONTACTS
180030	2H-SCR	Standard Screw Terminals	24Vac/dc	2NC
180031	2H-SCR		230Vac	2NC
180032	2H-SCR		110Vac	2NC
180030-P	2H-SCR	Pluggable Screw Terminals	24Vac/dc	2NC
180031-P	2H-SCR		230Vac	2NC
180032-P	2H-SCR		110Vac	2NC

Fig. 3: SCR-31-i
Manual Restart Mode (Dual Channel) Tongue Switch

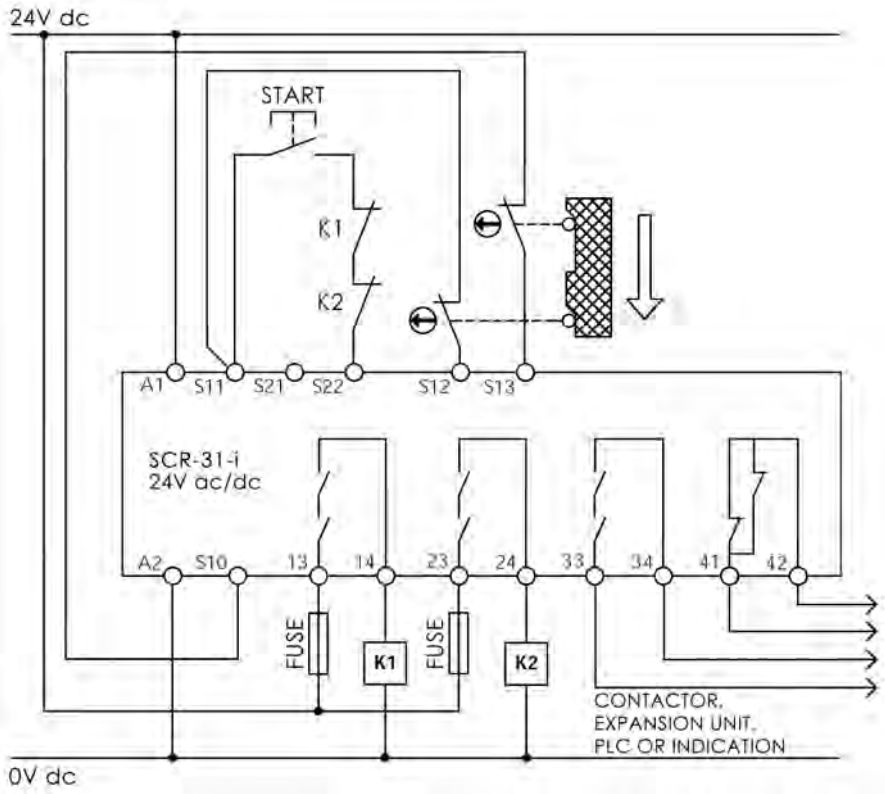
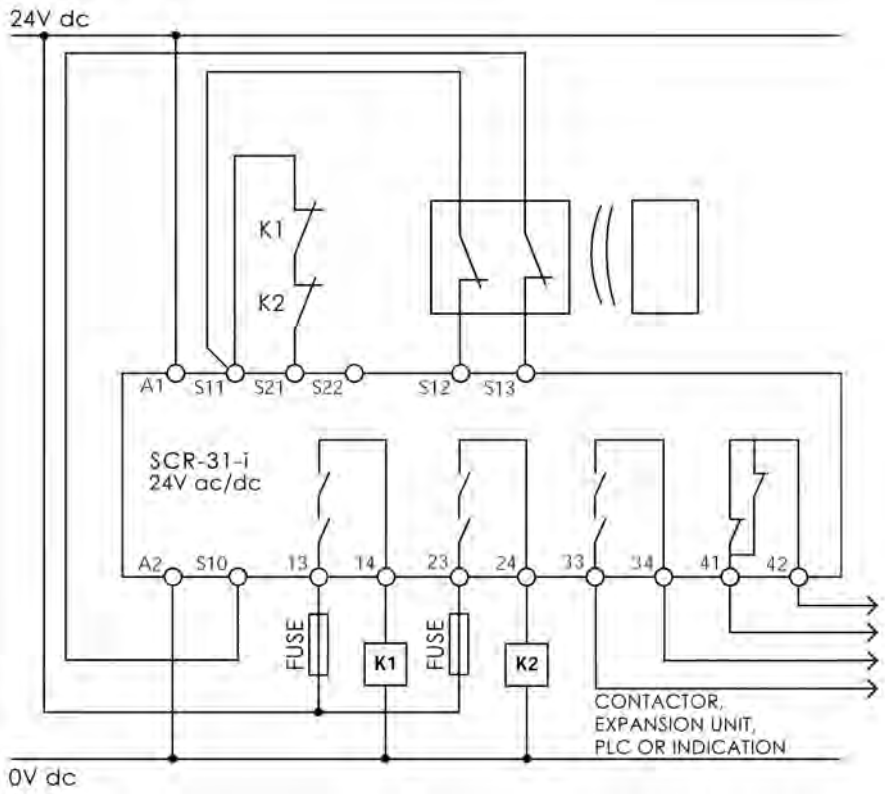


Fig. 4: SCR-31-i
Automatic Restart Mode (Dual Channel) Non Contact Switch



Application Examples: **IDEM VIPER Safety Relays**

Fig. 5: SCR-31-i & SEU-31-TD-i
Manual Restart Mode (Dual Channel) Solenoid Locking Switch (Delayed Unlocking)

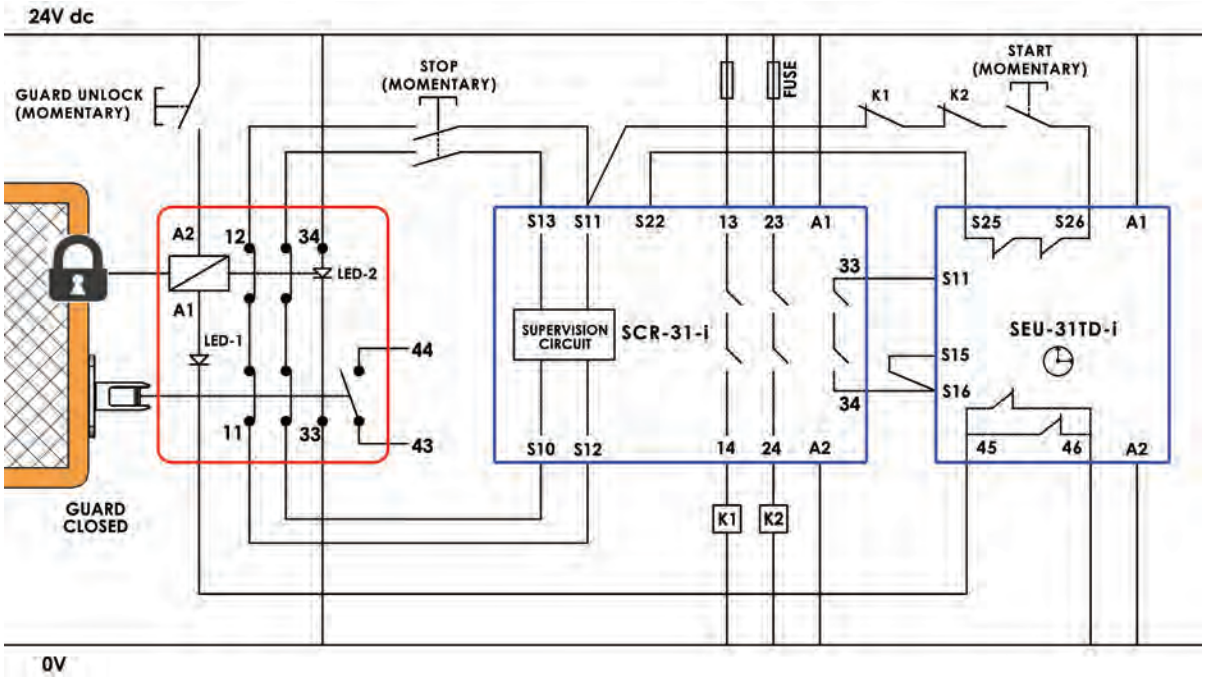


Fig. 6: SCR-31-42TD-i
Manual Restart Mode (Dual Channel) Non Contact Switch with
Magnetic Lock (delayed unlocking)

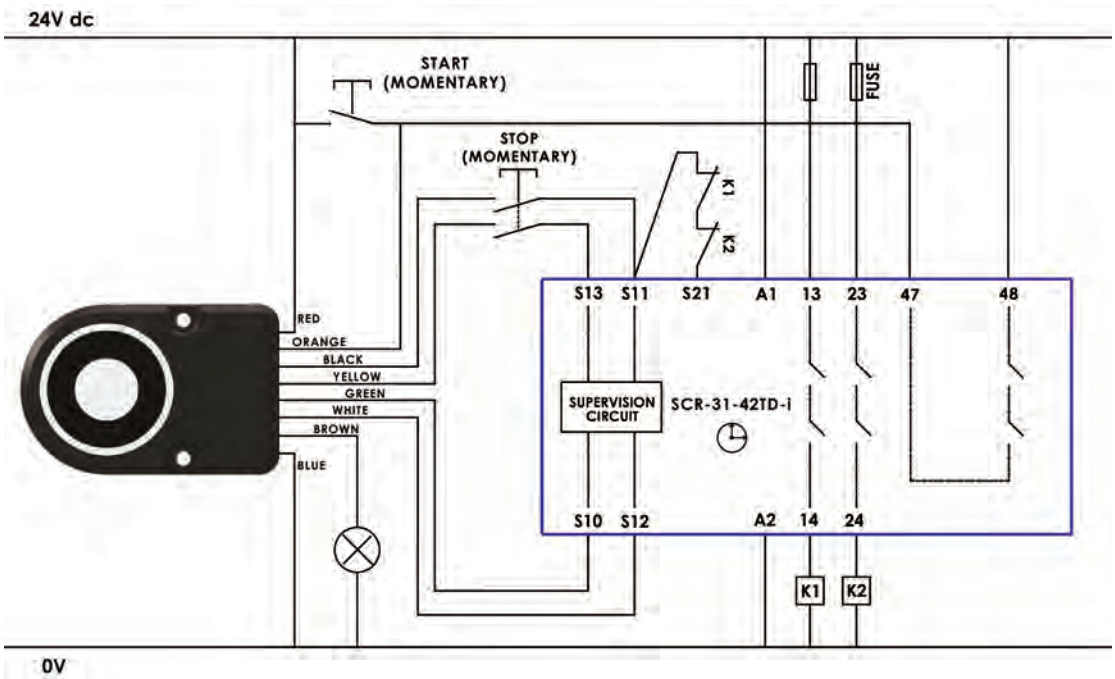


Fig. 7: SCR-31-42TD-i
Manual Restart Mode (Dual Channel) Solenoid Locking Switch (delayed unlocking)

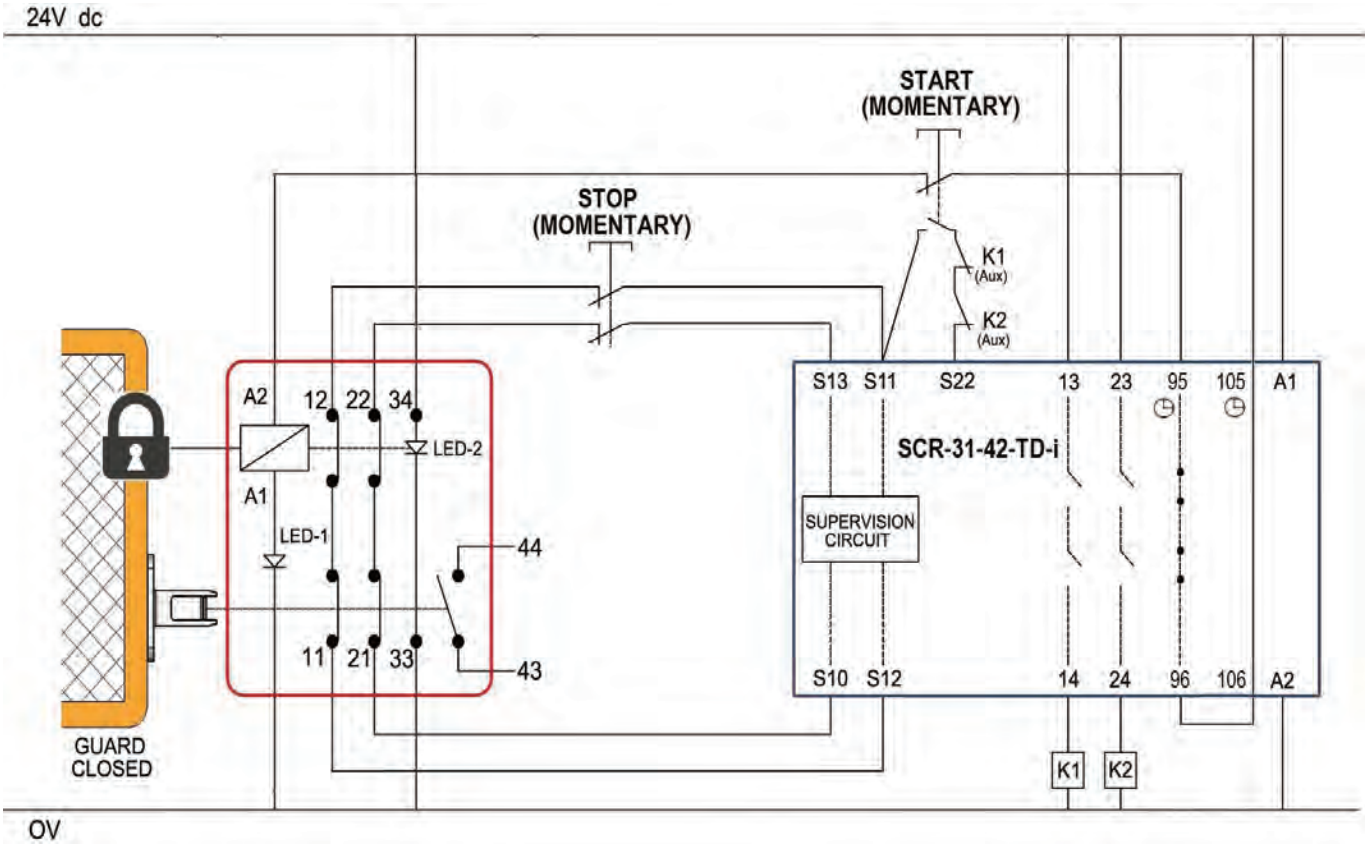
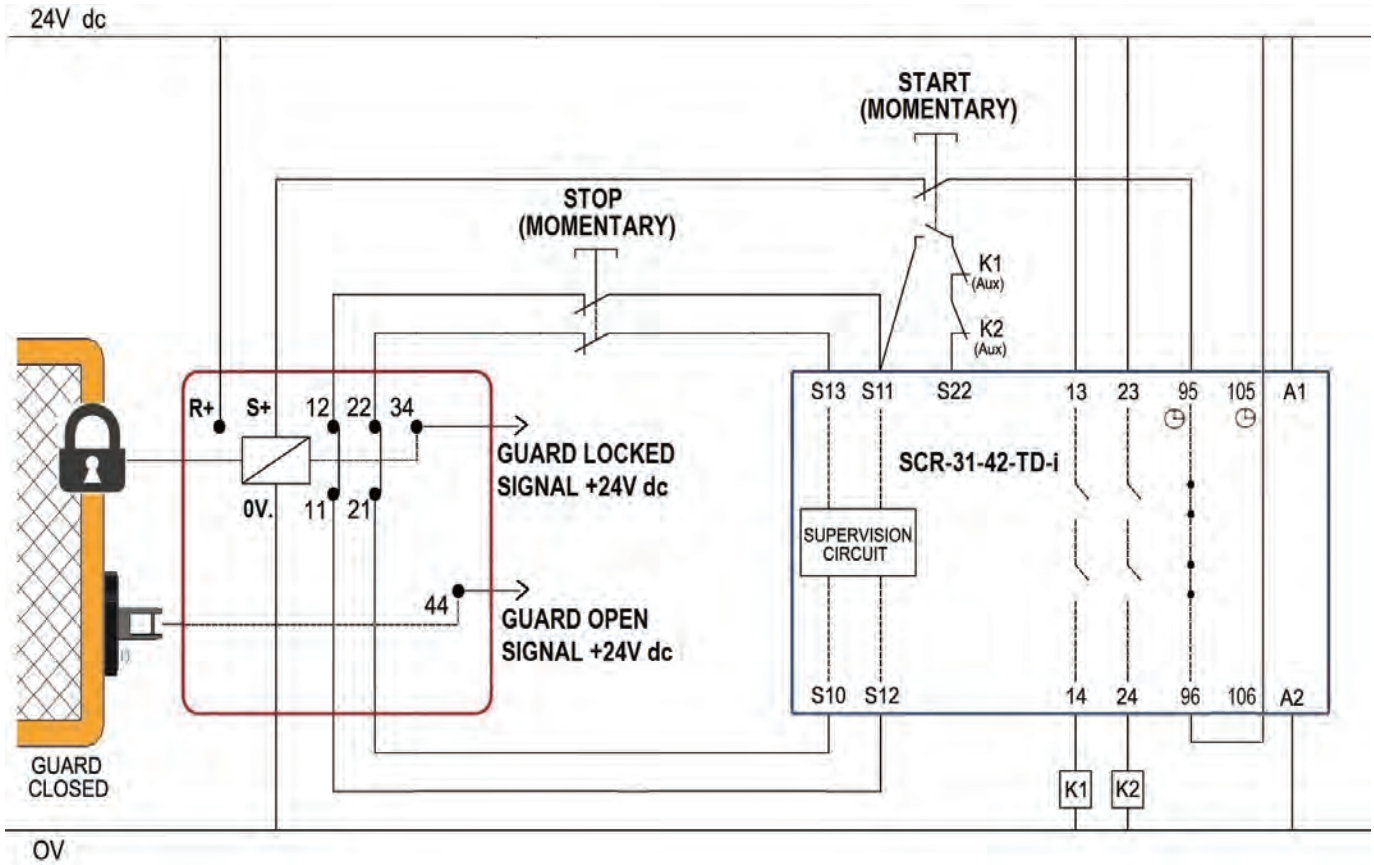


Fig. 8: SCR-31-42TD-i
Manual Restart Mode (Dual Channel) RFID Solenoid Locking Switch (delayed unlocking)



Universal Gate Box with RFID: **UGB2-KLT, UGB4-KLT**

FEATURES & APPLICATION:

Available as:
Die Cast metal painted red
or Stainless Steel 316.
4 Station model or
2 Station model.
Completely flexible - end user chooses buttons, lamps, switches options for each station.

Application:

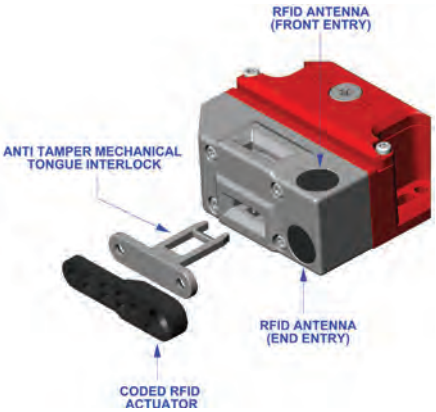
IDEM Universal Gate Boxes (UGB-KLT) provide high level RFID coded interlocking and machine control functions in one heavy duty housing. They can be easily fitted to access doors to provide guard locking, rear escape options and sliding or rotary handles.

They reduce the risk of operators being trapped inside a guarded area.

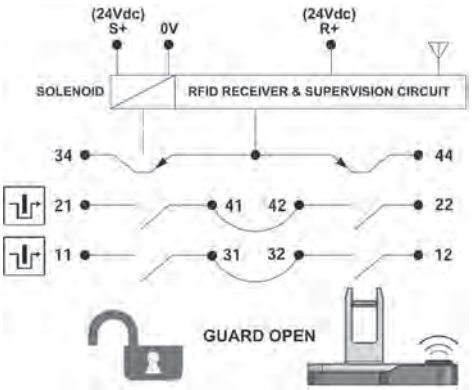
The UGB-KLT housings will incorporate standard 22mm push buttons, lamps or switches which can be added to provide machine request or control functions all from one UGB-KLT housing.

Features:

- Robust Safety Interlock switches with RFID and multifunction control features built into one housing.
- 2 or 4 station housing for incorporating wide choice of standard 22mm push buttons, lamps or switches.
- Optional sliding handle actuators or rotary handle actuators.
- Rear escape release options.
- Rotary one way rear escape handle (cannot be re-closed from inside the hazardous area).
- The built-in KLT switch has both anti-tamper RFID coding technology and standard mechanical interlock technology.
- 24Vdc solenoid to release lock.
- Built-in LED diagnostics of switch status and easy to read label legends.
- Easy to mount painted die-cast or Stainless Steel 316 housings.
- Holds guards closed and locked up to 3000N.
- Can be padlocked off for safe working.



KLT INTERNAL CONNECTIONS:



TECHNICAL SPECIFICATIONS:

Standards:	ISO14119 EN60947-5-1 EN60204-1 EN62601 ISO13849-1 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days
PFHd	4.77 x 10^{-10}
Proof Test Interval (Life)	20 years
MTTFd	1100a
Technical Specification:	
KLT-SS-RFID Supply/Solenoid Voltage	24V dc
Solenoid Wattage	9W
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die-cast painted red or Stainless Steel 316
Head Material	Polished Stainless Steel 316
Enclosure Protection	IP65
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	M20
Fixing	4 x M5

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

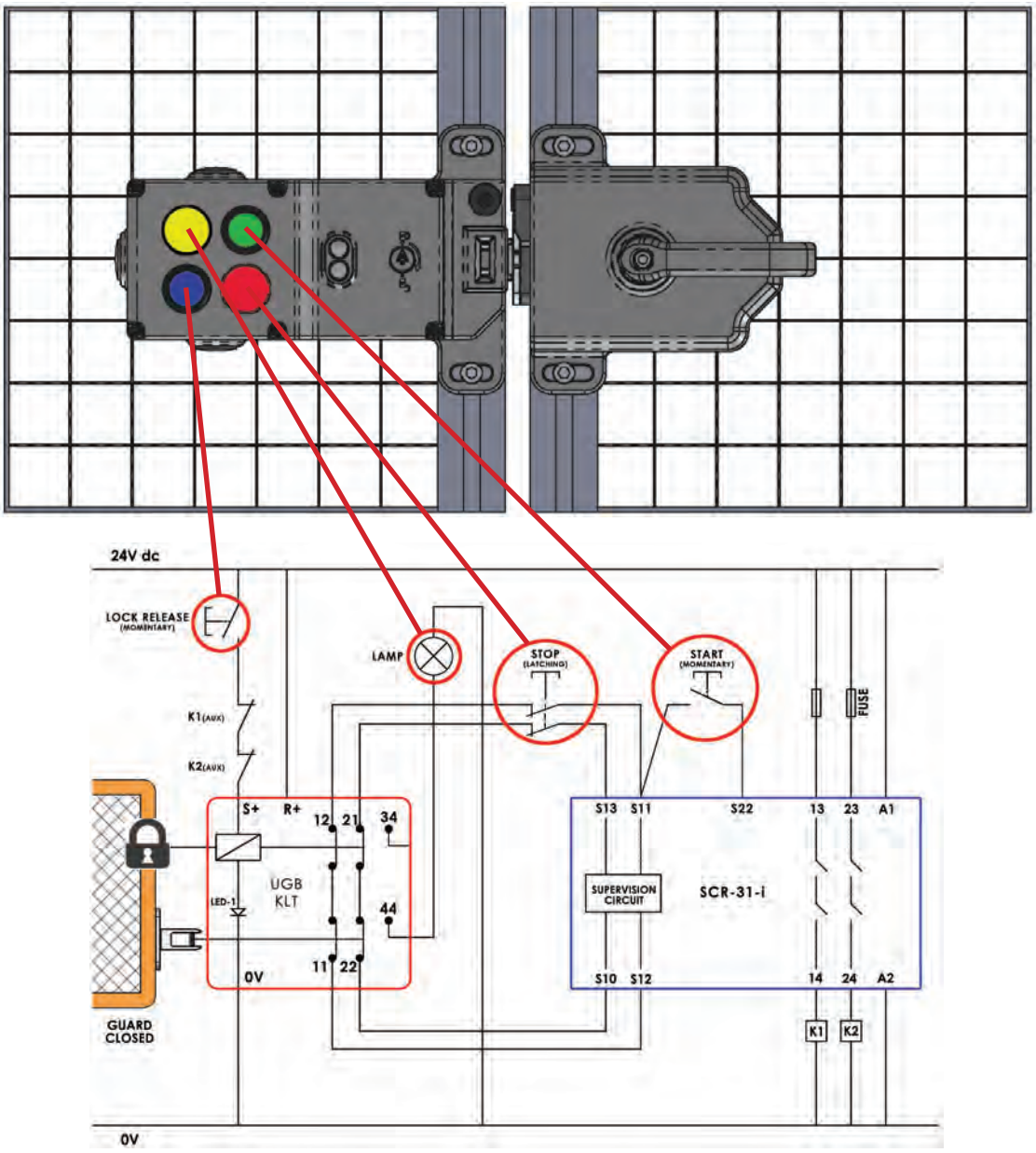
Universal Gate Box with RFID: **UGB2-KLT, UGB4-KLT**

UGB-KLT GATEBOX SOLUTION:

All-in-one control and safety interlocking with RFID coding.

PROBLEM:
A traditional control installation requires several external components and housings for switches, push buttons, lamps, etc. All of these external components require individual mounting brackets and also require several conduit/cable runs.

THE SOLUTION: UGB-KLT GATEBOX
Only 4 mounting bolts, options for sliding or rotary handles, emergency release options and can use only one conduit exit for wiring.
Up to 4 x 22mm pushbuttons, switches or lamps can be fitted integrally.
RFID interlocking with LED diagnostics provides high functional safety interlocking.
Holds guards closed and locked up to 3000N.



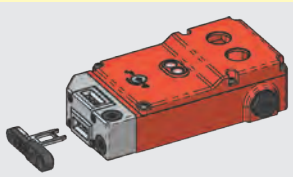
SCHEMATIC EXAMPLE:
UGB-KLT fitted with integral LATCHING STOP, STATUS PILOT LAMP, START and LOCK RELEASE buttons.
Connected to a safety relay to give up to PLe/ Cat 4.

Universal Gate Box with RFID: **UGB2-KLT, UGB4-KLT**

GATE BOX SWITCHES & ACTUATORS SALES NUMBERS:

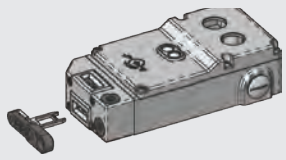
Note: ALL Universal Gate Boxes are supplied complete with RFID coded tongue actuator. These can fitted directly where no rear escape or rotary handles are preferred.

DIE CAST:



TYPE: UGB2-KLTM-RFID	TYPE: UGB2-KLTM-RFID-RR	TYPE: UGB4-KLTM-RFID	TYPE: UGB4-KLTM-RFID-RR
Universal Gate Box (2 Station)	Universal Gate Box (2 Station) with Rear Release	Universal Gate Box (4 Station)	Universal Gate Box (4 Station) with Rear Release
24V Solenoid M20 Conduit	24V Solenoid M20 Conduit	24V Solenoid M20 Conduit	24V Solenoid M20 Conduit
SALES NUMBER (Manual Override)	**SALES NUMBER(Manual Override)**	**SALES NUMBER(Manual Override)**	**SALES NUMBER(Manual Override)**
525001	525002	526001	526002
SALES NUMBER (No Manual Override)	**SALES NUMBER (No Manual Override)**	**SALES NUMBER (No Manual Override)**	**SALES NUMBER (No Manual Override)**
525003	525004	526003	526004

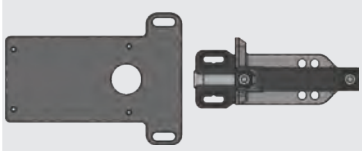
STAINLESS STEEL:

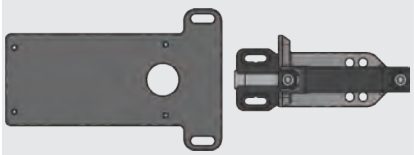


TYPE: UGB2-KLT-SS-RFID	TYPE: UGB2-KLT-SS-RFID-RR	TYPE: UGB4-KLT-SS-RFID	TYPE: UGB4-KLT-SS-RFID-RR
Universal Gate Box (2 Station)	Universal Gate Box (2 Station) with Rear Release	Universal Gate Box (4 Station)	Universal Gate Box (4 Station) with Rear Release
24V Solenoid M20 Conduit	24V Solenoid M20 Conduit	24V Solenoid M20 Conduit	24V Solenoid M20 Conduit
SALES NUMBER (Manual Override)	**SALES NUMBER(Manual Override)**	**SALES NUMBER(Manual Override)**	**SALES NUMBER(Manual Override)**
520001	520002	521001	521002
SALES NUMBER (No Manual Override)	**SALES NUMBER (No Manual Override)**	**SALES NUMBER (No Manual Override)**	**SALES NUMBER (No Manual Override)**
520003	520004	521003	521004

IMPORTANT NOTE: Order 22mm accessories (Switches, Lamps, Push Buttons) separately - please see next page.

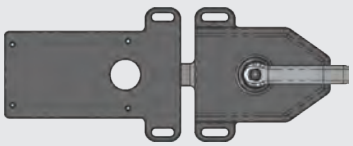
ACCESSORIES FOR ENHANCED FUNCTIONS OF SLIDING FRONT/REAR HANDLES:

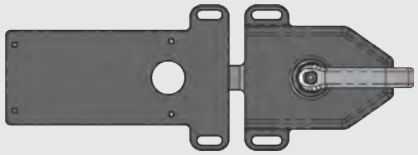


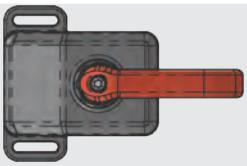


UGB2 Sliding Front Handle and Mounting Plate	UGB4 Sliding Fron Handle and Mounting Plate	Rear Sliding Handle (for use with RR versions and Sliding Front Handles)	Optional Spring Catch to prevent accidental re-closing of Sliding Front Handles
SALES NUMBERS	**SALES NUMBERS**	**SALES NUMBERS**	**SALES NUMBERS**
UBG2-SFH-M (Die-Cast)	**UGB4-SFH-M (Die Cast)**	**REAR HANDLE (Die Cast)**	**SPRING CATCH (Die Cast)**
527001	527002	210005	210006
UGB2-SFH-SS (Stainless Steel)	**UGB4-SFH-SS (Stainless Steel)**	**REAR HANDLE (Stainless Steel)**	**SPRING CATCH (Stainless Steel)**
522001	522002	211005	211006

ACCESSORIES FOR ROTARY FRONT HANDLES & REAR ROTARY ESCAPE HANDLES:



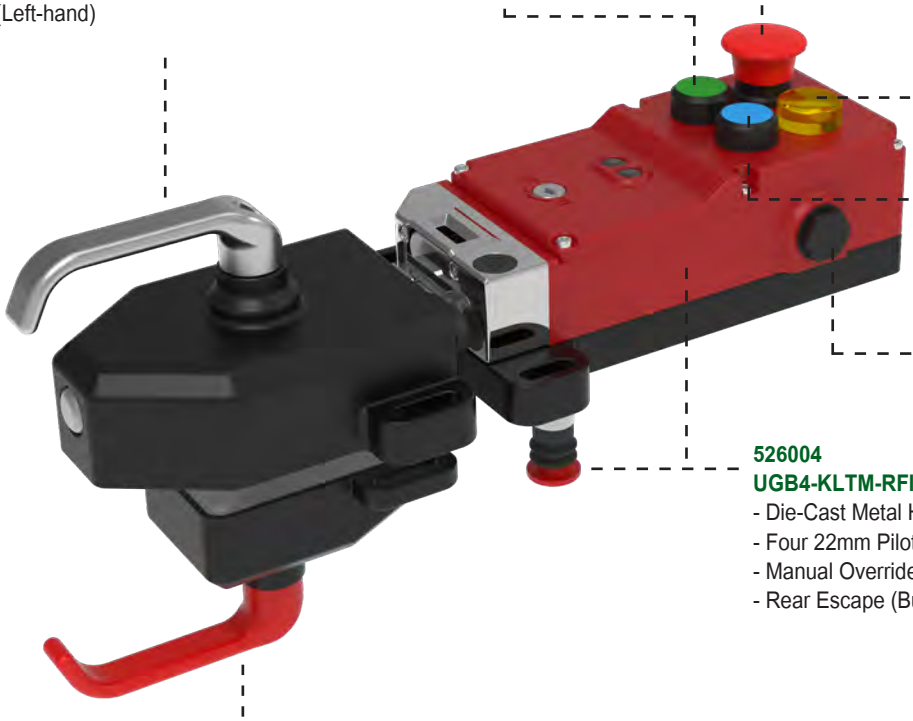




Rotary Front Handle and Mounting Plate	Rotary Front Handle and Mounting Plate	Rear Escape Rotary Handle (Optional)
SALES NUMBERS	**SALES NUMBERS**	**SALES NUMBERS**
UGB2-RFH-M (Die Cast)	**UGB4-RFH-M (Die Cast)**	**UGB-RERH-M (Die Cast)**
527003-L / 527003-R	527004-L / 527004-R	527005-L / 527005-R
UGB2-RFH-SS (Stainless Steel)	**UGB4-RFH-SS (Stainless Steel)**	**UGB-RERH-SS(Stainless Steel**
522003-L / 522003-R	522004-L / 522004-R	522005-L / 522005-R

Universal Gate Box with RFID: **UGB2-KLT, UGB4-KLT**

EXAMPLE 1:



527004-L
UGB4-RFH-M
Rotary Handle and Mounting Plate
(Left-hand)

522302
Compact Push Button
Momentary - Green 1NC 1NO

522205
Compact E-Stop, Twist to
Release, 2NC

522401
Pilot Light LED - Yellow 24Vdc

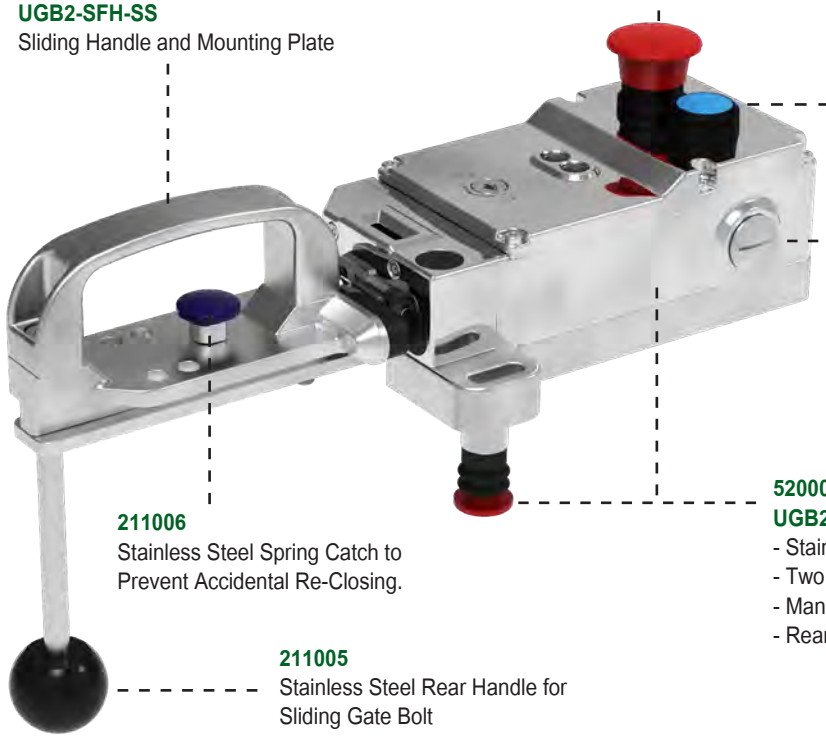
522304
Compact Push Button
Momentary - Blue 1NC 1NO

Three M20 Conduit Entries for
Pre-Wiring

526004
UGB4-KLTM-RFID-RR
- Die-Cast Metal Housing
- Four 22mm Pilot Device Positions
- Manual Override on the Lid
- Rear Escape (Button Included)

527005-L
Rotary Rear Handle (Left-Hand)

EXAMPLE 2:



522001
UGB2-SFH-SS
Sliding Handle and Mounting Plate

522205
Compact E-Stop, Twist to
Release, 2NC

522304
Compact Push Button
Momentary - Blue 1NC 1NO

Three M20 Conduit Entries for
Pre-Wiring

211006
Stainless Steel Spring Catch to
Prevent Accidental Re-Closing.

520002
UGB2-KLT-SS-RFID-RR
- Stainless Steel Housing
- Two 22mm Pilot Device Positions
- Manual Override on the Lid
- Rear Escape (Button Included)

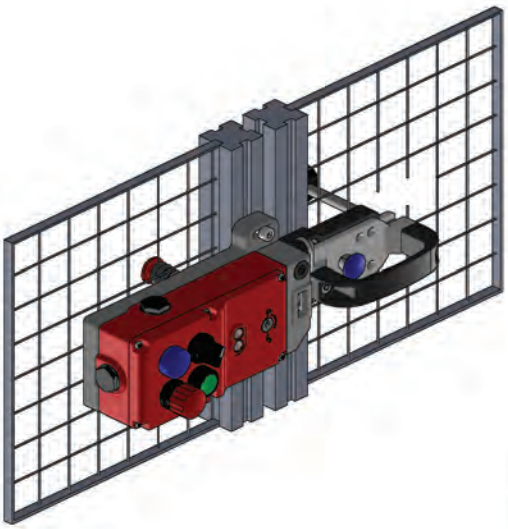
211005
Stainless Steel Rear Handle for
Sliding Gate Bolt

Universal Gate Box with RFID: **UGB4-KLT**

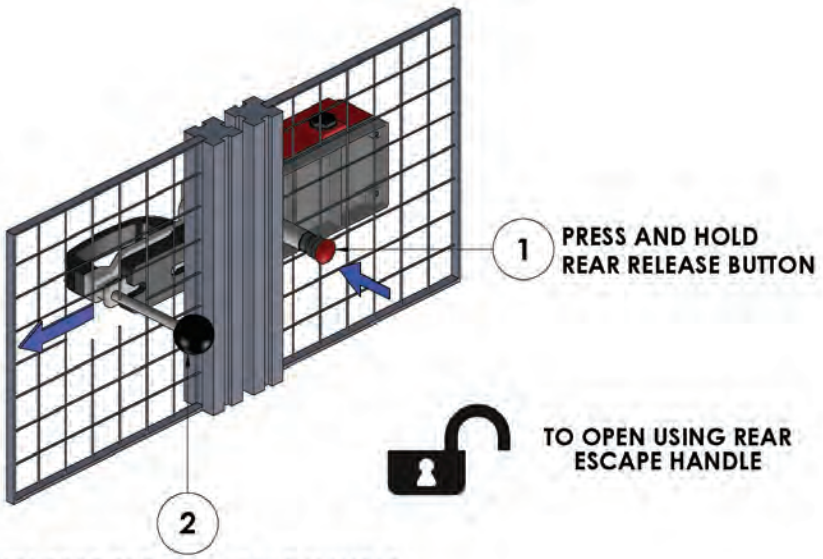
APPLICATION EXAMPLE:

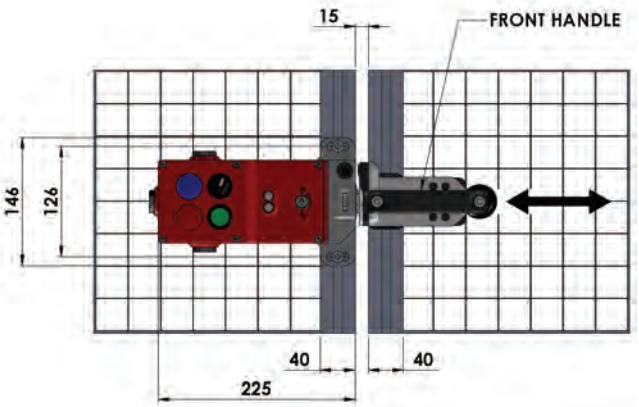
4 STATION (UGB4) with Front Sliding Handle, Rear Escape Button and Rear Escape Sliding Handle.
Fitted with Spring Loaded Catch (optional) – to prevent accidental closing after opening of the guard.

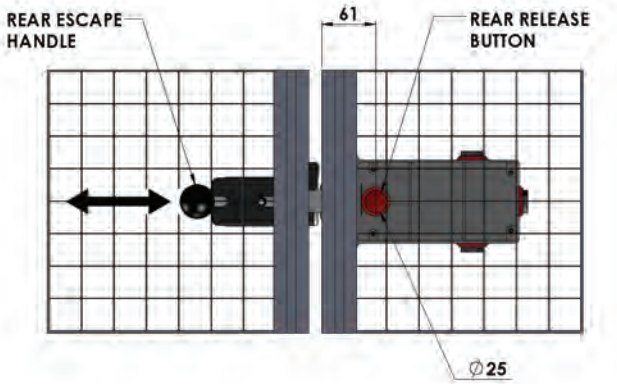
VIEWED FROM OUTSIDE GUARDED AREA

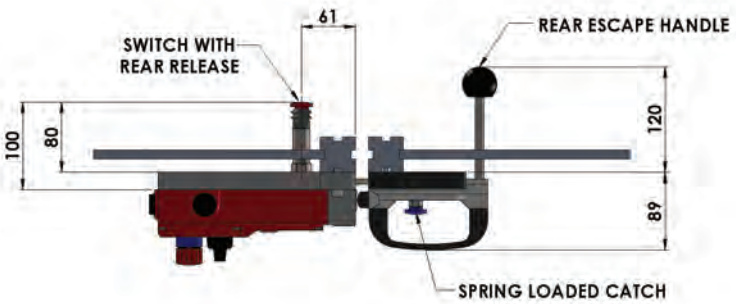


VIEWED FROM INSIDE GUARDED AREA









DESCRIPTION	SALES NUMBER
UGB4-KLTM-RFID-RR	
With LID Manual Override, or	526002
With NO Manual Override	526004
UGB4-SFH-M (Sliding Front Handle)	527002
Rear Release Handle (Stainless Steel)	210005
Spring Loaded Catch (Stainless Steel)	210006

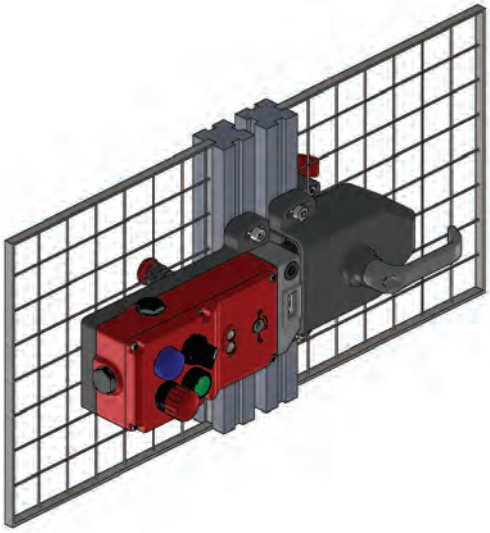
ORDER SEPARATELY:
22mm Push Buttons, Switches, Lamps - See P209.

Universal Gate Box with RFID: **UGB4-KLT**

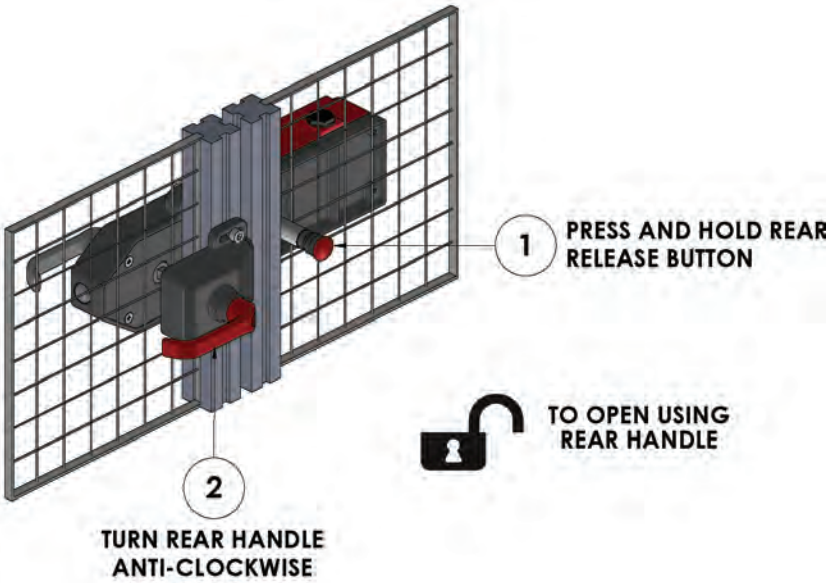
APPLICATION EXAMPLE:

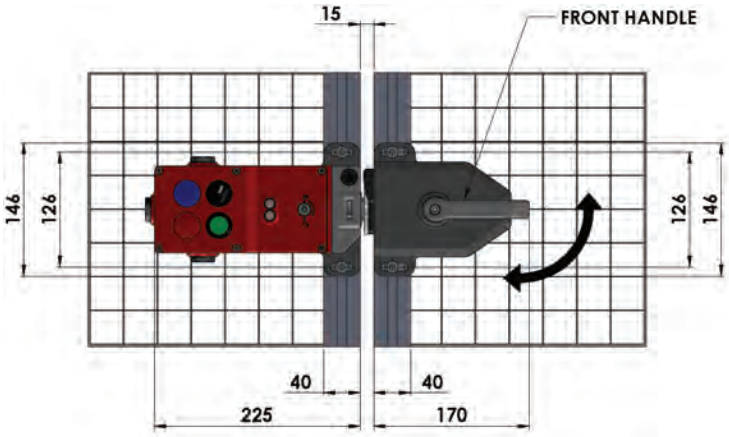
4 STATION (UGB4) with Front Rotary Handle, Rear Escape Button and Rear Escape Rotary Handle.

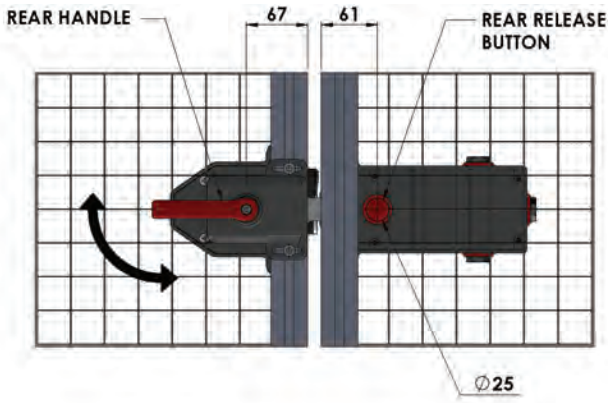
VIEWED FROM OUTSIDE GUARDED AREA

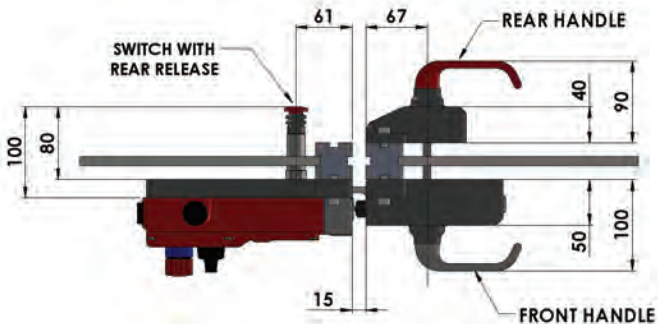


VIEWED FROM INSIDE GUARDED AREA









DESCRIPTION	SALES NUMBER
UGB4-KLTM-RFID-RR	
With LID Manual Override, or	526002
With NO Manual Override	526004
UGB4-RFH-M (Rotary Front Handle)	527004
UGB-RERH-M (Rear Escape Rotary Handle)	527005

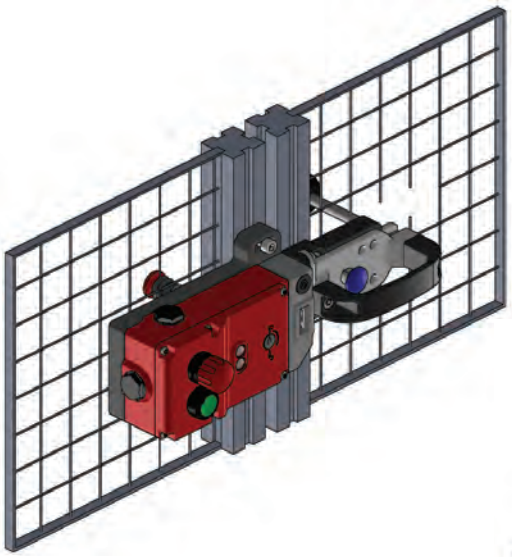
ORDER SEPARATELY:
22mm Push Buttons, Switches, Lamps - See P209.

Universal Gate Box with RFID: **UGB2-KLT**

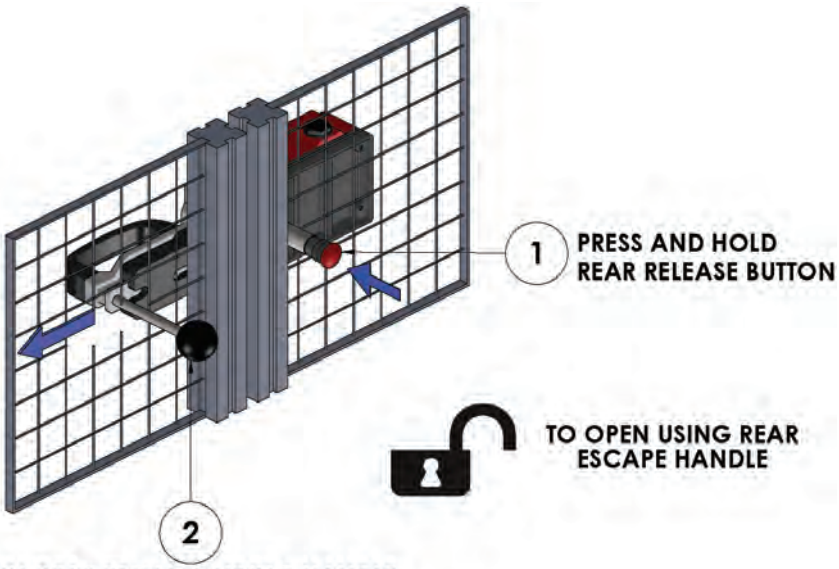
APPLICATION EXAMPLE:

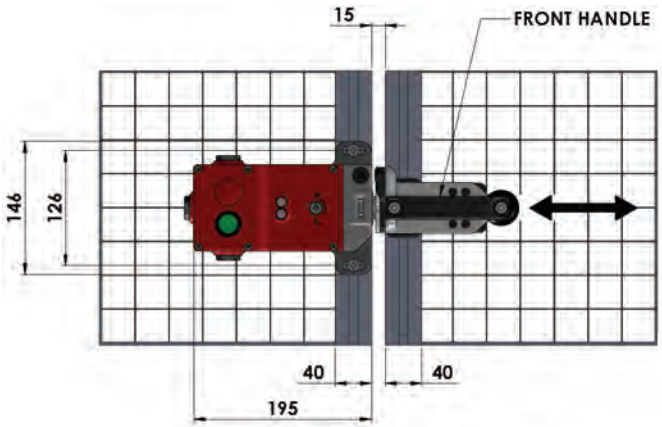
2 STATION (UGB2) with Front Sliding Handle, Rear Escape Button and Rear Escape Sliding Handle.
Fitted with Spring Loaded Catch – to prevent accidental closing after opening of the guard (optional).

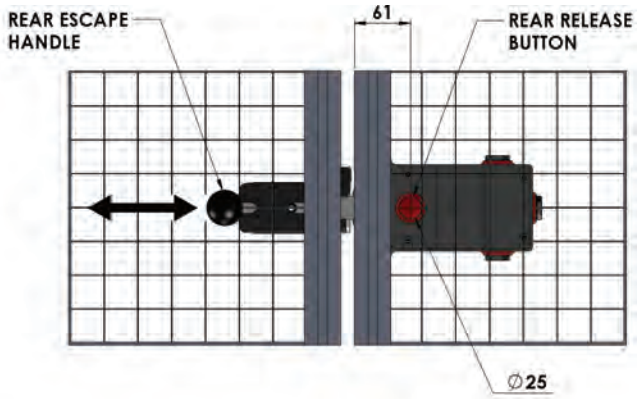
VIEWED FROM OUTSIDE GUARDED AREA

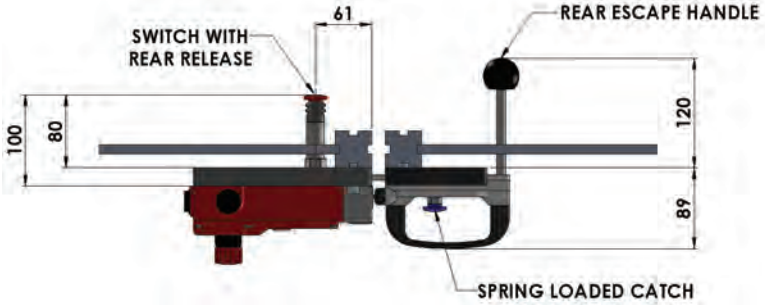


VIEWED FROM INSIDE GUARDED AREA









DESCRIPTION	SALES NUMBER
UGB2-KLTM-RFID-RR	
With LID Manual Override, or	525002
With NO Manual Override	525004
UGB2-SFH-M (Sliding Front Handle)	527001
Rear Release Handle (Stainless Steel)	210005
Spring Loaded Catch (Stainless Steel)	210006

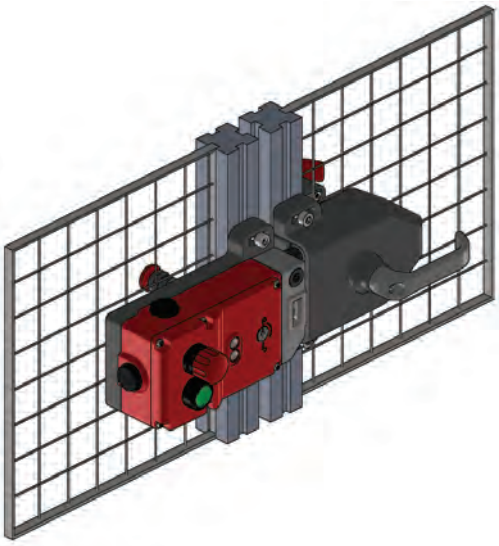
ORDER SEPARATELY:
22mm Push Buttons, Switches, Lamps - See P209.

Universal Gate Box with RFID: **UGB2-KLT**

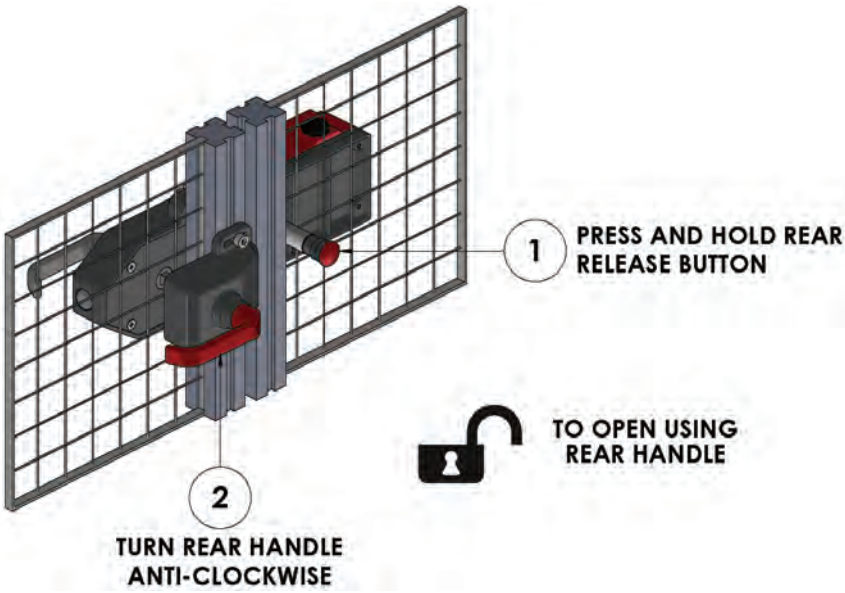
APPLICATION EXAMPLE:

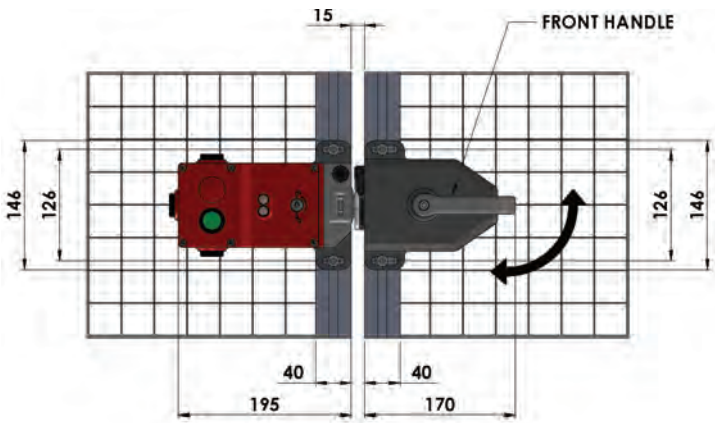
2 STATION (UGB2) with Front Rotary Handle, Rear Escape Button and Rear Escape Rotary Handle.

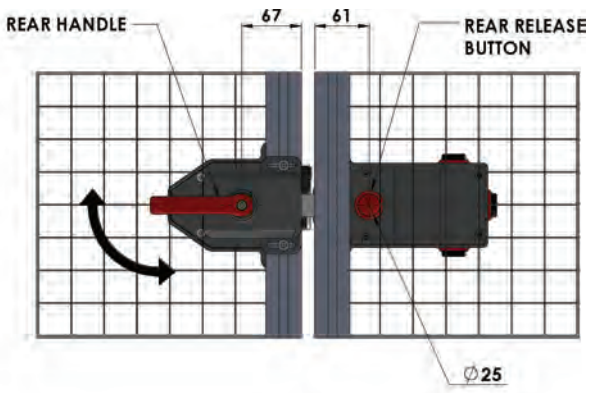
VIEWED FROM OUTSIDE GUARDED AREA

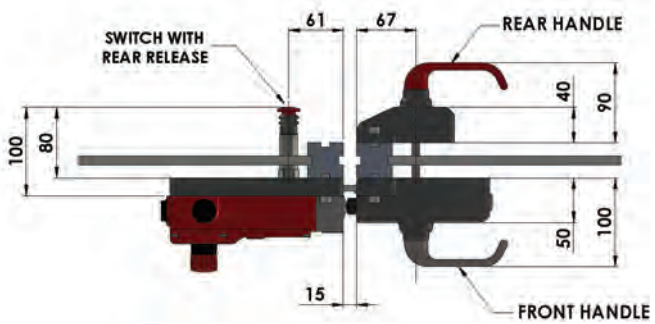


VIEWED FROM INSIDE GUARDED AREA









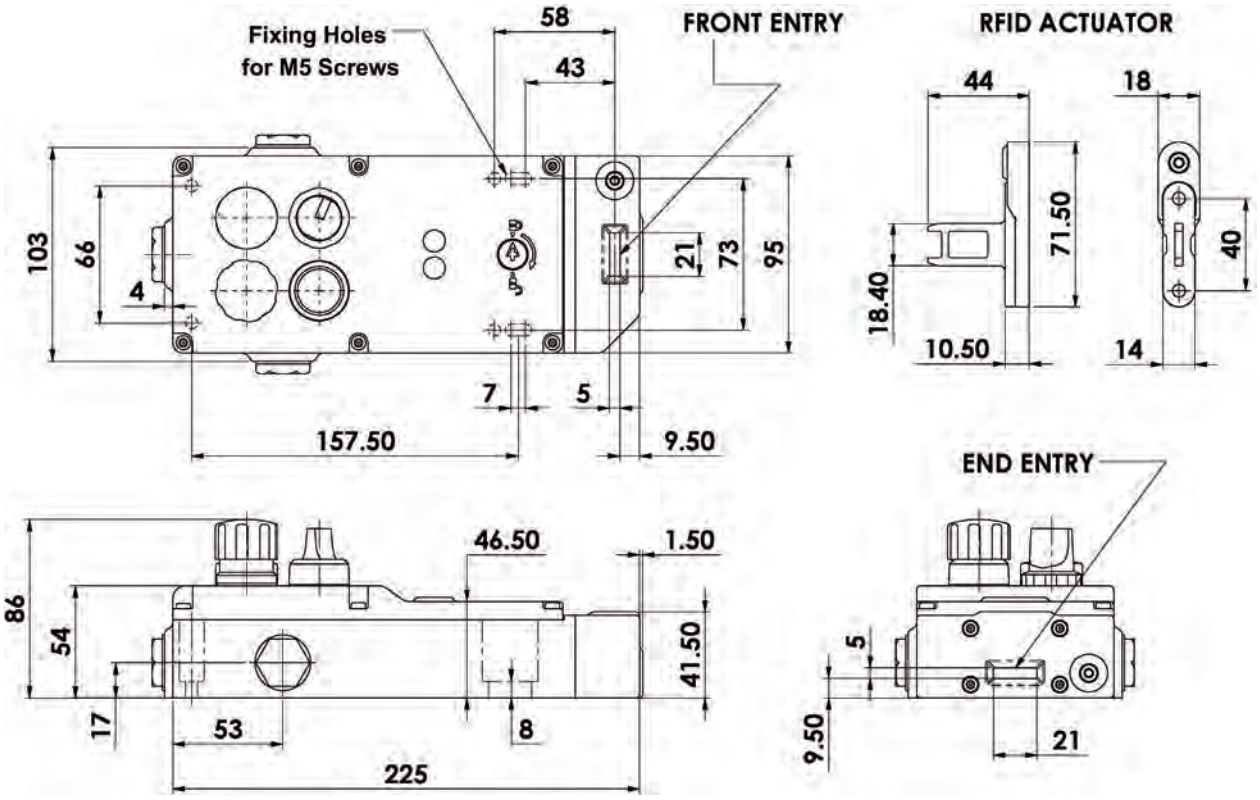
DESCRIPTION	SALES NUMBER
UGB2-KLTM-RFID-RR	
With LID Manual Override, or	525002
With NO Manual Override	525004
UGB2-RFH-M (Rotary Front Handle)	527003
UGB-RERH-M (Rear Escape Rotary Handle)	527005

ORDER SEPARATELY:
22mm Push Buttons, Switches, Lamps - See P209.

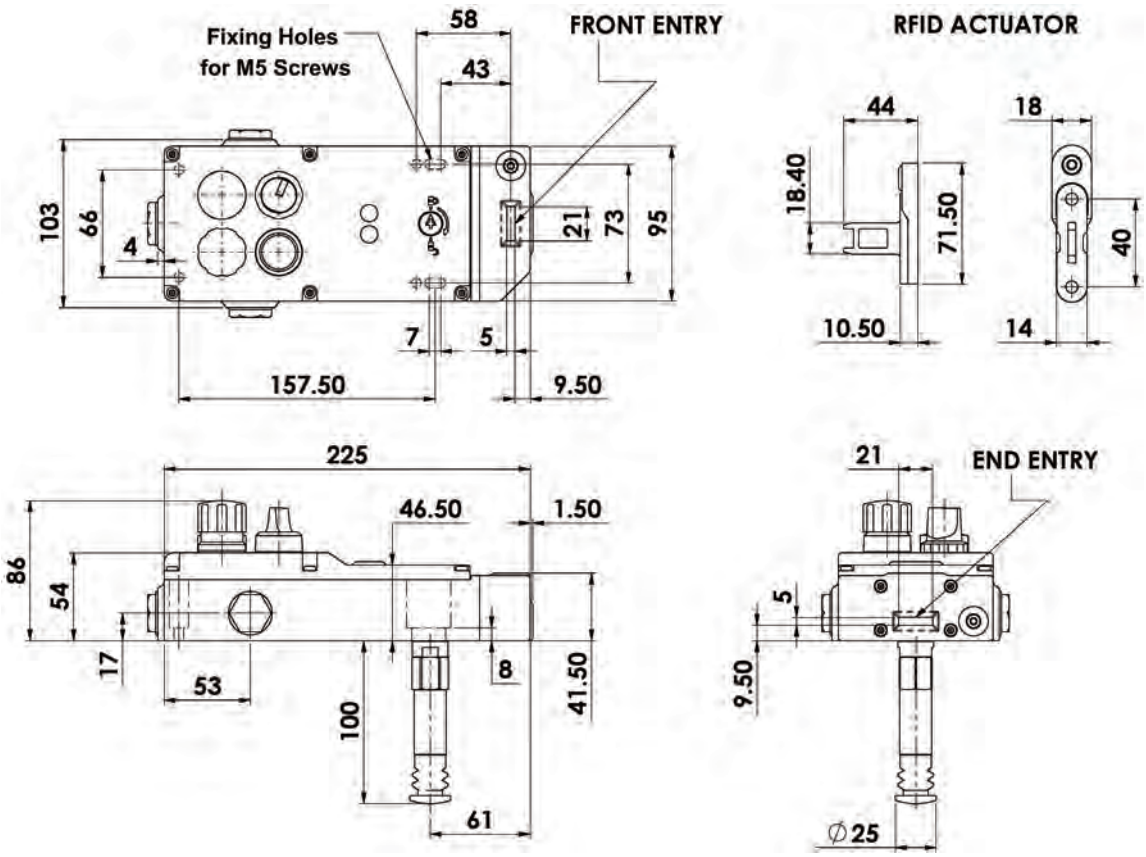
Universal Gate Box with RFID: **UGB2-KLT, UGB4-KLT**

PRODUCT DIMENSIONS:

TYPE: UGB 4-KLTM-RFID



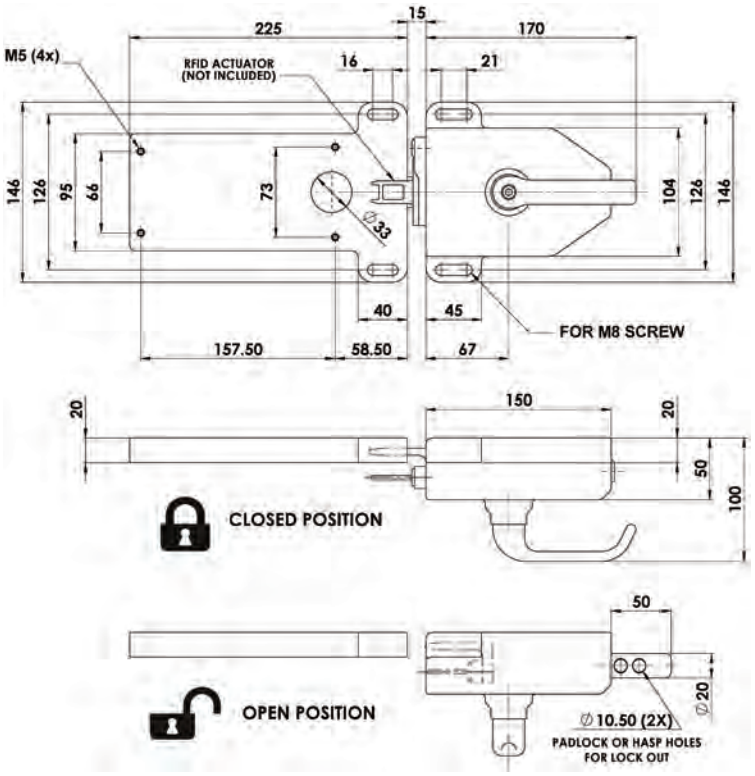
TYPE: UGB 4-KLTM-RFID-RR (Rear Release)



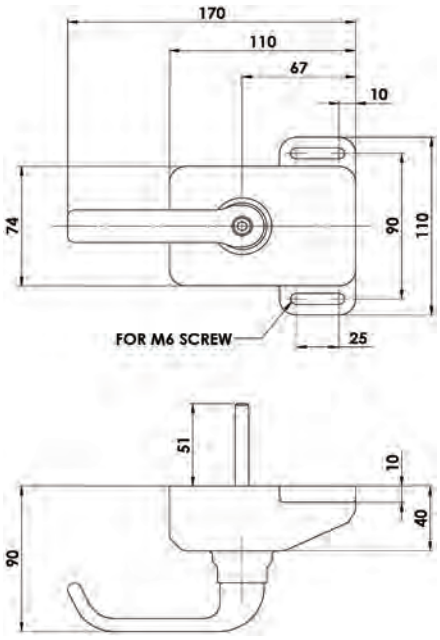
Universal Gate Box with RFID: **UGB2-KLT, UGB4-KLT**

PRODUCT DIMENSIONS:

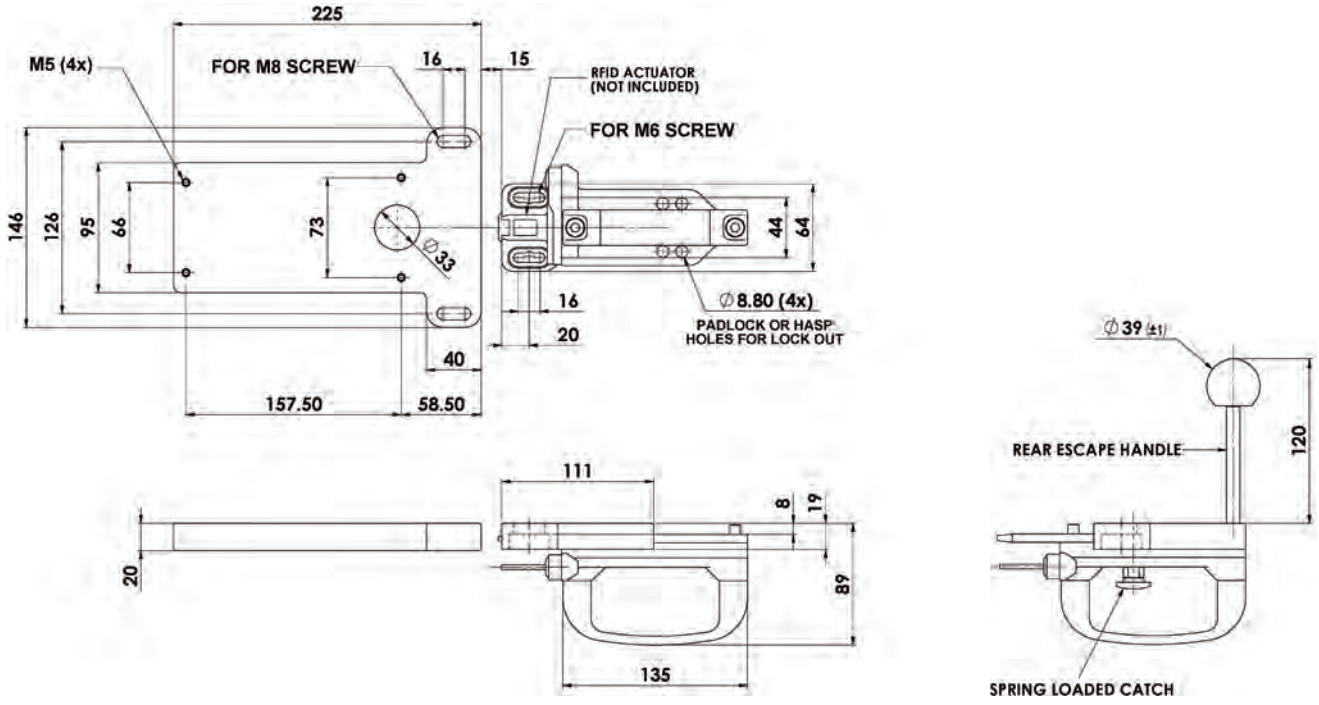
TYPE : UGB 4- ROTARY HANDLE (4 x APP)



TYPE : UGB-ROTARY REAR HANDLE



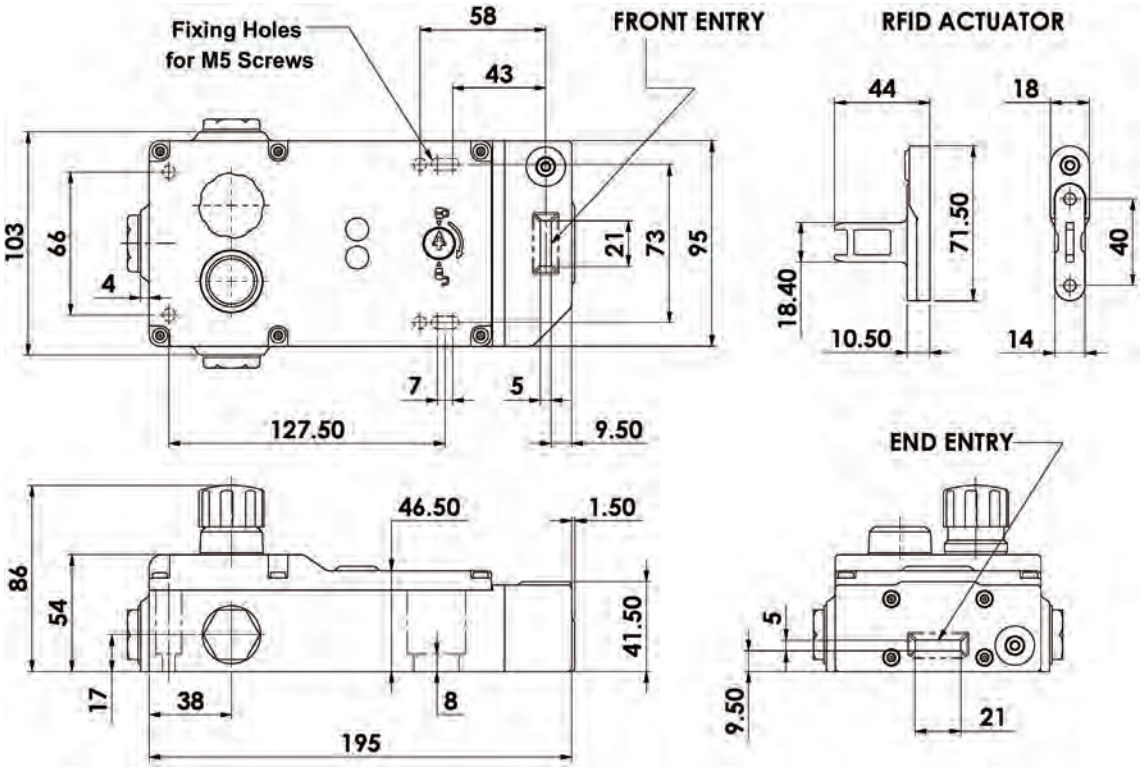
TYPE : UGB 4 SLIDING HANDLE (4 x APP)



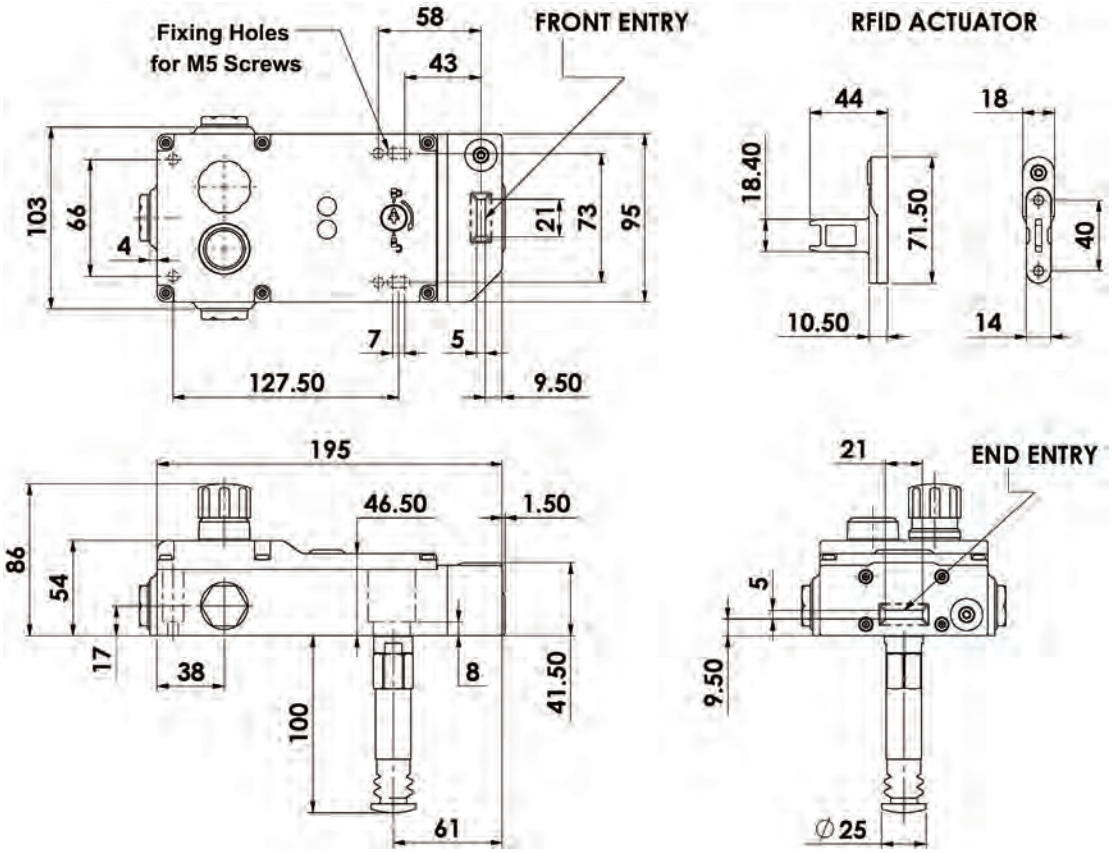
Universal Gate Box with RFID: **UGB2-KLT, UGB4-KLT**

PRODUCT DIMENSIONS:

TYPE: UGB 2-KLTM-RFID



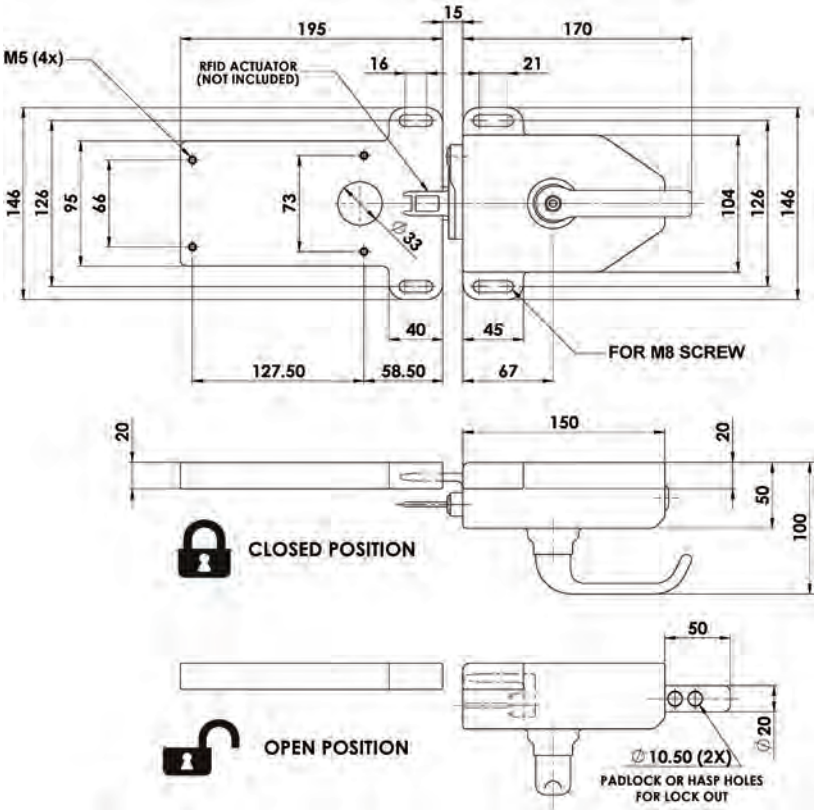
TYPE: UGB 2-KLTM-RFID-RR (Rear Release)



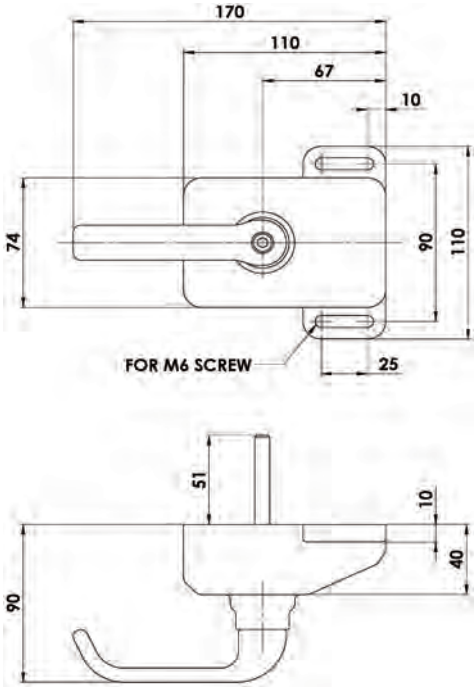
Universal Gate Box with RFID: **UGB2-KLT, UGB4-KLT**

PRODUCT DIMENSIONS:

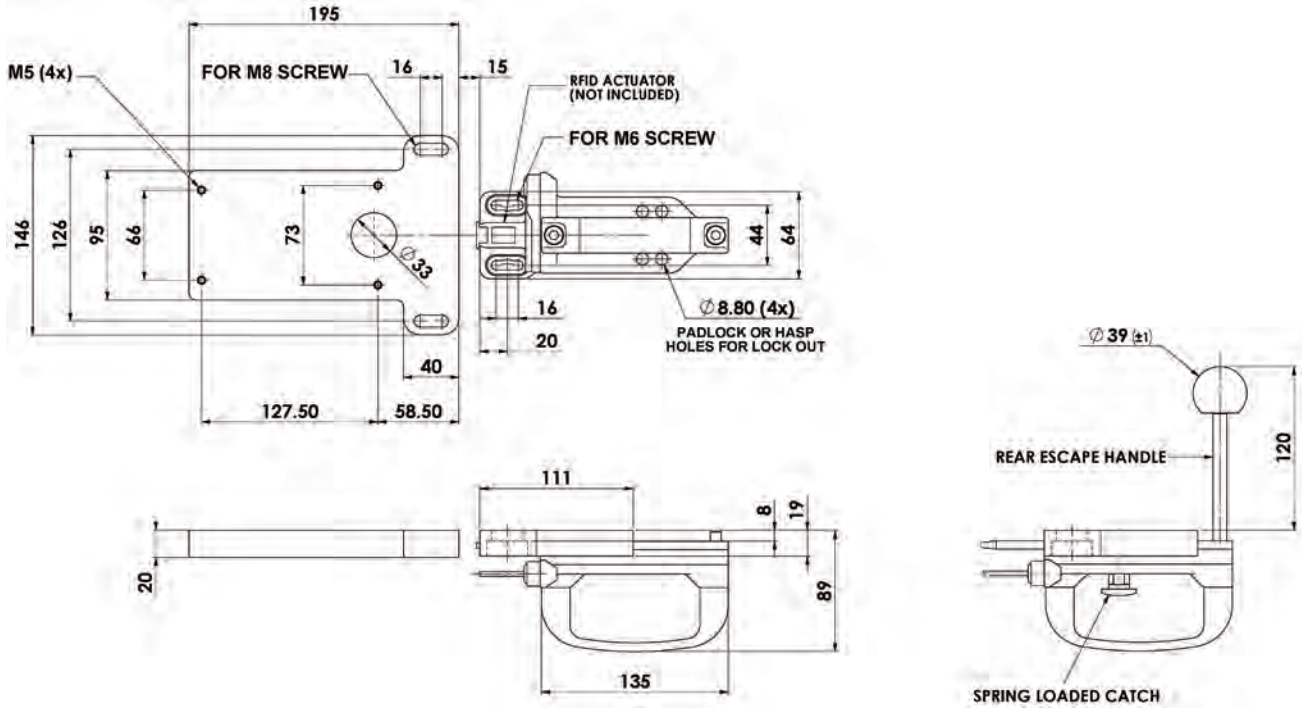
TYPE : UGB 2- ROTARY HANDLE (2 x APP)



TYPE : UGB-ROTARY REAR HANDLE



TYPE : UGB 2 SLIDING HANDLE (2 x APP)



RFID Guard Locking Switch Metal: **AYLOCK KLM-Z-4ST**

FEATURES & APPLICATION:

Spring to lock when actuator is inserted. Energise solenoid to unlock.

RFID anti-tamper coding and non-contact safety interlocking.

Front and end entry actuation.

Rotating head.

TYPE 4 INTERLOCK

Solenoid Locking Switch featuring RFID interlocking and incorporating machine control functions.

The KLM-Z-4ST incorporates all the switch features of the KLM-Z but offers extra machine control functions all in one housing incorporating standard 22mm push buttons (see p209 for push button options available).

The KLM-Z-4ST has a slim profile and has been designed specifically to fit on 50mm (2in.) frame sections or to applications where space is restricted The head will rotate to offer end users flexibility by providing up to 8 actuator entry positions and includes front and entry sensing.

The KLM-Z-4ST housing will incorporate standard 22mm push buttons, lamps or switches which can be added to provide machine request or control functions all from one KLM-Z-4ST housing.

Robust Stainless Steel 316 head and Die-Cast metal body.

Choice of standard or flexible actuators.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

Front entry actuation direction.

End entry actuation direction.

ACTUATOR OPTIONS:

AZ Standard Actuator

HFZ Flexible Actuator

Standards:	IEC60947-5-3 ISO14119 ISO13849-1 IEC62061 UL 60947-5-1
Technical Specification:	
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.) S+ (500mA Max) (Solenoid)
Safety Circuits (11-12, 21-22)	24V 0.2A
Auxiliary Circuits (34 and 44)	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N Fzh 2307N
Actuator insertion distance for assured locking	5mm
Sao Sar (RFID sensing)	Sao 10mm Sar 20mm
Operating Frequency	1Hz
Actuator entry minimum radius	175mm Standard 100mm Flexible
Body Material	Die cast metal (painted red)
Head Material	Stainless Steel 316
Actuator Material	Stainless Steel 316
Enclosure Protection	IP65
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

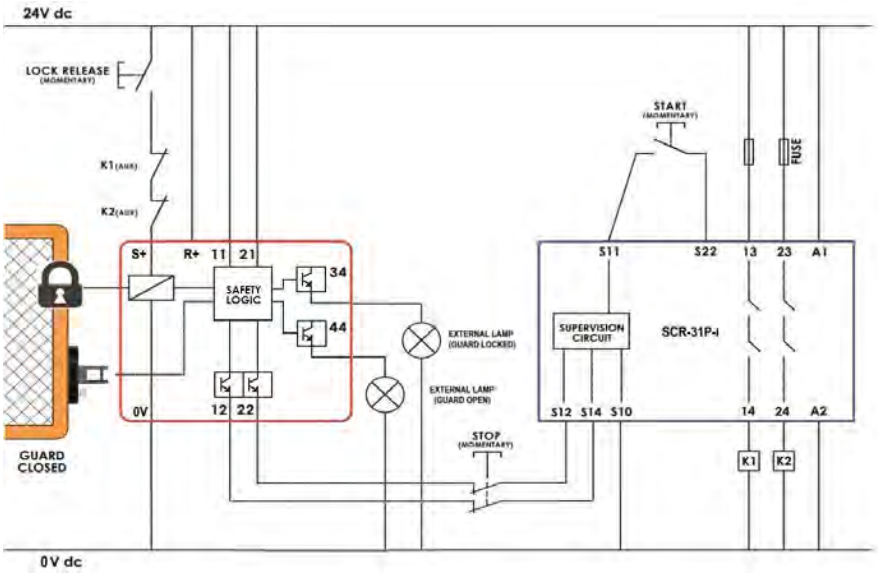
Safety Integrity Level	SIL 3	
PFH (1/h)	4.77 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

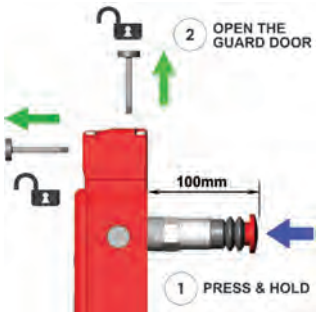
Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

RFID Guard Locking Switch Metal: **AYLOCK KLM-Z-4ST**

CONNECTION EXAMPLE:



REAR ESCAPE:



REAR RELEASE option also available - please see Sales Numbers.

KLM-Z-4ST fitted to GBZ rotary handle with rear escape.

TERMINAL & LED FUNCTIONS:

Terminal	Function	Switch Circuit	Rating
R+	24V dc	Supply 24V dc	50mA max.
0V	0V dc	Supply 24V dc (Ground)	
11	Safety Input 1	Safety Circuit 1	200mA max.
12	Safety Output 1		
21	Safety Input 2	Safety Circuit 2	200mA max.
22	Safety Output 2		
44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
S+	Unlocked	Unlock signal apply +24V dc	500mA max.

LED 1	Guard State
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2	Input
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3	Output
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4	Solenoid
Solenoid Energised	Red
Solenoid De-energised	Off

ORDERING LAMPS, PUSH BUTTONS AND SWITCHES SEPARATELY PLEASE REFER TO P209.

	STANDARD MANUAL RELEASE LID AND SIDE	MANUAL RELEASE LID ONLY (Not SIDE)	NO MANUAL RELEASE FITTED (Blanked)
SALES NUMBERS	**M20**	**M20**	**M20**
KLM-Z-4ST Switch with STANDARD Actuator	457001AZ	457401AZ	457301AZ
KLM-Z-4ST Switch with HEAVY DUTY FLEXIBLE Actuator	457001HFZ	457401HFZ	457301HFZ
REAR RELEASE OPTION SALES NUMBERS			
KLM-Z-4ST-RR Switch with STANDARD Actuator	457011AZ	457411AZ	457311AZ
KLM-Z-4ST-RR Switch with HEAVY DUTY FLEXIBLE Actuator	457011HFZ	457411HFZ	457311HFZ

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

RFID Guard Locking Switch Metal: **KLM-Z-SKR-5ST**

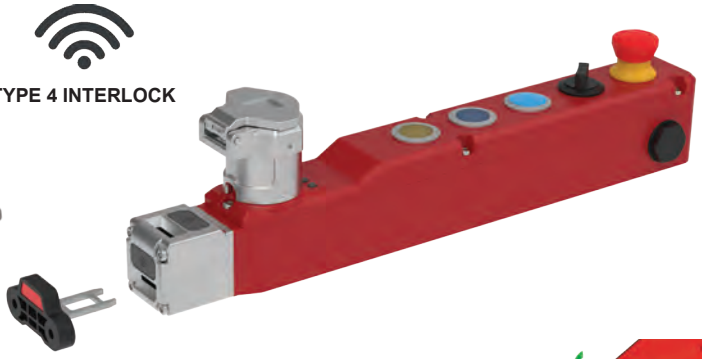
FEATURES & APPLICATION:

Keys Sold Separately (See p263)
Pushbuttons Sold Separately (See p209)

LT: All IDEM trapped key interlocks are available with a lockout dust cover.

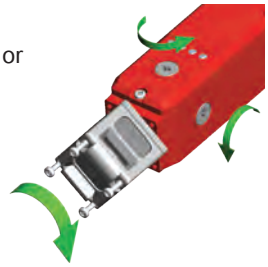
CK: All IDEM trapped key interlocks are available with a custom key label.

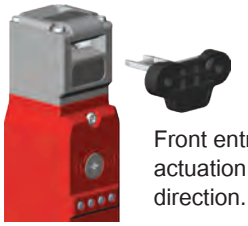
TYPE 4 INTERLOCK



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.





Front entry actuation direction.

End entry actuation direction.

OVERVIEW:

Introducing the Type 4 Guard Locking Switch with RFID interlocking, integrated machine control functions, and a trapped key.

The KLM-Z-5ST builds on the features of the KLM-Z by offering additional machine control functions, accommodating up to five 22mm pushbuttons, and a coded trapped key, all housed in a durable casing (refer to p** for available pushbutton options).

When entry is requested, the trapped key can be turned and removed, allowing the operator to take the key inside the safeguarded area, reducing the risk of accidental start-up.

The KLM-Z-5ST featrues a slim profile, designed specifically for 50mm (2in.) frame sections or applications where space is limited. Its head rotates to provide up to 8 actuator entry positions, offering flexibility and including front and entry sensing.

The KLM-Z-5ST housing can incorporate standard 22mm pushbuttons, lamps, or switches, enabling machine request or control functions all from one housing.

Constructed with a robust Stainless Steel 316 head and a Die-Cast metal body, the KLM-Z-5ST offers a choice of standard or flexible actuators.

AZ Standard Actuator

HFZ Flexible Actuator

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1. Guard interlocking and lock monitoring to CAT 4, PL e and SIL 3. Safety ratings are maintained with up to 30 devices in series.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061, UL 60947-5-1
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.) S+ (500mA Max) (Solenoid)
Safety Circuits	24V 0.2A
Auxiliary Circuits	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N Fzh 2307N
Operating Frequency	1Hz
Head Material	Stainless Steel 316
Body Material	Die-Cast Metal
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

RFID Guard Locking Switch Metal: **KLM-Z-SKR-5ST**

INDICATION DIAGRAM:

LED 1	Guard State
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2	Input
Safety Inputs On	Green
Safety Inputs Off	Off

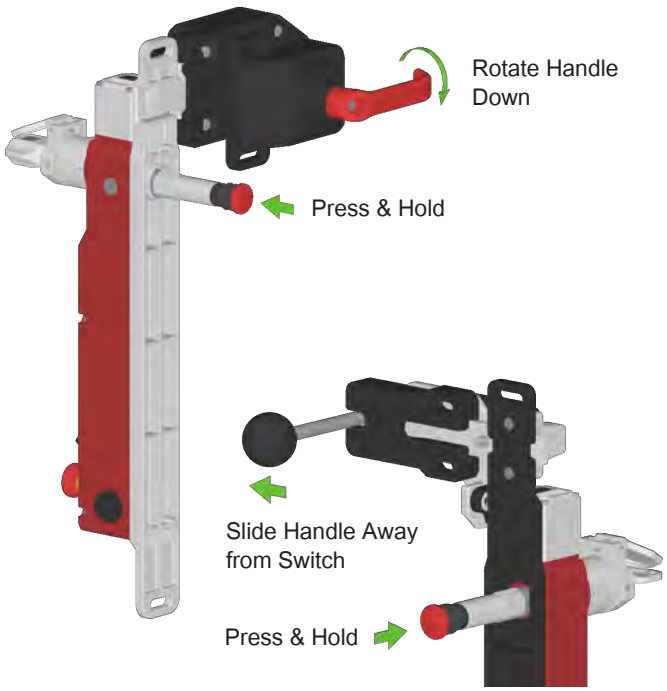
LED 3	Output
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4	Solenoid
Solenoid Energised	Red
Solenoid De-energised	Off

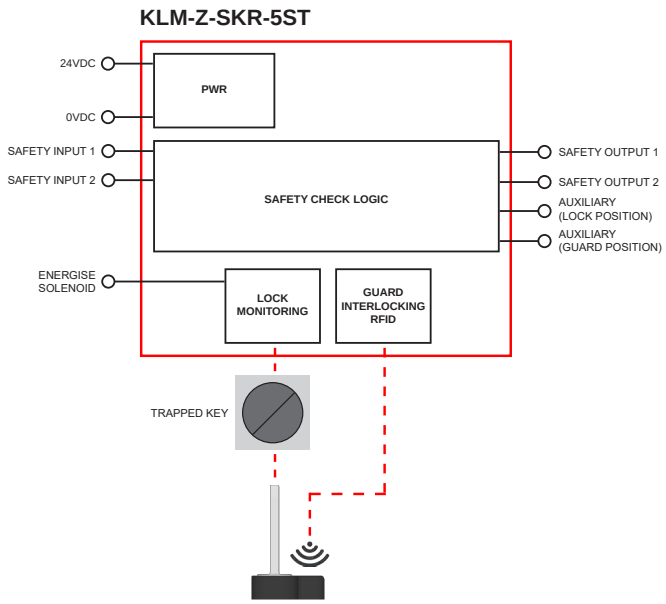
CONNECTIVITY:

Terminal	Function	Switch Circuit	Rating
R+	24V dc	Supply 24V dc	50mA max.
0V	0V dc	Supply 24V dc (Ground)	
11	Safety Input 1	Safety Circuit 1	200mA max.
12	Safety Output 1		
21	Safety Input 2	Safety Circuit 2	200mA max.
22	Safety Output 2		
44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
S+	Unlocked	Unlock signal apply +24V dc	500mA max.

REAR ESCAPE:

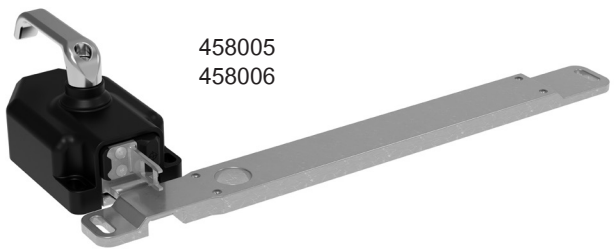


CONNECTION DIAGRAM:



ORDERING:

KLM-Z-SKR-5ST (Configuration Descriptor)	With Side Manual Release			Without Side Manual Release		
	M20	*1/2" NPT*	*M12-QC*	*M20*	*1/2" NPT*	*QC-M12*
Standard (KLM-Z-SKR-5ST)	457004	457005	457006	457304	457305	457306
Rear Release (KLM-Z-SKR-5ST-RR)	457014	457015	457016	457314	457315	457316



458005
458006

458003
458004

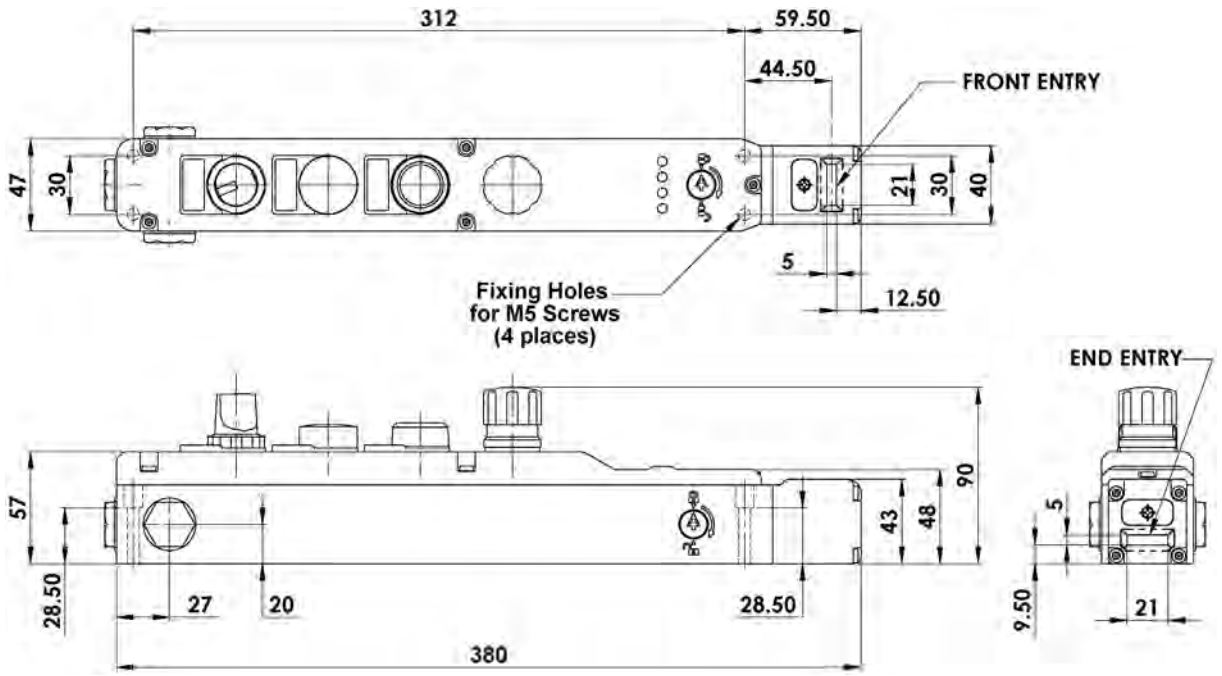
Key sold separately
(see page 263)

527005-L
527005-R

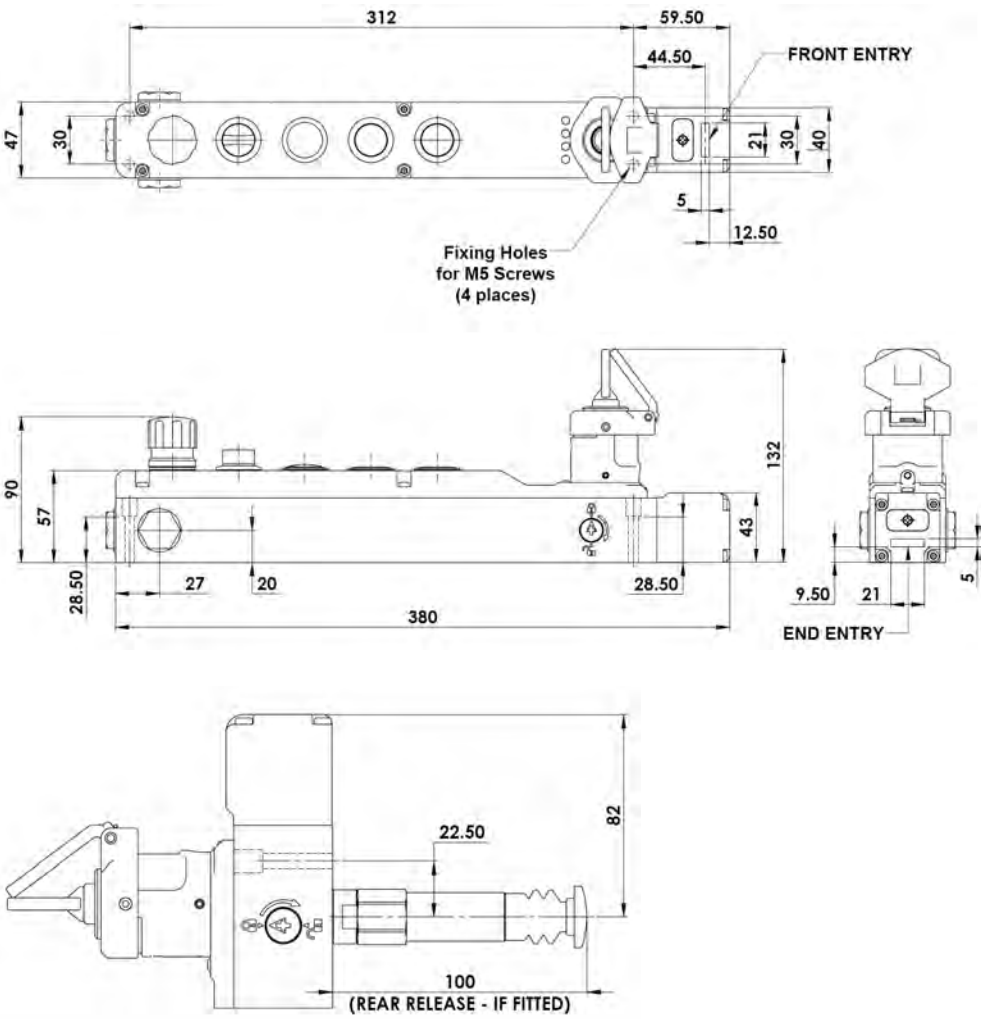
210005

Dimensions for KLM-Z-SKR-ST Models

TYPE: KLM-Z-4ST



TYPE: KLM-Z-5ST



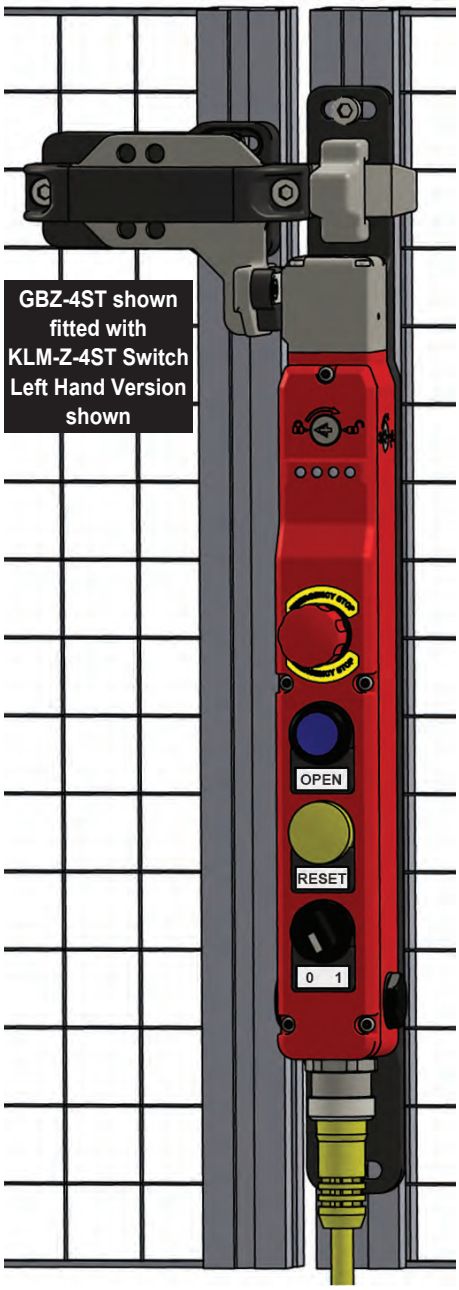
Pilot Devices for UGB-KLT and KLM-Z-ST Models

22mm ACCESSORIES FOR UGB-KLT, KLM-Z-4ST & 5ST (to be ordered separately):

SALES NUMBER	CONTACTS or VOLTAGE	DESCRIPTION	ELECTRICAL
522201	2NC	Compact Stop, Twist to Reset, Red 30mm Mushroom Head	AC-15 120Vac 1.5A 240Vac 1.0A DC-13 24Vdc 0.3A 125Vdc 0.2A
522202	1NC 1NO	Compact Stop, Twist to Reset, Red 30mm Mushroom Head	
522203	2NC	Compact Stop, Twist to Reset, Red 30mm Mushroom Head with Reset Key	
522204	1NC 1NO	Compact Stop, Twist to Reset, Red 30mm Mushroom Head with Reset Key	
522205	2NC	Compact Stop, Twist to Reset, Red 40mm Mushroom Head	
522206	1NC 1NO	Compact Stop, Twist to Reset, Red 40mm Mushroom Head	
522207	2NC	Compact Stop, Twist to Reset, Red 40mm Mushroom Head with Reset key	
522208	1NC 1NO	Compact Stop, Twist to Reset, Red 40mm Mushroom Head with Reset key	
522209	2NC	Compact Illuminated Stop, Twist to Reset, Red 32mm Mushroom Head with plug-in Spade Terminals (2.8 x 0.5mm), RED LAMP (5-30Vdc).	AC-15 120Vac 3A 24Vac 1.5A DC-13 24Vdc 3A 250Vdc 0.27A
522210	1NC 1NO	Compact Illuminated Stop, Twist to Reset, Red 32mm Mushroom Head with plug-in Spade Terminals (2.8 x 0.5mm), RED LAMP (5-30Vdc).	
522251	1NC 1NO	Compact 2 Positions Plastic Selector Switch	AC-15 120Vac 1.5A 240Vac 1.0A DC-13 24Vdc 0.3A 125Vdc 0.2A
522252	2NC	Compact 2 Positions Plastic Selector Switch	
522301	1NC 1NO	Compact Push Button Momentary - RED	
522302	1NC 1NO	Compact Push Button Momentary - GREEN	
522303	1NC 1NO	Compact Push Button Momentary - YELLOW	
522304	1NC 1NO	Compact Push Button Momentary - BLUE	
522305	1NC 1NO	Compact Push Button Momentary - WHITE	
522310	2NC	Compact Push Button Momentary - RED	
522311	2NC	Compact Push Button Momentary - GREEN	
522312	2NC	Compact Push Button Momentary - YELLOW	
522313	2NC	Compact Push Button Momentary - BLUE	
522314	2NC	Compact Push Button Momentary - WHITE	
522321	1NO	Compact Illuminated Push Button Momentary - RED (Lamp 24V ac/dc)	
522322	1NO	Compact Illuminated Push Button Momentary - GREEN (Lamp 24V ac/dc)	
522323	1NO	Compact Illuminated Push Button Momentary - YELLOW (Lamp 24V ac/dc)	
522324	1NO	Compact Illuminated Push Button Momentary - BLUE (Lamp 24V ac/dc)	
522325	1NO	Compact Illuminated Push Button Momentary - CLEAR (Lamp 24V ac/dc)	
522401	24V ac/dc	Pilot Light LED - YELLOW	
522402	24V ac/dc	Pilot Light LED - RED	
522403	24V ac/dc	Pilot Light LED - GREEN	
522404	24V ac/dc	Pilot Light LED - BLUE	
522405	24V ac/dc	Pilot Light LED - CLEAR	
522451		Legend Holder for use with 22 mm Devices	
522452		Blanking Plug for sealing unused 22mm holes	

Gate Bolt for KLM-Z-SKR-ST: **GBZ Sliding Gate Bolt**

FEATURES & APPLICATION:



GBZ-4ST shown fitted with KLM-Z-4ST Switch Left Hand Version shown

IDEM GBZ-4ST GATE BOLT SUITABLE FOR KLM-Z-4ST SWITCHES

GBZ-4ST Gate Bolts are manufactured with a rugged die-cast metal and steel construction and provide shearing forces up to 10,000N (F1Max) on large hinged doors.

Easy to install on hinged or sliding guards. (2 x M6 and 2 x M8 Mounting Bolts).

Once installed there is no need for extra brackets or door handles.

Not susceptible to misalignment damage.

Operators are required to manually close the guard, they cannot close accidentally.

Padlock holes are provided as a means of locking open the handle to prevent the guard from being closed and the machine started during maintenance.

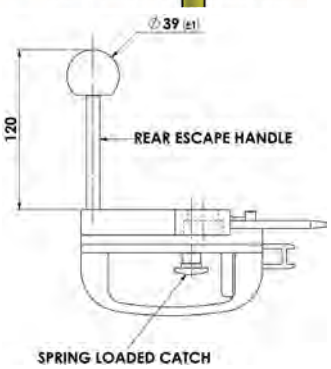
Optional Accessories (which can be fitted later after installation):

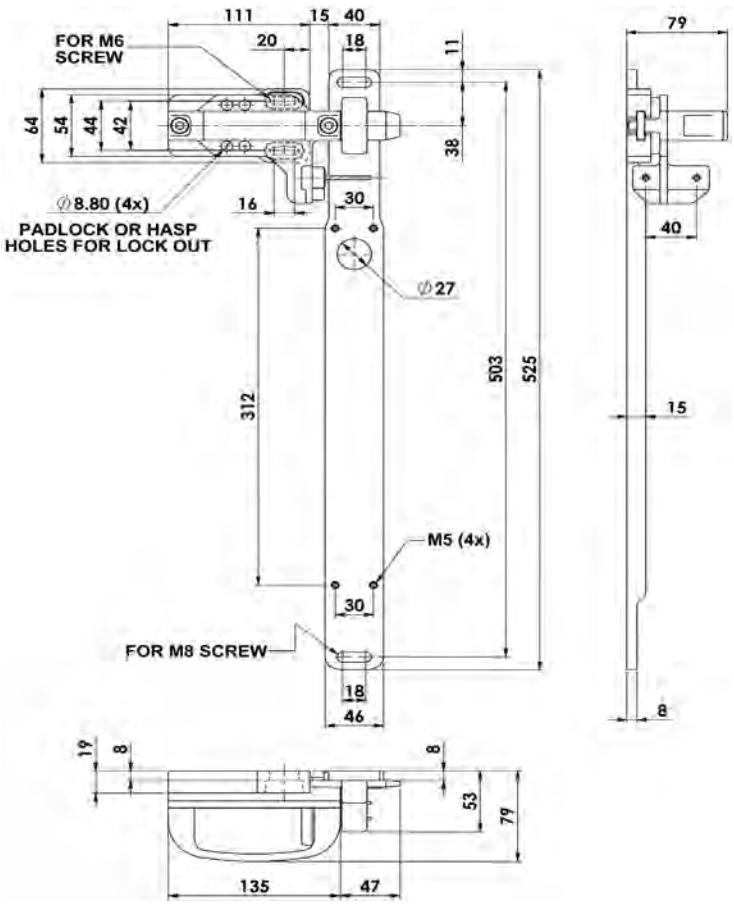
Rear Handle where there is a requirement to move the handle from inside the guarded area.

Spring Loaded Catch: To prevent accidental actuation after opening of the handle.

Type: GBZ-4ST
Shown fitted with KLM-Z-4ST-RR Switch with optional extra Rear Handle

Type: GBZ-4ST
Shown fitted with KLM-Z-4ST-RR Switch with optional extra Rear Handle





DESCRIPTION (Suitable for Switch Types: KLM-Z-4ST and 5ST)		SALES NUMBER
Gate Bolt Lock	GBZ-4ST Left Hand	458003
Gate Bolt Lock	GBZ-4ST Right Hand	458004

DESCRIPTION (Accessories)	SALES NUMBER
Rear Handle (can be fitted later)	210005
Spring Loaded Catch (can be fitted later)	210006

Gate Bolt for KLM-Z-SKR-ST: **GBZ Rotary Gate Bolt**

FEATURES & APPLICATION:

Type: GBZ-ST Rotary Handle
Shown fitted with KLM-Z-5ST-RR switch with rear rotary release.

IDEM GBZ-ST ROTARY GATE BOLT SUITABLE FOR KLM-Z-4ST & 5ST SWITCHES

GBZ-ST Rotary Gate Bolts are manufactured with a rugged die-cast metal and steel construction and provide shearing forces up to 10,000N (F1Max) on large hinged doors.

Easy to install on hinged or sliding guards. (2 x M6 and 2 x M8 Mounting Bolts).

Once installed there is no need for extra brackets or door handles.

Not susceptible to misalignment damage.

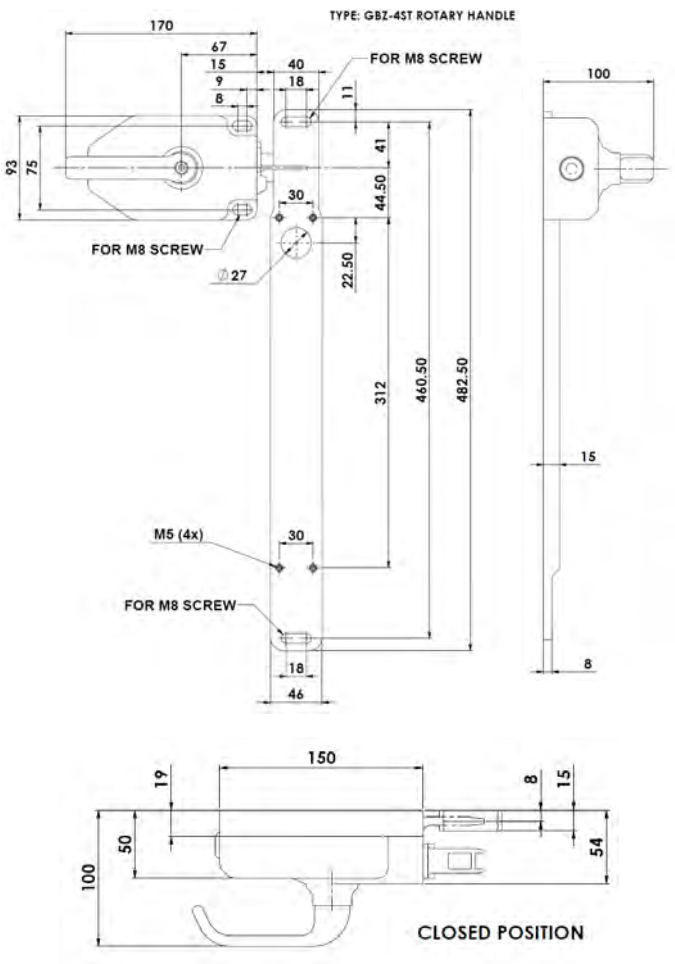
Operators are required to manually close the guard, they cannot close accidentally.

Padlock holes are provided as a means of locking open the handle to prevent the guard from being closed and the machine started during maintenance.

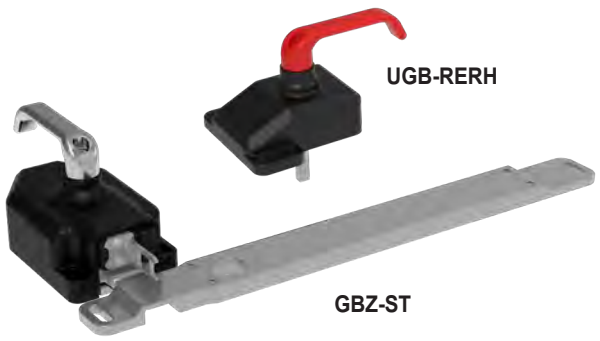
Optional Accessories:

Rear Handle where there is a requirement to move the handle from inside the guarded area.

DIMENSIONS:



ORDERING:



DESCRIPTION (Suitable for Switch Types: KLM-Z-4ST and 5ST)		SALES NUMBER
Rotary Gate Bolt Lock	GBZ-ST Left Hand	458005
Rotary Gate Bolt Lock	GBZ-ST Right Hand	458006

DESCRIPTION (Accessories)		SALES NUMBER
Rear Rotary Handle	UGB-RERH-M Left Hand	527005-L
Rear Rotary Handle	UGB-RERH-M Right Hand	527005-R

UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

APPLICATION & FEATURES:

UGB-NET-PS
UGB-NET-CS

EtherNet/IP
CIP Safety
PROFINET
PROFIsafe

Integrated safety protocols for use with industry recognised industrial Ethernet networking capabilities.

Ethernet/IP (CIP Safety) or PROFINET (PROFIsafe).

World's first networked safety switch in stainless steel 316, suitable for IP69K.

TYPE 4 DEVICE
HIGH CODED RFID

OVERVIEW:

The UGB-NET safety interlock features an RFID coded sensor and industrial ethernet in one compact, robust design. Pushbutton controls and mechanically coded trapped key options can all be combined on a single device, providing a cost-effective solution that meets the highest safety requirements.

The UGB-NET provides high level RFID coded interlocking and machine control functions in one heavy duty housing. They can be easily fitted to access doors to provide guard locking, rear escape options and sliding or rotary handles can reduce the risk of operators being trapped inside a guarded area.

The benefits of using a networked safety switch includes a reduced number of components, less wiring, fewer cabinets, faster installation, and faster commissioning. It's possible to view the health of each module and other status information through messaging as well as the configuration bytes of the modules themselves.

- Choice of integrated Ethernet CIP Safety or PROFIsafe versions.
- Choice of pluggable connections for quick connection (M12 or 7/8")
- Network address assignment set by DIP switches for simple and easy set up.
- Compact housing – less than 250mm long (10 inches) and 115mm (4.5 inches).
- End or front actuator insertion for flexibility of mounting.
- Optional Rotary Front Handles and Rear Escape Handles.
- The UGB-NET has both RFID guard interlocking technology and electronic lock monitoring technology using a traditional tongue and cam mechanism to hold the guard closed.
- Daisy chain power and network connections (in/out).
- Choice of standard machine function buttons/lamps or custom configurable (E Stops, Start, Stop, Indication).
- Easy to mount painted solid die-cast or Stainless Steel 316 housings.
- Holds guards closed and locked up to 3000N.
- RFID uniquely coded for high coding anti-tamper.

TECHNICAL SPECIFICATIONS:

Standards:	ISO14119 EN60947-5-3 ISO13849-1 IEC62061
Safety Classification and Reliability Data:	
Supply Voltage	24Vdc (+/- 10%) SELV/PELV
Power Consumption	1A (max)
Connector Option A	Data: 2 x M12 D Code 4 pin Power: 2 x M12 A Code 5 pin
Connector Option B	Data: 2 x M12 D Code 4 pin Power: 2 x 7/8" 5 pin
Safety Outputs	CIP Safety or PROFIsafe
Performance Level Category	PLe/Cat4
Rated Insulation Voltage	250V
Holding Force (ISO14119)	F1Max 3000N Fzh 2307N
Actuator insertion distance	5mm for assured locking
Sao Sar (RFID sensing)	Sao 5mm Sar 20mm
Operating Frequency	1Hz
Body Material	Die-cast painted red or Stainless Steel 316
Head/Actuator Material	Polished Stainless Steel 316
Enclosure Protection	IP65
Operating Temperature	-25C +40C

UGB-NET Gate Box with Integrated Safety Protocols **(CIP Safety/PROFIsafe)**

DESIGNED FOR INDUSTRY:

Our fully customizable UGB-NET safety solution is tailored to meet the precise needs of your application. It is designed, rigorously tested, and certified by third parties for use up to PLe/Cat. 4 or SIL 3 standards.

This versatile solution is ideal for various industries where safety and risk management are critical, including manufacturing, automotive, food and beverage, and warehouse automation.

It integrates pushbutton controls and trapped key options into a single unit, offering a cost-effective and efficient solution.

In manufacturing environments, where machinery and processes need constant monitoring, our networked solutions ensure that safety protocols are adhered to without compromising productivity.

A key feature to our UGB-NET is the integration of industrial Ethernet, which offers numerous benefits for manufacturing:

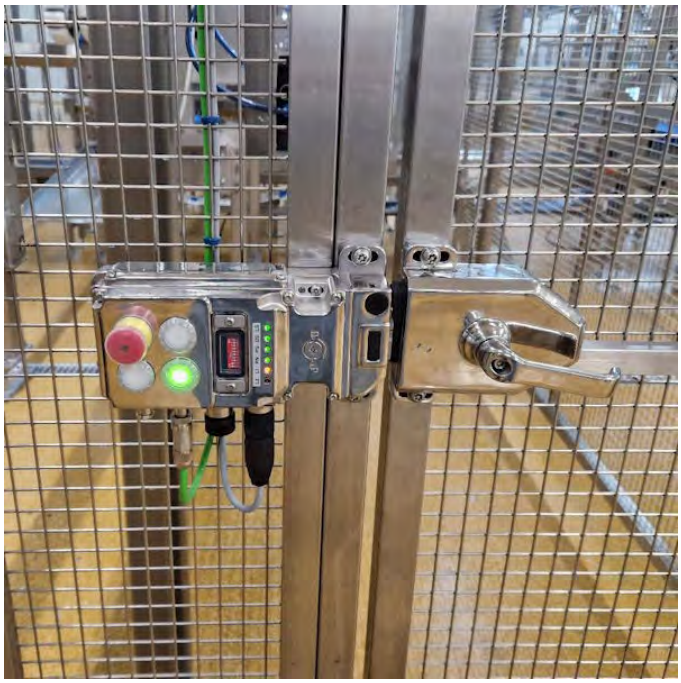
Enhanced Communication and Data Exchange: Industrial Ethernet enables real-time data exchange, ensuring synchronized and efficient operation of all manufacturing components.

Improved Reliability and Reduced Downtime: A robust network infrastructure minimizes communication failures and downtime, leading to more consistent operations.

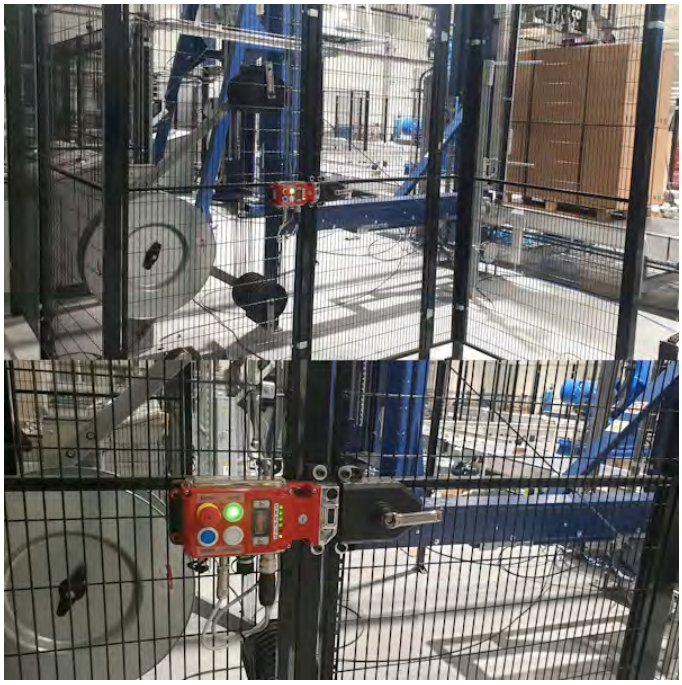
Scalability and Flexibility: Industrial Ethernet networks are easily scalable, allowing for system expansion and adaptation as production needs evolve.

AUTOMATED PALLETIZING:

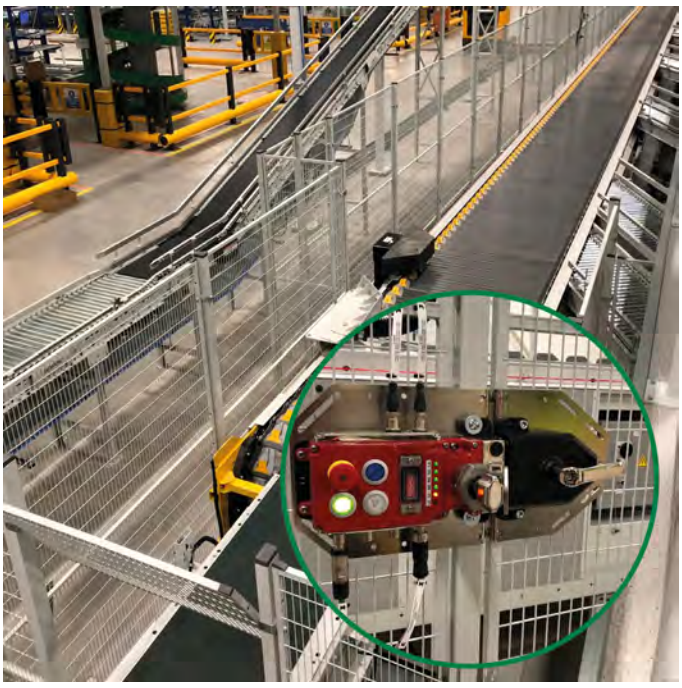
FOOD PROCESSING:



AUTOMATED PALLETIZING:



ASRS (WAREHOUSE AUTOMATION):

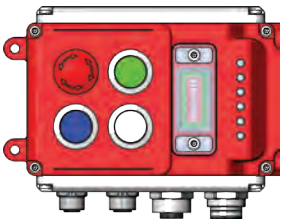


UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

UGB-NET SWITCH BODY LAYOUT:

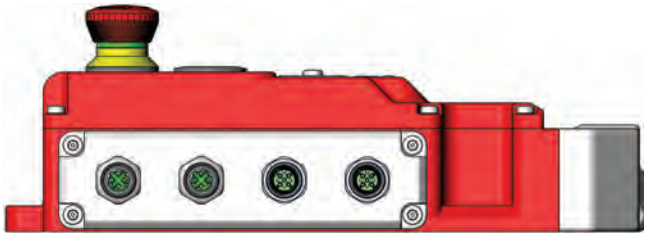
KEY	
1	Pilot Devices
2	Data Ports
3	Power Ports
4	Head End Entry
5	Head Front Entry
6	Manual Release
7	Indication LED's
8	DIP Switch Cover

E-Stop, Lamps & Illuminated Push Buttons (5 different lens colours offered)

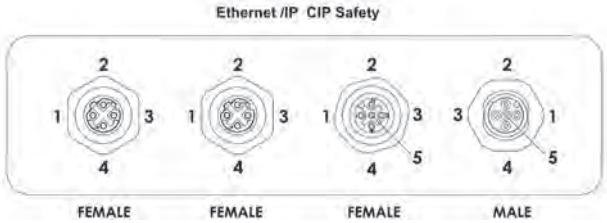


STANDARD CONNECTOR OPTIONS (CUSTOM CONFIGURATIONS AVAILABLE):

OPTION A (Ethernet/IP CIP Safety)



(2 x 4 Pin M12 'D' Code for Data) (2 x 5 Pin M12 'A' Code for Power)

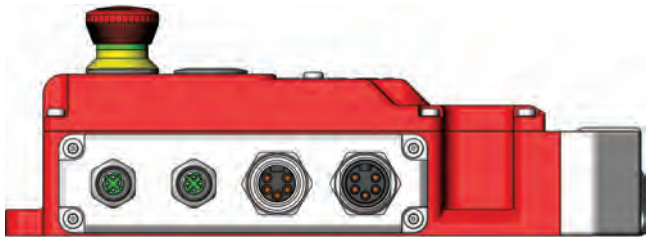


DATA		
Port A M12 FEMALE 4 Pin 'D' Code	Port B M12 FEMALE 4 Pin 'D' Code	Function
1	1	TX +
2	2	RX +
3	3	TX -
4	4	RX -

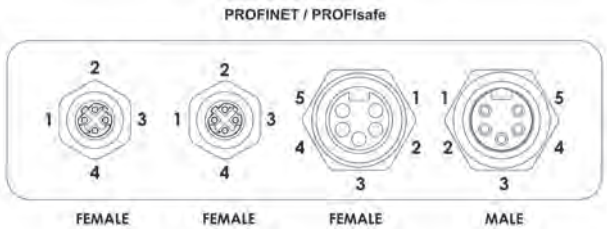
POWER		
Port C M12 FEMALE 5 Pin 'A' Code	Port D M12 MALE 5 Pin 'A' Code	Function
1	1	+24V dc supply
2	2	0V dc
3	3	0V dc
4	4	+24V dc supply
5	5	Earth (case)

Pins 1 and 4 internally connected. Pins 2 and 3 internally connected.

OPTION B (PROFINET/PROFIsafe)



(2 x 4 Pin M12 'D' Code for Data) (2 x 5 Pin 7/8" for Power)



DATA		
Port A M12 FEMALE 4 Pin 'D' Code	Port B M12 FEMALE 4 Pin 'D' Code	Function
1	1	TX +
2	2	RX +
3	3	TX -
4	4	RX -

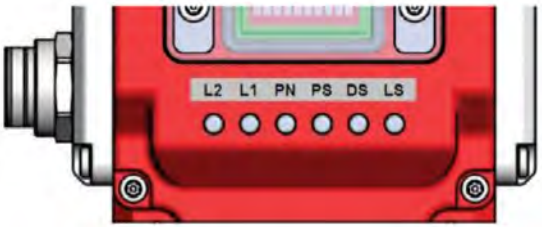
POWER		
Port C 7/8" FEMALE 5 Pin	Port D 7/8" MALE 5 Pin	Function
1	1	0V dc
2	2	0V dc
3	3	Earth (case)
4	4	+24V dc supply
5	5	+24V dc supply

Pins 1 and 2 internally connected. Pins 4 and 5 internally connected.

UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

INDICATION DIAGNOSTICS:

PROFIsafe:



LED	Function	Colour
LS	Locking switch state	Red/Green
DS	Device state	Red/Green
PS	PROFIsafe	Red/Green
PN	PROFINET/Network	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

CIP Safety:

LED	Function	Colour
LS	Locking Switch Status	Red/Green
DS	Device Status	Red/Green
PS	Module Status	Red/Green
PN	Network Status	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

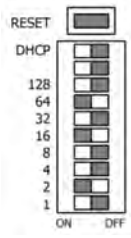
DIP SWITCHES:

Out of the box the DIP switches are all set to the OFF position, if left unchanged the device will enter DHCP mode once powered and connected to the network.

ETHERNET/IP CIP SAFETY:

To manually set an IP address use DIP switches 1..8 (binary format). The default subnet is 192.168.1.xxx.

If changes are applied while the device is powered, press and hold the reset button or cycle power for the changes to take effect.

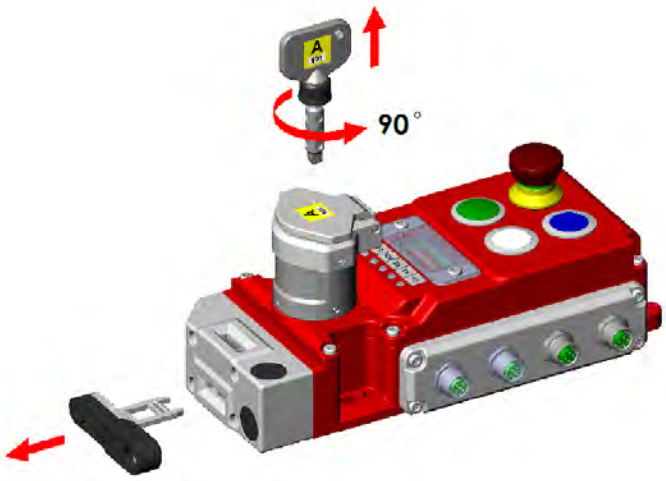


TRAPPED KEY:

While the machine is operational, the key is trapped in the locked position. Activating the unlock signal triggers the solenoid, deactivating the safety outputs of the guard and allowing the rotation and release of the key.

Prior to accessing the guard, it is necessary to turn the key from its locked to released position. Once the key has been turned, the guard remains unlocked, and re-locking the guard or re-enabling the safety outputs is not possible.

Once the guard is opened, the key is incapable of returning to the locked position. To re-secure the key, close the guard, and rotate the key back into the locked position.



(KEY TRAPPED)

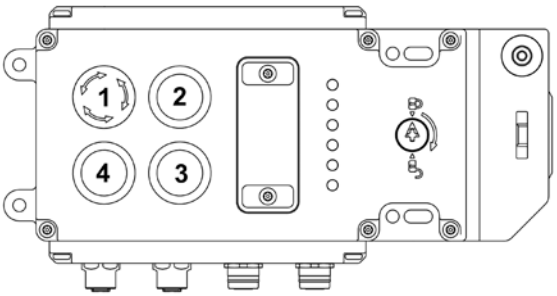
UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

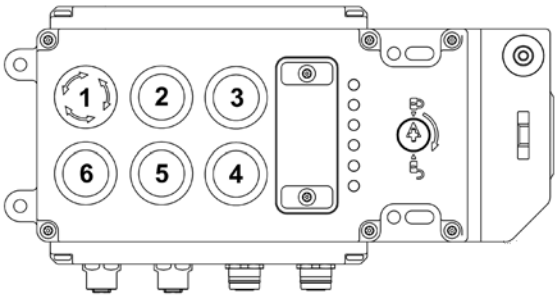
The UGB-NET is engineered to provide modularity and customization, precisely tailored to the requirements of complex industrial applications. Designed to meet the highest safety standards, the UGB-NET integrates seamlessly into your operational infrastructure, ensuring comprehensive protection and operational efficiency.

The UGB-NET integrates pushbutton controls and trapped key interlocks into a single, unified unit. This integration simplifies the control architecture, reducing the need for multiple discrete components and providing a cost-effective safety solution.

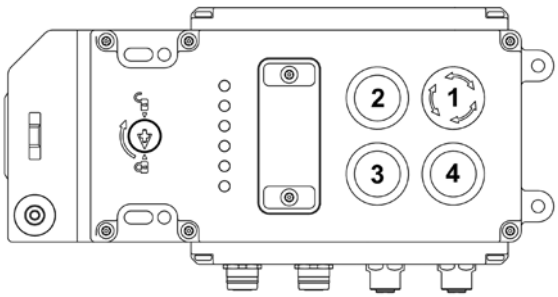
POSITIONS ON LID:

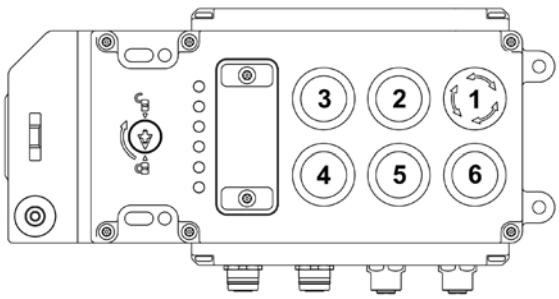
RIGHT-HAND:





LEFT-HAND:





PART NUMBER AND POSITIONS ORDERING EXAMPLE:

Customer requirement (example):
UGB-NET-M-PS (Right Hand) PROFIsafe with manual release. Note: E-Stop (if used) can only be fitted in position "1".
To include: 1 x Illuminated Emergency Stop + 1 x RED Illuminated Push Button + 1 x GREEN Lamp + 1 x Illuminated Selector Switch

528001 - EXP** - 1E - 2BR - 3LG - 4S- 5LG - 6S**

- **528001** — Switch
- **EXP****** — Connect field devices to your UGB-NET (see p217)
- **1E** — Position on Lid
- **2BR** — Control Device Code Illuminated Push Button
- **3LG** — Lens Colour RED
- **4S- 5LG - 6S**

Illuminated Emergency Stop

Contacts: 2NC

Control Device Code	Note
E	E-Stop can only be fitted into Position 1 on Lid

Illuminated Push Buttons

Contacts: 1NO

Control Device Code	Colour Code	Colour of Lens
B	R	
	B	
	G	
	Y	
	W	

Lamps

Control Device Code	Colour Code	Colour of Lens
L	R	
	B	
	G	
	Y	
	W	

Illuminated Selector Switch

Control Device Code	Description
S	1NO Maintained

Blanking Plug

Code	Description
X	Plastic Plug used to seal any unused positions.

UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

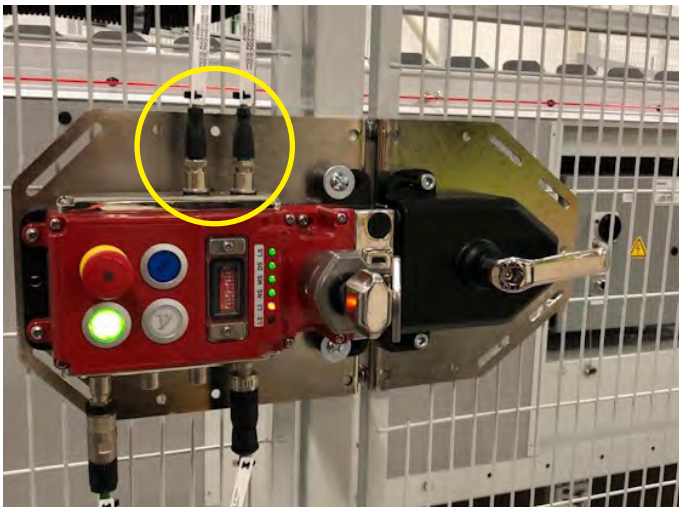
HOW TO ORDER ADDITIONAL I/O FOR YOUR UGB-NET:

Up to four additional M12 plugs can be added to the UGB-NET for connecting field devices such as light curtains, enabling pendants, light towers and much more. This can drastically reduce wiring and installation time making for a more economical solution.

HOW TO GET A UNIQUE **EXP ID**:

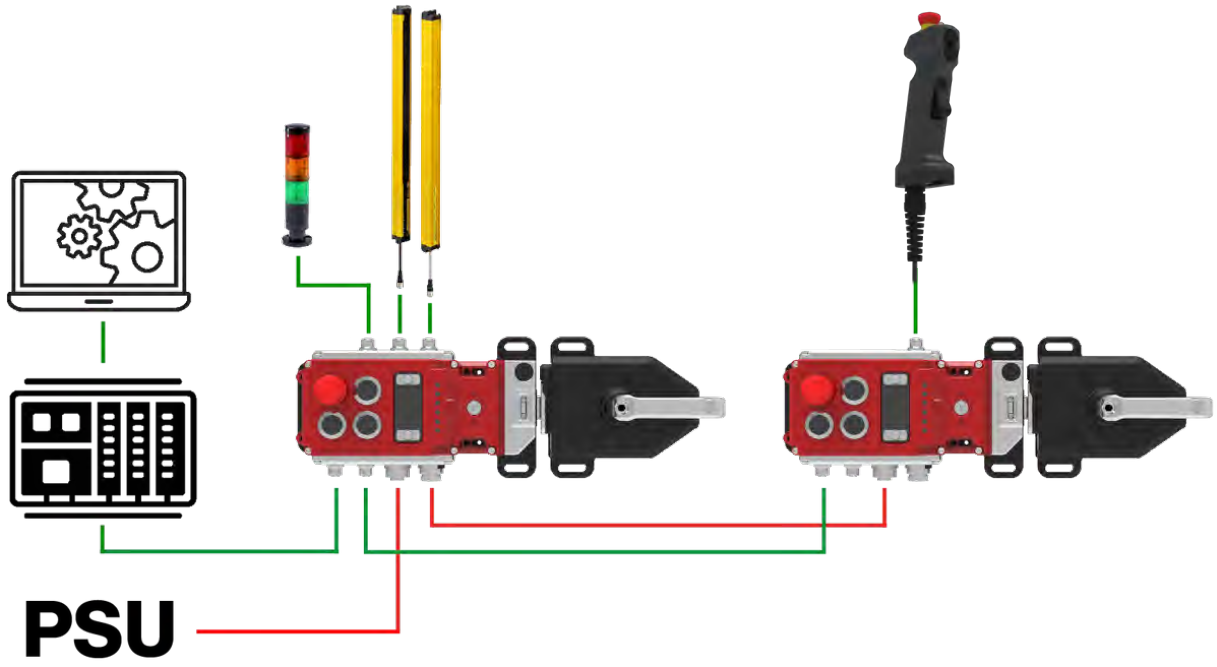
Once you have configured your UGB-NET, the next step is to obtain a unique **EXP ID number**:

1. Make a list of the product part number/s you want to connect to the UGB-NET.
2. To check compatibility, email the list to technical@idemsafety.com along with any data sheets relating to the products.
3. A **EXP ID number** and a product configuration sheet will then be provided, which is unique to your specific requirements.



CONNECTIVITY EXAMPLE:

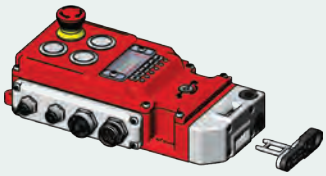
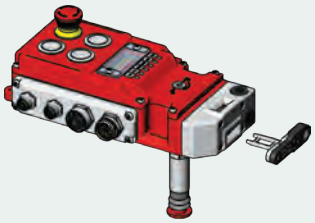
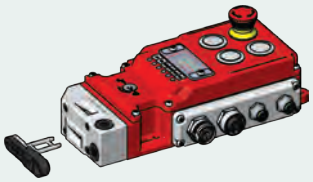
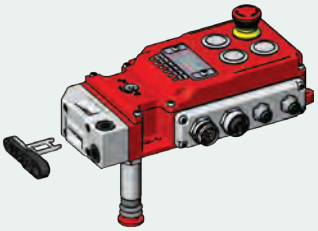
Example of two UGB-NET's each with their own unique **EXP ID** number. The first UGB-NET has 2 additional connectors for a stack light and type 4 light curtain transmitter and receiver. The second UGB-NET has 1 additional connector for a safety enabling switch.



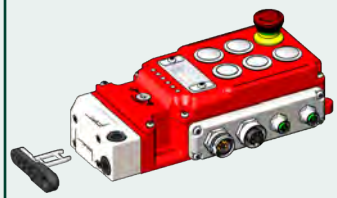
Other products that are compatible with the EXP functionality, but not limited to:

UGB-NET Gate Box with Integrated Safety Protocols (PROFIsafe)

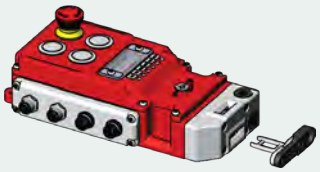
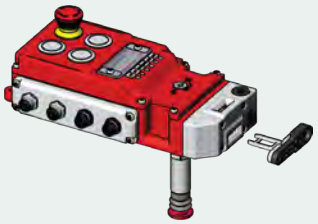
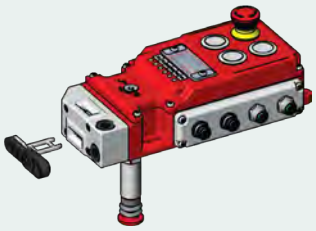
UGB-NET DIE-CAST (PROFISAFE) 4-STATION

			
UGB-NET-PS-M (Right Hand)	**UGB-NET-PS-M-RR (Right Hand)**	**UGB-NET-PS-M (Left Hand)**	**UGB-NET-PS-M-RR (Left Hand)**
Connectors: 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors
4 x Control Devices: Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information
Sales Number: (Auxiliary Release) 528001	**Sales Number:** (Auxiliary Release) 528002	**Sales Number:** (Auxiliary Release) 528005	**Sales Number:** (Auxiliary Release) 528006
Sales Number: (No Auxiliary Release) 528003	**Sales Number:** (No Auxiliary Release) 528004	**Sales Number:** (No Auxiliary Release) 528007	**Sales Number:** (No Auxiliary Release) 528008
Sales Number: 528009 (Trapped Key) 528013 (Trapped Key + Aux. Release)	**Sales Number:** 528010 (Trapped Key) 528014 (Trapped Key + Aux. Release)	**Sales Number:** 528011 (Trapped Key) 52815 (Trapped Key + Aux. Release)	**Sales Number:** 528012 (Trapped Key) 528016 (Trapped Key + Aux. Release)

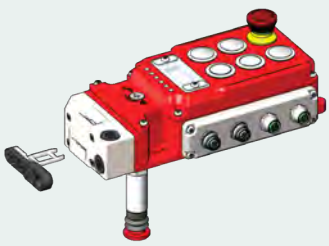
UGB-NET DIE-CAST (PROFISAFE) 6-STATION

			
UGB-NET-PS-M (Right Hand)	**UGB-NET-PS-M-RR (Right Hand)**	**UGB-NET-PS-M (Left Hand)**	**UGB-NET-PS-M-RR (Left Hand)**
Connectors: 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors
6 x Control Devices: Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information
Sales Number: (Auxiliary Release) 528201	**Sales Number:** (Auxiliary Release) 528202	**Sales Number:** (Auxiliary Release) 528205	**Sales Number:** (Auxiliary Release) 528206
Sales Number: (No Auxiliary Release) 528203	**Sales Number:** (No Auxiliary Release) 528204	**Sales Number:** (No Auxiliary Release) 528207	**Sales Number:** (No Auxiliary Release) 528208
Sales Number: (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available	***Sales Number:*** (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available

UGB-NET DIE-CAST (CIP SAFETY) 4-STATION

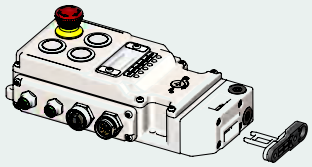
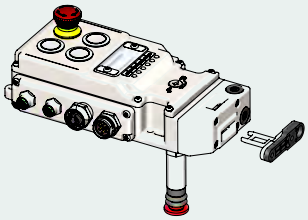
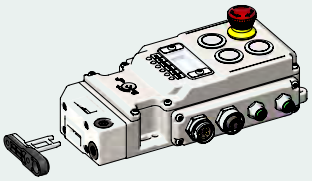
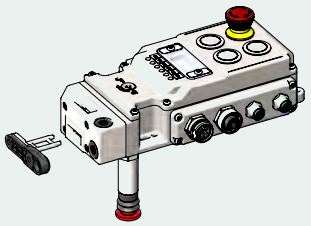
			
UGB-NET-CS-M **(Right Hand)**	**UGB-NET-CS-M-RR** **(Right Hand)**	**UGB-NET-CS-M** **(Left Hand)**	**UGB-NET-CS-M-RR** **(Left Hand)**
Connectors: 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors
4 x Control Devices: Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information
Sales Number: (Auxiliary Release) 528101	**Sales Number:** (Auxiliary Release) 528102	**Sales Number:** (Auxiliary Release) 528105	**Sales Number:** (Auxiliary Release) 528106
Sales Number: (No Auxiliary Release) 528103	**Sales Number:** (No Auxiliary Release) 528104	**Sales Number:** (No Auxiliary Release) 528107	**Sales Number:** (No Auxiliary Release) 528108
Sales Number: 528109 (Trapped Key) 528113 (Trapped Key + Aux. Release)	**Sales Number:** 528110 (Trapped Key) 528114 (Trapped Key + Aux. Release)	**Sales Number:** 528111 (Trapped Key) 528115 (Trapped Key + Aux. Release)	**Sales Number:** 528112 (Trapped Key) 528116 (Trapped Key + Aux. Release)

UGB-NET DIE-CAST (CIP SAFETY) 6-STATION

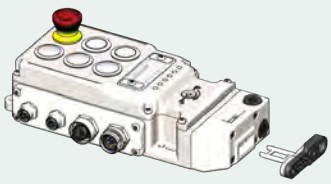
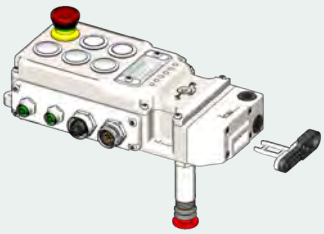
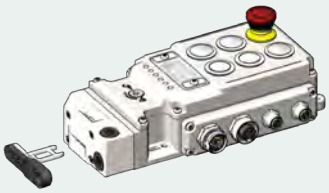
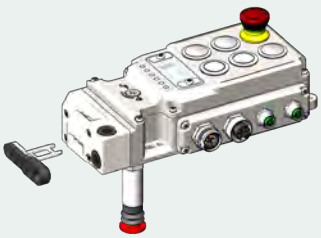
			
UGB-NET-CS-M **(Right Hand)**	**UGB-NET-CS-M-RR** **(Right Hand)**	**UGB-NET-CS-M** **(Left Hand)**	**UGB-NET-CS-M-RR** **(Left Hand)**
Connectors: 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors
6 x Control Devices: Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information
Sales Number: (Auxiliary Release) 528301	**Sales Number:** (Auxiliary Release) 528302	**Sales Number:** (Auxiliary Release) 528305	**Sales Number:** (Auxiliary Release) 528306
Sales Number: (No Auxiliary Release) 528303	**Sales Number:** (No Auxiliary Release) 528304	**Sales Number:** (No Auxiliary Release) 528307	**Sales Number:** (No Auxiliary Release) 528308
Sales Number: (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available

UGB-NET Gate Box with Integrated Safety Protocols (PROFIsafe)

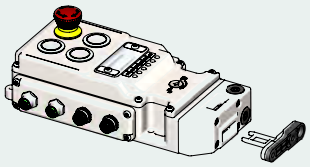
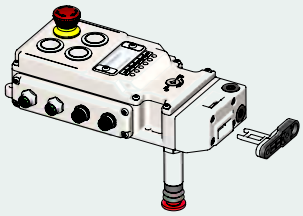
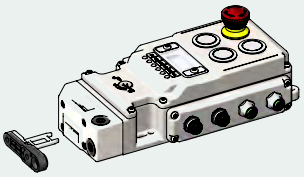
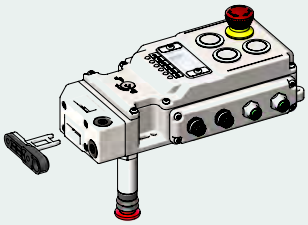
UGB-NET 316 STAINLESS STEEL (PROFISAFE) 4-STATION

			
UGB-NET-PS-SS **(Right Hand)**	**UGB-NET-PS-SS-RR** **(Right Hand)**	**UGB-NET-PS-SS** **(Left Hand)**	**UGB-NET-PS-SS-RR** **(Left Hand)**
Connectors: 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors
4 x Control Devices: Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information
Sales Number: (Auxiliary Release) 529001	**Sales Number:** (Auxiliary Release) 529002	**Sales Number:** (Auxiliary Release) 529005	**Sales Number:** (Auxiliary Release) 529006
Sales Number: (No Auxiliary Release) 529003	**Sales Number:** (No Auxiliary Release) 529004	**Sales Number:** (No Auxiliary Release) 529007	**Sales Number:** (No Auxiliary Release) 529008
Sales Number: 529009 (Trapped Key) 529013 (Trapped Key + Aux. Release)	**Sales Number:** 529010 (Trapped Key) 529014 (Trapped Key + Aux. Release)	**Sales Number:** 529011 (Trapped Key) 529015 (Trapped Key + Aux. Release)	**Sales Number:** 529012 (Trapped Key) 529016 (Trapped Key + Aux. Release)

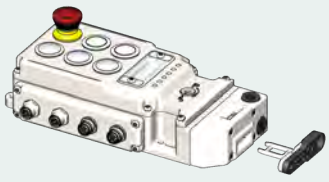
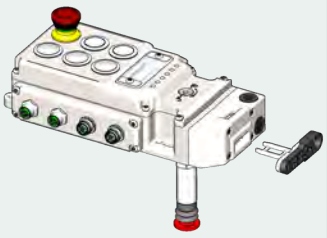
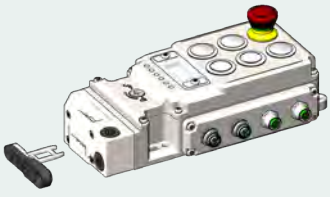
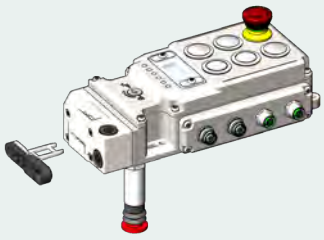
UGB-NET 316 STAINLESS STEEL (PROFISAFE) 6-STATION

			
UGB-NET-PS-SS **(Right Hand)**	**UGB-NET-PS-SS-RR** **(Right Hand)**	**UGB-NET-PS-SS** **(Left Hand)**	**UGB-NET-PS-SS-RR** **(Left Hand)**
Connectors: 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors	**Connectors:** 2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors
6 x Control Devices: Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information
Sales Number: (Auxiliary Release) 529201	**Sales Number:** (Auxiliary Release) 529202	**Sales Number:** (Auxiliary Release) 529205	**Sales Number:** (Auxiliary Release) 529206
Sales Number: (No Auxiliary Release) 529203	**Sales Number:** (No Auxiliary Release) 529204	**Sales Number:** (No Auxiliary Release) 529207	**Sales Number:** (No Auxiliary Release) 529208
Sales Number: (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available

UGB-NET 316 STAINLESS STEEL (CIP SAFETY) 4-STATION

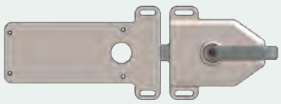
			
UGB-NET-CS-SS **(Right Hand)**	**UGB-NET-CS-SS-RR** **(Right Hand)**	**UGB-NET-CS-SS** **(Left Hand)**	**UGB-NET-CS-SS-RR** **(Left Hand)**
Connectors: 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors
4 x Control Devices: Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information	**4 x Control Devices:** Refer to page 216 for ordering information
Sales Number: (Auxiliary Release) 529101	**Sales Number:** (Auxiliary Release) 529102	**Sales Number:** (Auxiliary Release) 529105	**Sales Number:** (Auxiliary Release) 529106
Sales Number: (No Auxiliary Release) 529103	**Sales Number:** (No Auxiliary Release) 529104	**Sales Number:** (No Auxiliary Release) 529107	**Sales Number:** (No Auxiliary Release) 529108
Sales Number: 529109 (Trapped Key) 529113 (Trapped Key + Aux. Release)	**Sales Number:** 529110 (Trapped Key) 529114 (Trapped Key + Aux. Release)	**Sales Number:** 529111 (Trapped Key) 529115 (Trapped Key + Aux. Release)	**Sales Number:** 529112 (Trapped Key) 529116 (Trapped Key + Aux. Release)

UGB-NET 316 STAINLESS STEEL (CIP SAFETY) 6-STATION

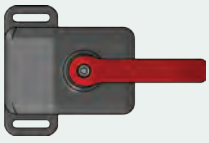
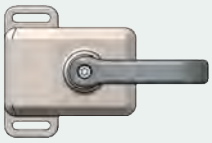
			
UGB-NET-CS-SS **(Right Hand)**	**UGB-NET-CS-SS-RR** **(Right Hand)**	**UGB-NET-CS-SS** **(Left Hand)**	**UGB-NET-CS-SS-RR** **(Left Hand)**
Connectors: 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors	**Connectors:** 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors
6 x Control Devices: Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information	**6 x Control Devices:** Refer to page 216 for ordering information
Sales Number: (Auxiliary Release) 529301	**Sales Number:** (Auxiliary Release) 529302	**Sales Number:** (Auxiliary Release) 529305	**Sales Number:** (Auxiliary Release) 529306
Sales Number: (No Auxiliary Release) 529303	**Sales Number:** (No Auxiliary Release) 529304	**Sales Number:** (No Auxiliary Release) 529307	**Sales Number:** (No Auxiliary Release) 529308
Sales Number: (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available	**Sales Number:** (With Trapped Key) Currently Not Available

UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

HANDLES AND MOUNTING PLATE ACCESSORIES

			
SLIDING HANDLE WITH MOUNTING PLATE	**ROTARY HANDLE WITH MOUNTING PLATE**	**SLIDING HANDLE WITH MOUNTING PLATE**	**ROTARY HANDLE WITH MOUNTING PLATE**
Material: Painted Die-Cast	**Material:** Painted Die-Cast	**Material:** 316 Stainless Steel	**Material:** 316 Stainless Steel
Sales Number (Right + Left Hand): 527006	**Sales Number (Right Hand):** 527007-R	**Sales Number (Right + Left Hand):** 522006	**Sales Number (Right Hand):** 522007-R
	Sales Number (Left Hand): 527007-L		**Sales Number (Left Hand):** 522007-L

REAR ESCAPE HANDLE ACCESSORIES

		
SLIDING REAR HANDLE	**ROTARY REAR HANDLE**	**ROTARY REAR HANDLE**
Material: Stainless Steel Rod / Plastic Knob	**Material:** Painted Die-Cast	**Material:** 316 Stainless Steel
Sales Number: 210005	**Sales Number (Right Hand):** 527005-R / 527005-R-140	**Sales Number (Right Hand):** 522005-R / 522005-R-140
	Sales Number (Left Hand): 527005-L / 527005-L-140	**Sales Number (Left Hand):** 522005-L / 522005-L-140

(Refer to pages 224-225 for mounting instructions)

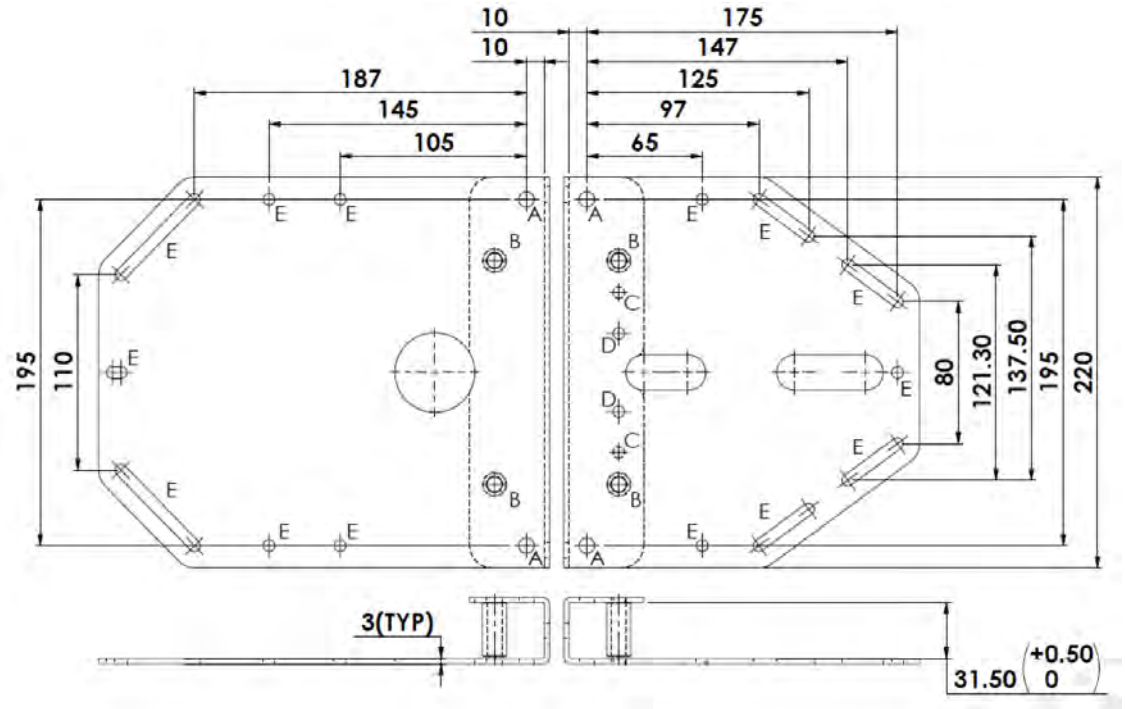
UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

UNIVERSAL BRAKET FOR MODULAR GUARDING:

UGB-NET Universal Bracket is designed to mount directly to modular guarding and is compatible with some of the industries leading brands. The through hole mounting points clamp the bracket in place for a secure, easy to install solution.

UGB-NET UNIVERSAL BRACKET FOR MODULAR GUARDING	**UGB-NET SS UNIVERSAL BRACKET FOR MODULAR GUARDING**
Material: Mild Steel Nickel Plated	**Material:** Stainless Steel
Sales Number: 527008	**Sales Number:** 522008

DIMENSIONS:

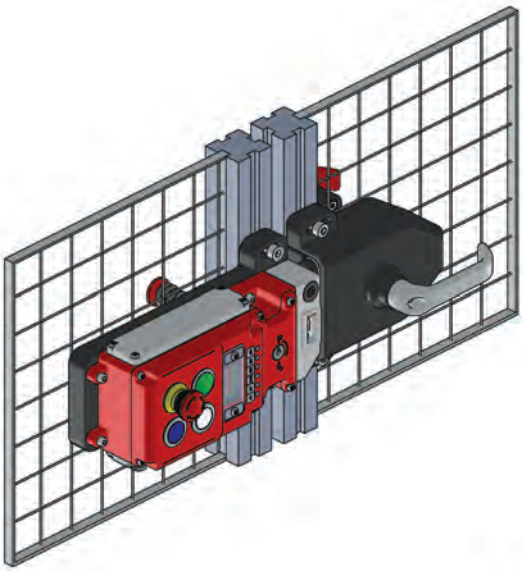


UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

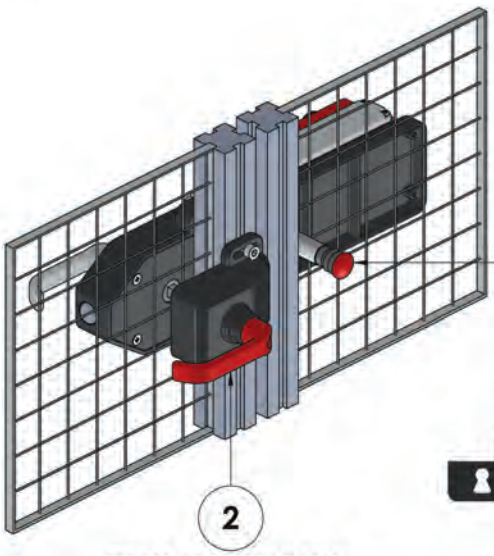
MOUNTING EXAMPLE:

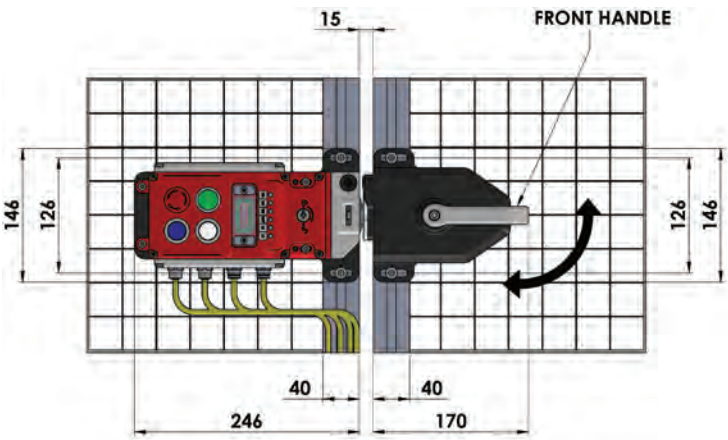
UGB-NET-PS/UGB-NET-CS shown with Front Rotary Handle, Rear Escape Button and Rear Escape Rotary Handle.

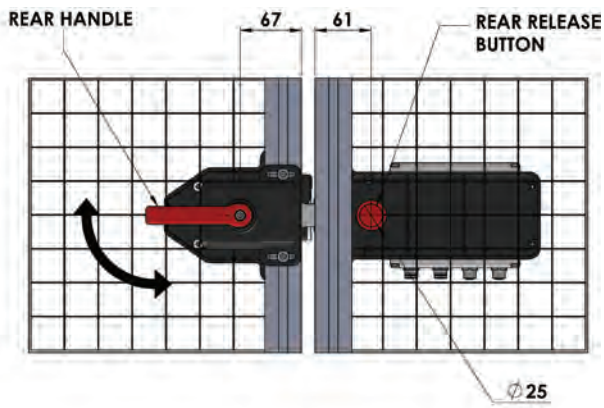
VIEWED FROM OUTSIDE GUARDED AREA

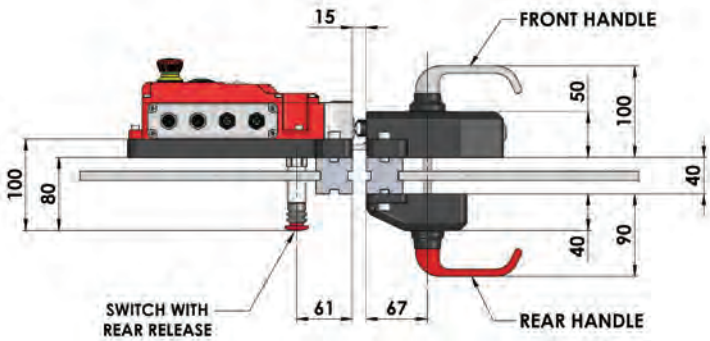


VIEWED FROM INSIDE GUARDED AREA







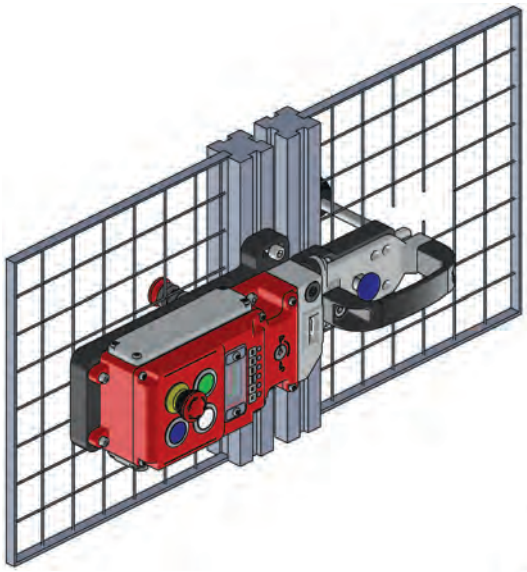


UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

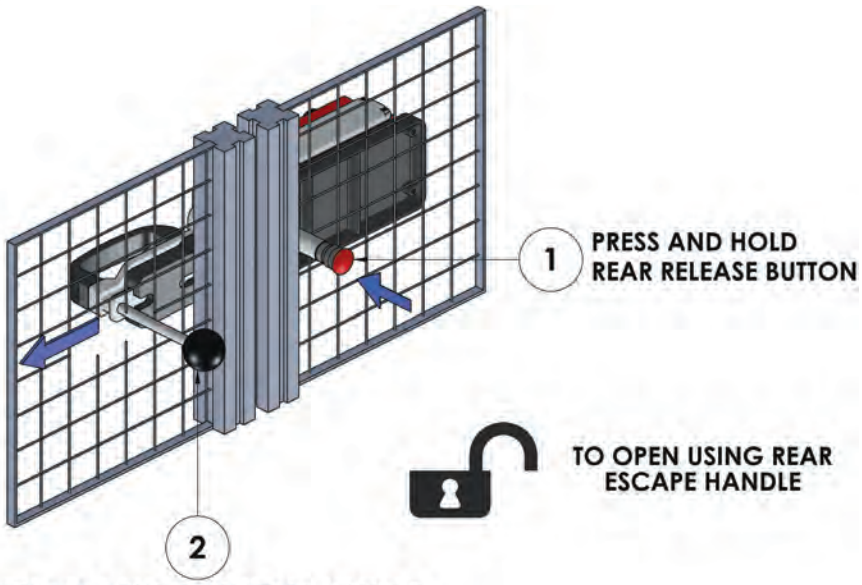
MOUNTING EXAMPLE:

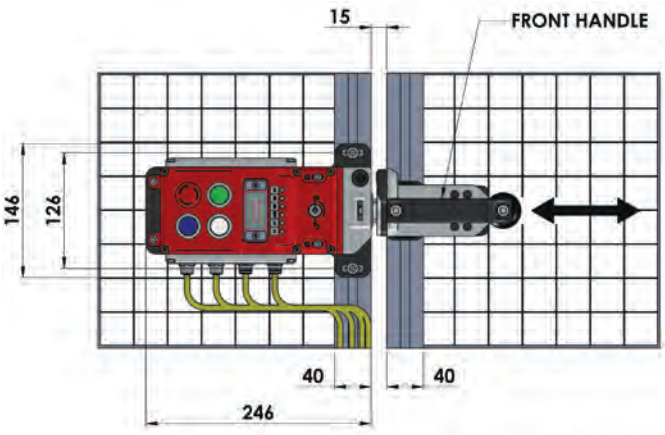
UGB-NET-PS/UGB-NET-CS shown with Sliding Front Handle, Rear Escape Button and Rear Escape Sliding Handle.

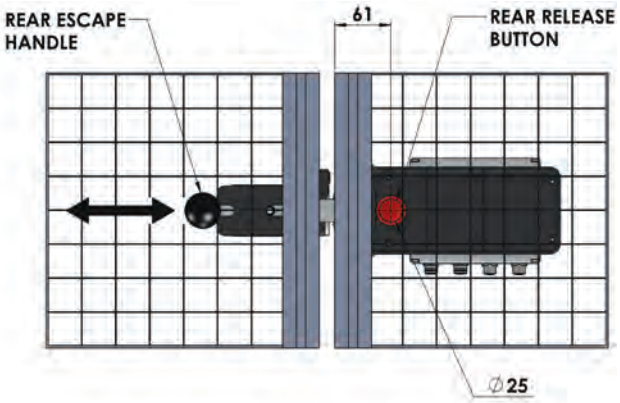
VIEWED FROM OUTSIDE GUARDED AREA

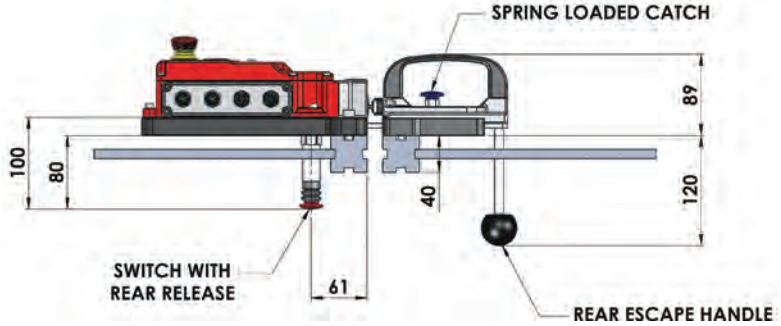


VIEWED FROM INSIDE GUARDED AREA





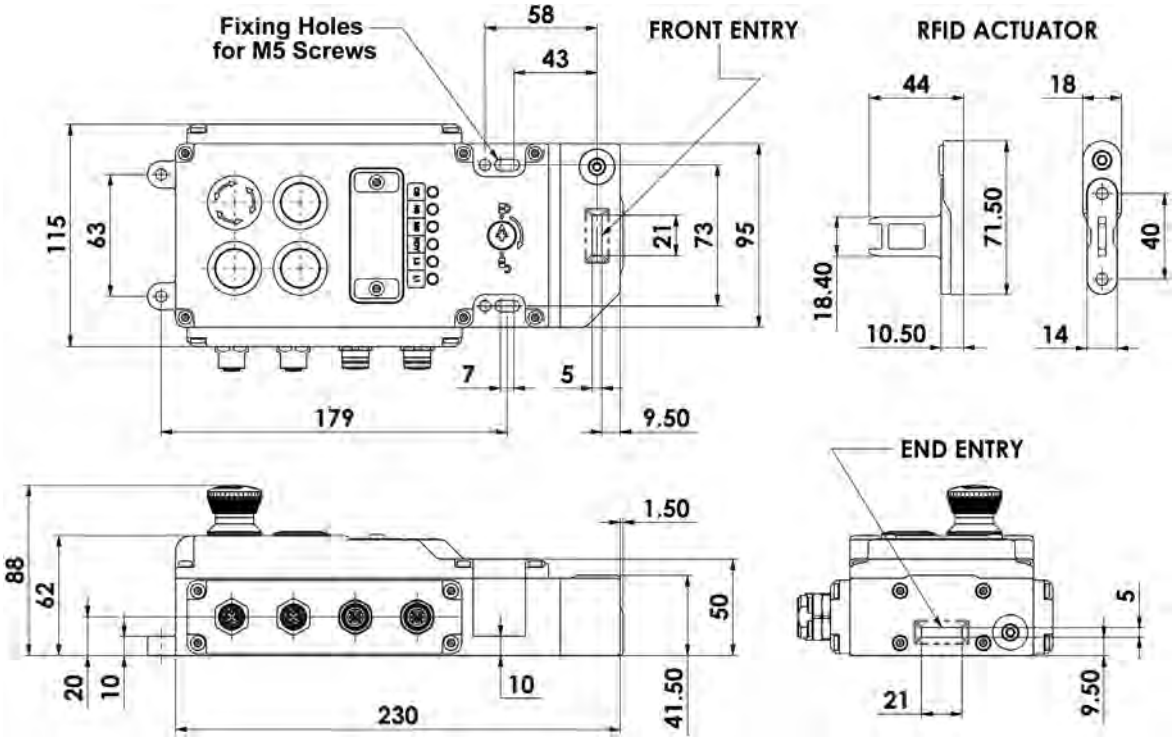




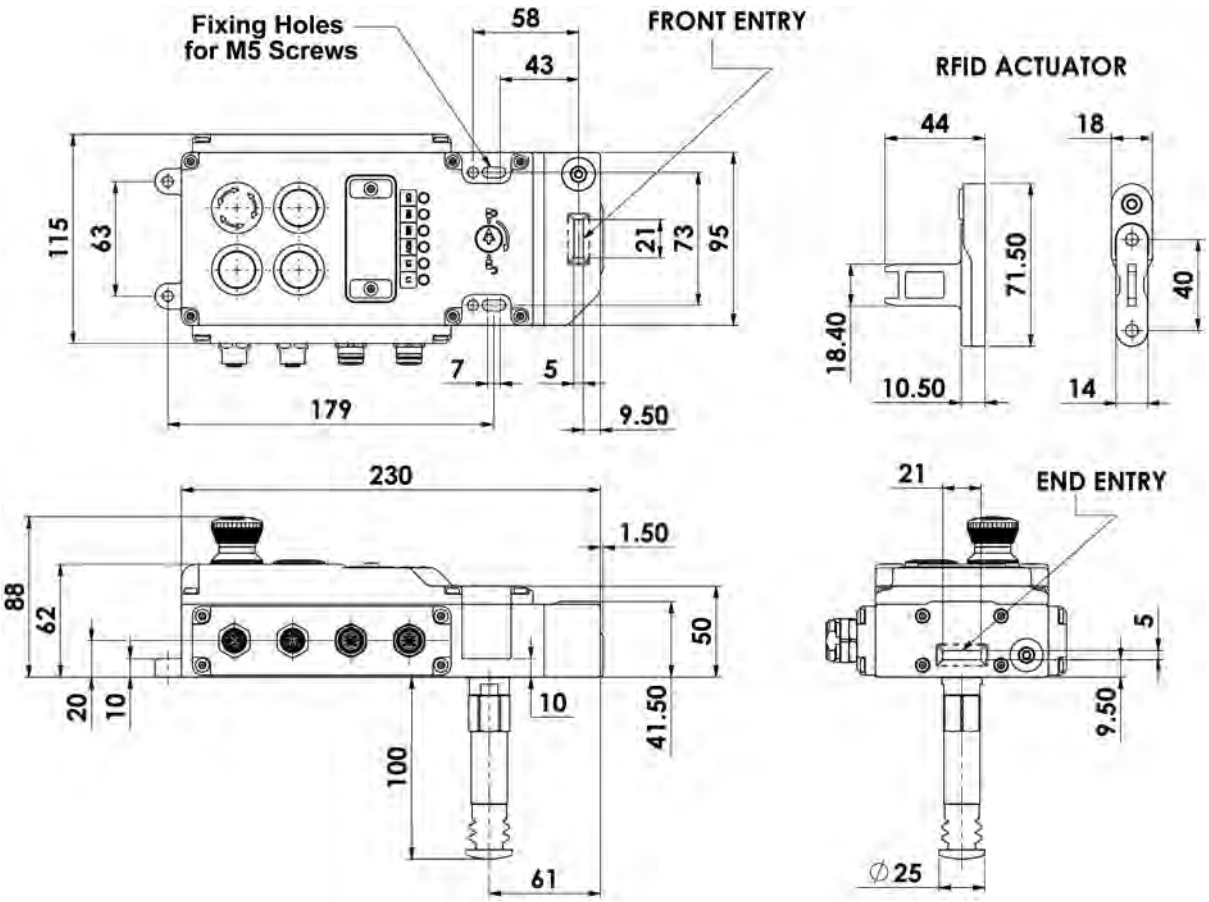
UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

PRODUCT DIMENSIONS:

TYPE: UGB-NET



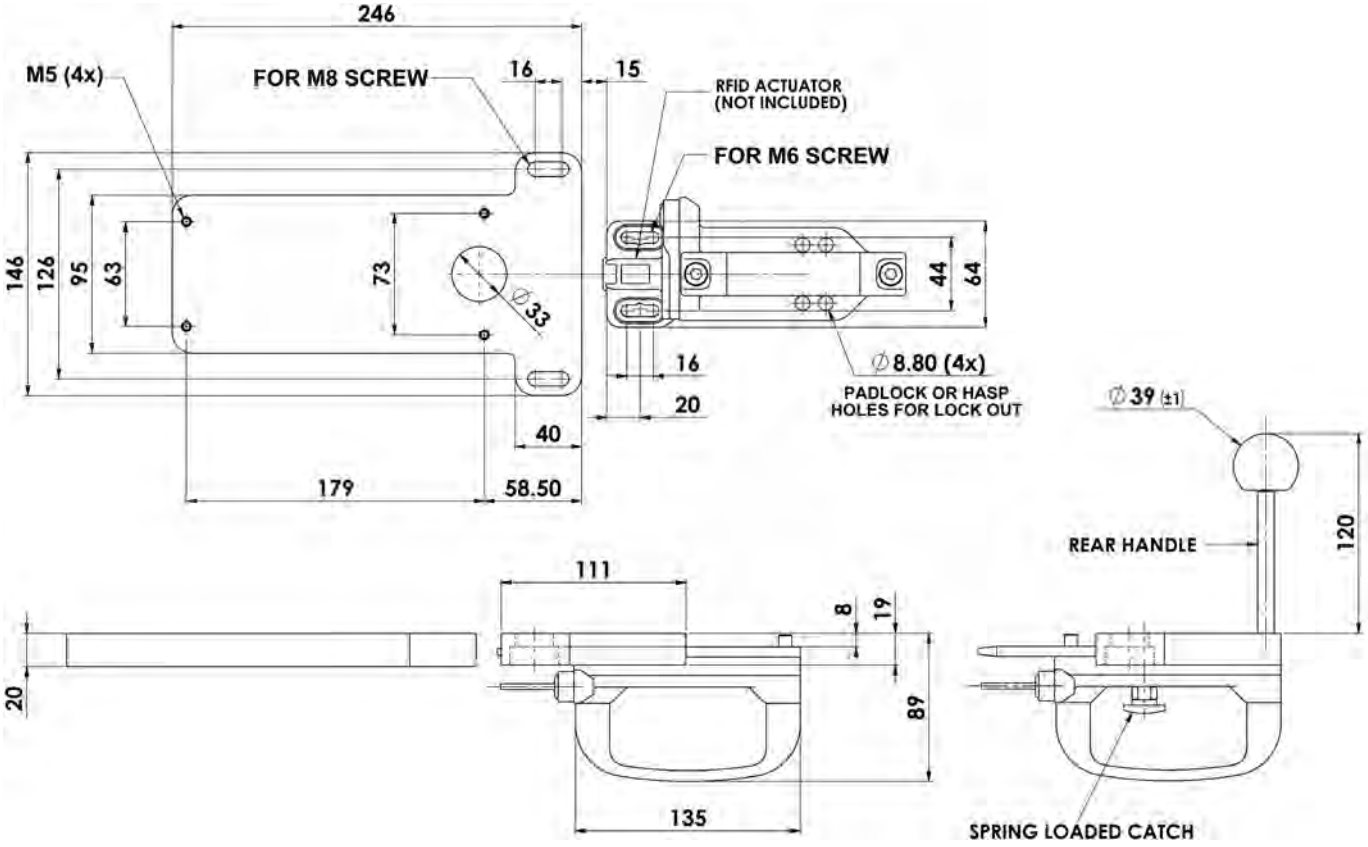
TYPE: UGB-NET-RR (Rear Release)



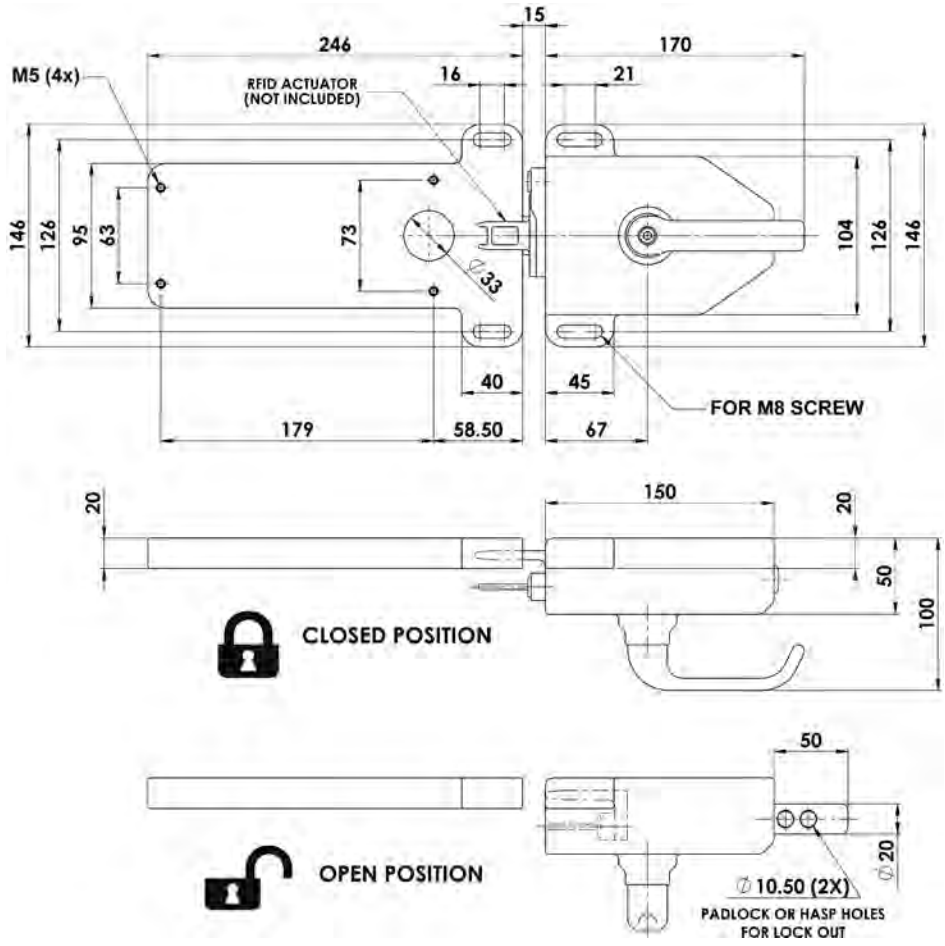
UGB-NET Gate Box with Integrated Safety Protocols (CIP Safety/PROFIsafe)

PRODUCT DIMENSIONS:

TYPE : UGB-NET SLIDING HANDLE



TYPE : UGB-NET ROTARY HANDLE



NET-BOX Overview with Integrated Safety Protocols (CIP Safety/PROFIsafe)

NET-BOX PRODUCT OVERVIEW:

NEW

EtherNet/IP

CIP Safety

PROFINET

PROFIsafe

Integrated safety protocols for use with industry recognised industrial Ethernet networking capabilities.

Ethernet/IP (CIP Safety) or PROFINET (PROFIsafe).

Manufactured from Plastic, Die-Cast or Stainless Steel.
All-In-One Pushbutton Station & Distributed I/O Device.
Fully Customisable for Complex Systems.
Pre-Configured to Your Specific Requirements.

DESCRIPTION & FEATURES:

The NET-BOX is a configurable pushbutton and distributed I/O station that communicates with the main industrial network protocols: PROFINET with PROFIsafe and Ethernet/IP with CIP Safety.

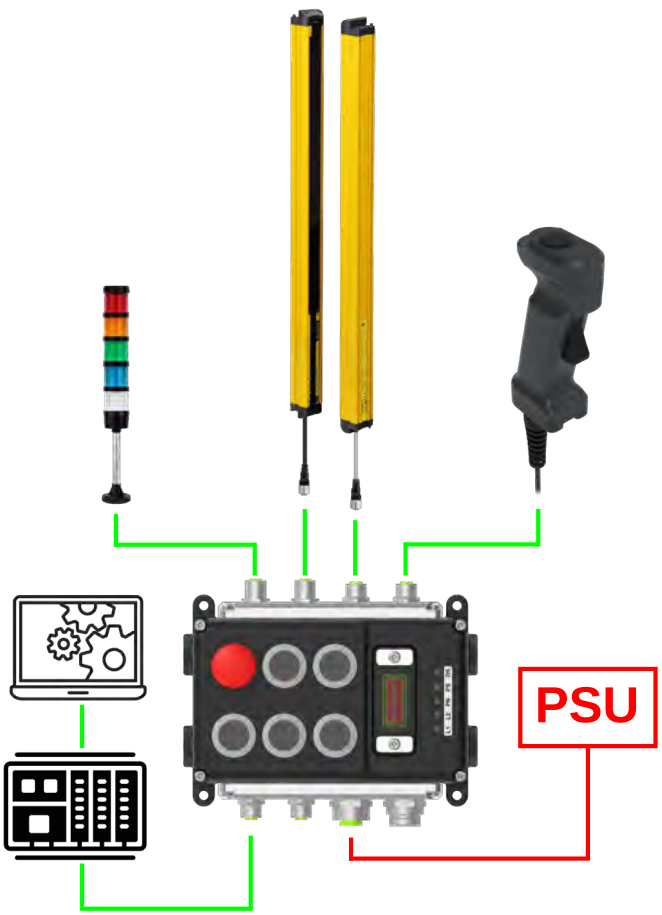
Each NET-BOX unit can be configured to your applications specific requirements and can accommodate up to 4 additional connectors for implementing external field devices and distributed I/O. This highly configurable product is compatible with pushbuttons, emergency stops, lamps, selector switches and can easily be configured using our NET-BOX part number diagram (see P231).

NET-BOX combines machine control functions with I/O for connecting external field devices, reducing cabling cost compared to traditional 'hard-wire' methods. Each module can house up to three dual channel safety inputs; this can include safety interlocks, light curtains, enabling pendants, scanners and much more. There are also up to 40+ non-safe inputs and outputs for pilot devices, stack lights, buzzers and much more.

Unlike a traditional networked I/O block, the NET-BOX can be configured to a specific products making it the perfect solution for customer specific applications in all industries.

HOW DOES IT WORK?:

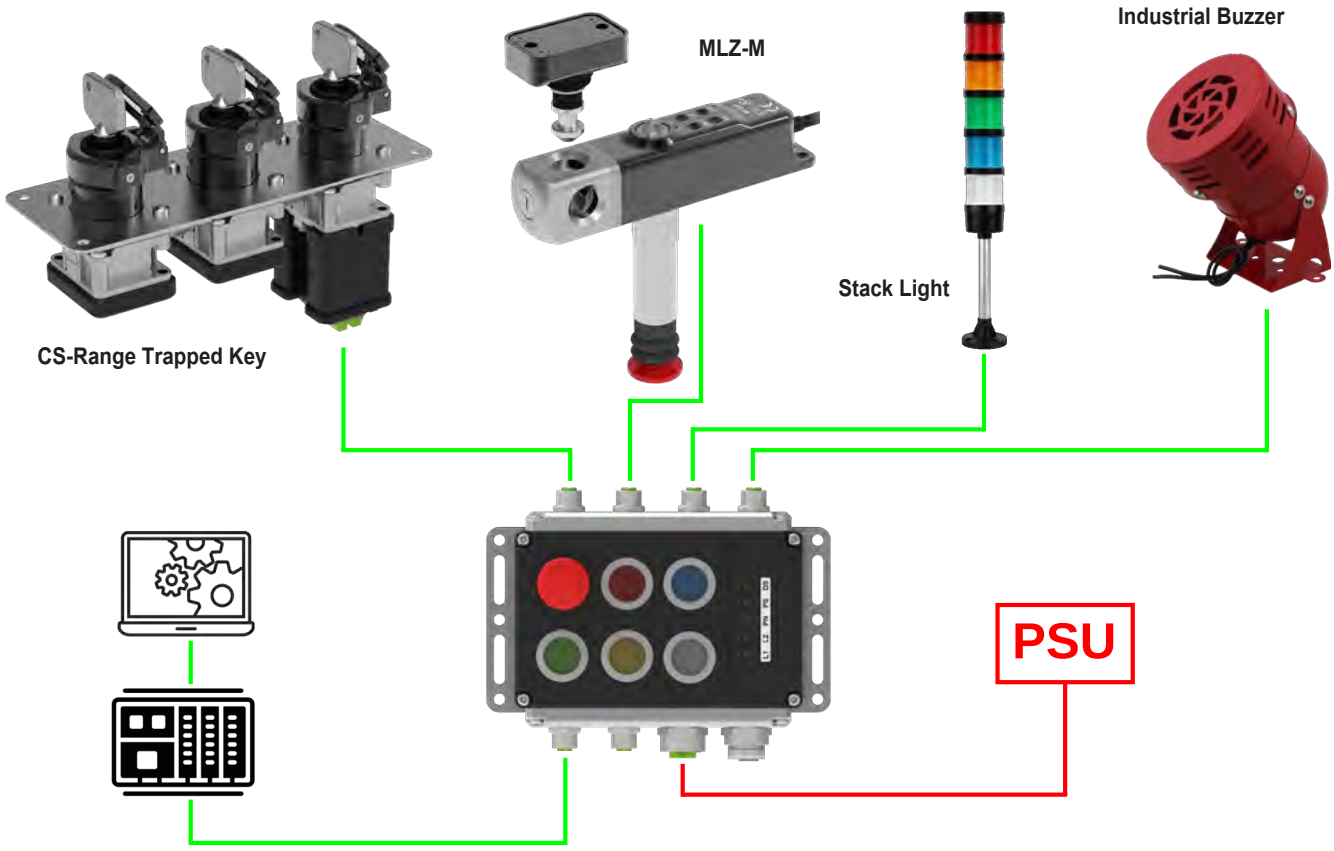
The NET-BOX device is designed to be fitted near a guarded access point where a mix of safe and standard IO control functions are required. The NET-BOX is fitted with an (optional) E-Stop and can monitor external dual channel safety devices that are equipped with either voltage-free contacts (NET-BOX provides test pulses) or OSSD outputs. A single dual channel output is also provided for safe control of an actuator.



NET-BOX Overview with Integrated Safety Protocols (CIP Safety/PROFIsafe)

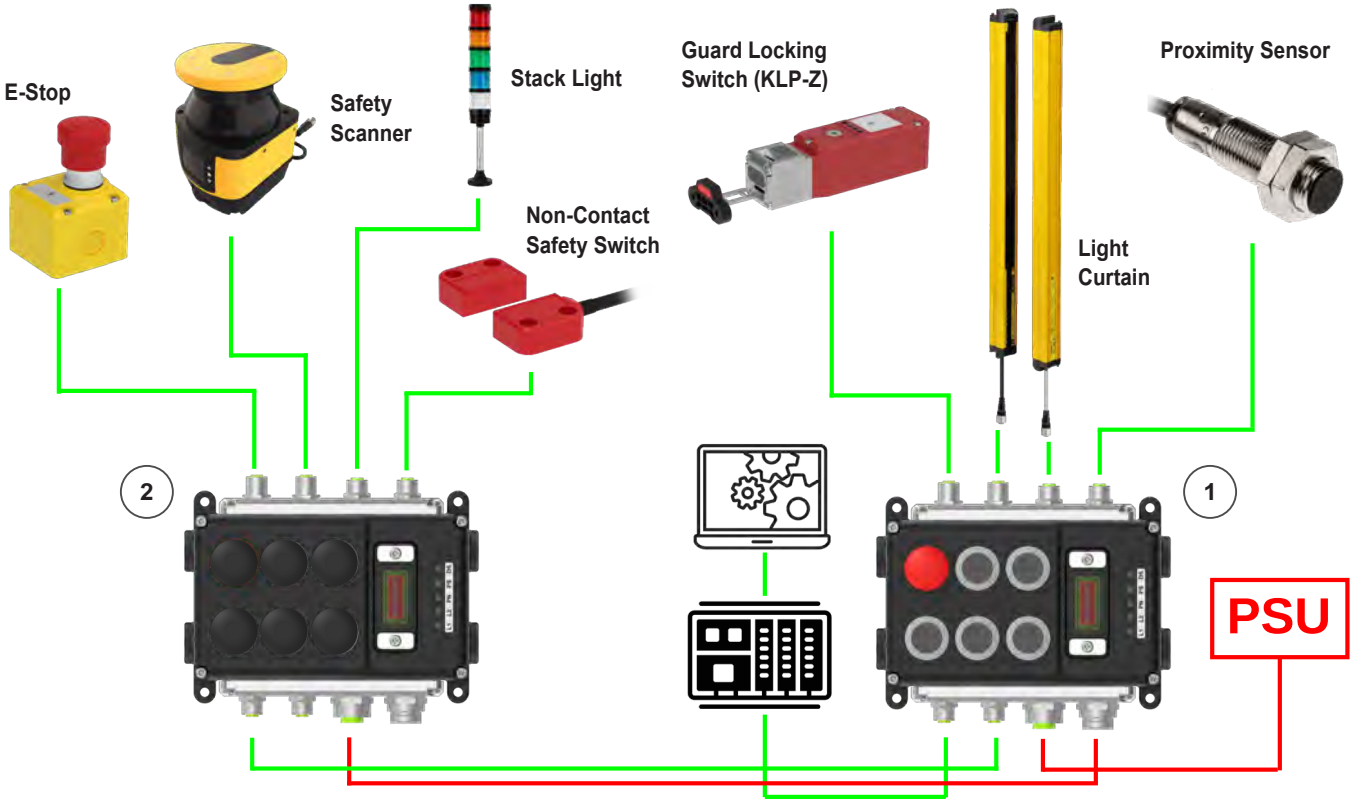
EXAMPLE 1:

NET-BOX-PS in plastic with 1 x E-Stop, 5 x illuminated Pushbuttons. 2 x monitoring of dual channel safety devices (1 x OSSD and 1 x voltage free) and 2 x non-safe I/O for stack light and buzzer.



EXAMPLE 2:

2 x NET-BOX-PS in die-cast connected in series. NET-BOX (1) 1 x E-Stop, 5 x illuminated Pushbuttons. 2 x monitoring of dual channel safety devices (2 x OSSD for light curtain and KLP-Z) 1 x non-safe I/O for proximity sensor. NET-BOX (2) 6 x blanking plugs with 3 x monitoring of dual channel safety devices (1 x OSSD for safety scanner, 2 x voltage free for E-Stop and Non-Contact) and 1 x non-safe I/O for stack light.

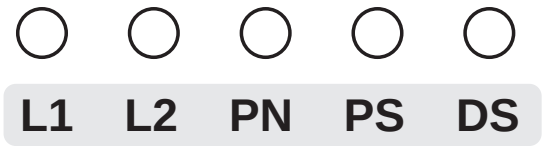


NET-BOX Overview with Integrated Safety Protocols (CIP Safety/PROFIsafe)

DIAGNOSTIC INDICATION:

Every NET-BOX features easy to understand indication for general diagnostics and troubleshooting.

PROFIsafe:



LED	Function	Colour
DS	Device State	Red/Green
PS	PROFIsafe	Red/Green
PN	PROFINET / Network	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

LED	LED State	Comment
DS	Green	Device running
	Red	Internal fault detected
PS	Green	PROFIsafe OK
	Green Flash	PROFIsafe Integration required
	Red	Safe input fault detected, reset qualifier bits
PN	Off	Not initialised
	Green	Normal operation
	Green flash 1Hz	Locate PROFINET device
	Green 1 flash	Diagnostic event present
	Red	Exception
	Red 1 flash	Configuration error
	Red 2 flashes	IP address not set
	Red 3 flashes	Station name not set
	Red 4 flashes	Internal error
L1/L2	Off	No Ethernet link detected
	Amber	Ethernet link detected
	Amber flash	Ethernet data transfer

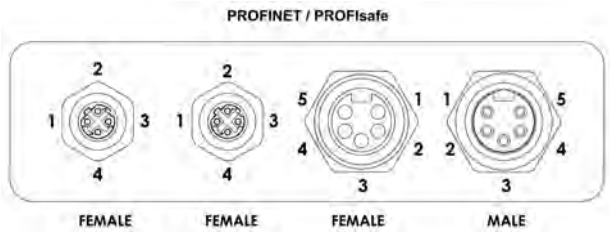
CIP Safety:

LED	Function	Colour
DS	Device State	Red/Green
PS	Module Status	Red/Green
PN	Network Status	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

LED	LED State	Comment
DS	Green	Device running
	Red	Internal fault detected
MS	Green	Conection to PLC, run state
	Green Flash	Conection to PLC, idle state
	Red	Major Fault
	Red Flashing	Recoverable fault, check PLC / NET-BOX configuration
NS	Off	No IP address set
	Green	Online, connection(s) established
	Green flash 1Hz	Online, no connections established
	Red	Network fault
	Red flash	Connection timed out
L1/L2	Off	No Ethernet link detected
	Amber	Ethernet link detected
	Amber flash	Ethernet data transfer

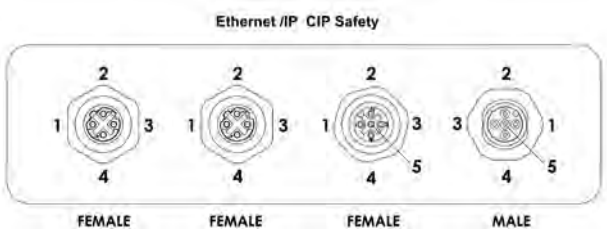
STANDARD CONNECTOR OPTIONS (CUSTOM CONFIGURATIONS AVAILABLE):

(2 x 4 Pin M12 'D' Code for Data) (2 x 5 Pin 7/8" for Power)



POWER		
Port C 7/8" FEMALE 5 Pin	Port D 7/8" MALE 5 Pin	Function
1	1	0V dc
2	2	0V dc
3	3	Earth (case)
4	4	+24V dc supply
5	5	+24V dc supply

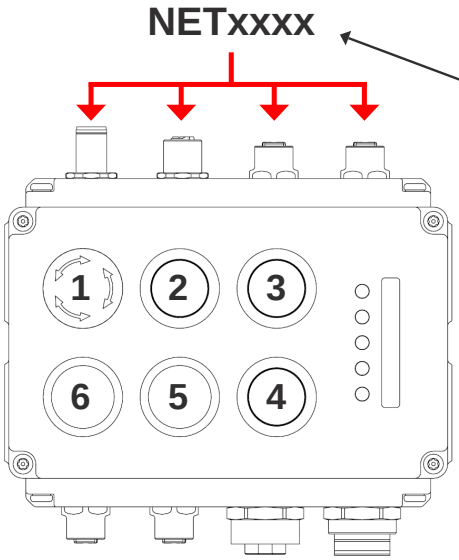
(2 x 4 Pin M12 'D' Code for Data) (2 x 5 Pin M12 'A' Code for Power)



POWER		
Port C M12 FEMALE 5 Pin 'A' Code	Port D M12 MALE 5 Pin 'A' Code	Function
1	1	+24V dc supply
2	2	0V dc
3	3	0V dc
4	4	+24V dc supply
5	5	Earth (case)

NET-BOX Overview with Integrated Safety Protocols (CIP Safety/PROFIsafe)

HOW TO CONFIGURE A NET-BOX:



Once you have configured your NET-BOX using the diagram below, the next step is to obtain a unique **NET ID number**:

1. Make a list of the product part number/s you want to connect to the NET-BOX.
2. To check compatibility, email the list to technical@idemsafety.com along with any data sheets relating to the products.
3. A **NET ID number** and a product configuration sheet will then be provided, which is unique to your specific requirements.

NET-BOX switch part numbers are located on the NET-BOX plastic (p114-115), NET-BOX die-cast (p116-117) and NET-BOX stainless steel (p118-119) overview pages.

530001 - NETxxxx - 1E - 2BR - 3LG - 4S - 5BW - 6X

SWITCH	ISSUED BY IDEM FOR ADDITIONAL CONNECTIVITY	POSITION ON LID	CONTROL DEVICE CODE	LENS COLOUR

Illuminated Emergency Stop

Contacts: 2NC

Control Device Code	Note
E	E-Stop can only be fitted into Position 1 on Lid

Illuminated Push Buttons

Contacts: 1NO

Control Device Code	Colour Code	Colour of Lens
B	R	
	B	
	G	
	Y	
	W	

Lamps

Control Device Code	Colour Code	Colour of Lens
L	R	
	B	
	G	
	Y	
	W	

Illuminated Selector Switch

Control Device Code	Description
S	1NO Maintained

Blanking Plug

Code	Description
X	Plastic Plug used to seal any unused positions.

NET-BOX Plastic with Integrated Safety Protocols **(CIP Safety/PROFIsafe)**

Manufactured from Plastic with Stainless Steel Mounting Plate.
All-In-One Pushbutton Station + Distributed Solution.
Fully Customisable for Complex Systems.
Pre-Configured to Your Specific Requirements.

APPLICATION & FEATURES:

The NET-BOX Plastic is a configurable control pushbutton station that communicates with the main industrial network protocol: PROFINET with PROFIsafe and Ethernet/IP with CIP Safety.

The NET-BOX control station can be configured to your applications specific requirements and can accommodate up to 4 additional connectors for implementing external field devices and distributed I/O. This highly configurable product is compatible with pushbuttons, emergency stops, lamps, selector switches and can easily be configured using our NET-BOX part number diagram located on p231.

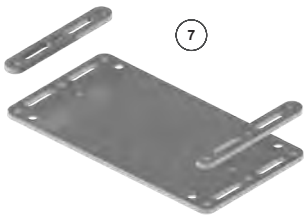
The NET-BOX combines machine control functions with I/O for connecting external field devices, reducing cabling cost compared to traditional 'hard-wire' methods. Each module can house up to three dual channel safety inputs, compatible with products such as safety interlocks, light curtains, enabling pendants, scanners and much more. There are also up to 40+ non-safe inputs and outputs for pilot devices, stack lights, buzzers and much more.

Unlike a traditional networked I/O block, the NET-BOX can be configured to a specific products making it the perfect solution for customer specific applications in all industries.

- TUV and cULus approved to CAT4, SIL3, PLe.
- Choice of pluggable connections for quick installation (M12 or 7/8")
- Network address assignment set by DIP switches
- Easy to use web interface accessible by IP address
- 3 Dual Channel Safety Inputs
- Up to 40+ standard I/O
- Daisy chain power and network connections (in/out).
- Choice of standard machine function buttons/lamps or custom configurable (E Stops, Start, Stop, Indication).

DEVICE LAYOUT:

KEY	
1	Pilot Devices
2	Data Ports
3	Power Ports
4	Blanking Plugs for Cable Entry
5	Lid Screws
6	Indication LEDs
7	Stainless Steel Mounting Plate



NET-BOX Plastic are supplied with a stainless steel rear mounting plate and two back brackets for clamping.

DIP SWITCHES:

NET-BOX comes with easily selectable DIP switches to manually set an IP address.

TECHNICAL SPECIFICATIONS:

Device Characteristics	
Response time (Safety Inputs)	36 ms max. (Change of input state -> transmission to field bus)
Response time (Safety Outputs)	7.7 ms max. (field bus telegram recv'd -> change of output state)
Electrical Data	
Operating voltage	24 V DC +10%/-15% (SELV/PELV)
Power Supply UL Requirements	Class 2 power supply must be used
Current consumption, max.	250 mA (excluding Standard Outputs and Safety Outputs).
Allowed through current (daisy-chain)	5A
Standard Inputs	
Input Rated Voltage	24V DC
Input Rated Current	2 mA
Standard Outputs	
Output Rated Voltage	24V DC (sourced from power connectors)
Output Maximum Current	500 mA single / 1.5 A group (OUT1..4 / OUT5..8)

NET-BOX Plastic with Integrated Safety Protocols (CIP Safety/PROFIsafe)

INDICATION DIAGNOSTICS:

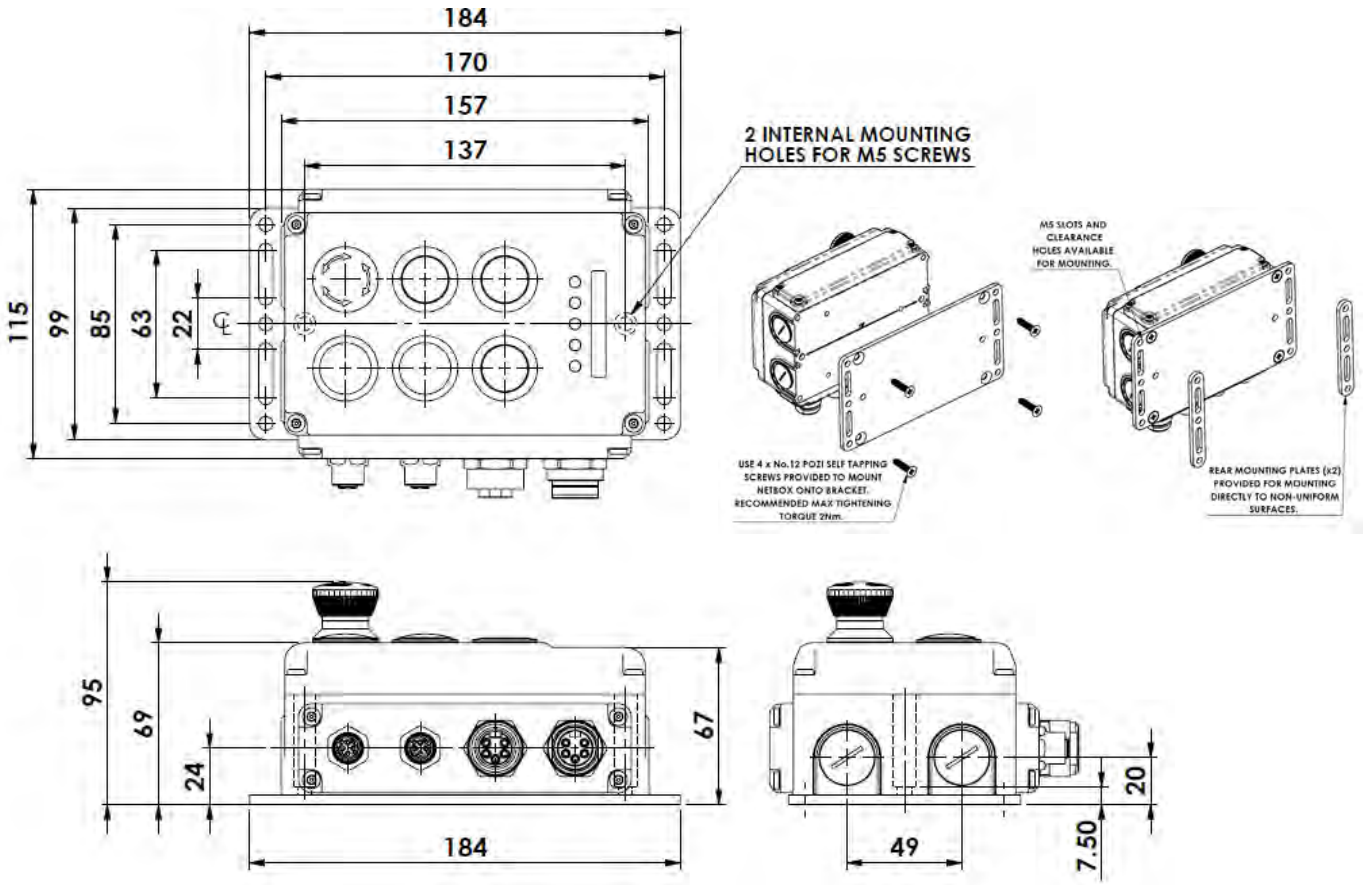
PROFIsafe:

LED	Function	Colour
DS	Device State	Red/Green
PS	PROFIsafe	Red/Green
PN	PROFINET / Network	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

CIP Safety:

LED	Function	Colour
DS	Device State	Red/Green
PS	Module Status	Red/Green
PN	Network Status	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

DIMENSIONS:



ORDERING:

Part No.	Description	Protocol	Data Connection	Power Connection
530001	NET-BOX-PS M20 PLASTIC	PROFIsafe	2 x M12 Data Connectors	2 x 7/8" 24V. dc Connectors
530101	NET-BOX-CS M20 PLASTIC	CIP Safety	2 x M12 Data Connectors	2 x M12 Power 24V. dc Connectors
530002	NET-BOX-PS 1/2" NPT PLASTIC	PROFIsafe	2 x M12 Data Connectors	2 x 7/8" 24V. dc Connectors
530102	NET-BOX-CS 1/2" NPT PLASTIC	CIP Safety	2 x M12 Data Connectors	2 x M12 Power 24V. dc Connectors

NET-BOX Metal with Integrated Safety Protocols **(CIP Safety/PROFIsafe)**

Manufactured from Robust Die-Cast Metal.
External DIP Switches and Mounting Points.
Robust Design for High Traffic Environments.
All-In-One Pushbutton Station + Distributed Solution.
Fully Customisable for Complex Systems.
Pre-Configured to Your Specific Requirements.

APPLICATION & FEATURES:

The NET-BOX Metal is a configurable control pushbutton station that communicates with the main industrial network protocol: PROFINET with PROFIsafe and Ethernet/IP with CIP Safety.

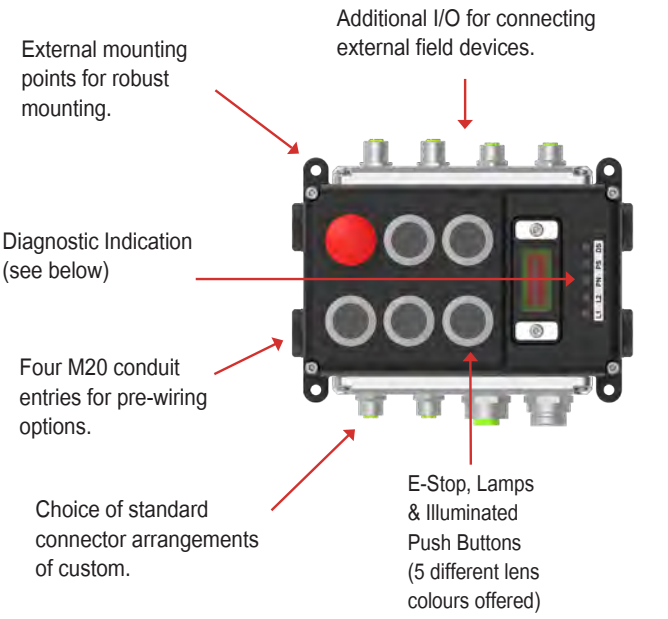
The NET-BOX control station can be configured to your applications specific requirements and can accommodate up to 4 additional connectors for implementing external field devices and distributed I/O. This highly configurable product is compatible with pushbuttons, emergency stops, lamps, selector switches and can easily be configured using our NET-BOX part number diagram located on p231.

The NET-BOX combines machine control functions with I/O for connecting external field devices, reducing cabling cost compared to traditional 'hard-wire' methods. Each module can house up to three dual channel safety inputs, compatible with products such as safety interlocks, light curtains, enabling pendants, scanners and much more. There are also up to 40+ non-safe inputs and outputs for pilot devices, stack lights, buzzers and much more.

Unlike a traditional networked I/O block, the NET-BOX can be configured to a specific products making it the perfect solution for customer specific applications in all industries.

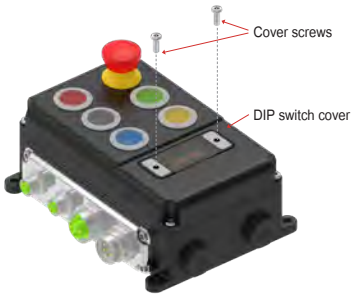
- TUV and cULus approved to CAT4, SIL3, PLe.
- Choice of pluggable connections for quick installation (M12 or 7/8")
- Network address assignment set by DIP switches
- Easy to use web interface accessible by IP address
- 3 Dual Channel Safety Inputs
- Up to 40+ standard I/O
- Daisy chain power and network connections (in/out).
- Choice of standard machine function buttons/lamps or custom configurable (E Stops, Start, Stop, Indication).

DEVICE LAYOUT:



DIP SWITCHES:

NET-BOX comes with easily selectable DIP switches to manually set an IP address.



TECHNICAL SPECIFICATIONS:

Device Characteristics	
Response time (Safety Inputs)	36 ms max. (Change of input state -> transmission to field bus)
Response time (Safety Outputs)	7.7 ms max. (field bus telegram recv'd -> change of output state)
Electrical Data	
Operating voltage	24 V DC +10%/-15% (SELV/PELV)
Power Supply UL Requirements	Class 2 power supply must be used
Current consumption, max.	250 mA (excluding Standard Outputs and Safety Outputs).
Allowed through current (daisy-chain)	5A
Standard Inputs	
Input Rated Voltage	24V DC
Input Rated Current	2 mA
Standard Outputs	
Output Rated Voltage	24V DC (sourced from power connectors)
Output Maximum Current	500 mA single / 1.5 A group (OUT1..4 / OUT5..8)

NET-BOX Metal with Integrated Safety Protocols (CIP Safety/PROFIsafe)

INDICATION DIAGNOSTICS:

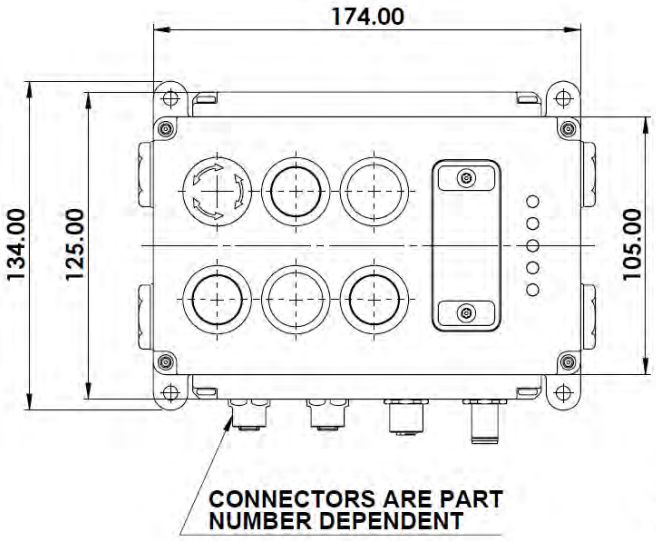
PROFIsafe:

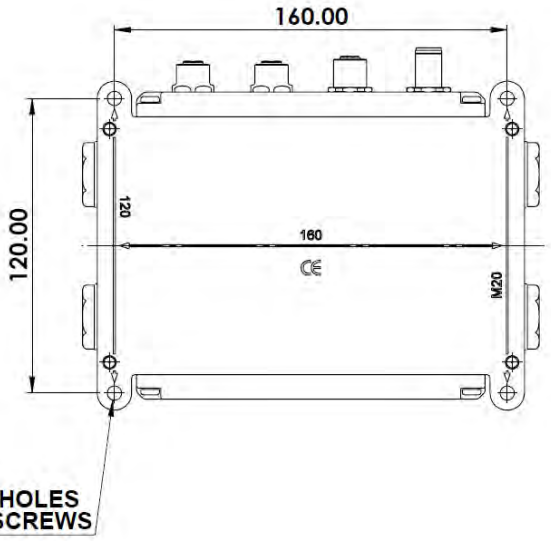
LED	Function	Colour
DS	Device State	Red/Green
PS	PROFIsafe	Red/Green
PN	PROFINET / Network	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

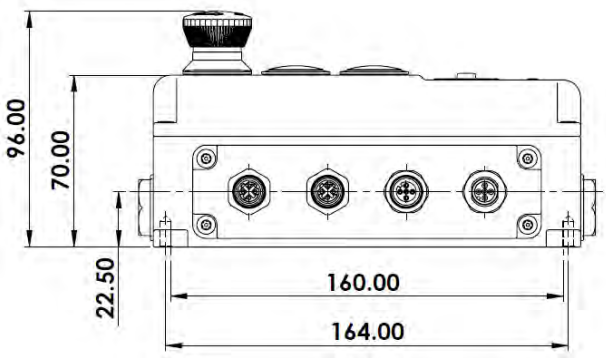
CIP Safety:

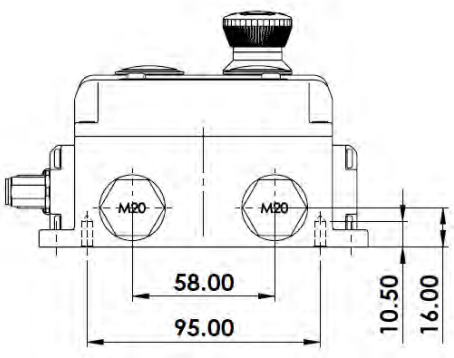
LED	Function	Colour
DS	Device State	Red/Green
PS	Module Status	Red/Green
PN	Network Status	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

DIMENSIONS:









ORDERING:

Part No.	Description	Protocol	Data Connection	Power Connection
531001	NET-BOX-PS M20 DIE-CAST	PROFIsafe	2 x M12 Data Connectors	2 x 7/8" 24V. dc Connectors
531101	NET-BOX-CS M20 DIE-CAST	CIP Safety	2 x M12 Data Connectors	2 x M12 Power 24V. dc Connectors
531002	NET-BOX-PS 1/2" NPT DIE-CAST	PROFIsafe	2 x M12 Data Connectors	2 x 7/8" 24V. dc Connectors
531102	NET-BOX-CS 1/2" NPT DIE-CAST	CIP Safety	2 x M12 Data Connectors	2 x M12 Power 24V. dc Connectors

NET-BOX S/Steel with Integrated Safety Protocols (CIP Safety/PROFIsafe)

Manufactured from Robust 316 Stainless Steel.
All-In-One Pushbutton Station + Distributed Solution.
Fully Customisable for Complex Systems.
Optional Mounting Plate + IP69K Button Covers.

APPLICATION & FEATURES:

The NET-BOX Stainless Steel is a configurable control pushbutton station that communicates with the main industrial network protocol: PROFINET with PROFIsafe and Ethernet/IP with CIP Safety.

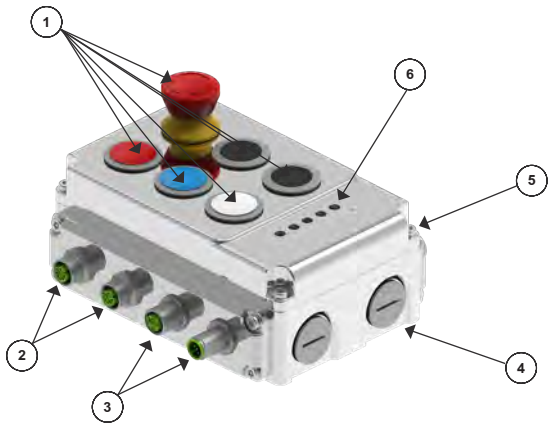
The NET-BOX control station can be configured to your applications specific requirements and can accommodate up to 4 additional connectors for implementing external field devices and distributed I/O. This highly configurable product is compatible with pushbuttons, emergency stops, lamps, selector switches and can easily be configured using our NET-BOX part number diagram located on p115.

The NET-BOX combines machine control functions with I/O for connecting external field devices, reducing cabling cost compared to traditional 'hard-wire' methods. Each module can house up to three dual channel safety inputs, compatible with products such as safety interlocks, light curtains, enabling pendants, scanners and much more. There are also up to 40+ non-safe inputs and outputs for pilot devices, stack lights, buzzers and anything that requires 8 or less I/O per device.

Unlike a traditional networked I/O block, the NET-BOX can be configured to a specific products making it the perfect solution for customer specific applications in all industries.

- TUV and cULus approved to CAT4, SIL3, PLe.
- Choice of pluggable connections for quick installation (M12 or 7/8")
- Network address assignment set by DIP switches
- Easy to use web interface accessible by IP address
- 3 Dual Channel Safety Inputs
- Up to 40+ standard I/O
- Daisy chain power and network connections (in/out).
- Choice of standard machine function buttons/lamps or custom configurable (E Stops, Start, Stop, Indication).

DEVICE LAYOUT:



KEY	
1	Pilot Devices
2	Data Ports
3	Power Ports
4	Blanking Plugs for Cable Entry
5	Lid Screws
6	Indication LEDs

DIP SWITCHES:

NET-BOX comes with easily selectable DIP switches to manually set an IP address.

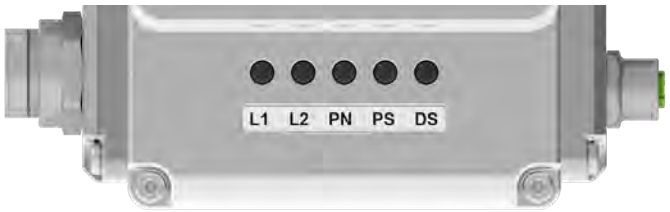
TECHNICAL SPECIFICATIONS:

Device Characteristics	
Response time (Safety Inputs)	36 ms max. (Change of input state -> transmission to field bus)
Response time (Safety Outputs)	7.7 ms max. (field bus telegram recv'd -> change of output state)
Electrical Data	
Operating voltage	24 V DC +10%/-15% (SELV/PELV)
Power Supply UL Requirements	Class 2 power supply must be used
Current consumption, max.	250 mA (excluding Standard Outputs and Safety Outputs).
Allowed through current (daisy-chain)	5A
Standard Inputs	
Input Rated Voltage	24V DC
Input Rated Current	2 mA
Standard Outputs	
Output Rated Voltage	24V DC (sourced from power connectors)
Output Maximum Current	500 mA single / 1.5 A group (OUT1..4 / OUT5..8)

NET-BOX S/Steel with Integrated Safety Protocols **(CIP Safety/PROFIsafe)**

INDICATION DIAGNOSTICS:

PROFIsafe:

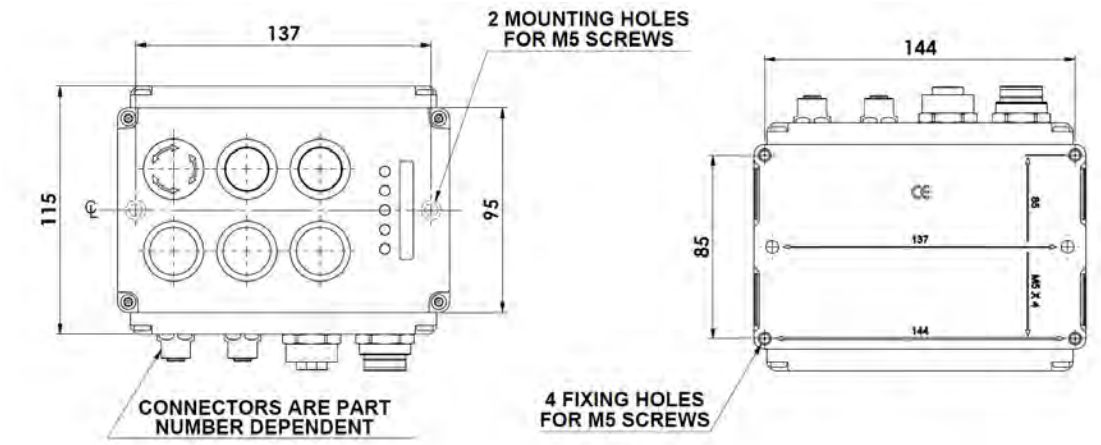


LED	Function	Colour
DS	Device State	Red/Green
PS	PROFIsafe	Red/Green
PN	PROFINET / Network	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

CIP Safety:

LED	Function	Colour
DS	Device State	Red/Green
PS	Module Status	Red/Green
PN	Network Status	Red/Green
L1	Link 1	Amber/Green
L2	Link 2	Amber/Green

DIMENSIONS:



ORDERING:

Part No.	Description	Protocol	Data Connection	Power Connection
532001	NET-BOX-PS M20 STAINLESS STEEL	PROFIsafe	2 x M12 Data Connectors	2 x 7/8" 24V. dc Connectors
532101	NET-BOX-CS M20 STAINLESS STEEL	CIP Safety	2 x M12 Data Connectors	2 x M12 Power 24V. dc Connectors
532002	NET-BOX-PS 1/2" NPT STAINLESS STEEL	PROFIsafe	2 x M12 Data Connectors	2 x 7/8" 24V. dc Connectors
532102	NET-BOX-CS 1/2" NPT STAINLESS STEEL	CIP Safety	2 x M12 Data Connectors	2 x M12 Power 24V. dc Connectors

NET-BOX Mounting bracket sold seperatly.
Material: Stainless Steel
Part Number: *******

Optional sealing covers for IP69K protection.
Material: Silicone
Part Number: Please request this feature when making an enquiry.

SKORPION Trapped Key Interlocking with Key Exchange

THE SKORPION RANGE - AVAILABLE IN **STAINLESS STEEL 316** OR **DIE CAST:**

PRODUCT OVERVIEW:

The SKORPION Trapped Key System has been developed to provide extremely robust mechanical coded key safeguarding and interlocking for hazardous machinery.

The system works on the principle of releasing factory coded mechanical keys in a pre-determined sequence to ensure machine power is isolated before any access can be gained to hazardous or dangerous machinery.

After the machine control has been isolated (first key turned in the system) the key from the isolator can then be used to release other trapped keys to enable access to the guarded areas.

After release of the first key (power isolation) safeguarding can be achieved without the need for electrical wiring, this makes the system ideal for use in harsh environments.

When used in conjunction with interlock sensing they can be used to achieve up to PLe/Cat4 to ISO13849-1.

ISOLATION

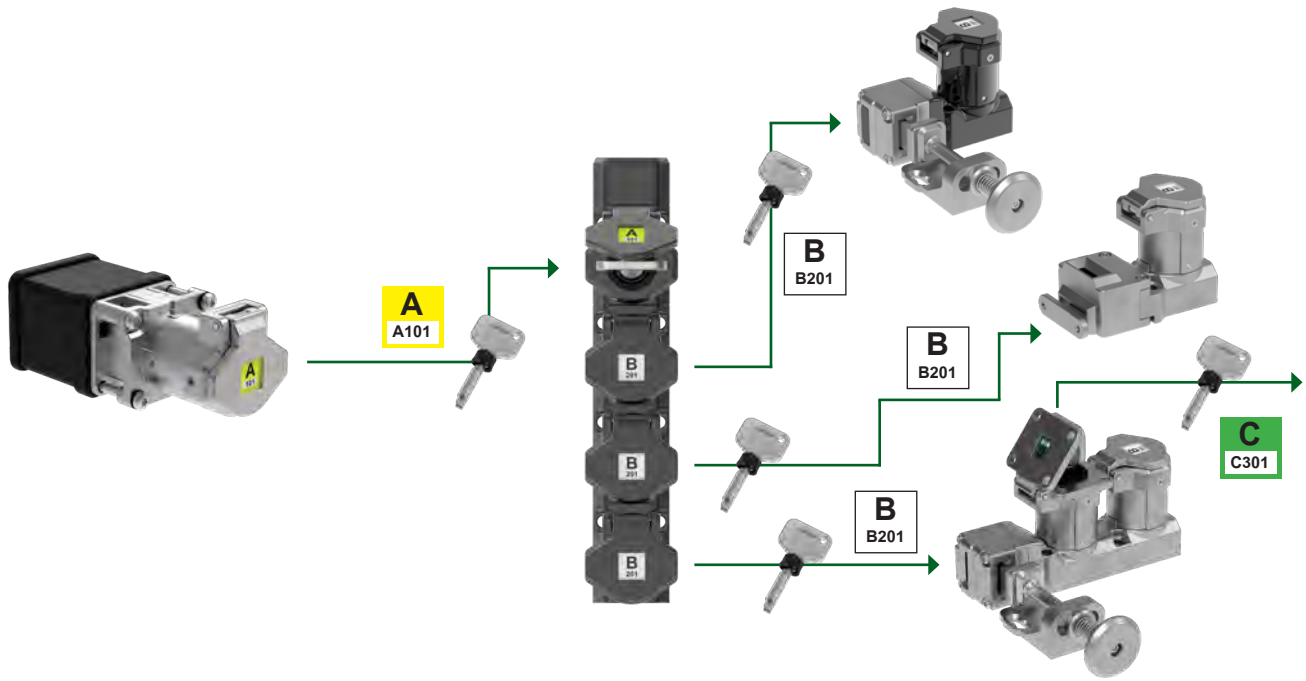
The first stage of any trapped key system is to isolate the power or open the control circuit. This should STOP any hazardous processes associated with the zone you are trying to

KEY EXCHANGE

The second stage is exchange. The isolator keycan be used to open 1 access lock at a time or, if there are multiple access locks, a key exchange can be used.

GUARD INTERLOCKS FOR ACCESS CONTROL

Access locks prevent entry to the hazardous areas. Only when the correct coded key is presented, will entry be permitted.



ADVANTAGES:

- No reduction of integrity due to the distance between movable guard and control system.
- High mechanical integrity, robust fixings and holdings suitable for all types of guards.
- Eliminates the need for electrical wiring to each movable guard.
- Fully Stainless Steel 316 version is suitable when the movable guard is placed in harsh or hostile environments.
- Suitable for CIP and SIP cleaning processes and can be high pressure hosed with detergents at high temperatures.
- Can be used where the movable guard requires to be removed completely.
- All keys are coded in the factory and it is virtually impossible to override the system.
- A trapped key system provides a quick yet safe and reliable access to machinery.
- Use of a trapped key system can also prevent shortcuts and enforce a logical set of procedures that need to be satisfied.
- Until the isolator key is returned to its original position within the lock, there is no way to enable the machinery to be re-started.

SKORPION Trapped Key Interlocking with Key Exchange

CS-Range

NEW

Pages: 244-245

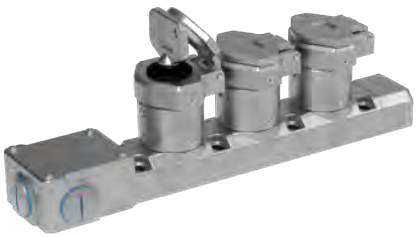
Control switch and key exchange combined into one convenient system.

ISB-CB

NEW

Page: 247

Control switch and key exchange combined into an IP69K enclosure.



LCB

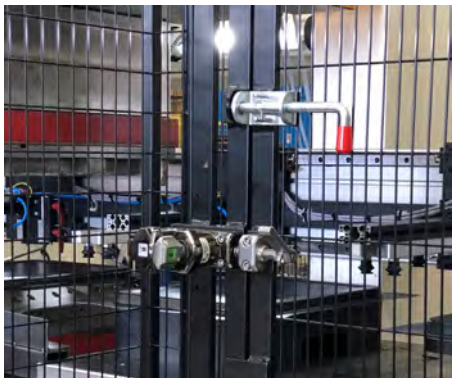
NEW

Pages: 258-259

Light Curtain blocking device for protection when working inside the safeguarded area.

WOOD PROCESSING

SHEET METAL CUTTING



WOOD PROCESSING

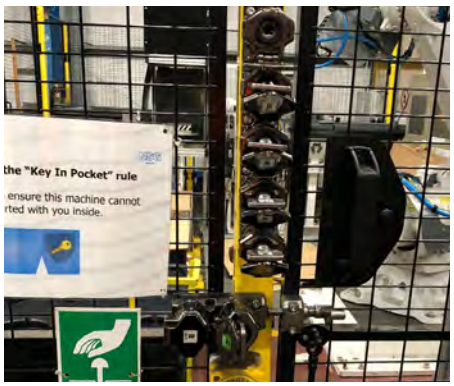
BREAD MANUFACTURING

CORRUGATED PAPER MANUFACTURING

AUTOMATED MEAT SLICING MACHINE

SWITCHGEAR ISOLATION

AUTOMATED PALLETIZING



RECYCLING MACHINERY

SKORPION Trapped Key Interlocking with Key Exchange

Standard dust covers supplied with all IDEM Trapped Key Interlocks.

LT: All IDEM trapped key interlocks are available with a lockout dust cover. Add LT to the end of any IDEM part number. Example: "SS-ISB1-25-LT"

CK: All IDEM trapped key interlocks are available with a custom key label. Add CK to the end of any IDEM part number. Example: "SS-ISB1-25-CK"

BOX MOUNT ISOLATION SWITCH - **ISB1:**

M-ISB1

SS-ISB1

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

DIE-CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH BOX 1 RATING**
M-ISB1-25	25A 690V 4 pole
M-ISB1-40	40A 690V 4 pole

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH BOX 1 RATING**
SS-ISB1-25	25A 690V 4 pole
SS-ISB1-40	40A 690V 4 pole

BOX MOUNT ISOLATION SWITCH - **ISB2:**

M-ISB2

SS-ISB2

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

DIE-CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH BOX 2 RATING**
M-ISB2-63	63A 690V 4 pole

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH BOX 2 RATING**
SS-ISB2-63	63A 690V 4 pole

ISOLATION SWITCH PANEL MOUNT - **ISP:**

M-ISP

SS-ISP

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH PANEL MOUNT RATING**
SS-ISP-25	25A 690V 4 pole
SS-ISP-40	40A 690V 4 pole
SS-ISP-63	63A 690V 4 pole

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH PANEL MOUNT RATING**
M-ISP-25	25A 690V 4 pole
M-ISP-40	40A 690V 4 pole
M-ISP-63	63A 690V 4 pole

Sales Number	AUXILIARY SIGNAL CONTACT BLOCK
AUX-ISP	1NC+1NO AC-15 6A 230V/4A 415V)

SKORPION Trapped Key Interlocking with Key Exchange

ISOLATION SWITCH WITH SOLENOID CONTROL (PANEL MOUNT) - **ISP-SKR:**

M-ISP-SKR

SS-ISP-SKR

Fitted with RED/GREEN status lamps.

In addition to the 4 pole main Isolator Contacts, all models of the isolation switch ISP-SKR are supplied with:

RED lamp wired to indicate Solenoid energized.

GREEN lamp for end user designation.

2NC 1NO monitoring contact block.

Solenoid energised to release key.

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE RATING**
SS-ISP-SKR-25	25A 690V 4 pole
SS-ISP-SKR-40	40A 690V 4 pole
SS-ISP-SKR-63	63A 690V 4 pole

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE RATING**
M-ISP-SKR-25	25A 690V 4 pole
M-ISP-SKR-40	40A 690V 4 pole
M-ISP-SKR-63	63A 690V 4 pole

ISOLATION SWITCH WITH SOLENOID CONTROL (PANEL MOUNT) IP65 RATED- **ISP-SKR-WR:**

M-ISP-SKR-WR

SS-ISP-SKR-WR

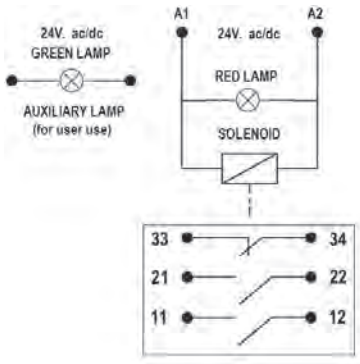
Fitted with RED/GREEN status lamps.

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

ISP-SKR-WR STAINLESS STEEL 316		
Sales Number	**WATER RESISTANT ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE**	
	RATING	**SOLENOID VOLTAGE**
SS-ISP-SKR-WR-25	25A 690V 4 pole	24V ac/dc
SS-ISP-SKR-WR-40	40A 690V 4 pole	24V ac/dc
SS-ISP-SKR-WR-63	63A 690V 4 pole	24V ac/dc

ISP-SKR-WR DIE CAST METAL (Mirror Finish)		
Sales Number	**WATER RESISTANT ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE**	
	RATING	**SOLENOID VOLTAGE**
M-ISP-SKR-WR-25	25A 690V 4 pole	24V ac/dc
M-ISP-SKR-WR-40	40A 690V 4 pole	24V ac/dc
M-ISP-SKR-WR-63	63A 690V 4 pole	24V ac/dc

MONITORING CONTACT INFORMATION FOR SOLENOID CONTROL ISOLATION

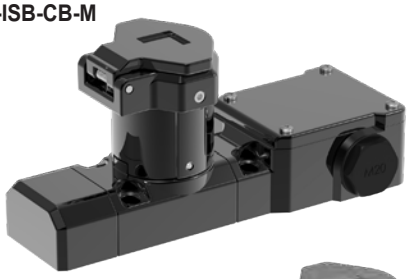


MONITORING CONNECTION TERMINALS		
Terminals	**Description**	**RATING**
A1 A2	Solenoid voltage 24V ac/dc	-
11 12	Closed when key is trapped and solenoid de-energized. Open when solenoid is energized – trapped open if key removed.	230V 3A
21 22	Closed when key is trapped and solenoid de-energized. Open when solenoid is energized – trapped open if key removed.	230V 3A
33 34	Open when key is trapped and solenoid de-energized. Closed when solenoid is energized – trapped open if key removed.	230V 3A
24V Auxiliary Lamp	3mm spade terminal - GREEN (not connected).	-

SKORPION Trapped Key Interlocking with Key Exchange

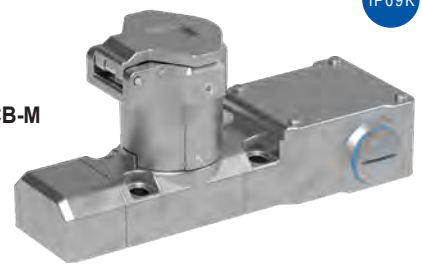
EXTERNAL MOUNT CONTROL SWITCH - **ISB-CB-M**

M-ISB-CB-M



IP69K

SS-ISB-CB-M



Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH BOX**
M-ISB-CB-22-M	2NC 2NO Contact Block 240V 3A max. M20
M-ISB-CB-31-M	3NC 1NO Contact Block 240V 3A max. M20
M-ISB-CB-40-M	4NC Contact Block 240V 3A max. M20

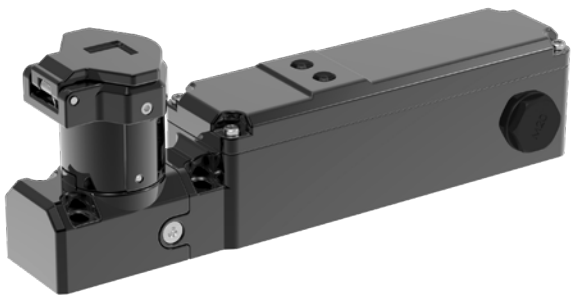
STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**ISOLATION SWITCH BOX WITH IP69K RATING**
SS-ISB-CB-22-M	2NC 2NO Contact Block 240V 3A max. M20
SS-ISB-CB-31-M	3NC 1NO Contact Block 240V 3A max. M20
SS-ISB-CB-40-M	4NC Contact Block 240V 3A max. M20

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

We recommend using our Stainless Steel 316 Gland with this safety switch.

CONTROL SWITCH WITH SOLENOID RELEASE UNIT - **ISB4-SR:**

M-ISB4-SR



The ISB4-SR is a trapped key operated control switch designed to turn off machine safety circuits.

The key is trapped when the main safety contacts are closed (machine able to run) and can only be released when the internal solenoid in the ISB4-SR is energised.

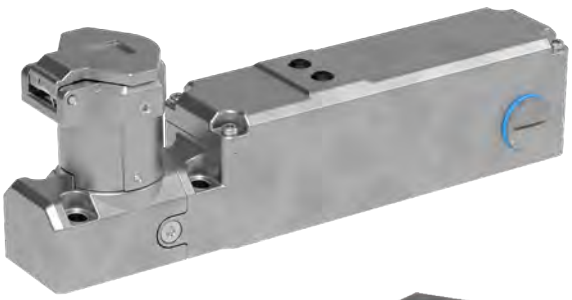
This then enables the key to be turned and released and the safety contacts opened. The key can then be used to release other devices in a trapped key system.

It can be used in conjunction with safety delay timers to allow a delay time before the solenoid is energised therefore allowing for any machine run down prior to releasing of the key.

Versions with integral request button are available.

SS-ISB4-SR

IP69K



ISB4-SR STAINLESS STEEL 316			
Sales Number	**Contact Block**	**Solenoid Voltage**	**Conduit Entry**
SS-ISB4-SR-22	2NC 2NO (240V 3A max)	24V ac/dc	M20
SS-ISB4-SR-31	3NC 1NO (240V 3A max)	24V ac/dc	M20

ISB4-SR DIE-CAST METAL (Mirror Finish)			
Sales Number	**Contact Block**	**Solenoid Voltage**	**Conduit Entry**
M-ISB4-SR-22	2NC 2NO (240V 3A max)	24V ac/dc	M20
M-ISB4-SR-31	3NC 1NO (240V 3A max)	24V ac/dc	M20

ISB4-SR MODELS WITH REQUEST BUTTON - NC/NO Changeover

ISB4-SR STAINLESS STEEL 316			
Sales Number	**Contact Block**	**Solenoid Voltage**	**Conduit Entry**
SS-ISB4-SR-22-PB	2NC 2NO (240V 3A max)	24V ac/dc	M20
SS-ISB4-SR-31-PB	3NC 1NO (240V 3A max)	24V ac/dc	M20

ISB4-SR DIE-CAST METAL (Mirror Finish)			
Sales Number	**Contact Block**	**Solenoid Voltage**	**Conduit Entry**
M-ISB4-SR-22-PB	2NC 2NO (240V 3A max)	24V ac/dc	M20
M-ISB4-SR-31-PB	3NC 1NO (240V 3A max)	24V ac/dc	M20

Request Button version also available (IP65)

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

We recommend using our Stainless Steel 316 Gland with this safety switch.

SKORPION Trapped Key Interlocking with Key Exchange

ISOLATION SWITCH BOX WITH SOLENOID CONTROL IP65 RATED - **ISB3-SKR:**

Fitted with RED/GREEN status lamps. **ISB3-SKR-WR**

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

ISB3-SKR STAINLESS STEEL 316 (Box Enclosure Plastic)		
Sales Number	WATER RESISTANT ISOLATION SWITCH BOX SOLENOID KEY RELEASE	
	RATING	SOLENOID VOLTAGE
SS-ISB3-SKR-25	25A 690V 4 pole	24V ac/dc
SS-ISB3-SKR-40	40A 690V 4 pole	24V ac/dc
SS-ISB3-SKR-63	63A 690V 4 pole	24V ac/dc

ISB3-SKR DIE CAST METAL (Mirror Finish) (Enclosure Plastic)		
Sales Number	WATER RESISTANT ISOLATION SWITCH BOX SOLENOID KEY RELEASE	
	RATING	SOLENOID VOLTAGE
M-ISB3-SKR-25	25A 690V 4 pole	24V ac/dc
M-ISB3-SKR-40	40A 690V 4 pole	24V ac/dc
M-ISB3-SKR-63	63A 690V 4 pole	24V ac/dc

ACCESSORY: AUXILIARY SIGNAL CONTACT BLOCK: **AUX-SP**

Optional Auxiliary Signal Contact Block to indicate isolator status.

Fits to all ISP-SKR and ISP isolation switch panel mount.

AUXILIARY CONTACT BLOCK			
AUX-ISP	1NC+1NO	AC-15	6A 230V/4A 415V)

EXPLOSION ENVIRONMENT CONTROL SWITCH - **ISB-CB-EX (IECEx/ATEX Internal Switch):**

ISB-CB-EX

Exd IIC T6 (-20 ≤ Ta ≤ +60C)

Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

The ATEX approved internal switch (LS-EX) conforms to European harmonized standard EN60079-0 and EN60079-1 and can be used in European Zone 1, 2, 21, 22 environments. (Gas and Dust).

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	ISOLATION SWITCH BOX WITH EXPLOSION PROOF CONTACT BLOCK
SS-ISB-CB-22-EX	2NC 2NO (pre-wired 3m cable) 250V 2.5A max.
SS-ISB-CB-11-EX	1NC 1NO (pre-wired 3m cable) 250V 4.0A max.
SS-ISB-CB-20-EX	2NC (pre-wired 3m cable) 250V 4.0A max.

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	ISOLATION SWITCH BOX WITH EXPLOSION PROOF CONTACT BLOCK
M-ISB-CB-22-EX	2NC 2NO (pre-wired 3m cable) 250V 2.5A max.
M-ISB-CB-11-EX	1NC 1NO (pre-wired 3m cable) 250V 4.0A max.
M-ISB-CB-20-EX	2NC (pre-wired 3m cable) 250V 4.0A max.

SKORPION Trapped Key Interlocking with Key Exchange

CS CONTROL SWITCH + KEY EXCHANGE COMBINED

The CS products combine control switch isolation and key exchange into one convenient system. Every barrel location can either be monitored with or without solenoid release or mechanically operated, depending on the requirements.

A common configuration for a CS-Range system has the top key “electrically monitored” and the remaining keys as mechanical release only. Only when the top key is FREE, can the mechanical keys be released.

The CS-Range is factory assembled.
Available in panel or box mounted arrangement
Supports both simple and complex requirements
Contact sales@idemsafety.com for support

PANEL MOUNT CONTROL SWITCH - **CS**

M-CS

SS-CS

The key is trapped when the machine is running. Turning the key stops the machine, allowing the key to be released.

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**PANEL MOUNT CONTROL SWITCH**
M-CS	4NC 2NO Control Switch 240V 3A max.

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**PANEL MOUNT CONTROL SWITCH**
SS-CS	4NC 2NO Control Switch 240V 3A max.

REVERSE FUNCTION:

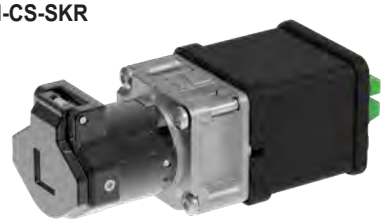
The key is free when the machine is running. Inserting and turning the correct key stops the machine and prevents the key from being removed.

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**PANEL MOUNT CONTROL SWITCH**
M-CS-R	4NC 2NO Control Switch 240V 3A max.

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**PANEL MOUNT CONTROL SWITCH**
SS-CS-R	4NC 2NO Control Switch 240V 3A max.

PANEL MOUNT CONTROL SWITCH WITH SOLENOID RELEASE - **CS-SKR**

M-CS-SKR



SS-CS-SKR

The key is trapped when the machine is running. To release the key, the CS switch needs to receive an unlock signal. Only then can the machine be brought to a controlled stop.

SS-CS-SKR STAINLESS STEEL 316		
Sales Number	**Contact Block**	**Solenoid Voltage**
SS-CS-SKR	4NC 2NO (240V 3A max)	24V ac/dc

M-CS-SKR DIE-CAST METAL (Mirror Finish)		
Sales Number	**Contact Block**	**Solenoid Voltage**
M-CS-SKR	4NC 2NO (240V 3A max)	24V ac/dc

REVERSE FUNCTION:

The key is free when the machine is running. To insert and turn a key, the CS switch needs to receive an unlock signal. Only then can the machine be brought to a controlled stop.

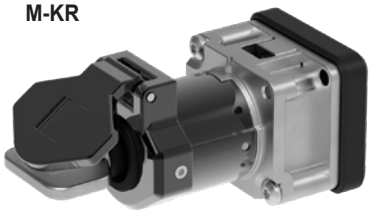
SS-CS-SKR-R STAINLESS STEEL 316		
Sales Number	**Contact Block**	**Solenoid Voltage**
SS-CS-SKR-R	4NC 2NO (240V 3A max)	24V ac/dc

M-CS-SKR-R DIE-CAST METAL (Mirror Finish)		
Sales Number	**Contact Block**	**Solenoid Voltage**
M-CS-SKR-R	4NC 2NO (240V 3A max)	24V ac/dc

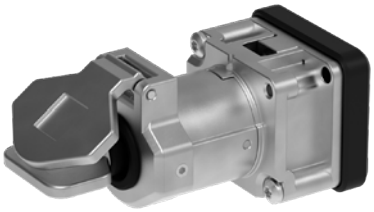
SKORPION Trapped Key Interlocking with Key Exchange

PANEL MOUNT MECHANICAL KEY SWITCH - **KR**

M-KR



SS-KR



DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**PANEL MOUNT CONTROL SWITCH**
M-KR	Mechanical Key Release Unit

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**PANEL MOUNT CONTROL SWITCH**
SS-KR	Mechanical Key Release Unit

REVERSE FUNCTION:

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP	
Sales Number	**PANEL MOUNT CONTROL SWITCH**
M-KR-R	Mechanical Key Release Unit (Reverse)

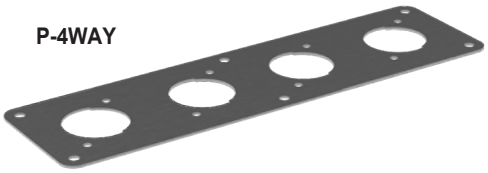
STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP	
Sales Number	**PANEL MOUNT CONTROL SWITCH**
SS-KR-R	Mechanical Key Release Unit (Reverse)

MOUNTING ACCESSORIES FOR - **CS PRODUCTS**

B-1WAY

B-2WAY

P-4WAY



Sales Number	Description	Material
B-1WAY	1 Position Box Enclosure	Plastic
B-2WAY	2 Position Box Enclosure	Stainless Steel
B-3WAY	3 Position Box Enclosure	
B-4WAY	4 Position Box Enclosure	
B-5WAY	5 Position Box Enclosure	
P-1WAY	1 Position Panel Mount	
P-2WAY	2 Position Panel Mount	
P-3WAY	3 Position Panel Mount	
P-4WAY	4 Position Panel Mount	
P-5WAY	5 Position Panel Mount	
P-6WAY	6 Position Panel Mount	
P-7WAY	7 Position Panel Mount	
P-8WAY	8 Position Panel Mount	
P-9WAY	9 Position Panel Mount	
P-10WAY	10 Position Panel Mount	

EXAMPLE SYSTEM

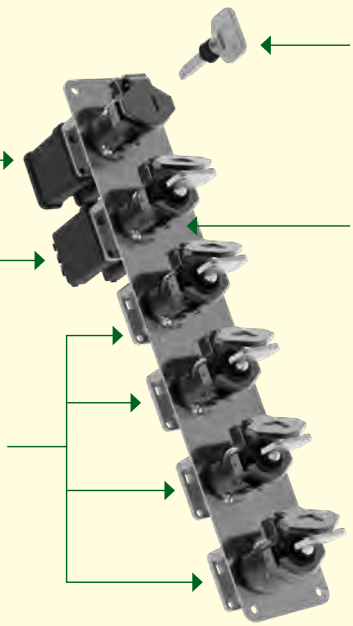
AUTHORITY KEY
"MACHINE RUNNING WHEN KEY REMOVED"
(ONLY AUTHORISED PERSONNEL CAN REQUEST ACCESS TO THE MACHINE)

M-CS-SKR-R
"REVERSE FUNCTION FOR AUTHORITY KEY"

M-CS-SKR
"SOLENOID CONTROLLED - KEY WILL ONLY RELEASE ONCE THE AUTHORITY KEY IS PRESENT"

P-6WAY
"6 WAY PANEL MOUNTING KIT"
(PRE-ASSEMBLED IN THE FACTORY)

M-KR
"MECHANICAL KEY RELEASE UNIT - KEY/S WILL ONLY BE RELEASED ONCE THE FIRST TWO KEYS ARE REMOVED"

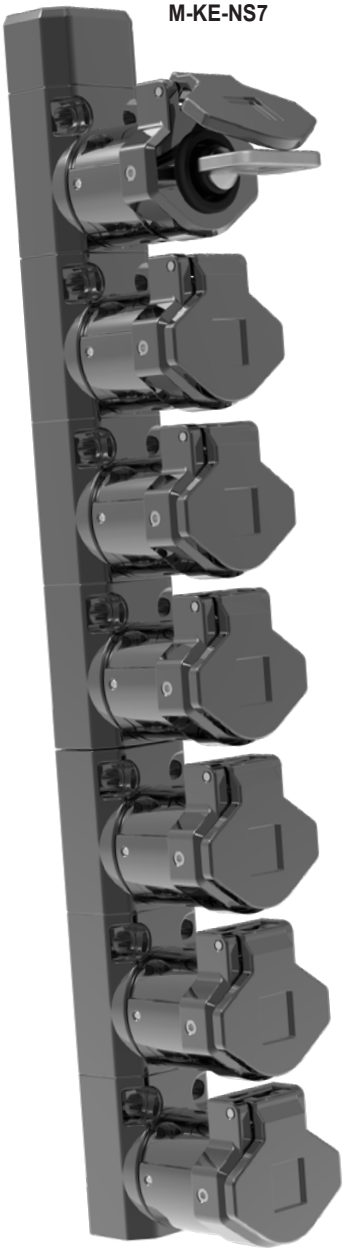


Parts List	
Sales Number	**Quantity**
M-CS-SKR-R	1
M-CS-SKR	1
M-KR	4
P-6WAY	1
SK-A101	1
SK-B201	5

SKORPION Trapped Key Interlocking with Key Exchange

KEY EXCHANGE STAINLESS STEEL 316 + DIE-CAST METAL ORDERING:

M-KE-NS7

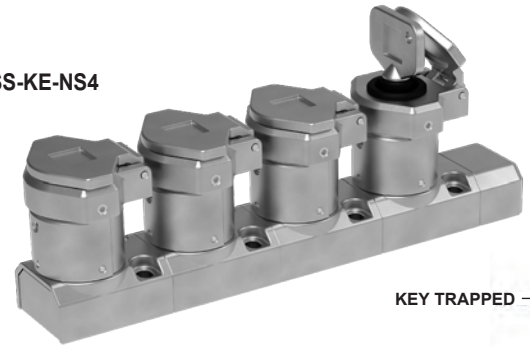


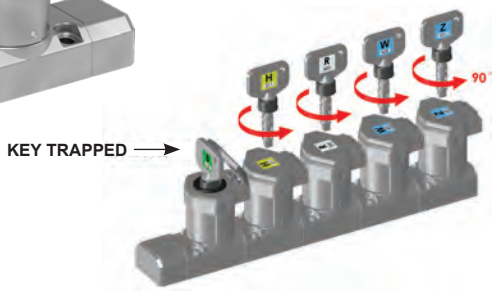
Key exchange systems for trapped key interlocking are used when a single point of isolation requires entry to multiple access points at the same time.

Once the source of hazardous energy has been isolated, the isolation key is transferred to the key exchange system. Inserting and turning the key releases the access keys – this causes the isolation key to become trapped until all access keys are returned.

KE vertical key exchange systems are robust, compact and suitable for installation directly to guard frames.

SS-KE-NS4

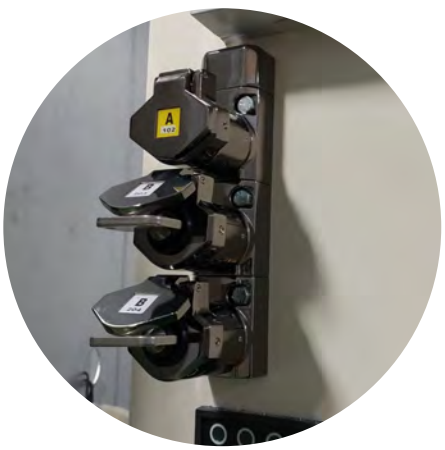




Sales Number	KEY EXCHANGE - DIE-CAST	
M-KE-NS2	2 Key	First key TRAPPED All remaining keys can be released non-sequentially.
M-KE-NS3	3 Key	
M-KE-NS4	4 Key	
M-KE-NS5	5 Key	
M-KE-NS6	6 Key	
M-KE-NS7	7 Key	First key TRAPPED All remaining keys can be released sequentially.
M-KE-NS8	8 Key	
M-KE-NS9	9 Key	
M-KE-NS10	10 Key	

Sales Number	KEY EXCHANGE - STAINLESS STEEL 316	
SS-KE-NS2	2 Key	First key TRAPPED All remaining keys can be released non-sequentially.
SS-KE-NS3	3 Key	
SS-KE-NS4	4 Key	
SS-KE-NS5	5 Key	
SS-KE-NS6	6 Key	

EXAMPLE INSTALLATIONS:



SKORPION Trapped Key Interlocking with Key Exchange

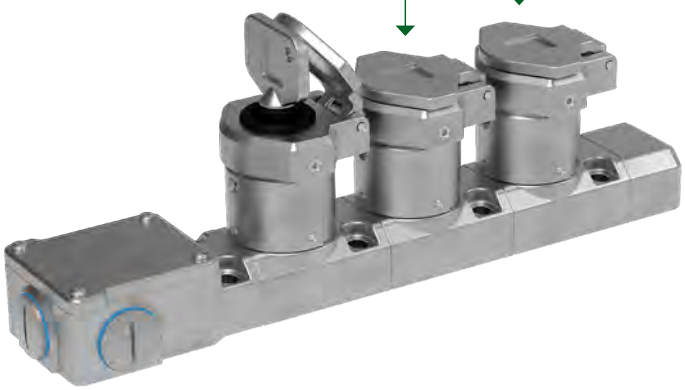
KEY EXCHANGE WITH MONITORING - **ISB-CB**

NEW

IP69K

The ISB-CB combines control isolation and key exchange into one compact unit. Turning the isolation key switches the contacts OFF and releases up to 6 keys, which can be used to access multiple access points.

Material (M / SS)	-	ISB-CB	x	Total Number of Keys	-	Contact Block NC / NO	-	Conduit Entry (M20 / 1/2" NPT)	-	Key Free	x	Key(s) Trapped	Option - Lockable Dust Cover
M	-	ISB-CB	x	2	-		-		-	0	x	2	-LT
M	-	ISB-CB	x	2	-		-		-	1	x	1	-LT
M	-	ISB-CB	x	3	-		-		-	0	x	3	-LT
M	-	ISB-CB	x	3	-		-		-	1	x	2	-LT
M	-	ISB-CB	x	4	-		-		-	0	x	4	-LT
M	-	ISB-CB	x	4	-		-		-	1	x	3	-LT
M	-	ISB-CB	x	5	-	**22**	-		-	0	x	5	-LT
M	-	ISB-CB	x	5	-	or	-	**M**	-	1	x	4	-LT
SS	-	ISB-CB	x	2	-	**31**	-	or	-	0	x	2	-LT
SS	-	ISB-CB	x	2	-	or	-	**N**	-	1	x	1	-LT
SS	-	ISB-CB	x	3	-	**40**	-		-	0	x	3	-LT
SS	-	ISB-CB	x	3	-		-		-	1	x	2	-LT
SS	-	ISB-CB	x	4	-		-		-	0	x	4	-LT
SS	-	ISB-CB	x	4	-		-		-	1	x	3	-LT
SS	-	ISB-CB	x	5	-		-		-	0	x	5	-LT
SS	-	ISB-CB	x	5	-		-		-	1	x	4	-LT

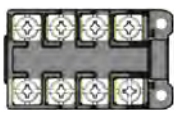


S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

We recommend using our Stainless Steel 316 Gland with this safety switch.

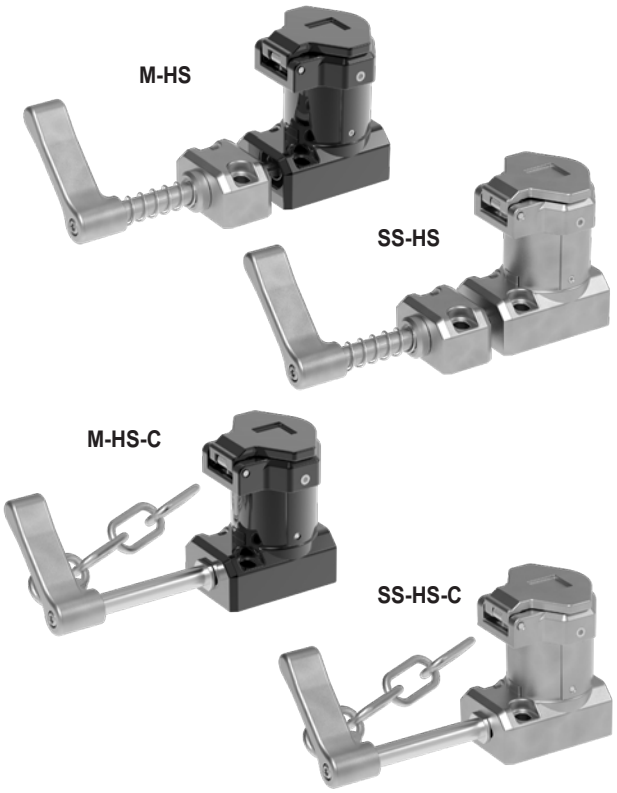
REPLACEMENT CONTACT BLOCKS:

SALES NUMBER	DESCRIPTION
140114	4 Pole Contact Block 2NC 2NO (End Fixing without Tip)
140115	4 Pole Contact Block 3NC 1NO (End Fixing without Tip)
140116	4 Pole Contact Block 4NC (End Fixing without Tip)



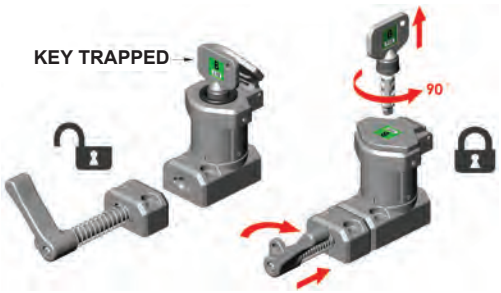
SKORPION Trapped Key Interlocking with Key Exchange

HANDLE INTERLOCKS (Single Key) ORDERING:

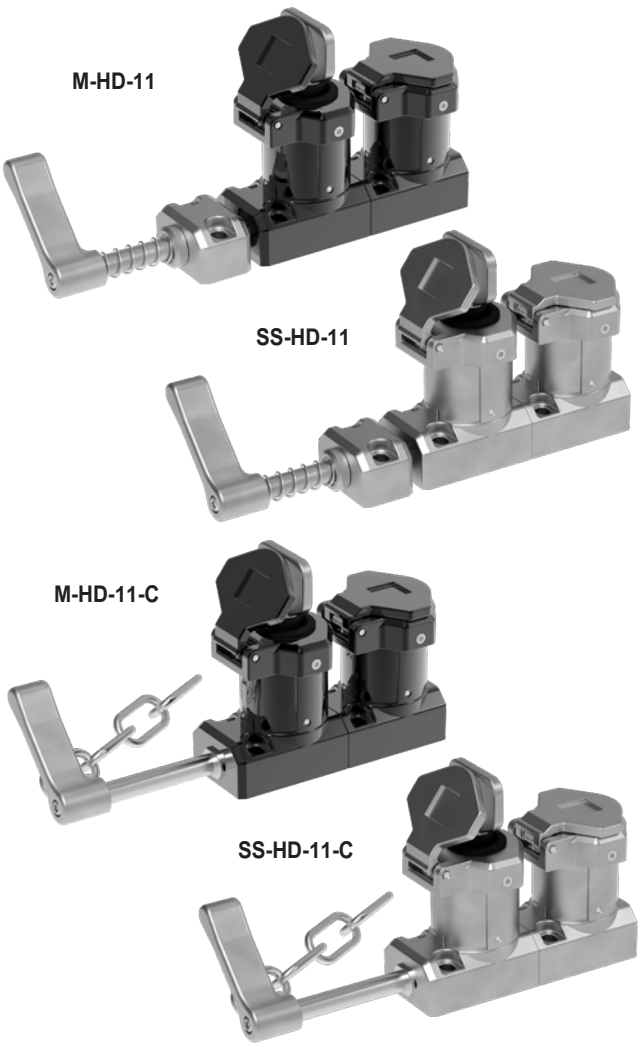


Sales Number	HANDLE INTERLOCK SINGLE KEY STAINLESS STEEL 316
SS-HS	Key trapped - actuator unlocked (spring action handle)
SS-HS-C	Key trapped - actuator unlocked (chain fixed to handle)

Sales Number	HANDLE INTERLOCK SINGLE KEY DIE CAST METAIL (Mirror Finish)
M-HS	Key trapped - actuator unlocked (spring action handle)
M-HS-C	Key trapped - actuator unlocked (chain fixed to handle)

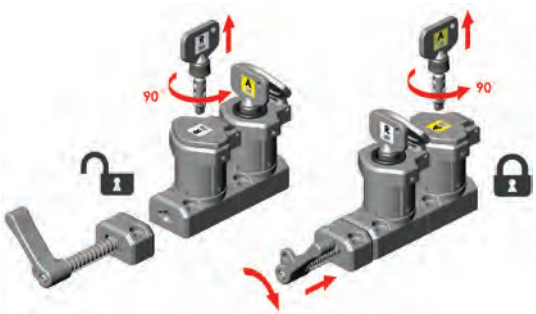


HANDLE INTERLOCKS (Dual Key) ORDERING:



Sales Number	HANDLE INTERLOCK DUAL KEY STAINLESS STEEL 316
SS-HD-11	2 sequential keys - one key trapped one key free - actuator unlocked (spring action handle)
SS-HD-C-11	2 sequential keys - one key trapped one key free - actuator unlocked (chain fixed to handle)

Sales Number	HANDLE INTERLOCK DUAL KEY DIE CAST METAL (Mirror Finish)
M-HD-11	2 sequential keys - one key trapped one key free - actuator unlocked (spring action handle)
M-HD-C-11	2 sequential keys - one key trapped one key free - actuator unlocked (chain fixed to handle)



SKORPION Trapped Key Interlocking with Key Exchange

TONGUE INTERLOCKS (Single Key) ORDERING:

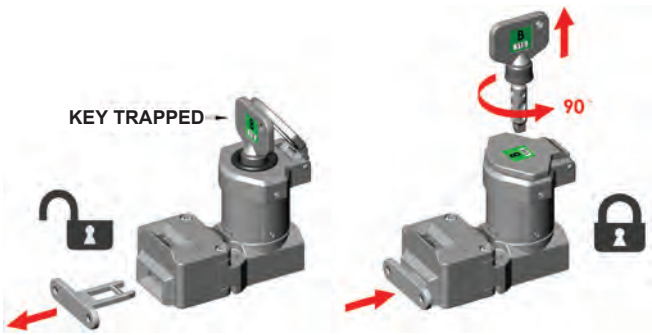
M-TS

SS-TS

*See below for Actuator options.

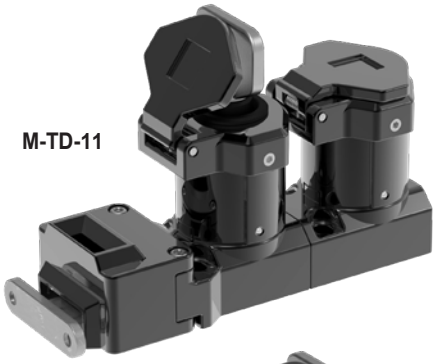
Sales Number	TONGUE INTERLOCK SINGLE KEY STAINLESS STEEL 316 **Holding Force** (ISO14119) F1 Max 3000N Fzh 2307N
SS-TS	Key trapped - actuator unlocked

Sales Number	TONGUE INTERLOCK SINGLE KEY DIE CAST METAL (Mirror Finish) **Holding Force** (ISO14119) F1 Max 3000N Fzh 2307N
M-TS	Key trapped - actuator unlocked

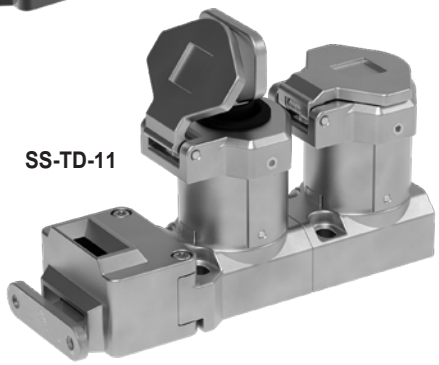


TONGUE INTERLOCKS (Dual Key) ORDERING:

M-TD-11



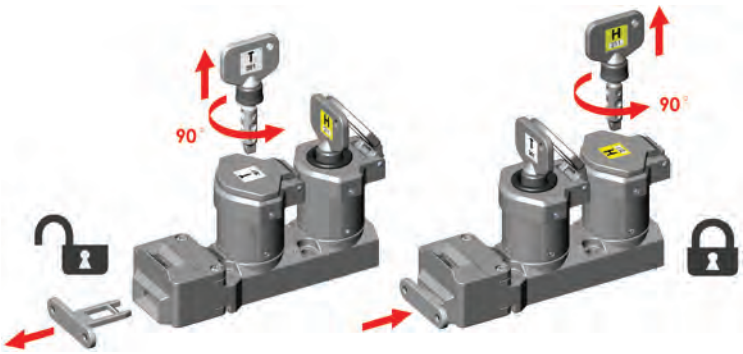
SS-TD-11



*See below for Actuator options.

Sales Number	TONGUE INTERLOCK DUAL KEY STAINLESS STEEL 316 **Holding Force** (ISO14119) F1 Max 3000N Fzh 2307N
SS-TD-11	2 sequential keys - one key trapped one key free - actuator unlocked

Sales Number	TONGUE INTERLOCK DUAL KEY DIE CAST METAL (Mirror Finish) **Holding Force** (ISO14119) F1 Max 3000N Fzh 2307N
M-TD-11	2 sequential keys - one key trapped one key free - actuator unlocked



ACTUATORS FOR TONGUE INTERLOCK SWITCHES SELECTION CHART:

Standard

A

Flat

F

Heavy Duty Flexible

HF

Heavy Duty Flexible Stainless Steel

HFH

SALES NUMBER	ACTUATOR TYPE
140107	A = Standard Actuator Stainless Steel 316
140108	F = Flat Actuator Stainless Steel 316 with Plastic Cover
140110	HF = Heavy Duty Flexible Actuator Stainless Steel 316 and Die Cast
140111	HFH = Heavy Duty Flexible Actuator fully Stainless Steel 316

SKORPION Trapped Key Interlocking with Key Exchange

SPRING HANDLE INTERLOCKS - **HT-S AND HT-D-11:**

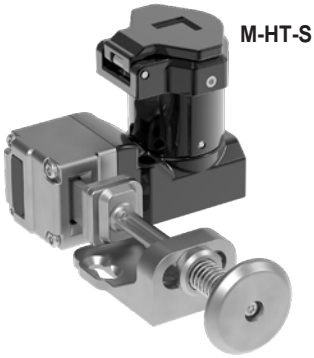
HT-S and HT-D Trapped Key Interlocks for access control ensure that a guard door remains securely closed during normal operation and can only be opened when the correct key code is presented. They are ideal for applications that require part body access, such as lids, hatches and small doors.

Unique design offering both Front or End entry actuation.

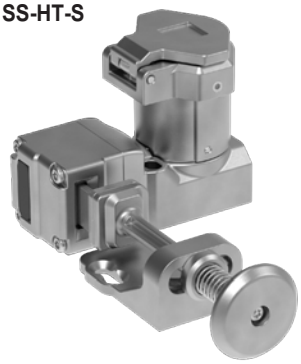
Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

HANDLE INTERLOCKS (Single Key) ORDERING:

M-HT-S



SS-HT-S

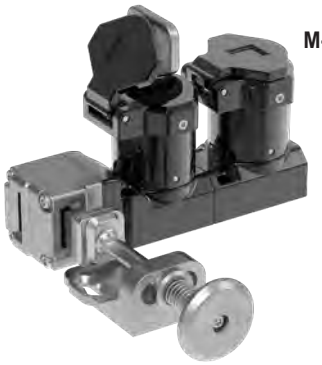


Sales Number	HANDLE INTERLOCK SINGLE KEY STAINLESS STEEL 316
SS-HT-S-L	Key trapped - actuator unlocked (Left-Hand)
SS-HT-S-R	Key trapped - actuator unlocked (Right-Hand)

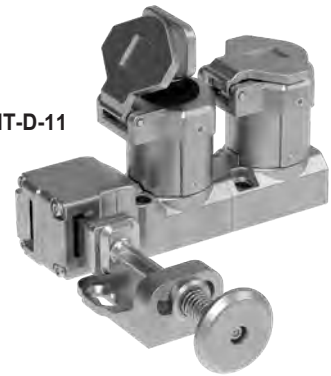
Sales Number	HANDLE INTERLOCK SINGLE KEY DIE CAST METAL (Mirror Finish)
M-HT-S-L	Key trapped - actuator unlocked (Left-Hand)
M-HT-S-R	Key trapped - actuator unlocked (Right-Hand)

HANDLE INTERLOCKS (Dual Key) ORDERING:

M-HT-D-11



SS-HT-D-11

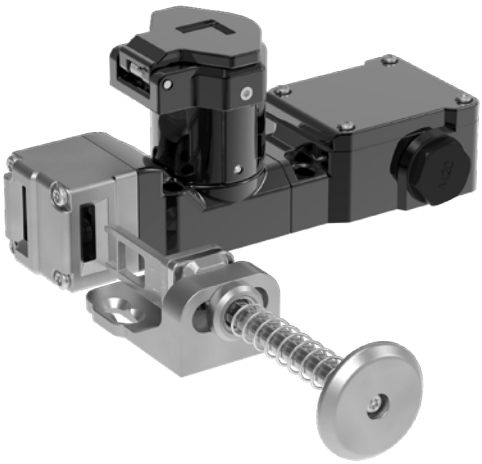


Sales Number	HANDLE INTERLOCK DUAL KEY STAINLESS STEEL 316
SS-HT-D-L-11	2 sequential keys - one key trapped one key free - actuator unlocked (Left-Hand)
SS-HT-D-R-11	2 sequential keys - one key trapped one key free - actuator unlocked (Right-Hand)

Sales Number	HANDLE INTERLOCK DUAL KEY DIE CAST METAL (Mirror Finish)
M-HT-D-L-11	2 sequential keys - one key trapped one key free - actuator unlocked (Left-Hand)
M-HT-D-R-11	2 sequential keys - one key trapped one key free - actuator unlocked (Right-Hand)

SKORPION Trapped Key Interlocking with Key Exchange

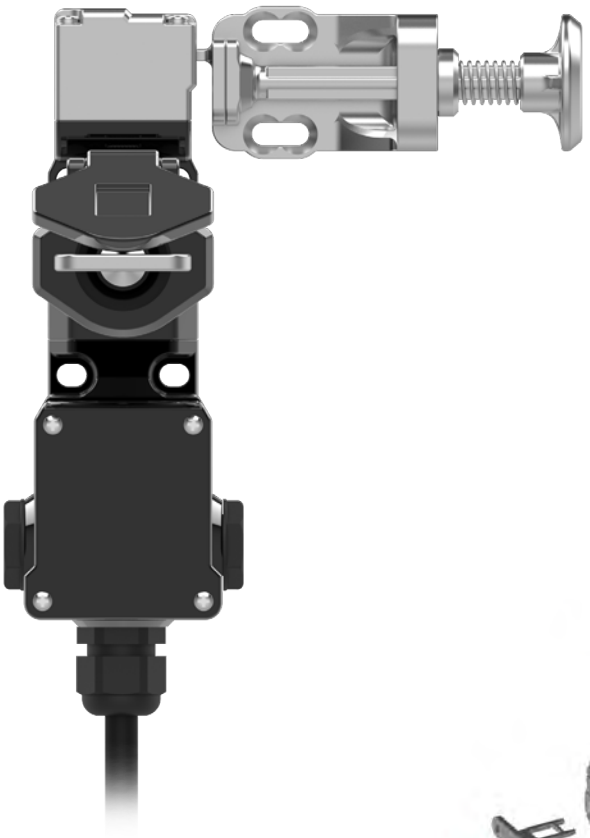
SPRING HANDLE INTERLOCKS WITH MONITORING - **M-HT-S-CB:**



The M-HT-CB is a trapped key gate access lock with an internal contact block for monitoring the status of the switch. Turning the key unlocks the actuator and opens safety contacts, sending a signal to the monitoring circuit.

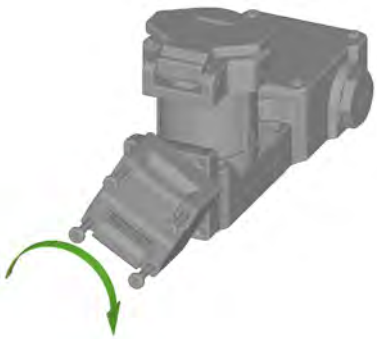
The M-HTR-CB has a 'key trapped' during normal operation and becomes 'free' when the guard is open. The M-HT-CB has a 'key free' during normal operation and becomes 'trapped' when the guard is open.

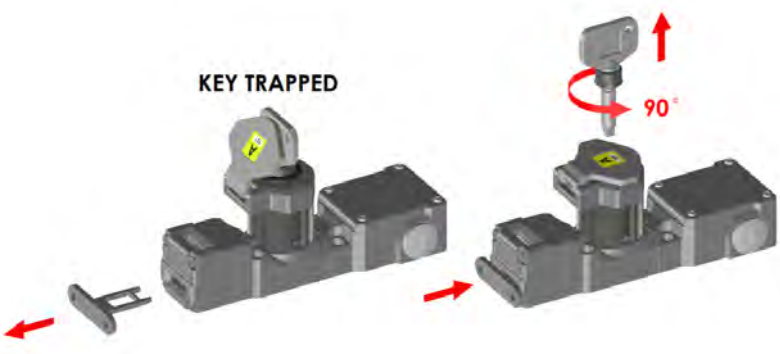
Sales Number	SPRING HANDLE DIE CAST METAL	
M-HT-CB-22-M	2NC + 2NO	3 x M20 Conduits
M-HT-CB-22-N	2NC + 2NO	3 x 1/2" NPT Conduits
M-HT-CB-31-M	3NC + 1NO	3 x M20 Conduits
M-HT-CB-31-N	3NC + 1NO	3 x 1/2" NPT Conduits



Unique design offering both Front or End entry actuation.

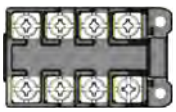
Head will rotate to give 8 actuator entry positions for full flexibility depending on application.





REPLACEMENT CONTACT BLOCKS:

SALES NUMBER	DESCRIPTION		
140114	4 Pole Contact Block	2NC 2NO	(End Fixing without Tip)
140115	4 Pole Contact Block	3NC 1NO	(End Fixing without Tip)
140116	4 Pole Contact Block	4NC	(End Fixing without Tip)



SKORPION Trapped Key Interlocking with Key Exchange

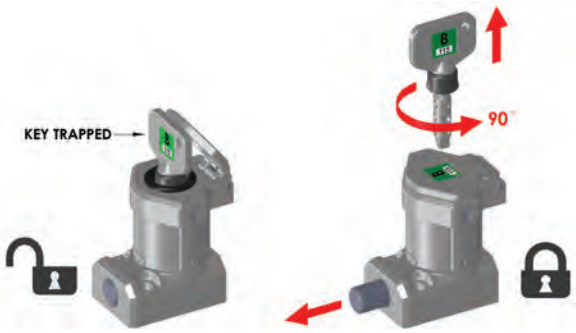
BOLT (Single Key) for Mechanical Isolation of Switchgear - **M-BS and SS-BS**

M-BS

SS-BS

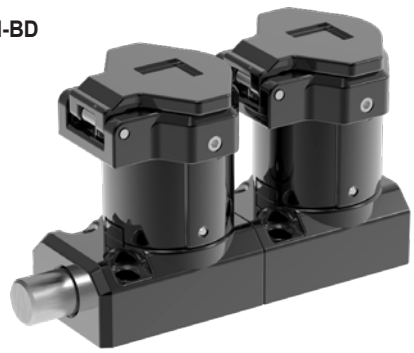
The BS Trapped Key Interlock operates by using a locking bolt mechanism, which is extended when the key is removed. Inserting and turning the appropriate key retracts the bolt, allowing access to the hazardous area. Alternatively, the M-BS can be used for power interlocking on switchgear, directly interfering with the cam. When the key is inserted, it becomes “trapped” in the lock, preventing the switchgear from being energized until the key is released

Sales Number	BOLT INTERLOCK	Material
M-BS	Key trapped when bolt retracted	Die-Cast Metal
SS-BS	Key trapped when bolt retracted	Stainless Steel 316

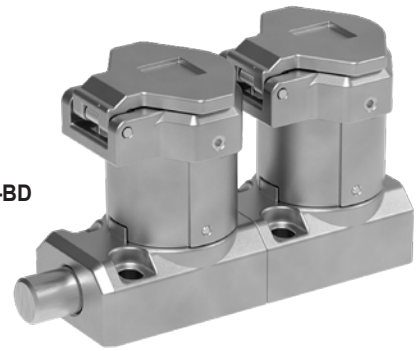


BOLT (Dual Key) for Mechanical Isolation of Switchgear - **M-BD and SS-BD**

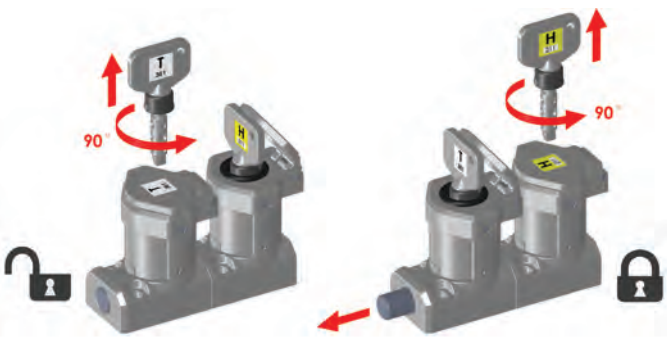
M-BD

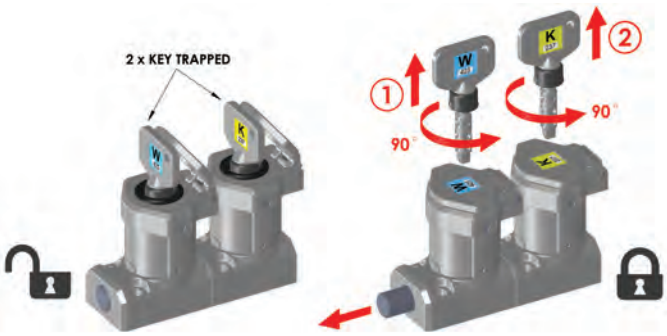


SS-BD



Sales Number	BOLT INTERLOCK	Material
M-BD-11	1 Key trapped / 1 key free - bolt retracted	Die-Cast Metal
M-BD-20	2 Keys trapped - bolt retracted	Die-Cast Metal
SS-BD-11	1 Key trapped / 1 key free - bolt retracted	Stainless Steel 316
SS-BD-20	2 Keys trapped - bolt retracted	Stainless Steel 316



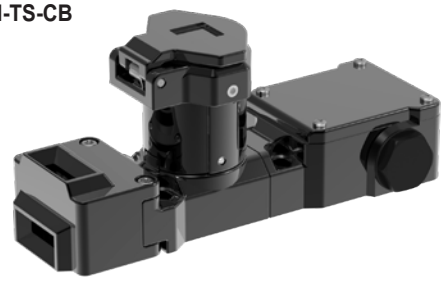


SKORPION Trapped Key Interlocking with Key Exchange

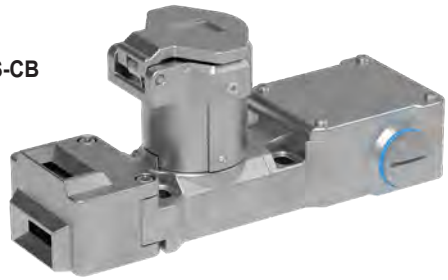
TONGUE INTERLOCK WITH ACCESS CONTROL AND MONITORING - **M-TS-CB and SS-TS-CB**

The TS-CB is a trapped key gate access lock with an internal contact block. Turning the key unlocks the actuator and opens the safety contacts. The TSR-CB has a 'key trapped' during normal operation and becomes 'free' when the guard is open. The TSR-CB has a 'key free' during normal operation and becomes 'trapped' when the guard is open.

M-TS-CB



SS-TS-CB



Holding Force (ISO14119) F1 Max 3000N Fzh 2307N

Sales Number	TONGUE INTERLOCK SINGLE KEY WITH CONTACT BLOCK DIE CAST METAL (Mirror Finish) Key Trapped - Actuator Unlocked - NC safety Contacts Open
M-TS-CB-22-N	Single Tongue Interlock with 2NC 2NO Contact Block - **1/2" NPT**
M-TS-CB-31-N	Single Tongue Interlock with 3NC 1NO Contact Block - **1/2" NPT**
M-TS-CB-22-M	Single Tongue Interlock with 2NC 2NO Contact Block - **M20**
M-TS-CB-31-M	Single Tongue Interlock with 3NC 1NO Contact Block - **M20**

Sales Number	TONGUE INTERLOCK SINGLE KEY WITH CONTACT BLOCK STAINLESS STEEL 316 Key Trapped - Actuator Unlocked - NC safety Contacts Open
SS-TS-CB-22-N	Single Tongue Interlock with 2NC 2NO Contact Block - **1/2" NPT**
SS-TS-CB-31-N	Single Tongue Interlock with 3NC 1NO Contact Block - **1/2" NPT**
SS-TS-CB-22-M	Single Tongue Interlock with 2NC 2NO Contact Block - **M20**
SS-TS-CB-31-M	Single Tongue Interlock with 3NC 1NO Contact Block - **M20**

Sales Number	TONGUE INTERLOCK SINGLE KEY WITH CONTACT BLOCK DIE CAST METAL (Mirror Finish) Key Free - Actuator Unlocked - NC Safety Contacts Open
M-TSR-CB-22-N	Single Tongue Interlock with 2NC 2NO Contact Block - **1/2" NPT**
M-TSR-CB-31-N	Single Tongue Interlock with 3NC 1NO Contact Block - **1/2" NPT**
M-TSR-CB-22-M	Single Tongue Interlock with 2NC 2NO Contact Block - **M20**
M-TSR-CB-31-M	Single Tongue Interlock with 3NC 1NO Contact Block - **M20**

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

We recommend using our Stainless Steel 316 Gland with this safety switch.

Sales Number	TONGUE INTERLOCK SINGLE KEY WITH CONTACT BLOCK STAINLESS STEEL 316 Key Free - Actuator Unlocked - NC Safety Contacts Open
SS-TSR-CB-22-N	Single Tongue Interlock with 2NC 2NO Contact Block - **1/2" NPT**
SS-TSR-CB-31-N	Single Tongue Interlock with 3NC 1NO Contact Block - **1/2" NPT**
SS-TSR-CB-22-M	Single Tongue Interlock with 2NC 2NO Contact Block - **M20**
SS-TSR-CB-31-M	Single Tongue Interlock with 3NC 1NO Contact Block - **M20**

ACTUATORS FOR TONGUE INTERLOCK SWITCHES SELECTION CHART:

Standard

A

Flat

F

Heavy Duty Flexible

HF

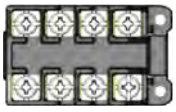
Heavy Duty Flexible Stainless Steel

HFH

SALES NUMBER	ACTUATOR TYPE
140107	A = Standard Actuator Stainless Steel 316
140108	F = Flat Actuator Stainless Steel 316 with Plastic Cover
140110	HF = Heavy Duty Flexible Actuator Stainless Steel 316 and Die Cast
140111	HFH = Heavy Duty Flexible Actuator fully Stainless Steel 316

REPLACEMENT CONTACT BLOCKS:

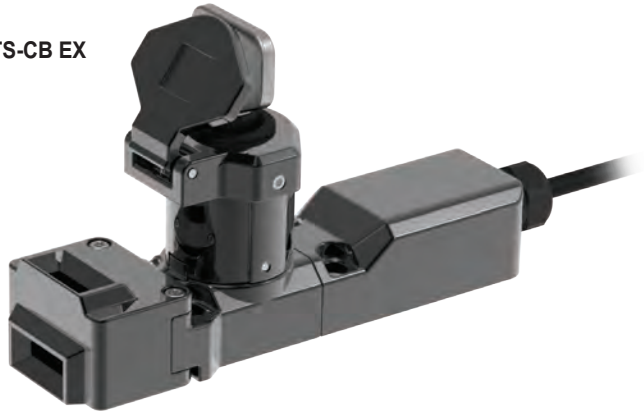
SALES NUMBER	DESCRIPTION		
140114	4 Pole Contact Block	2NC 2NO	(End Fixing without Tip)
140115	4 Pole Contact Block	3NC 1NO	(End Fixing without Tip)
140116	4 Pole Contact Block	4NC	(End Fixing without Tip)



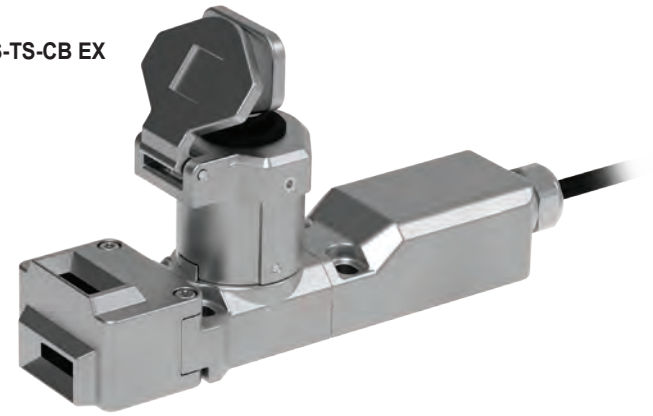
SKORPION Trapped Key Interlocking with Key Exchange

EXPLOSIVE ENVIRONMENT INTERLOCKING WITH CONTROL ISOLATION ORDERING:

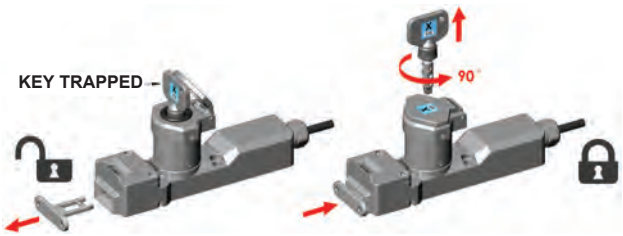
M-TS-CB EX



SS-TS-CB EX



*See below for Actuator options.



Trapped Key with ATEX EExd IIC T6 certified explosion proof contact blocks (type LS-EX).
The explosion proof contact blocks conform to European harmonized standard EN60079-0 and EN60079-1 and can be used in European Zone 1, 2, 21, 22 environments. (Gas and Dust).
Designed for use in oil, petro-chemical, pharmaceutical, food processing and packaging applications where the potential for explosive atmospheres are present.

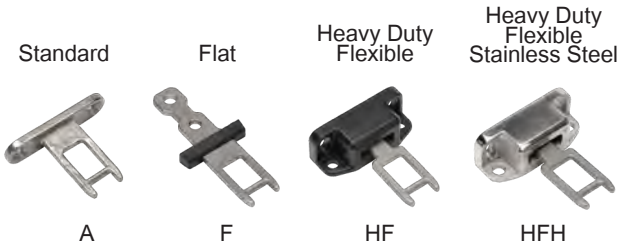
Exd IIC T6 (-20 ≤ Ta ≤ +60C)

Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Sales Number	TONGUE INTERLOCK SINGLE KEY WITH EXPLOSION PROOF CONTACT BLOCK DIE CAST (Mirror Finish) **Holding Force** (ISO14119) F1 Max 3000N Fzh 2307N
M-TS-CB-22-EX	Single Tongue Interlock with 2NC 2NO Pre-wired EX Block
M-TS-CB-11-EX	Single Tongue Interlock with 1NC 1NO Pre-wired EX Block

Sales Number	TONGUE INTERLOCK SINGLE KEY WITH EXPLOSION PROOF CONTACT BLOCK STAINLESS STEEL 316 **Holding Force** (ISO14119) F1 Max 3000N Fzh 2307N
SS-TS-CB-22-EX	Single Tongue Interlock with 2NC 2NO Pre-wired EX Block
SS-TS-CB-11-EX	Single Tongue Interlock with 1NC 1NO Pre-wired EX Block

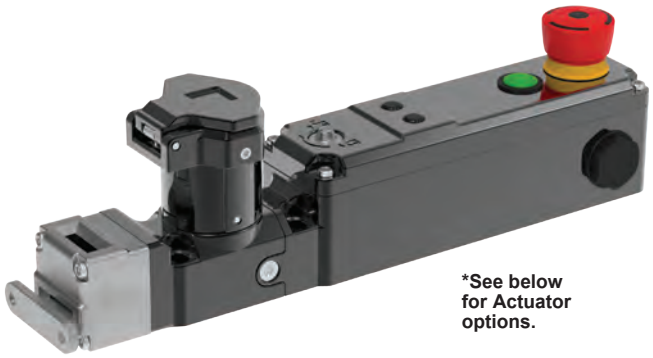
ACTUATORS FOR TONGUE INTERLOCK SWITCHES SELECTION CHART:



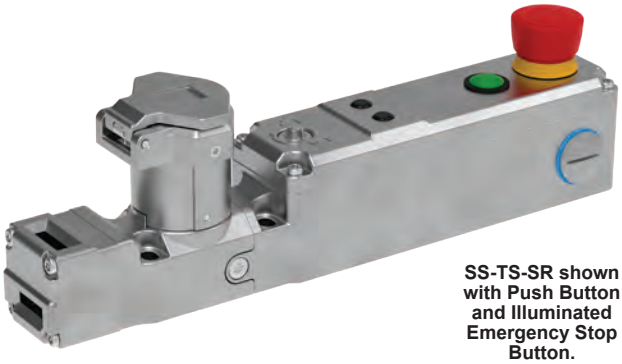
SALES NUMBER	ACTUATOR TYPE
140107	A = Standard Actuator Stainless Steel 316
140108	F = Flat Actuator Stainless Steel 316 with Plastic Cover
140110	HF = Heavy Duty Flexible Actuator Stainless Steel 316 and Die Cast
140111	HFH = Heavy Duty Flexible Actuator fully Stainless Steel 316

SKORPION Trapped Key Interlocking with Key Exchange

TONGUE INTERLOCK with SOLENOID RELEASE (Single Key) with ACTUATOR



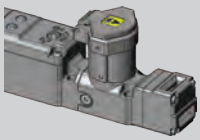
*See below for Actuator options.



SS-TS-SR shown with Push Button and Illuminated Emergency Stop Button.

PUSH BUTTON & ILLUMINATED STOP (Fitted to Lid)
Momentary Request Push Button 1 x Changeover Contact Common Closed/Open - Add PB to Sales Number
2NC Illuminated Red E-Stop (twist to reset, mushroom head, plug in spade terminals) - Add ES to Sales Number
Momentary Request Push Button and Illuminated Red E-Stop - Add PB-ES to Sales Number

SPECIFICATIONS	
Supply/Solenoid Voltage	24V ac/dc
Holding Force	F1 max. 3000N FzH 2307N
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Conduit Exit	M20
Fixing	4 x M6

STAINLESS STEEL 316 MODEL	CONTACT BLOCK	CONDUIT ENTRY	With MANUAL RELEASE SALES NUMBER	Without MANUAL RELEASE SALES NUMBER
				
SS-TS-SR	2NC 2NO	M20	815001	815301
SS-TS-SR	3NC 1NO	M20	815002	815302

DIE-CAST METAL MODEL	CONTACT BLOCK	CONDUIT ENTRY	SALES NUMBER	SALES NUMBER
M-TS-SR	2NC 2NO	M20	820001	820301
M-TS-SR	3NC 1NO	M20	820002	820302

Operating Principle

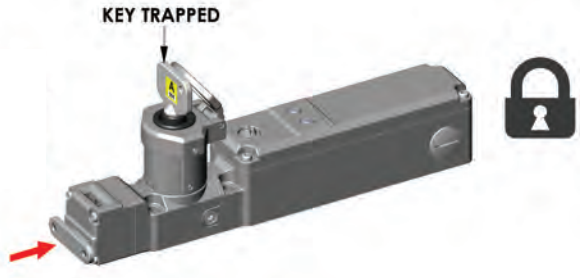
The TS-SR is a trapped key operated tongue interlock switch designed to hold closed machine guards.

When the actuator tongue is inserted into the switch (guard closed) the key can be rotated and trapped and the main safety contacts are closed (machine able to run).

The actuator tongue can only be released when the internal solenoid in the TS-SR is energised. This then enables the key to be turned and released, the safety contacts opened and the actuator tongue removed.

The key can then be used to release other devices in a trapped key system.

It can be used in conjunction with safety delay timers to allow a delay time before the solenoid is energised therefore allowing for machine run down time prior to releasing of the key and actuator tongue.



ACTUATORS FOR TONGUE INTERLOCK SWITCHES SELECTION CHART:

Standard

A

Flat

F

Heavy Duty Flexible

HF

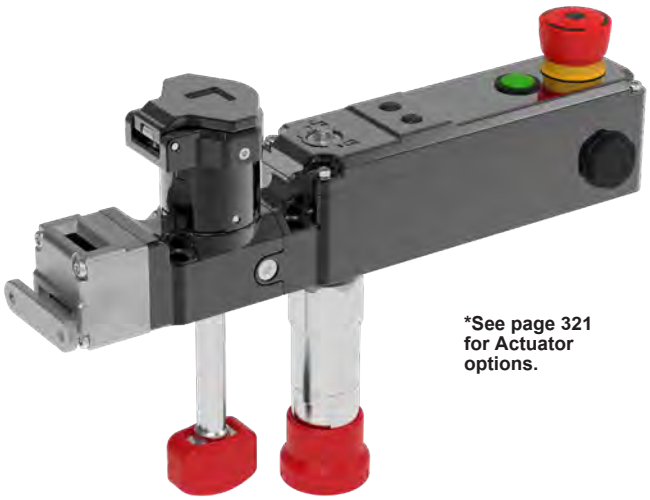
Heavy Duty Flexible Stainless Steel

HFH

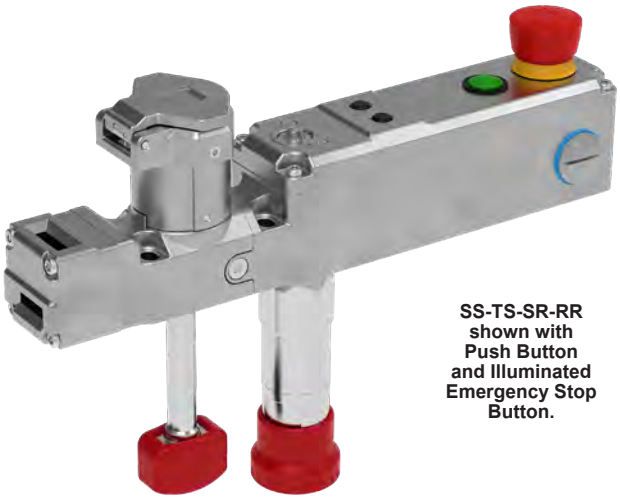
SALES NUMBER	ACTUATOR TYPE
140107	A = Standard Actuator Stainless Steel 316
140108	F = Flat Actuator Stainless Steel 316 with Plastic Cover
140110	HF = Heavy Duty Flexible Actuator Stainless Steel 316 and Die Cast
140111	HFH = Heavy Duty Flexible Actuator fully Stainless Steel 316

SKORPION Trapped Key Interlocking with Key Exchange

TONGUE INTERLOCK with SOLENOID RELEASE (Single Key) with REAR RELEASE ESCAPE

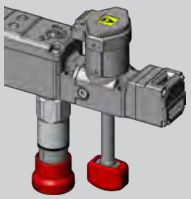
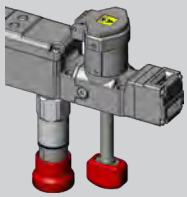


*See page 321 for Actuator options.



SS-TS-SR-RR shown with Push Button and Illuminated Emergency Stop Button.

PUSH BUTTON & ILLUMINATED STOP (Fitted to Lid)
Momentary Request Push Button 1 x Changeover Contact Common Closed/Open - Add PB to Sales Number
2NC Illuminated Red E-Stop (twist to reset, mushroom head, plug in spade terminals) - Add ES to Sales Number
Momentary Request Push Button and Illuminated Red E-Stop - Add PB-ES to Sales Number

With MANUAL RELEASE	W/out MANUAL RELEASE
	

SPECIFICATIONS	
Supply/Solenoid Voltage	24V ac/dc
Holding Force	F1 max. 3000N FzH 2307N
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Conduit Exit	M20
Fixing	4 x M6

STAINLESS STEEL 316 MODEL	CONTACT BLOCK	CONDUIT ENTRY	SALES NUMBER	SALES NUMBER
SS-TS-SR-RR	2NC 2NO	M20	815051	815351
SS-TS-SR-RR	3NC 1NO	M20	815052	815352

DIE CAST METAL MODEL	CONTACT BLOCK	CONDUIT ENTRY	SALES NUMBER	SALES NUMBER
M-TS-SR-RR	2NC 2NO	M20	820051	820351
M-TS-SR-RR	3NC 1NO	M20	820052	820352

Operating Principle

The TS-SR-RR is the same as the TS-SR apart from it provides a manual means of escape from inside the guarded area. The red button and red knob can be used to release the lock and key simultaneously.

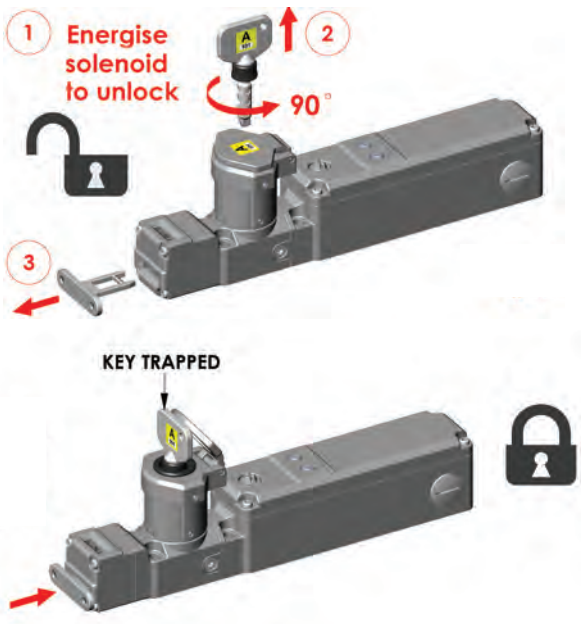
The red button and red knob are fitted to protrude through the guard frame to enable access to the switch from inside the hazardous area.

When the actuator tongue is inserted into the switch (guard closed) the key can be rotated and trapped and the main safety contacts are closed (machine able to run).

The actuator tongue can only be released when the internal solenoid in the TS-SR-RR is energised. This then enables the key to be turned and released, the safety contacts opened and the actuator tongue removed.

The key can then be used to release other devices in a trapped key system.

It can be used in conjunction with safety delay timers to allow a delay time before the solenoid is energised therefore allowing for machine run down time prior to releasing of the key and actuator tongue.



SKORPION Trapped Key Interlocking with Key Exchange

GATE BOLT SLIDING ACTUATORS for use with TS-SR Range

Operating Principle

GB-SR Gate Bolt Sliding Actuators can be used with all models of TS-SR switches.

They interlock the guard but ensure unintentional re-start is prevented because a deliberate action of sliding and then re-latching of the Gate Bolt handle is required.

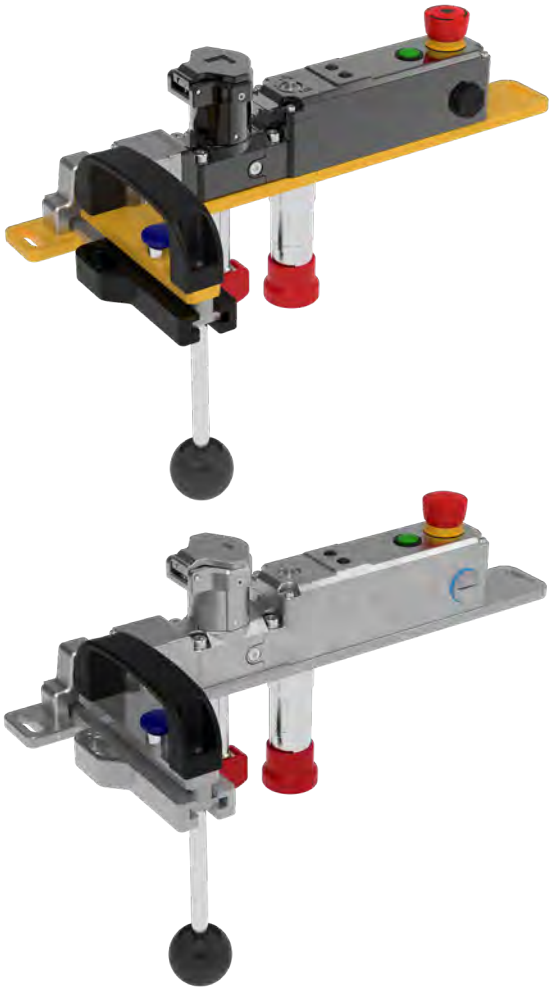
They provide a simple means of fixing to the moving and fixed parts of the guard and come fitted with Handle and Flat Actuator.

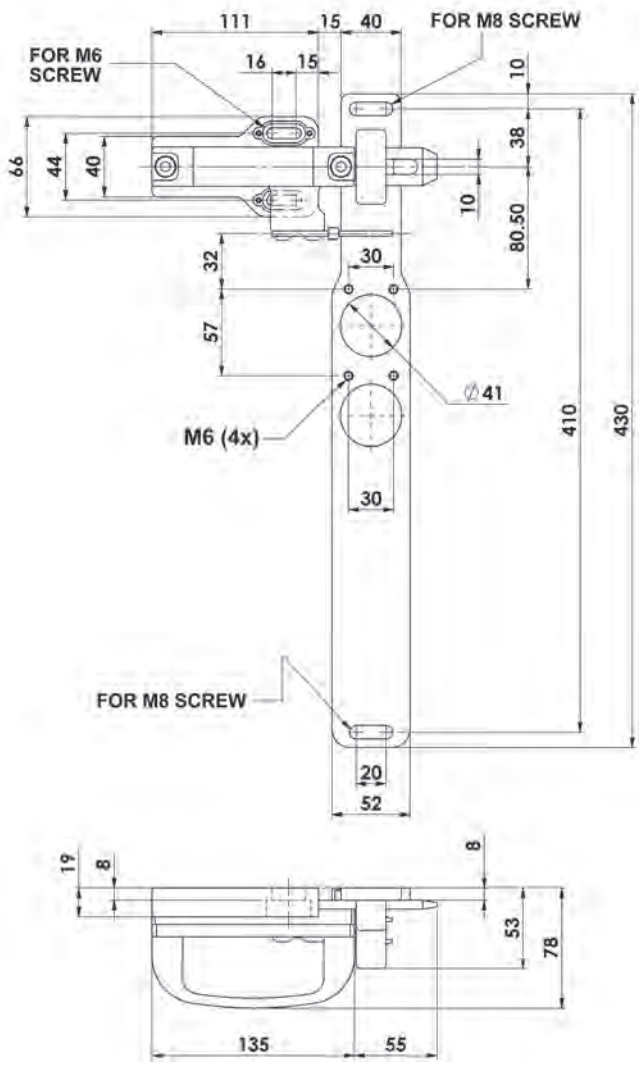
Whether opening the guard normally from the front (by using the handle) or by initiating the optional rear release escape from inside the hazardous area the handle needs to be re-latched before the machine can be re-started.

They provide shearing forces up to 5,000N on large hinged doors and are easy to install on hinged or sliding guards.

No need for extra brackets or door handles and they are not susceptible to misalignment damage.

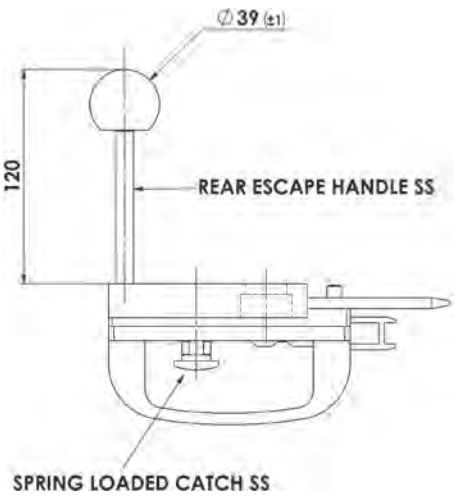
Operators are required to manually close the guard and padlock holes are provided for maintenance operations.





SALES NUMBER	GATE BOLT WITH SLIDING ACTUATOR SUITABLE FOR: M-TS-SR and M-TS-SR-RR
820201	Gate Bolt GB-SR-M Handle slides from Left Hand Side
820202	Gate Bolt GB-SR-M Handle slides from Right Hand Side
211005	Rear Handle - Stainless Steel
211006	Spring Loaded Catch - Stainless Steel

SALES NUMBER	GATE BOLT WITH SLIDING ACTUATOR SUITABLE FOR: SS-TS-SR and SS-TS-SR-RR
815201	Gate Bolt GB-SR-SS Handle slides from Left Hand Side
815202	Gate Bolt GB-SR-SS Handle slides from Right Hand Side
211005	Rear Handle - Stainless Steel
211006	Spring Loaded Catch - Stainless Steel

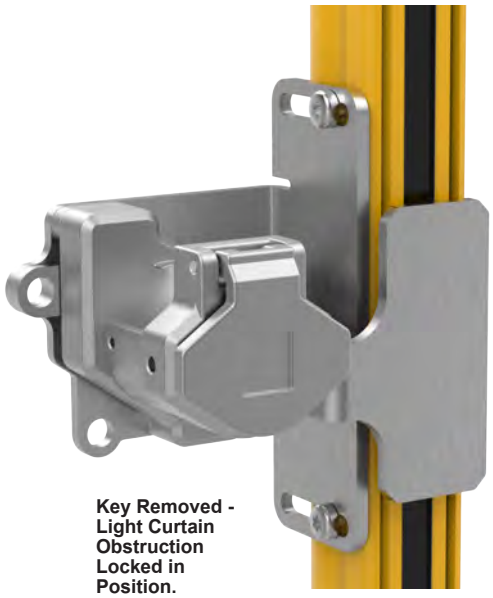


SKORPION Trapped Key Interlocking with Key Exchange

LIGHT CURTAIN BLOCKING DEVICE **- LCB**

NEW

Key Trapped - Light Curtain Unobstructed.



Key Removed - Light Curtain Obstruction Locked in Position.

APPLICATIONS & FEATURES

The Skorpion Trapped Key Light Curtain Blocking Device, is designed to be installed or retrofitted to provide a prohibitive blocking function, alongside compatible light curtain devices. While the light curtain installation is able to offer maximum accessibility to a machine or production line by removing or complementing the requirement for mechanical guarding, when installed correctly, the LCB device allows the user to safely lock-off and prohibit the re-engagement of the light curtain barrier. It also allows for this lock off to be integrated into a wider Skorpion trapped key system if desired. In addition, the Idem LCB provides dual lock-off functionality, allowing for an 8mm padlock hasp to be applied in either the light curtain operational, or light curtain blocked positions.

- Integrated mounting plate for easy and simple installation.
- Personnel key for protection against inadvertent startups.
- Padlocks and hasps can be applied for additional personnel entering.
- Robust stainless steel construction suitable for all environments.
- Different orientations and mounting brackets available.

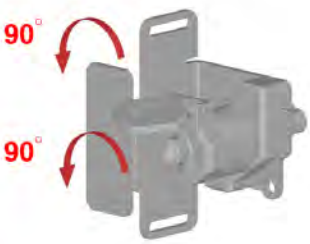
TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
Construction	Stainless Steel
Operating Temperature	-20C. to +80C
Mechanical Life (B10d)	1,000,000 cycles

HOW DOES IT OPERATE?

Key inserted and in the open position "light curtain is active".

Key is rotated 90 degress which drives the blocking plate.



Key is removed and the blocking plate is in the locked position "light curtain is not active".

FUNCTION

The LCB (Light Curtain Blocking) Device, is designed to provide prohibitive stop function in conjunction with compatible light curtain devices. In order to block the light curtain and lock off the machine, rotate the key from the horizontal position, 90 degrees and remove. The blocking plate should at this point fully obstruct the required light curtain beam / receiver. With the key removed, it is not possible to rotate the blocking plate away from the light curtain beam or sensor, and the machine is unable to restart. The device then offers an additional padlock hasp lockout point, to the side of the body. The operator is able if they wish to add additional padlock or hasps in this position when locked off, in order to further prevent unauthorised disengagement of the interlock.

To unblock the light curtain and allow for normal machine operation, insert the key, and rotate 90 degrees from the vertical position. This will retract the blocking plate to either the top or bottom of the interlock, allowing for the light curtain to function as normal. It is then possible to lock-out the device in this position, using the padlock hasp at the top of the device (right-handed variant) or at the bottom of the device (left-handed variant). This inhibits the unauthorised operation of the device, where this may not be desirable for any unauthorised personnel to operate and lock off the light curtain stopping the machine until disengaged.

SKORPION Trapped Key Interlocking with Key Exchange

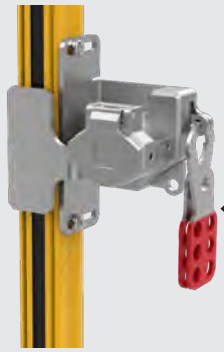
LIGHT CURTAIN BLOCKING DEVICE - **LCB**

Palletizing application example.

Integrates directly to the light curtain and provides a prohibitive blocking function for working safely inside the hazardous area.

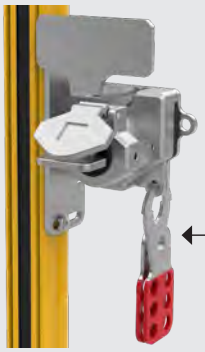
Once the key is removed, the operator takes inside the safeguarded area. This “key in pocket” solution reduces the likelihood of an inadvertent startup occurring.

SS-LCB-L-35-30 (Light Curtain Blocked – Locked off)



Padlock or hasp applied to side lockout, for prevention of LCB Disengagement.

SS-LCB-L-35-30 (Light Curtain Operational – Locked off)



Padlock or hasp applied to bottom position, for prevention of LCB Engagement.

ORDERING:

SALES NUMBER	DESCRIPTION
SS-LCB-L-35-30	SS Light Curtain Blocking Device (Left Handed) (35mm Blocking Depth) (30mm Bracket)
SS-LCB-R-35-30	SS Light Curtain Blocking Device (Right Handed) (35mm Blocking Depth) (30mm Bracket)
SS-LCB-L-75-30	SS Light Curtain Blocking Device (Left Handed) (75mm Blocking Depth) (30mm Bracket)
SS-LCB-R-75-30	SS Light Curtain Blocking Device (Right Handed) (75mm Blocking Depth) (30mm Bracket)

Please note: For non-standard blocking plate or bracket size requirements, please contact technical@idemsafety.com for further information.

SKORPION Trapped Key Interlocking with Key Exchange

MULTI KEY EXCHANGE SYSTEM (up to 5 keys trapped and up to 15 keys released)

All available in Stainless Steel 316 or Mirror Polished Die Cast Metal

Operating Principle

Viewing the picture above the fifteen keys in the bottom three rows keys of the MX Multi Key Exchange panel are trapped and cannot be removed until the five keys in the top row are put into position.

The “initial keys” which are usually in the power isolation parts of the system are removed from the isolation boxes or panels and put in the first row in the MX Multi Key Exchange panel to allow access to the guarded areas when required.

Once the “initial keys” have been placed in the first row of the MX Multi Key Exchange panel and turned then all the other keys in the panel can now be retracted (non-sequentially) and moved to the other parts of the system.

Due to the flexibility of the MX Multi Key Exchange System up to 15 keys can be released.

The MX Multi Key Exchange System is available in Stainless Steel or Die Cast metal either as a PANEL MOUNT or as a BOX MOUNT version and is available in three different sizes to accommodate various sizes of systems.

The end user has the option to configure and retrofit extra barrels to systems i.e. if the end user initially specifies a system with 4 keys trapped and 10 keys released this can be upgraded with the addition of extra barrels until the full 5 keys trapped and 15 keys released maximum is reached.

Panel Mount, Stainless Steel 20 Key showing 5 keys trapped with 15 keys released

SS-MX-P-20-5x15

Box Mount, Stainless Steel 12 Key showing 3 keys trapped 9 keys released

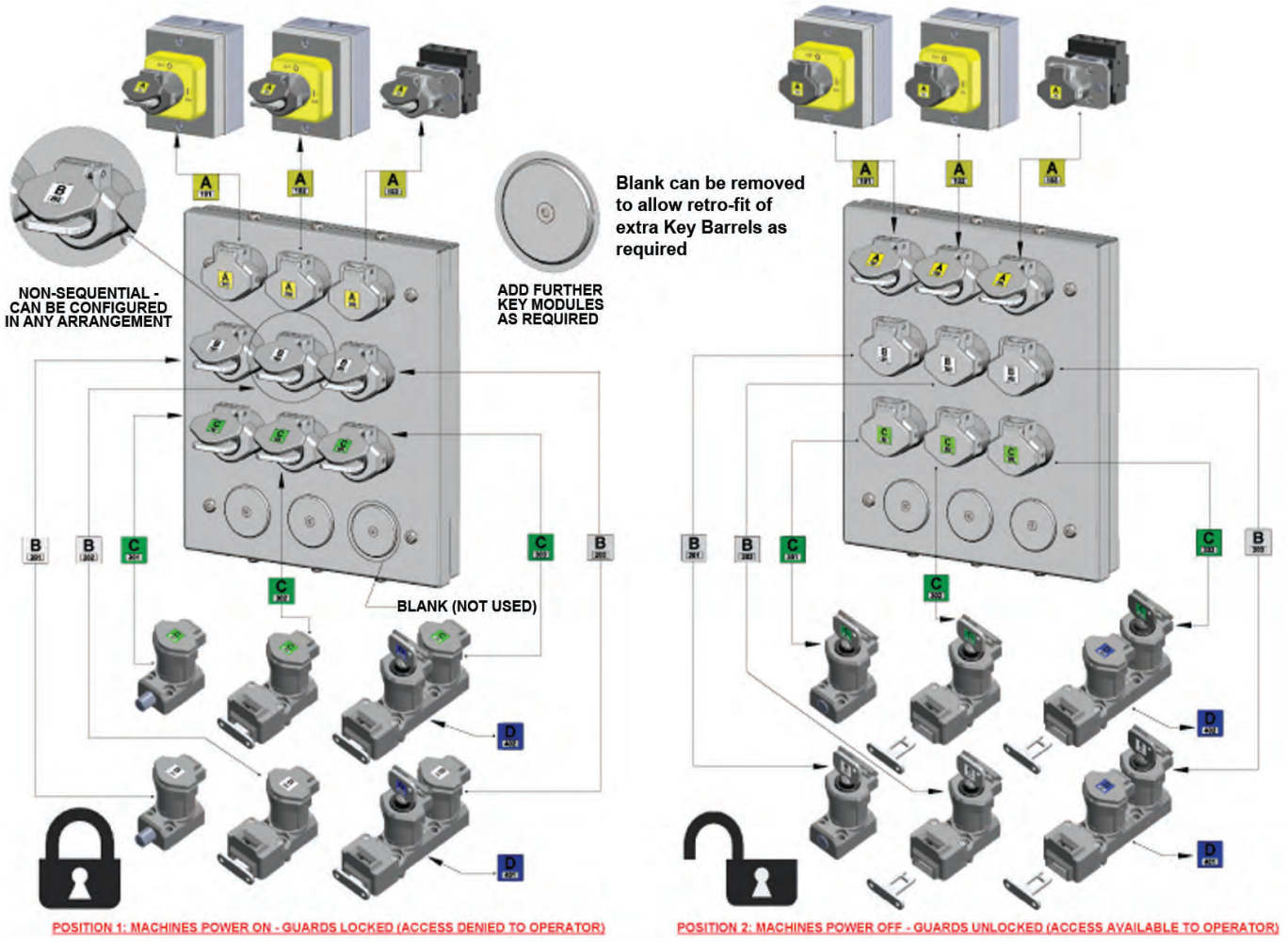
SS-MX-B-12-3x9

Box Mount, Stainless Steel 8 Key showing 2 keys trapped 6 keys released

SS-MX-B-8-2x6

SKORPION Trapped Key Interlocking with Key Exchange

MULTI KEY EXCHANGE SYSTEM 12 Key System Example with Blanks



MULTI KEY EXCHANGE SYSTEM ORDER EXAMPLE

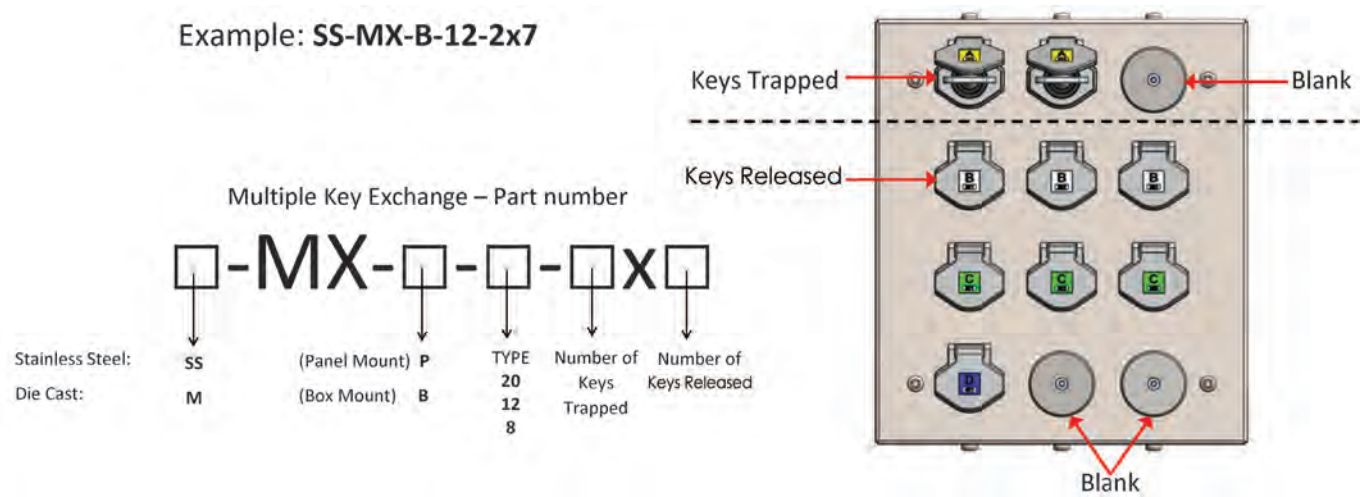
MX Multiple Key Exchange System Ordering Example

For an initial Stainless Steel Box Mounted system of 2 keys trapped and 7 keys released the sales number would be:

SS-MX-B-12-2 X 7*.

This would have 1 blank on the first row and 2 blanks on row four (see image below). The blanks can be utilised later as your system grows.

***SS** or **M** (Stainless Steel or Die Cast). **MX-P** or **MX-B** (Panel or Box). Total Keys **20, 12** or **8**. **4x10** = No. of keys trapped x released.



SKORPION Trapped Key Interlocking with Key Exchange

MINI VALVE LOCK

Available in two versions with choice of five thread sizes.

2″ BSPP | 1″ BSPP | 1/2″ BSPP | 3/8″ BSPP | 1/4″ BSPP

Operating Principle

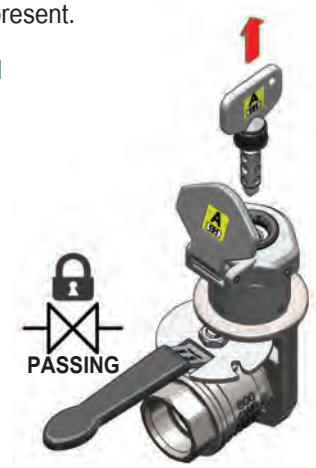
IDEM's mini valve locks can be used standalone or for use as part of a SKORPION Trapped Key solution.

They can be locked in an open or closed state (passing or non-passing). The key can then be removed and can be moved to safe storage (to avoid tampering) or can be integrated with trapped key guard interlocks to protect operators from machine, gas or air hazards that may be present.

Working Temperature and Pressure Limits

- 40 Bar (600 psi)
- - 40C to +170C

Warning: Freezing of the fluid in the installation may severely damage the valve.



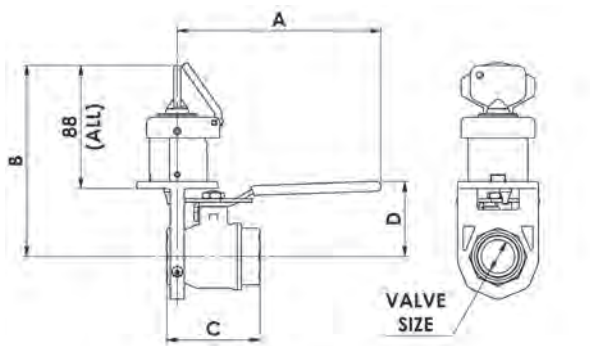
Available in sizes:
1/4", 3/8", 1/2", 1" and 2" BSPP thread fittings.

FOP: KEY FREE, VALVE OPEN

SALES NUMBER	FLOW	STAINLESS STEEL MINI VALVE LOCK DESCRIPTION
SS-MV-FCL-1/4	Non-Passing	Stainless Steel Mini Valve Lock 1/4" BSPP FCL
SS-MV-FCL-3/8	Non-Passing	Stainless Steel Mini Valve Lock 3/8" BSPP FCL
SS-MV-FCL-1/2	Non-Passing	Stainless Steel Mini Valve Lock 1/2" BSPP FCL
SS-MV-FCL-1	Non-Passing	Stainless Steel Mini Valve Lock 1" BSPP FCL
SS-MV-FCL-2	Non-Passing	Stainless Steel Mini Valve Lock 2" BSPP FCL
SS-MV-FOP-1/4	Passing	Stainless Steel Mini Valve Lock 1/4" BSPP FOP
SS-MV-FOP-3/8	Passing	Stainless Steel Mini Valve Lock 3/8" BSPP FOP
SS-MV-FOP-1/2	Passing	Stainless Steel Mini Valve Lock 1/2" BSPP FOP
SS-MV-FOP-1	Passing	Stainless Steel Mini Valve Lock 1" BSPP FOP
SS-MV-FOP-2	Passing	Stainless Steel Mini Valve Lock 2" BSPP FOP

FCL: KEY FREE, VALVE CLOSED

SALES NUMBER	FLOW	DIE CAST METAL MINI VALVE LOCK DESCRIPTION
M-MV-FCL-1/4	Non-Passing	Die Cast Metal Mini Valve Lock 1/4" BSPP FCL
M-MV-FCL-3/8	Non-Passing	Die Cast Metal Mini Valve Lock 3/8" BSPP FCL
M-MV-FCL-1/2	Non-Passing	Die Cast Metal Mini Valve Lock 1/2" BSPP FCL
M-MV-FCL-1	Non-Passing	Die Cast Metal Mini Valve Lock 1" BSPP FCL
M-MV-FCL-2	Non-Passing	Die Cast Metal Mini Valve Lock 2" BSPP FCL
M-MV-FOP-1/4	Passing	Die Cast Metal Mini Valve Lock 1/4" BSPP FOP
M-MV-FOP-3/8	Passing	Die Cast Metal Mini Valve Lock 3/8" BSPP FOP
M-MV-FOP-1/2	Passing	Die Cast Metal Mini Valve Lock 1/2" BSPP FOP
M-MV-FOP-1	Passing	Die Cast Metal Mini Valve Lock 1" BSPP FOP
M-MV-FOP-2	Passing	Die Cast Metal Mini Valve Lock 2" BSPP FOP



PART NUMBER	A (mm)	B (mm)	C (mm)	VALVE SIZE (BSP)
MV-FCL-1/4	96	125	39	0.25 INCH
MV-FOP-1/4	96	125	39	0.25 INCH
MV-FCL-3/8	96	125	39	0.375 INCH
MV-FOP-3/8	96	125	39	0.375 INCH
MV-FCL-1/2	118	129	50	0.5 INCH
MV-FOP-1/2	118	129	50	0.5 INCH
MV-FCL-1	146	137	67	1 INCH
MV-FOP-1	146	137	67	1 INCH
MV-FCL-2	202	161	106	2 INCH
MV-FOP-2	202	161	106	2 INCH

SKORPION Trapped Key Interlocking with Key Exchange

KEY CODE SELECTION & ORDERING:

IDEM offer a unique range of KEY CODE variants that number in the tens of thousands.

To assist in the process of ordering we offer a range of 80 STANDARD KEY CODES which are shown in the table below (other KEY CODES are available to the customer upon request). **We also offer unique key coding which is tracked internally - to use this feature, contact sales@idemsafety.com.**

Note: Different KEY FOB colours are available dependent upon the code chosen. This is a customer option to provide the end-user with an easily seen visual aid e.g. the First Key (Primary Key) could be chosen in a different colour to the colour chosen for the Released Keys - therefore easily distinguishing the Primary Key from the other keys in the system.

SK - Standard Key

Example:
"SK-B201"

EK - Ejector Key

Example:
"EK-A101"

CK - Custom Key Label

Example:
"CK-A102"

KEY FOB COLOUR	YELLOW Key Fob	WHITE Key Fob
	A	B
Key Code	A101	B201
	A102	B202
	A103	B203
	A104	B204
	A105	B205
	A106	B206
	A107	B207
	A108	B208
	A109	B209
	A110	B210
	A111	B211
	A112	B212
	A113	B213
	A114	B214
	A115	B215
	A116	B216
	A117	B217
	A118	B218
	A119	B219
	A120	B220

KEY FOB COLOUR	GREEN Key Fob	BLUE Key Fob
	C	D
Key Code	C301	D401
	C302	D402
	C303	D403
	C304	D404
	C305	D405
	C306	D406
	C307	D407
	C308	D408
	C309	D409
	C310	D410
	C311	D411
	C312	D412
	C313	D413
	C314	D414
	C315	D415
	C316	D416
	C317	D417
	C318	D418
	C319	D419
	C320	D420

SKORPION Pre-Configured Trapped Key Systems

LOOKING FOR A QUICK SOLUTION TO CONFIGURE A TRAPPED KEY SYSTEM?

The SKORPION Trapped Key System is designed to offer highly durable mechanical coded key safeguarding and interlocking for hazardous machinery. Operating on the principle of sequentially releasing factory-coded mechanical keys, the SKORPION system ensures that machine power is fully isolated before access to a dangerous machine or specific hazard is allowed.

Once the machine control is isolated by turning the first key in the system to the OFF position, the key from the isolator can be used to release other trapped keys, granting safe access to the guarded areas.

This system provides effective safeguarding without the need for extensive electrical wiring, making it ideal for use in harsh environments. When the control switch is used in conjunction with a safety relay or safety controller, the system can achieve safety levels up to PLe/Cat 3.

- No reduction of integrity due to the distance between movable guard and control system.
- High mechanical integrity with robust mountings suitable for all types of guards.
- Eliminates the need for electrical wiring to each movable guard.
- All keys are coded at the factory.
- It is virtually impossible to override the system.
- Provides for quick yet safe and reliable access to machinery.
- Can prevent shortcuts and enforce a logical set of procedures.
- Until the control switch key is returned to its original position within the lock, there is no way to enable the machinery to be re-started.

PRE-CONFIGURED SYSTEMS

HOW TO SELECT A PRE-CONFIGURED TRAPPED KEY SYSTEM

You will need to determine four things in order to select the correct trapped key system for your application:

1) Do you need a solenoid or a non-solenoid trapped key control switch?
2) How many doors or gates do you need to protect.
3) Do you need full-body or partial-body access?
4) Select a key code

1 **Determine whether you need a solenoid or a non-solenoid trapped key control switch by asking, “Does the machine require time to come to a complete stop?”**

YES

You need a solenoid released trapped key control switch.

800000-CS-SKR-A101
800000-CS-SKR-A102
800000-CS-SKR-A103
800000-CS-SKR-A104
800000-CS-SKR-A105

NO

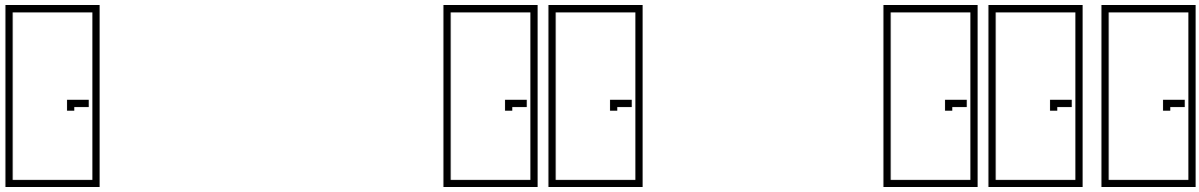
You need a non-solenoid trapped key control switch.

800000-CS-A101
800000-CS-A102
800000-CS-A103
800000-CS-A104
800000-CS-A105

SKORPION Pre-Configured Trapped Key Systems

2 **Determine how many doors or gates you will need to protect in your system. Systems are available to protect up to three doors/gates.**

One Door / Gate	Two Doors / Gates	Three Doors / Gates



3 **Can you step fully into the guard and close the door or gate?**

You need a full-body access system.	YES / NO	You need a partial body access system.

NOW IT'S TIME TO SELECT YOUR SYSTEM:

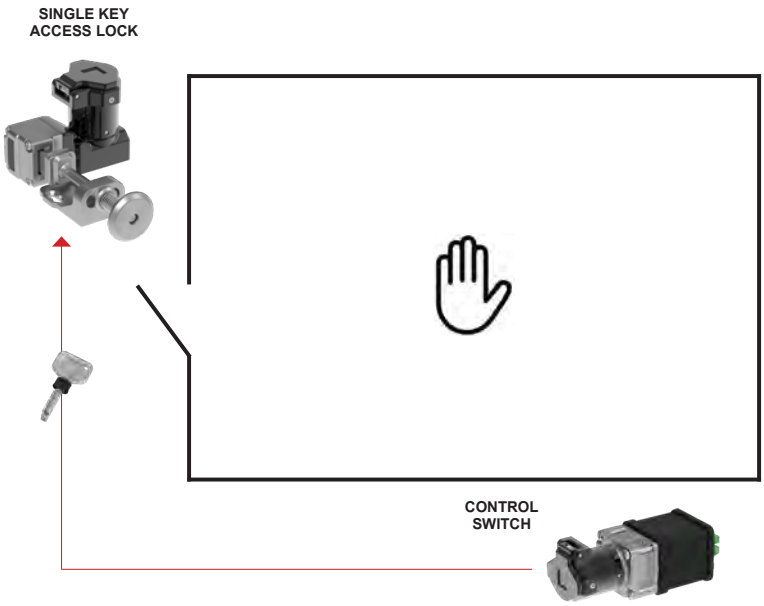
Important - please read!

- The last four charaters are the key code for the first key (control switch).
- If multiple machines will be installed within the same vicinity, then a different code set should be used.

	One Door / Gate		Two Doors / Gates		Three Doors / Gates
First Key's Code	***Partial Body***	***Full Body***	***Partial Body***	***Full Body***	***Full Body***
A101	800001-A101	-	-	-	-
A102	800001-A102	-	-	-	-
A103	800001-A103	800003-A103	800002-A103	800004-A103	800005-A103
A104	800001-A104	800003-A104	800002-A104	800004-A104	800005-A104
A105	800001-A105	800003-A105	800002-A105	800004-A105	800005-A105

SKORPION Pre-Configured Trapped Key Systems

SYSTEM 1: 1 DOOR PART BODY ACCESS



Sequence of Operation:

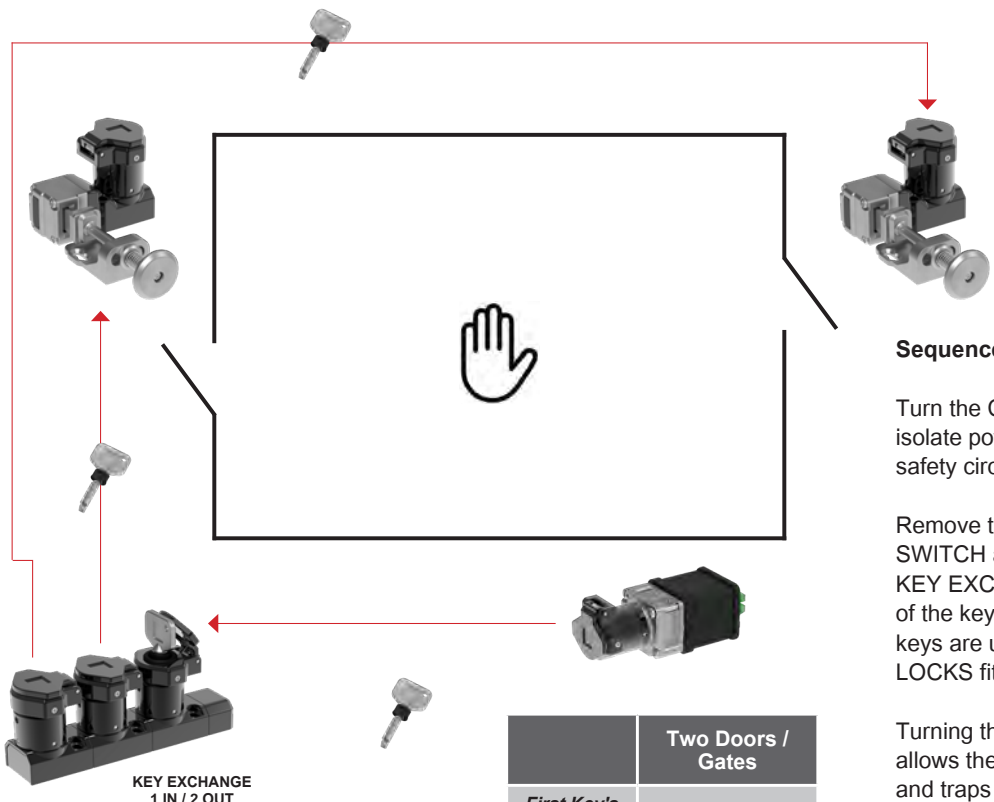
Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

Remove the key from the CONTROL SWITCH and insert into the ACCESS LOCK at the guard door.

Turning the key in the ACCESS LOCK allows the guard door to be opened and traps the key so that it cannot be returned to the CONTROL SWITCH until the guard is re-closed and locked.

	One Door / Gate
First Key's Code	***Partial Body***
A101	800001-A101
A102	800001-A102
A103	800001-A103
A104	800001-A104
A105	800001-A105

SYSTEM 2: 2 DOOR PART BODY ACCESS



Sequence of Operation:

Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

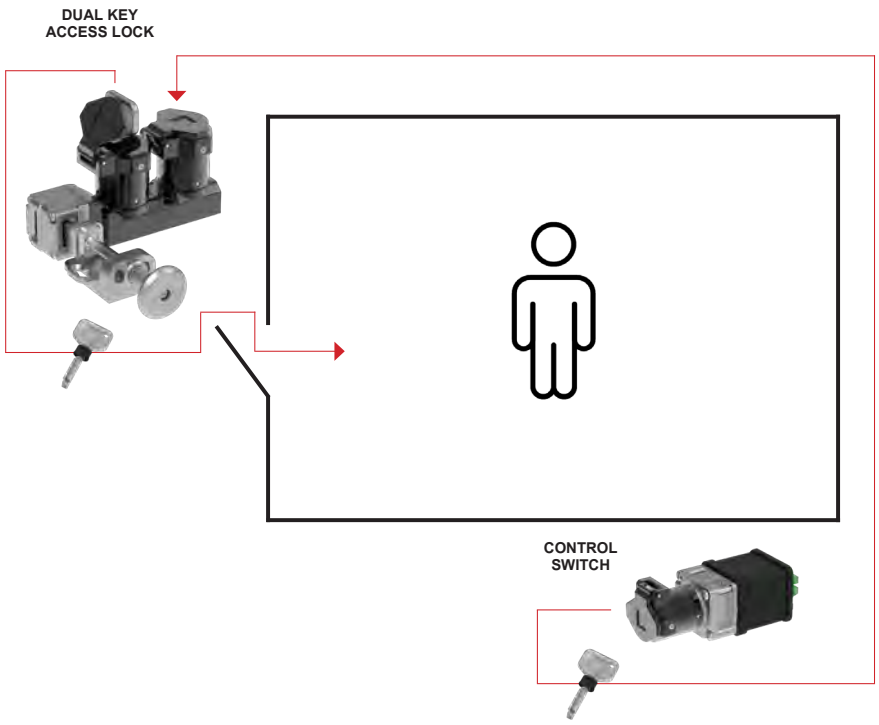
Remove the key from the CONTROL SWITCH and insert into position 1 in the KEY EXCHANGE to enable the release of the keys from positions 2 & 3. These keys are used to open the ACCESS LOCKS fitted at each guard door.

Turning the key in the ACCESS LOCKS allows the guard doors to be opened and traps the keys so that it cannot be returned to the KEY EXCHANGE until the both guards are re-closed and locked.

	Two Doors / Gates
First Key's Code	***Partial Body***
A101	-
A102	-
A103	800002-A103
A104	800002-A104
A105	800002-A105

SKORPION Pre-Configured Trapped Key Systems

SYSTEM 3: 1 DOOR FULL BODY ACCESS



Sequence of Operation:

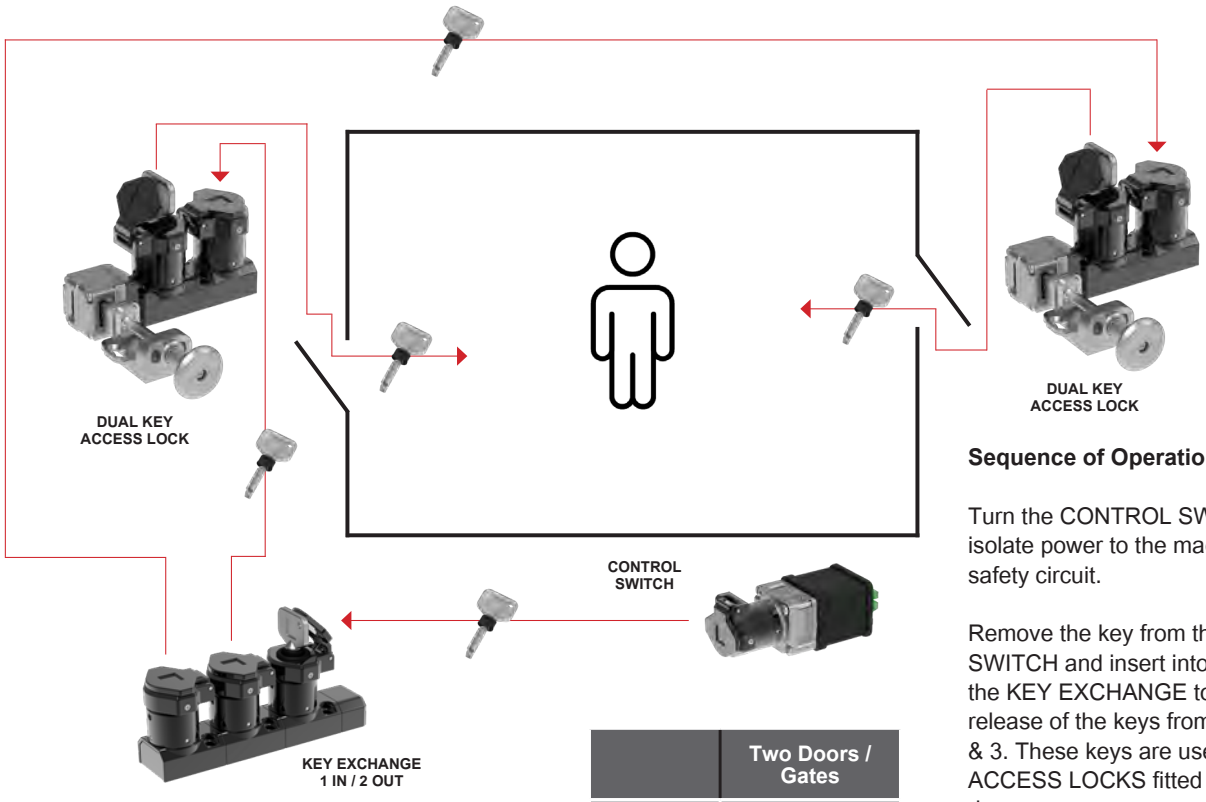
Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

Insert the key into position 1 of the DUAL ACCESS LOCK at the guard door.

Turning the key in the ACCESS LOCK allows a secondary key from position 2 to be released. This key can then be taken by the operator inside the guarded area, preventing the guard from being locked and the system re-started.

	One Door / Gate
First Key's Code	***Full Body***
A101	-
A102	-
A103	800003-A103
A104	800003-A104
A105	800003-A105

SYSTEM 4: 2 DOOR FULL BODY ACCESS



	Two Doors / Gates
First Key's Code	***Full Body***
A101	-
A102	-
A103	800004-A103
A104	800004-A104
A105	800004-A105

Sequence of Operation:

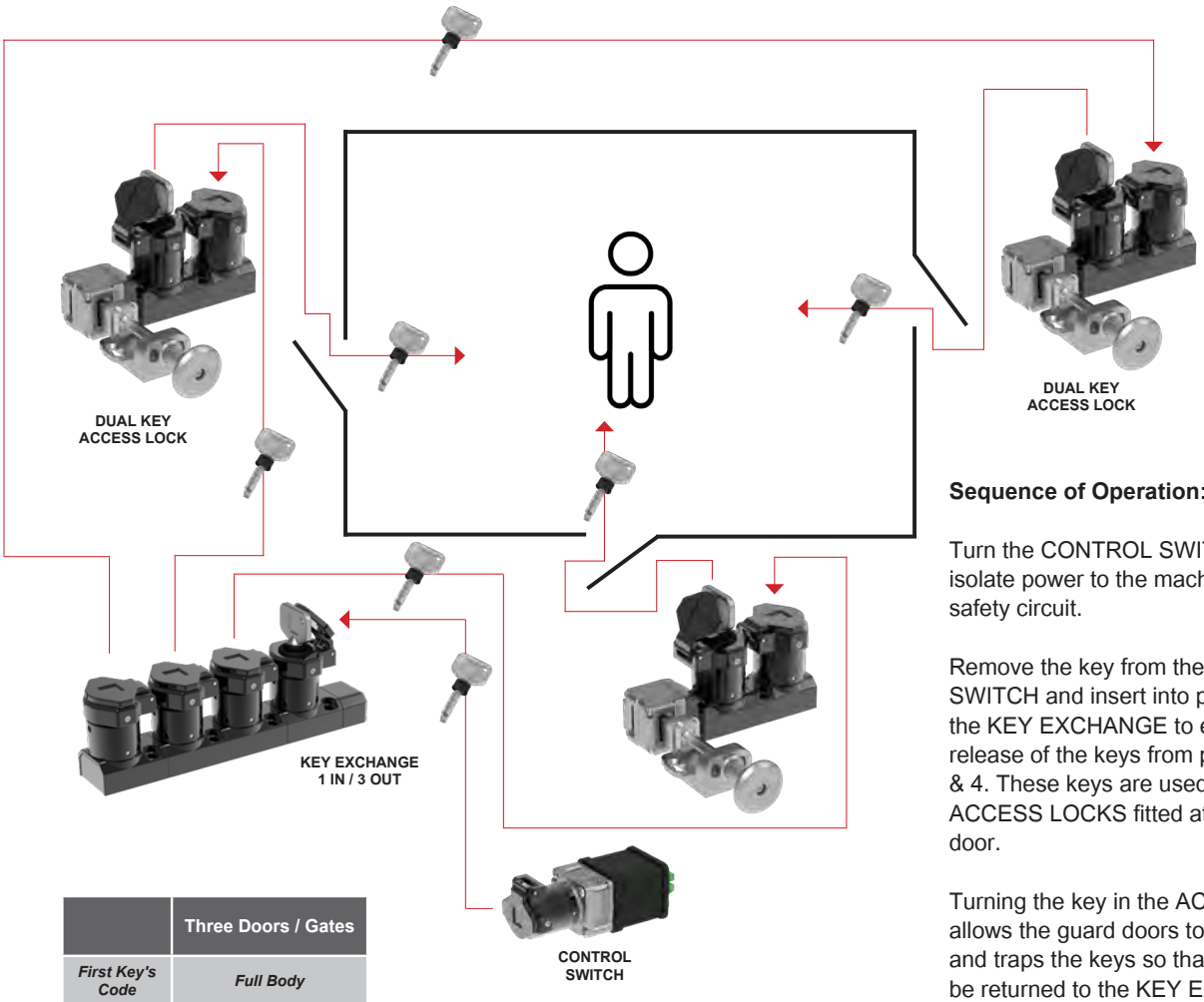
Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

Remove the key from the CONTROL SWITCH and insert into position 1 in the KEY EXCHANGE to enable the release of the keys from positions 2 & 3. These keys are used to open the ACCESS LOCKS fitted at each guard door.

Turning the keys in the ACCESS LOCKS allows te secondary keys from position 2 of each ACCESS LOCK to be released such that operators can take them inside the guarded area. This prevents the guards from being locked and the system re-started.

SKORPION Pre-Configured Trapped Key Systems

SYSTEM 5: 3 DOOR FULL BODY ACCESS



	Three Doors / Gates
First Key's Code	*Full Body*
A101	-
A102	-
A103	800005-A103
A104	800005-A104
A105	800005-A105

Sequence of Operation:

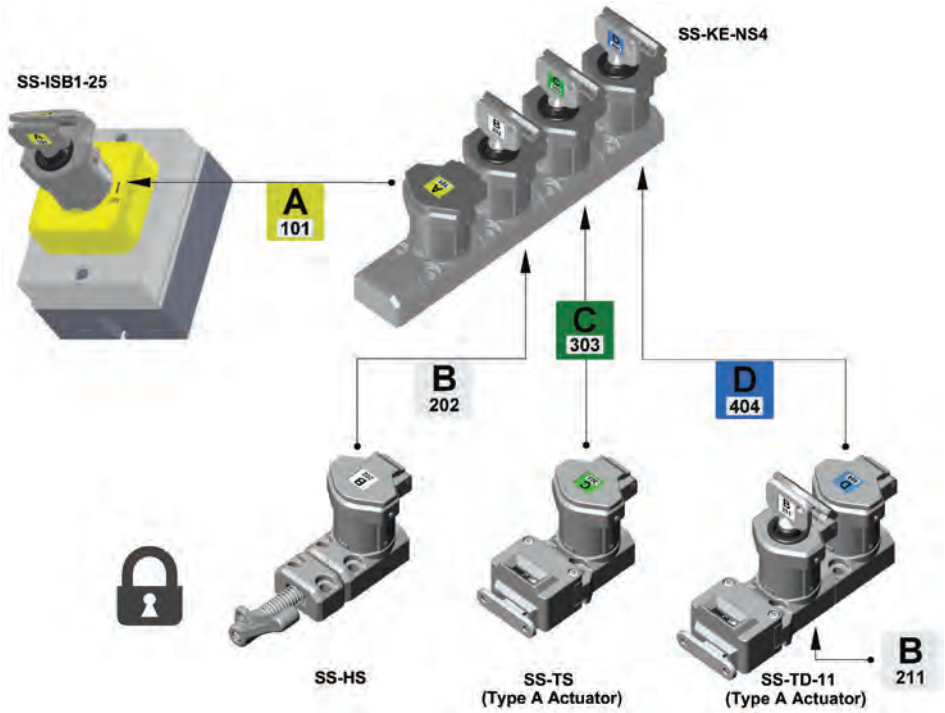
Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

Remove the key from the CONTROL SWITCH and insert into position 1 in the KEY EXCHANGE to enable the release of the keys from positions 2, 3 & 4. These keys are used to open the ACCESS LOCKS fitted at each guard door.

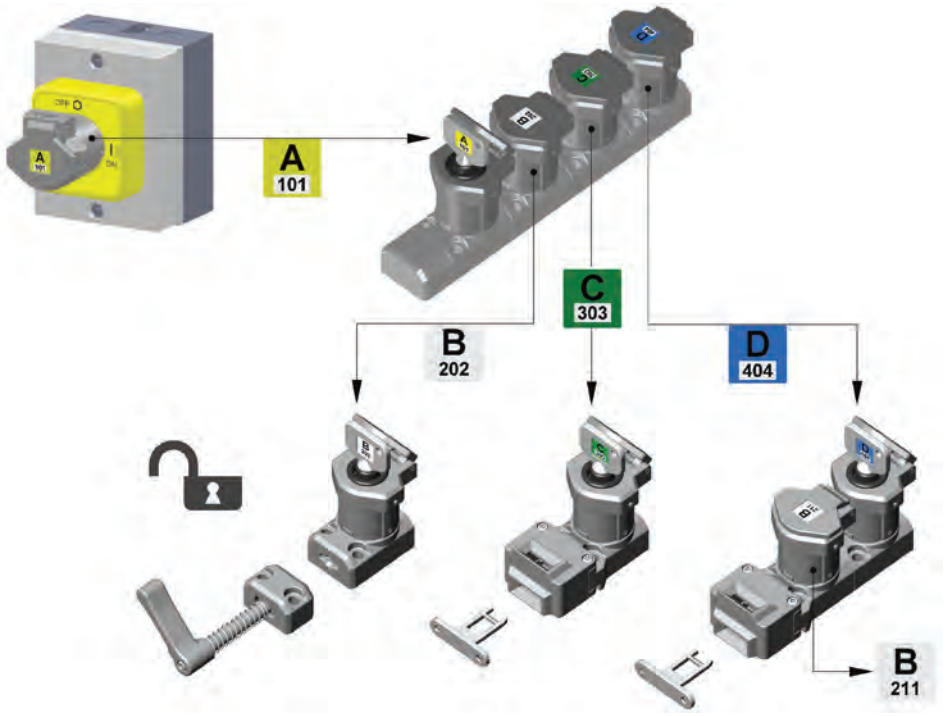
Turning the key in the ACCESS LOCKS allows the guard doors to be opened and traps the keys so that it cannot be returned to the KEY EXCHANGE until the both guards are re-closed and locked.

SKORPION Trapped Key Interlocking with Key Exchange

EXAMPLE 2: COMPLEX SYSTEM



POSITION 1: MACHINE POWER ON - GUARDS LOCKED (ACCESS IS DENIED TO OPERATOR)



POSITION 2: MACHINE POWER OFF - GUARDS UNLOCKED (ACCESS AVAILABLE TO OPERATOR)

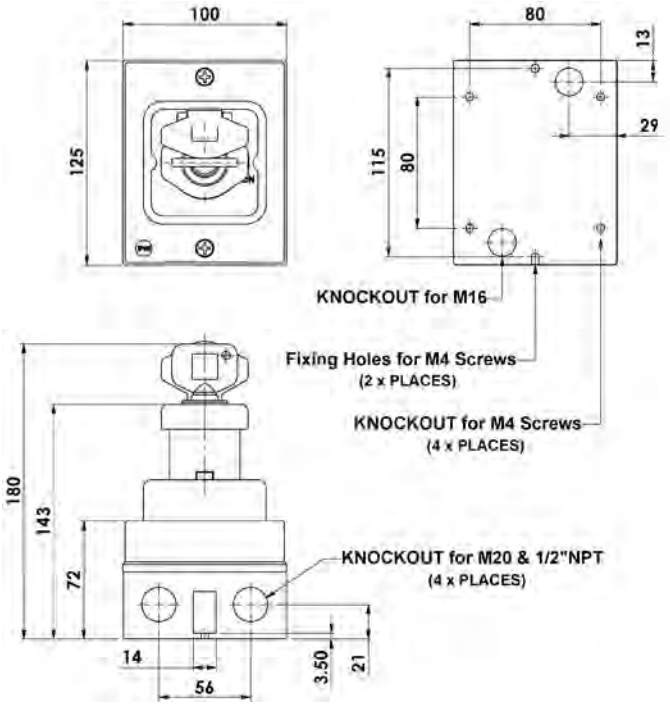
SKORPION TRAPPED KEY ORDER FORM/TEMPLATE - TK1 (for Example 2)					
ORDER	ITEM 1	ITEM 2	ITEM 3	ITEM 4	ITEM 5
Part Number	SS-ISB1-25	SS-KE-NS4	SS-HS	SS-TS	SS-TD-11
	CODE	CODE	CODE	CODE	CODE
Key Fob Code	A101	A101 B202 C303 D404	B202	C303	D404 B211
Key Status	Out	Trapped / Out / Out / Out	Trapped	Trapped	Trapped / Out

ACTUATOR TYPES				
	140107 (A Standard)	140108 (F Flat)	140110 (HF Flexible)	140111 (HFH S/Steel Flexible)
Quantity	2	0	0	0

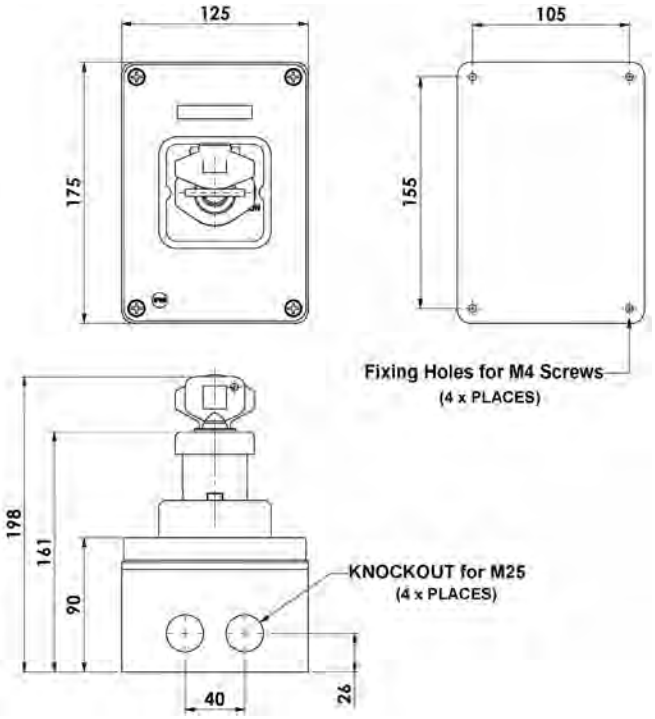
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

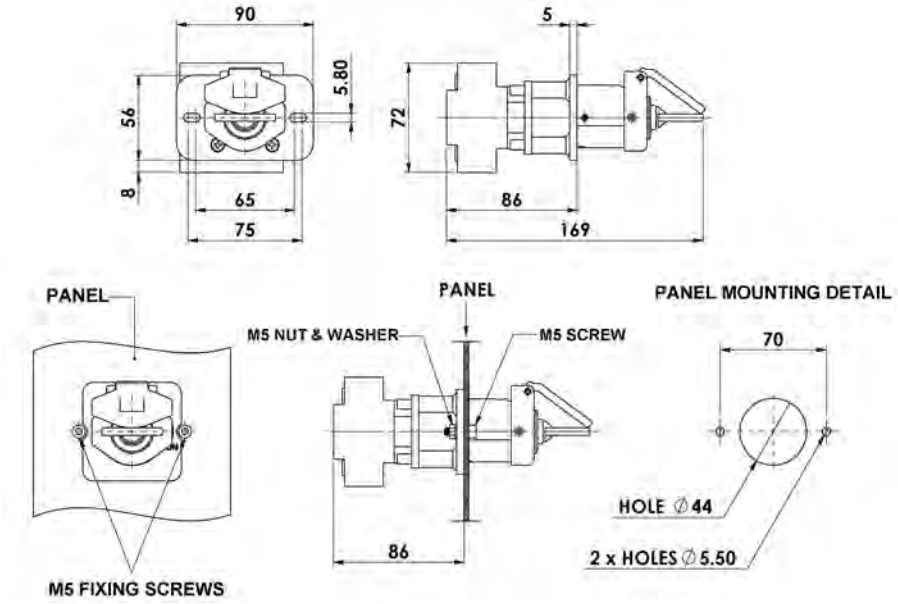
Isolation Switch Boxes Models ISB1-25 and ISB1-40



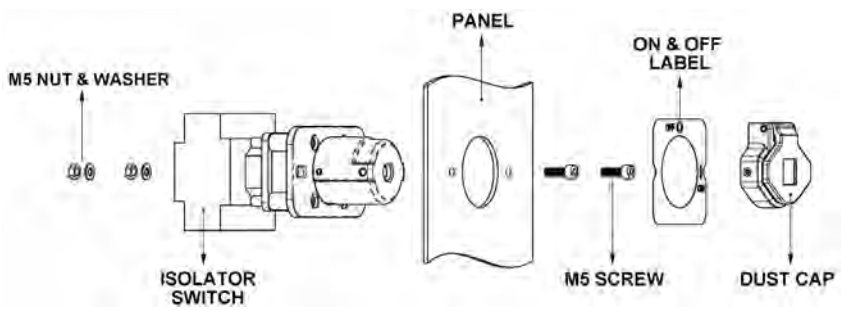
Isolation Switch Box Model ISB2-63



Isolation Switch Panel Models ISP-25, ISP-40 and ISP-63



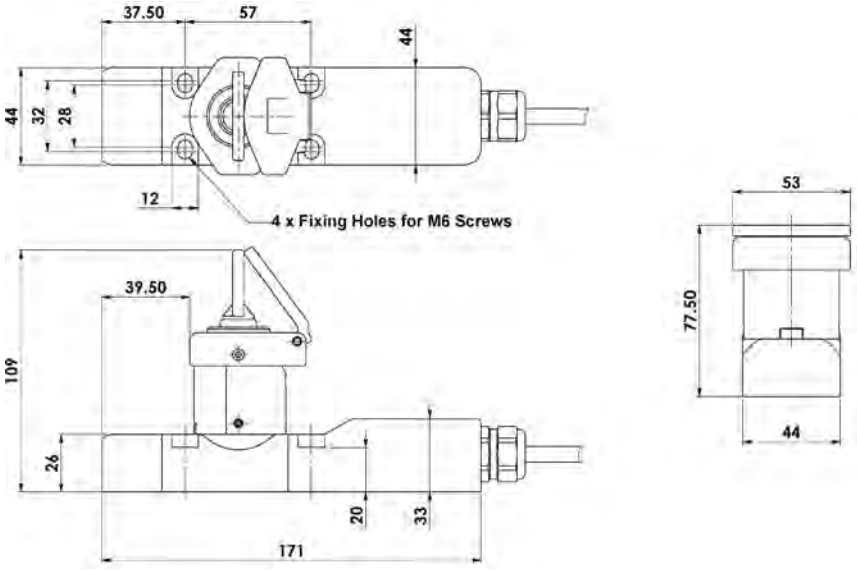
Isolation Switch Panel Mount ISP-25, ISP-40 and ISP-63 Fitting Diagram



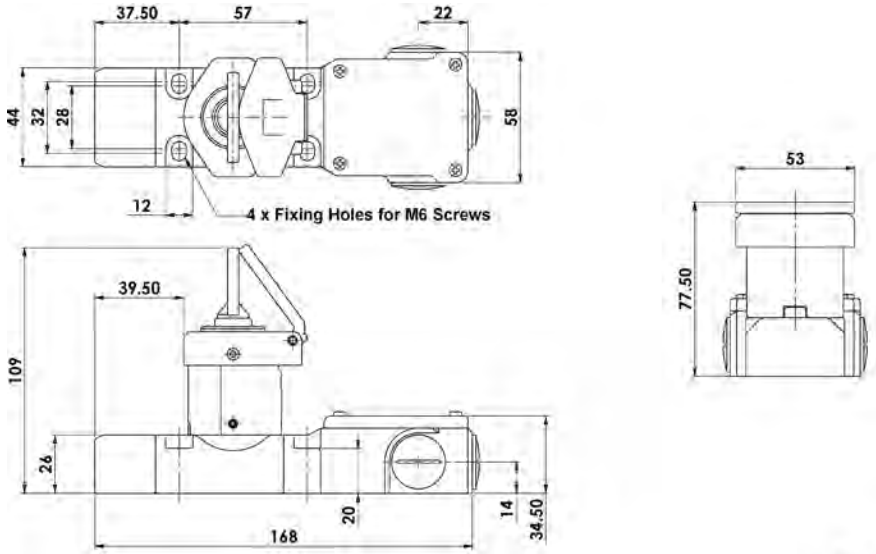
SKORPION Trapped Key Interlocking with Key Exchange

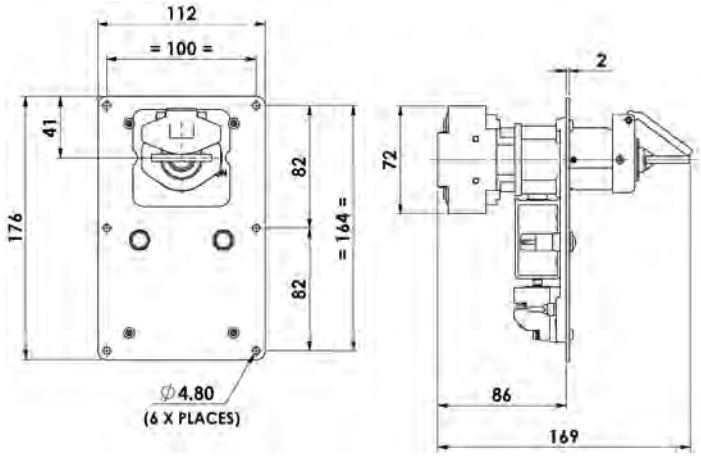
PRODUCT DIMENSIONS:

Control Switch Model ISB-CB-EX

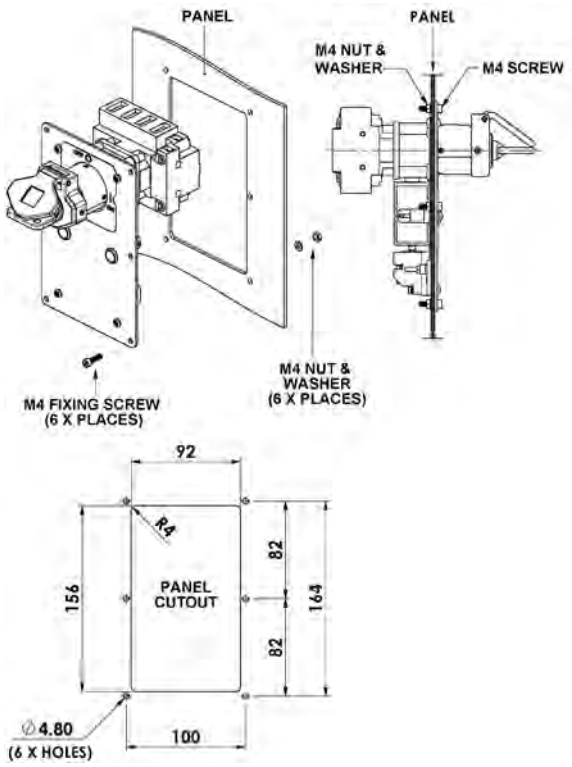


Control Switch Model ISB-CB-M





Isolation Switch Panel Model ISP-SKR

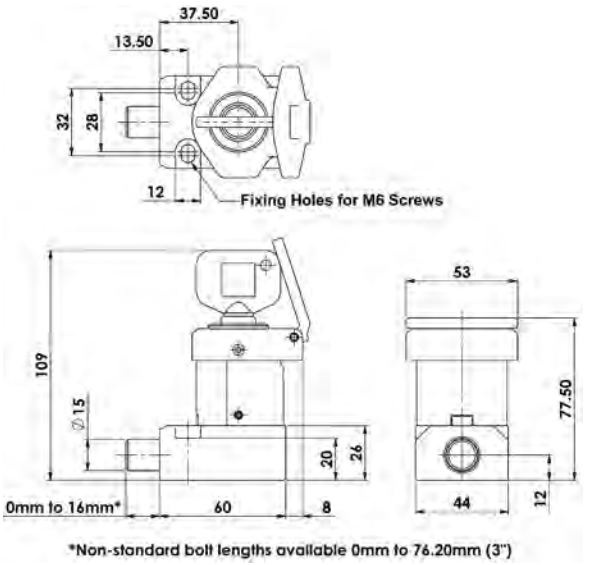


Isolation Switch Panel Mount ISP-SKR - Fitting Diagram

SKORPION Trapped Key Interlocking with Key Exchange

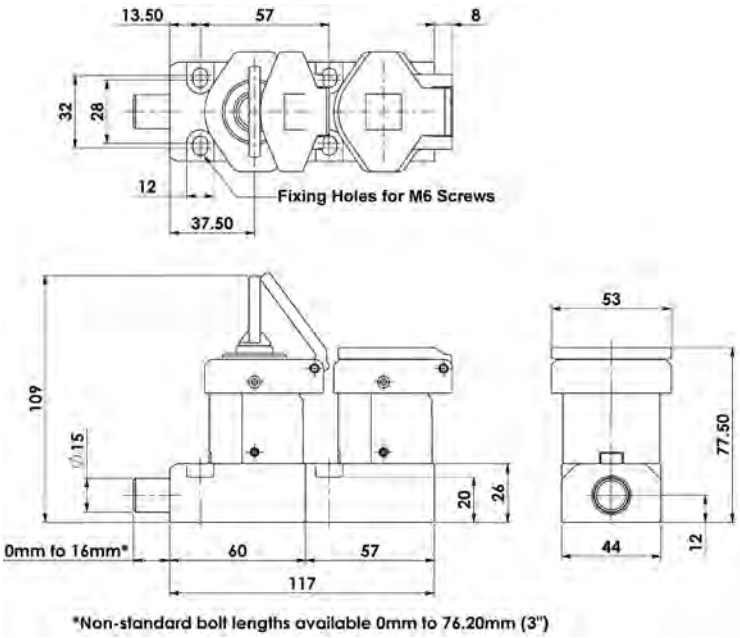
PRODUCT DIMENSIONS:

Bolt Interlock Model BS



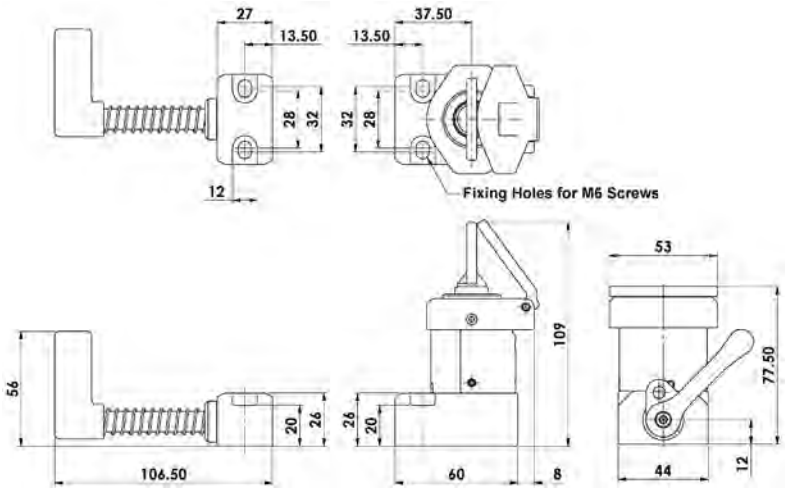
*Non-standard bolt lengths available 0mm to 76.20mm (3")

Bolt Interlock Dual Key Model BD

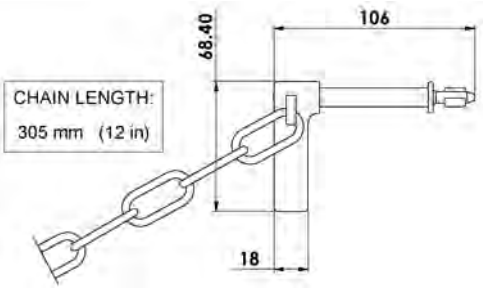


*Non-standard bolt lengths available 0mm to 76.20mm (3")

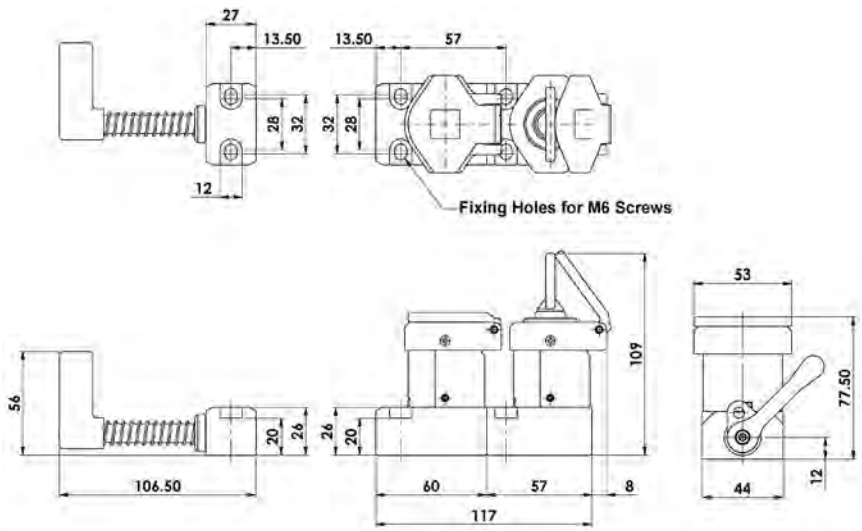
Handle Interlock Model HS



Handle with Chain



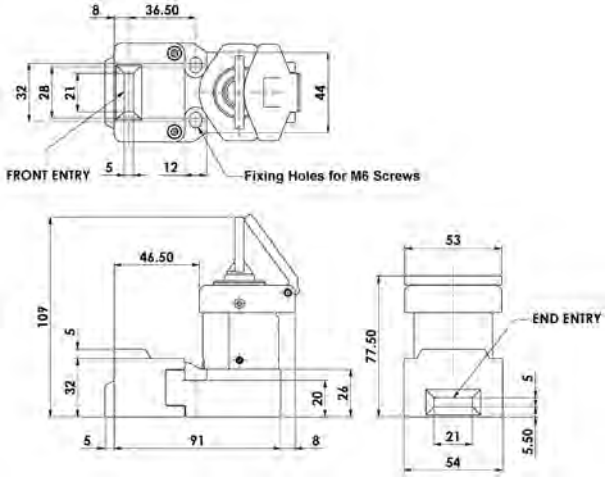
Handle Interlock Dual Key Model HS-11



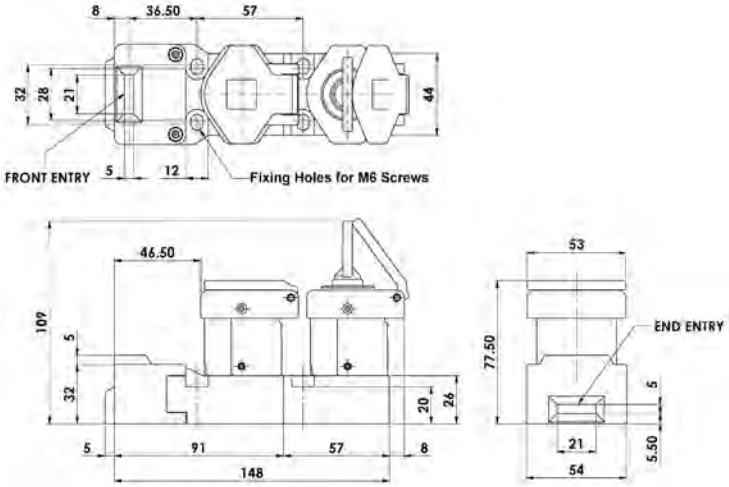
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

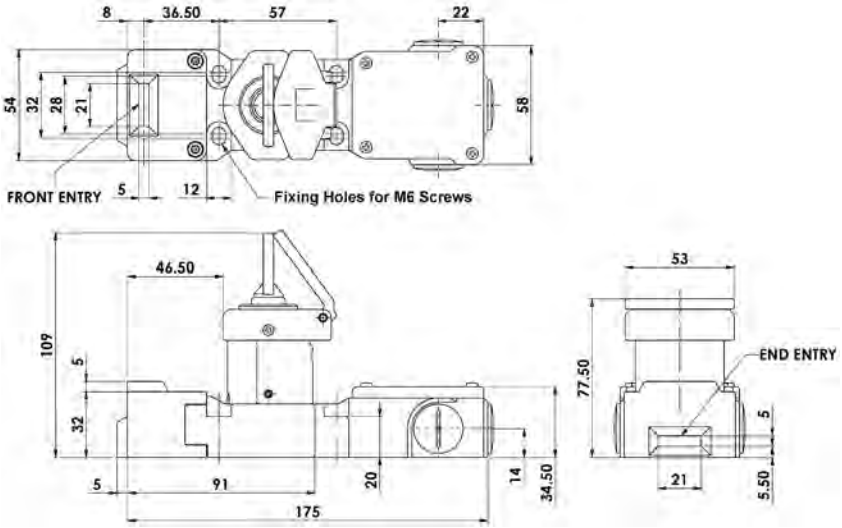
Tongue Interlock Model TS



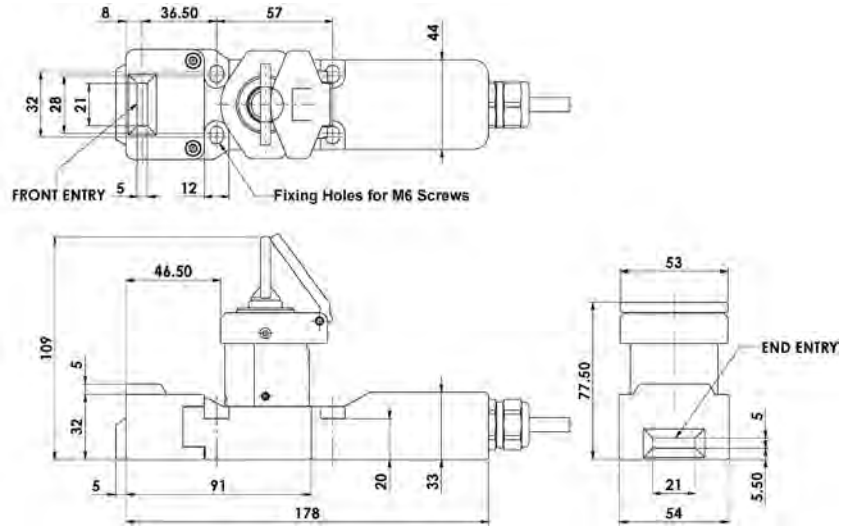
Tongue Interlock Model TD-11



Tongue Interlock with Contact Block Model TS-CB



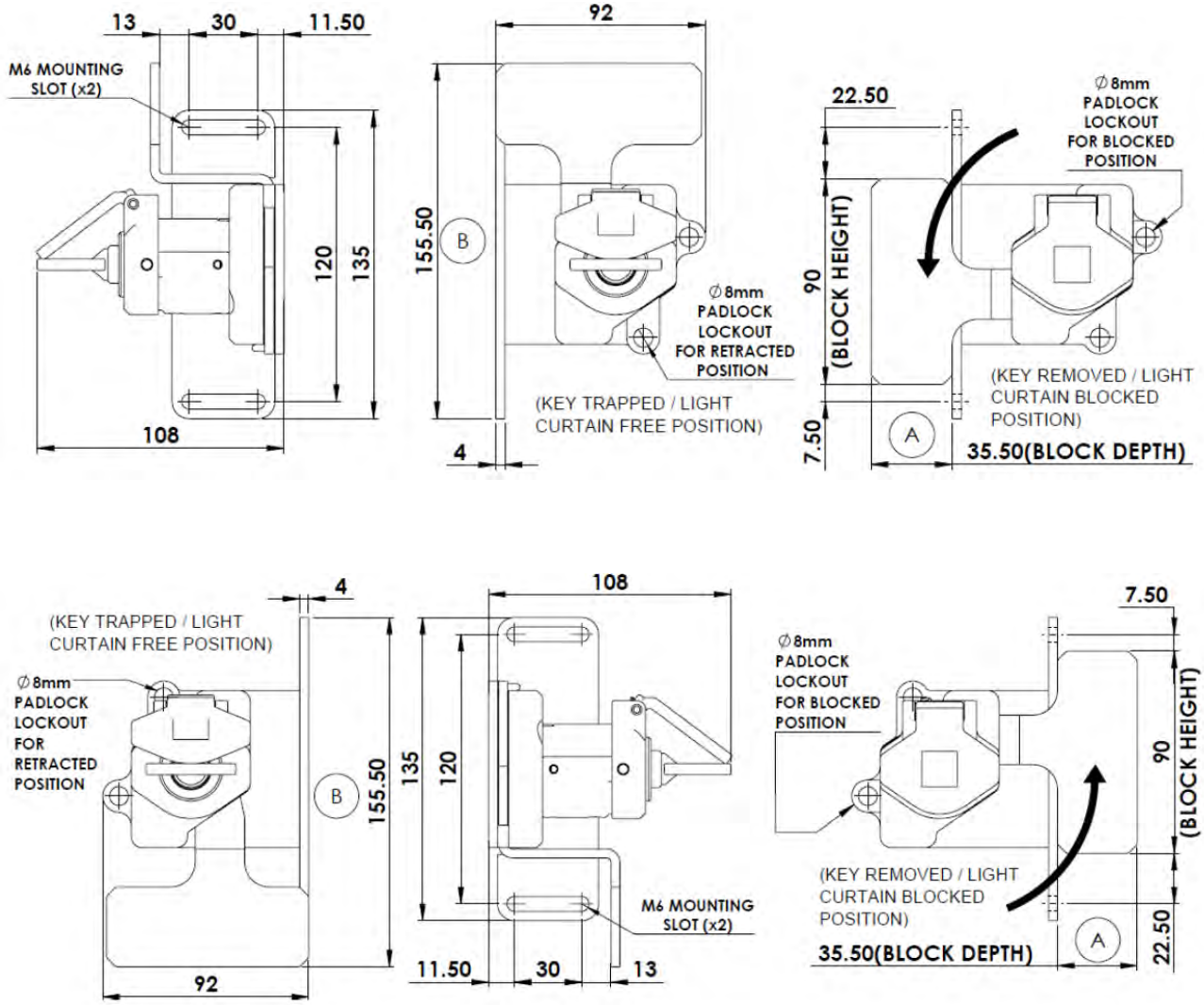
Explosion Proof Tongue Interlock with EX Proof Contact Block Model TS-CB-EX



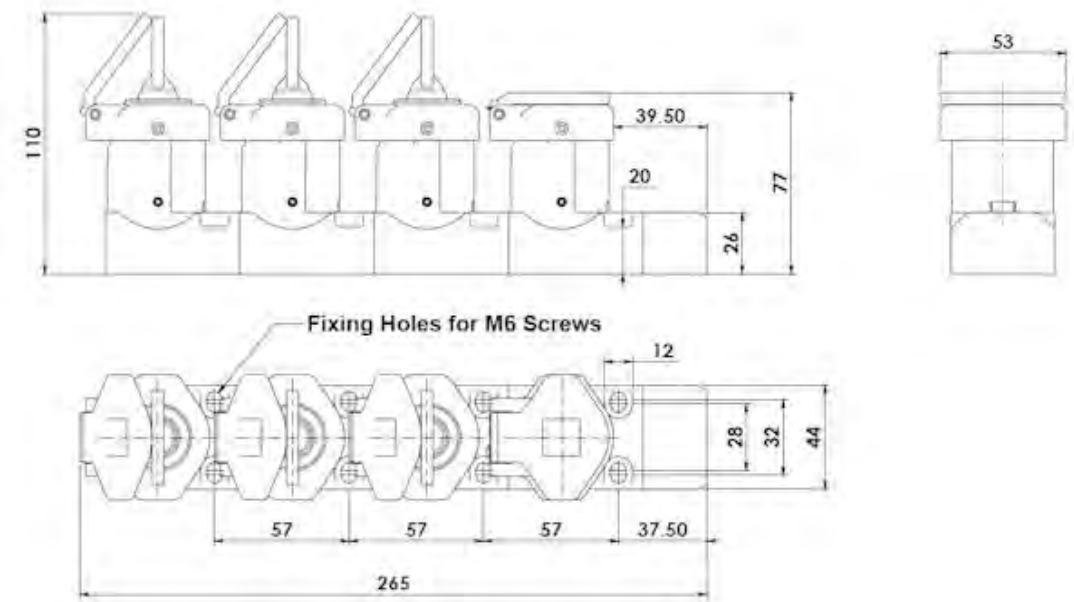
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

LCB Light Curtain Blocking Device



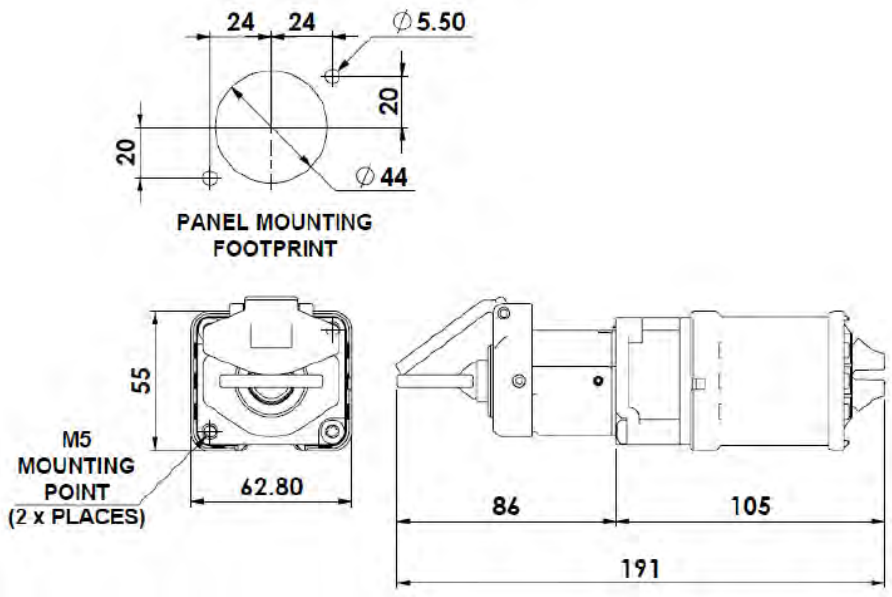
KE Vertical Key Exchange



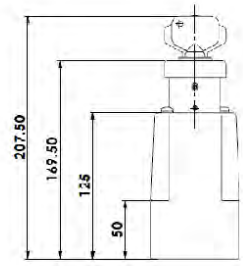
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

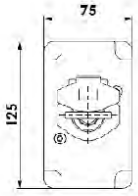
CS Control Switch



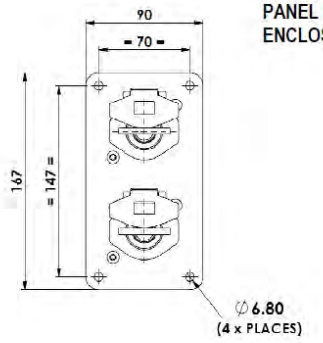
Mounting Enclosures for CS-Range

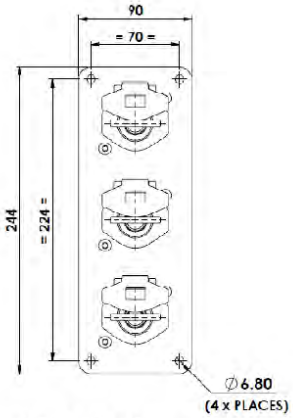


POLYCARBONATE
BOX MOUNT
ENCLOSURE: B-1WAY

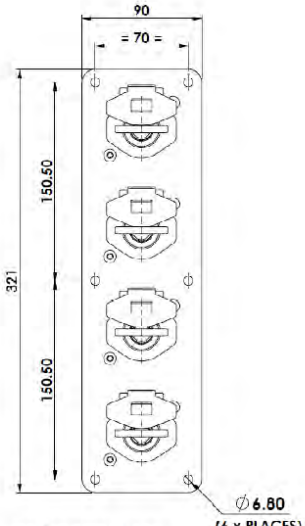


STAINLESS STEEL
PANEL MOUNT
ENCLOSURE: P-2WAY

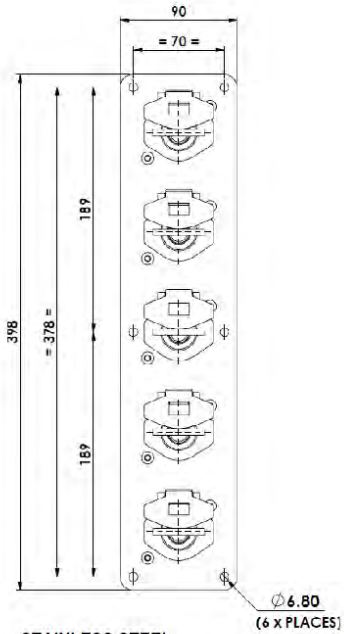




STAINLESS STEEL
PANEL MOUNT
ENCLOSURE: P-3WAY



STAINLESS STEEL
PANEL MOUNT
ENCLOSURE: P-4WAY

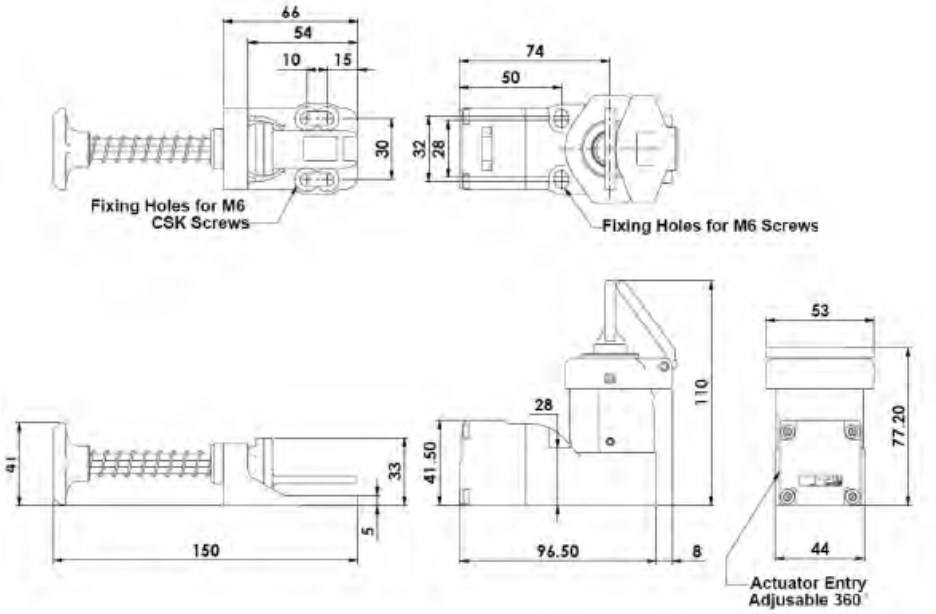


STAINLESS STEEL
PANEL MOUNT
ENCLOSURE: P-5WAY

SKORPION Trapped Key Interlocking with Key Exchange

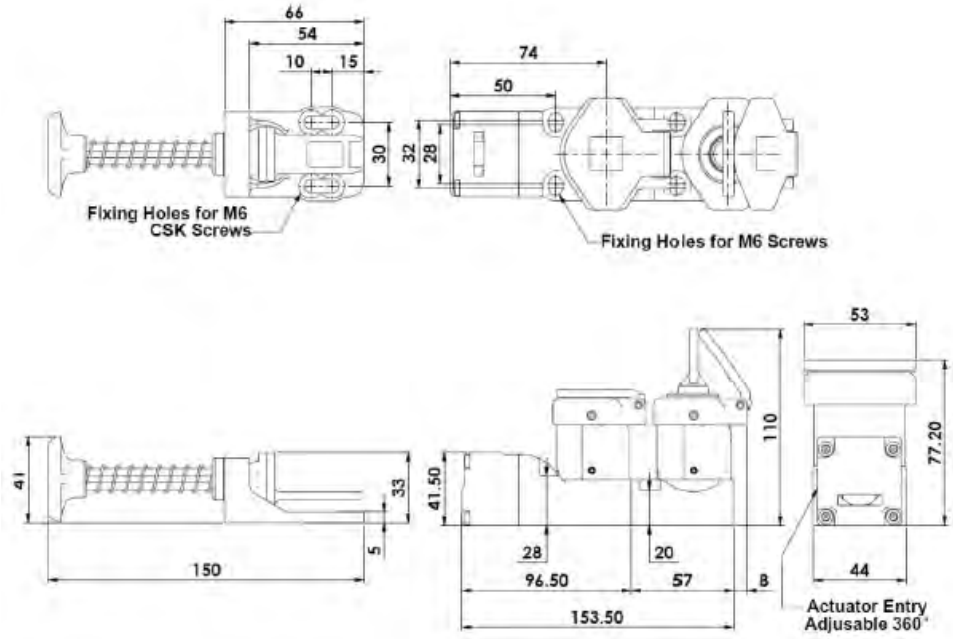
PRODUCT DIMENSIONS:

HT-S



Dimensions (mm)

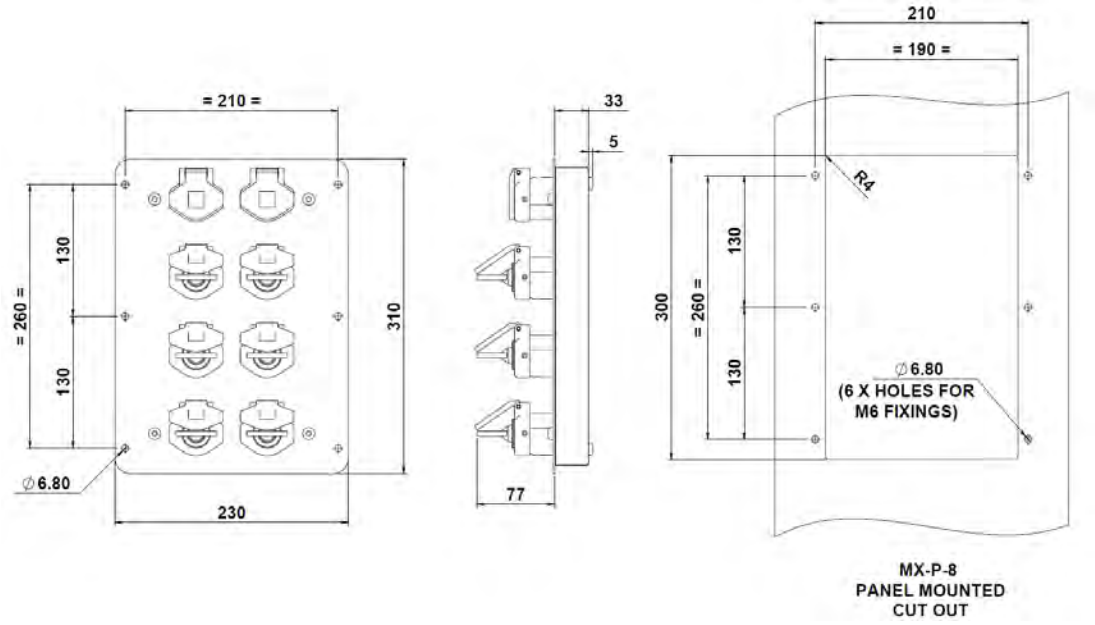
HT-D



SKORPION Trapped Key Interlocking with Key Exchange

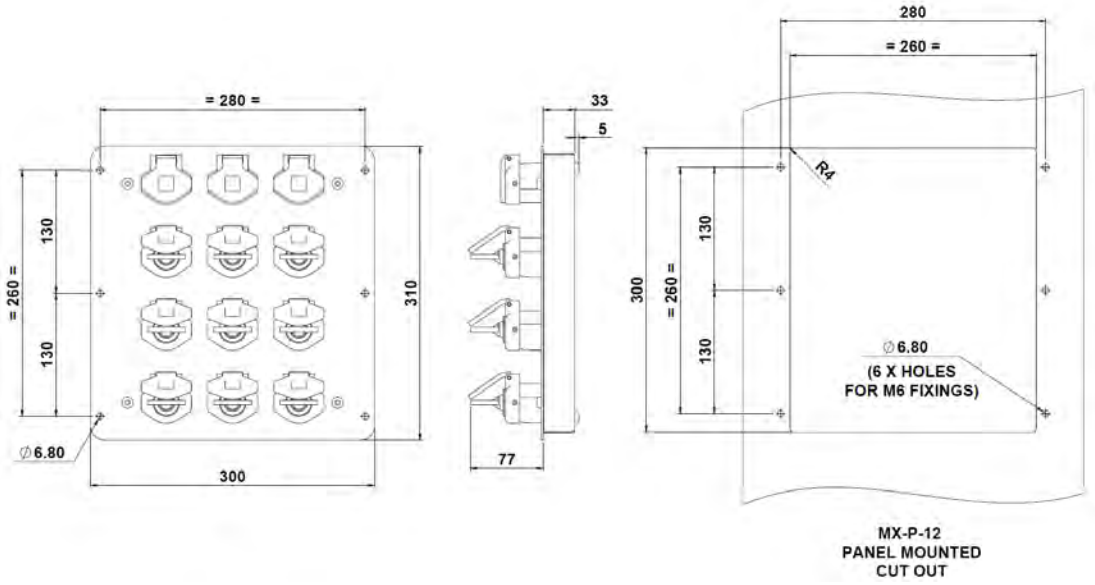
PRODUCT DIMENSIONS:

M-P-8



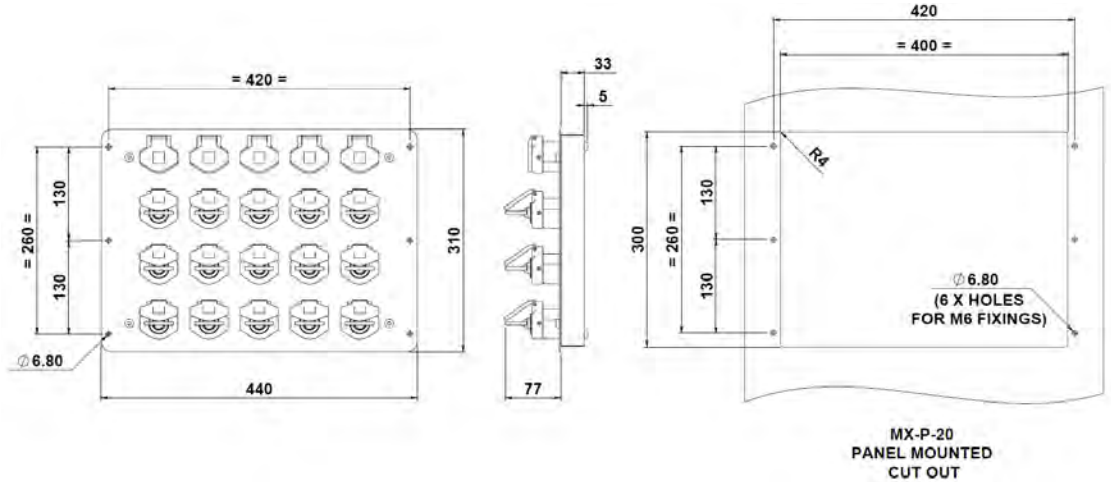
MX-P-8
PANEL MOUNTED
CUT OUT

M-P-12



MX-P-12
PANEL MOUNTED
CUT OUT

M-P-20



MX-P-20
PANEL MOUNTED
CUT OUT

Safety Limit Switches: **HLM (Die-Cast)**

APPLICATIONS:

IDEM's HLM range of heavy duty Die Cast Safety Limit Switches have been designed to be mounted for position sensing of moving applications e.g. guard doors, conveyors, machine beds and elevators. They are available with an extensive range of actuator heads and can be supplied with either slow break or snap action contacts.

FEATURES:

- Heavy duty die cast bodies (painted red)
- Positive opening NC safety contact to EN60947-5-1
- High mechanical life over 5,000,000 cycles
- Industry standard mounting to EN50041
- Large choice of actuator heads available

OPERATION:

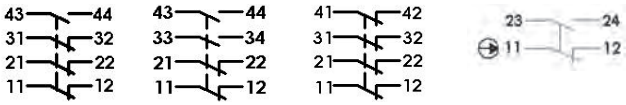
Operation of IDEM Safety Limit Switches is achieved by a sliding actuation of the moving object to cause deflection of the switch plungers, rollers or levers.

For safety applications it is important that the moving object does not pass completely over the switch actuators so as to either cause damage to the actuator or allow it to return to its original position.

HLM-RP | HLM-SRL | HLM-PP | HLM-AL | HLM-ARL | HLM-SL | HLM-TSL

CONTACT BLOCKS:

Contact blocks provide positively operated safety contacts to EN60947-5-1 with optional Explosion Proof versions available.



IEC IECEx Ex ATEX

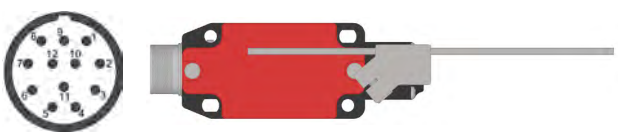
EXPLOSION PROOF MODELS ALSO AVAILABLE.
SEE MODELS/PART NUMBERS MARKED WITH EX

EX CLASSIFICATION:

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb

Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

QUICK CONNECT:



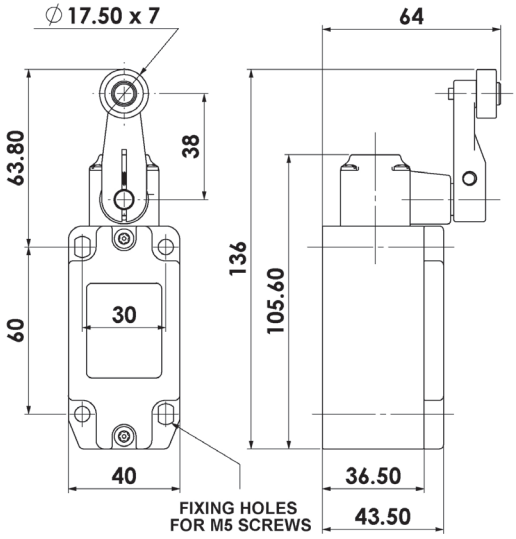
Quick Connect (QC) M23 12 Way Male (connector length 26mm) (pin view from switch)	Switch Circuit
1 3	11/12
4 6	21/22
7 8	33/34 or 31/32
9 10	41/42 or 43/44
12	Earth

TECHNICAL SPECIFICATIONS:

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	$2.5x10^6$ operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data - Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Positive Opening Operation	NC contacts
Utilisation Category	AC15 A300 240V 3A
Minimum Current	5V 5mA dc
Thermal Current (Ith)	10A
Rated Insulation Voltage	300Vac
Rated Impulse Withstand	2500Vac
Maximum Switching Speed	250mm/sec
Maximum Switching Frequency	6,000 operations per hour
Case Material	Die cast metal - painted red
Enclosure Protection	IP67
Operating Temperature	-25C to +80C
Mechanical Life Expectancy	$5x10^{-6}$ cycle min.
Electrical Life Expectancy	100,000 cycle min (at full load)
Vibration	IEC68-2-6 10-55Hz 0.35mm
Conductor Size	$1.5mm^2$
Fixing	M5 bolts

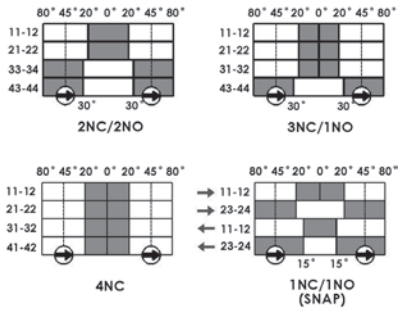
Safety Limit Switches: **HLM (Die-Cast)**

HLM SHORT ROLLER LEVER:

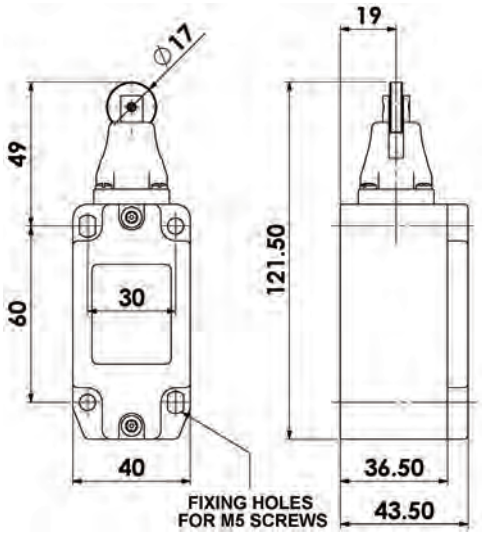


HLM SHORT ROLLER LEVER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174001	174002	174003
3NC 1NO	174004	174005	174006
4NC	174007	174008	174009
1NC 1NO Snap	174010	174011	174012

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174001-GC

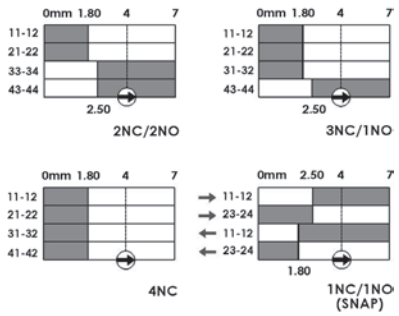


HLM ROLLER PLUNGER:

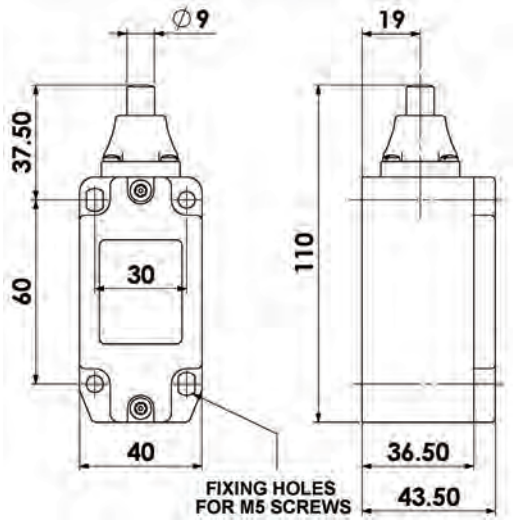


HLM ROLLER PLUNGER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174051	174052	174053
3NC 1NO	174054	174055	174056
4NC	174057	174058	174059
1NC 1NO Snap	174060	174061	174062

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174051-GC

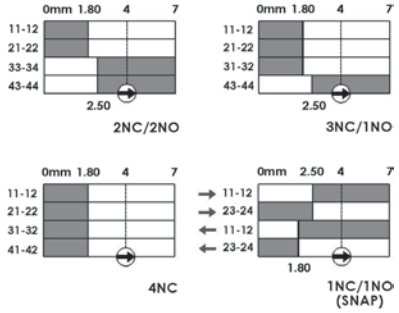


HLM PIN PLUNGER:



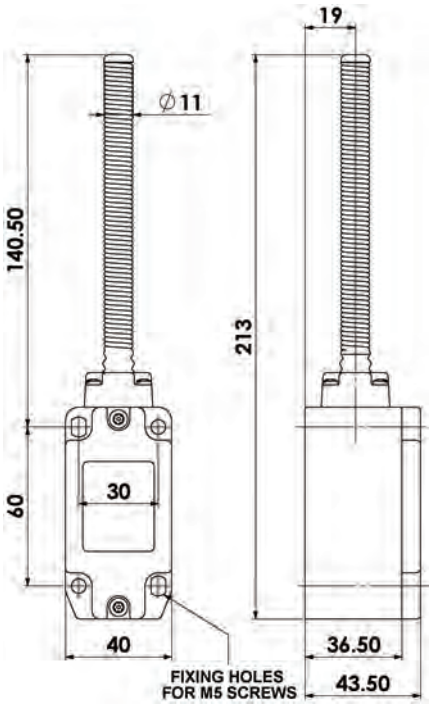
HLM PIN PLUNGER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174101	174102	174103
3NC 1NO	174104	174105	174106
4NC	174107	174108	174109
1NC 1NO Snap	174110	174111	174112

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174101-GC



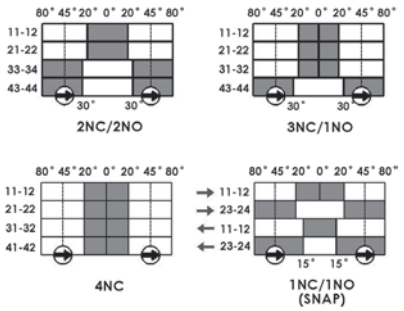
Safety Limit Switches: **HLM (Die-Cast)**

HLM SPRING LEVER:

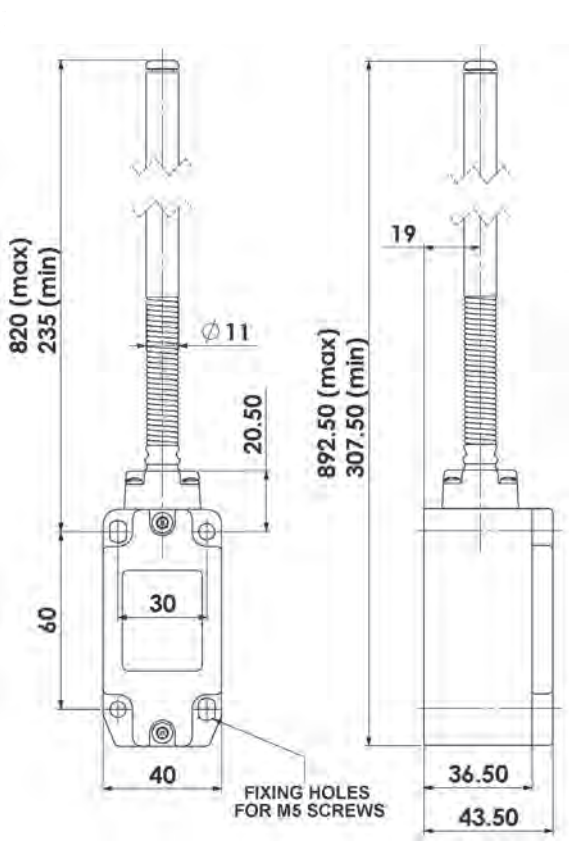


HLM SPRING LEVER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174151	174152	174153
3NC 1NO	174154	174155	174156
4NC	174157	174158	174159
1NC 1NO Snap	174160	174161	174162

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174151-GC

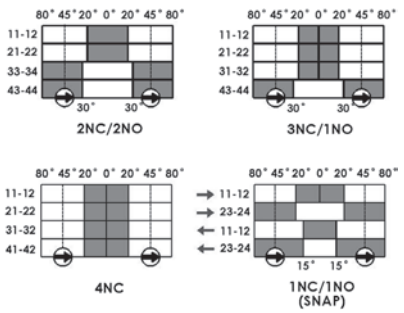


HLM TELESCOPIC SPRING LEVER:



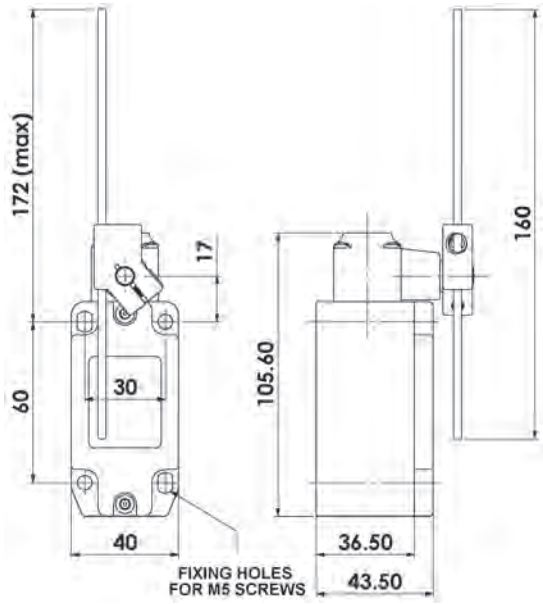
HLM TELESCOPIC SPRING LEVER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174201	174202	174203
3NC 1NO	174204	174205	174206
4NC	174207	174208	174209
1NC 1NO Snap	174210	174211	174212

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174201-GC



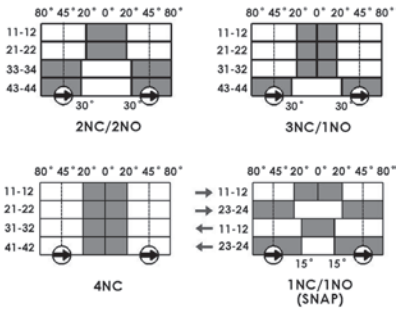
Safety Limit Switches: **HLM (Die-Cast)**

HLM LEVER ARM

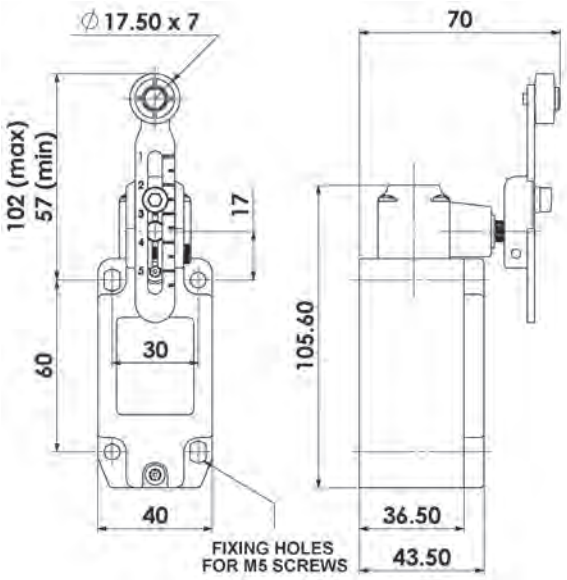


HLM LEVER ARM	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174251	174252	174253
3NC 1NO	174254	174255	174256
4NC	174257	174258	174259
1NC 1NO Snap	174260	174261	174262

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174151-GC

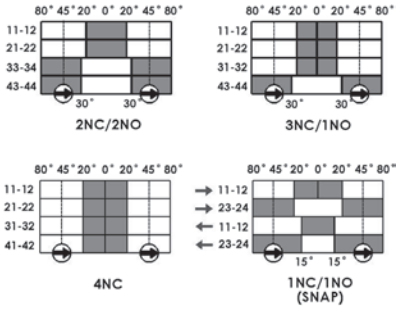


HLM ADJUSTABLE ROLLER LEVER:



HLM ADJUSTABLE ROLLER LEVER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174301	174302	174303
3NC 1NO	174304	174305	174306
4NC	174307	174308	174309
1NC 1NO Snap	174310	174311	174312

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174201-GC



Safety Limit Switches: **HLM-SS (S/Steel 316)**

APPLICATIONS:

IDEM's HLM-SS range of heavy duty Stainless Steel 316 Safety Limit Switches have been designed to be mounted for position sensing of moving applications e.g. guard doors, conveyors, machine beds and elevators. They are available with an extensive range of actuator heads and can be supplied with either slow break or snap action contacts. The full HLM-SS range is suitable for high temperature wash down at high temperature with detergent .

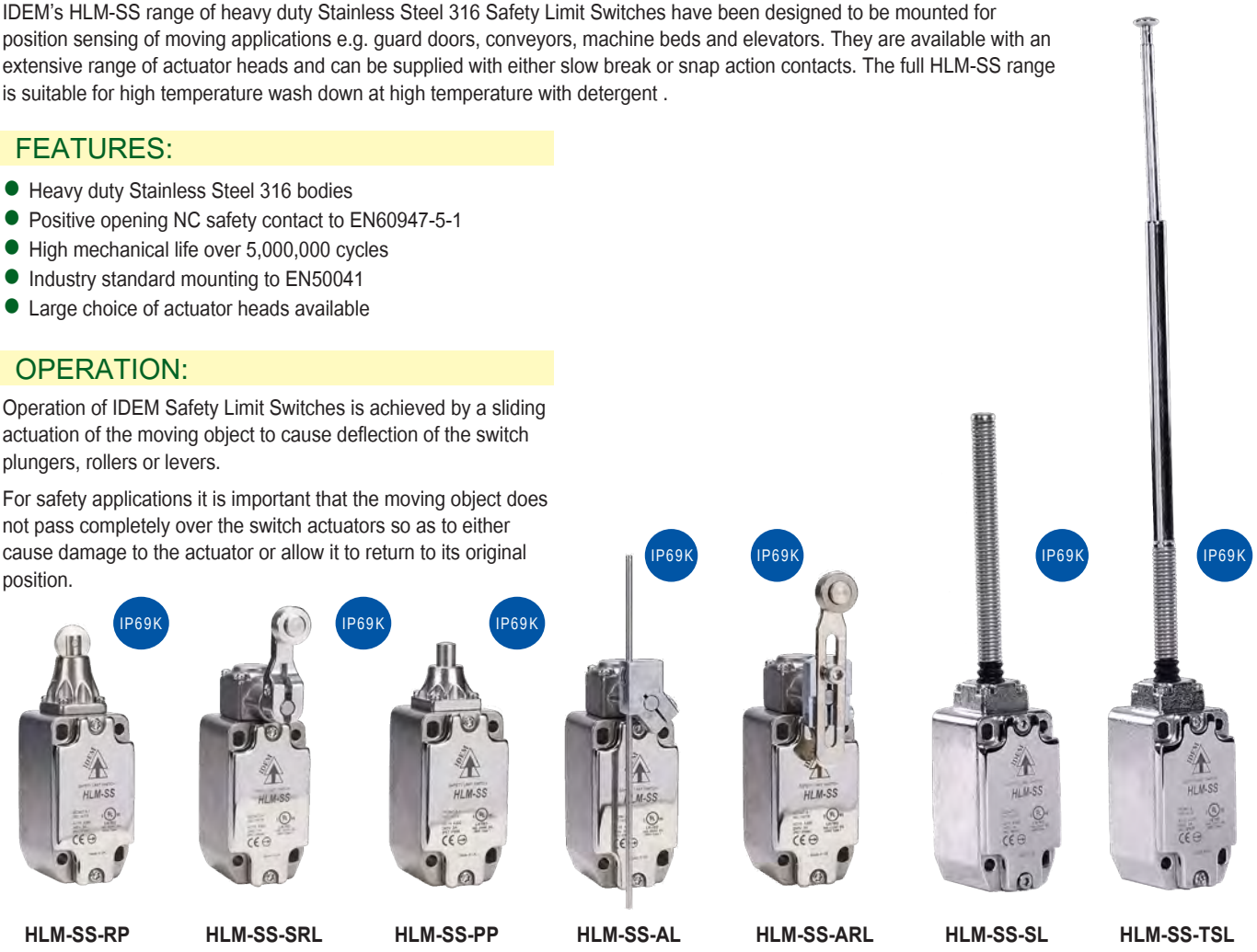
FEATURES:

- Heavy duty Stainless Steel 316 bodies
- Positive opening NC safety contact to EN60947-5-1
- High mechanical life over 5,000,000 cycles
- Industry standard mounting to EN50041
- Large choice of actuator heads available

OPERATION:

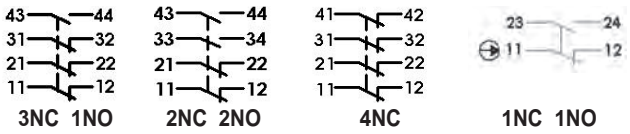
Operation of IDEM Safety Limit Switches is achieved by a sliding actuation of the moving object to cause deflection of the switch plungers, rollers or levers.

For safety applications it is important that the moving object does not pass completely over the switch actuators so as to either cause damage to the actuator or allow it to return to its original position.



CONTACT BLOCKS:

Contact blocks provide positively operated safety contacts to EN60947-5-1 with optional Explosion Proof versions available.



S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

QUICK CONNECT:

Connector IP67

Quick Connect (QC) M23 12 Way Male (connector length 26mm) (pin view from switch)	Switch Circuit
1 3	11/12
4 6	21/22
7 8	33/34 or 31/32
9 10	41/42 or 43/44
12	Earth

EX CLASSIFICATION:

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb

Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

EXPLOSION PROOF MODELS ALSO AVAILABLE.
SEE MODELS/PART NUMBERS MARKED WITH EX

TECHNICAL SPECIFICATIONS:

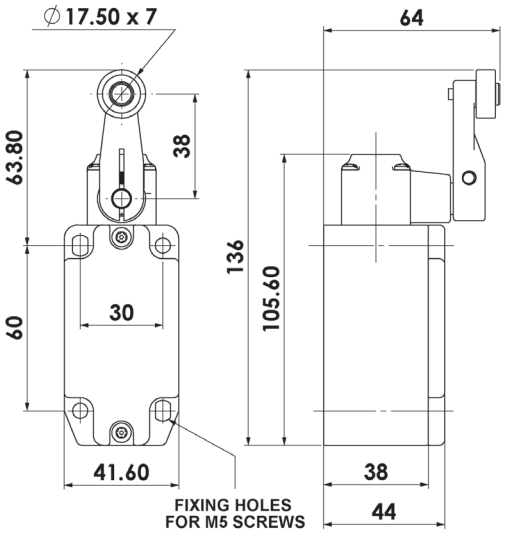
Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	$2.5x10^6$ operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data - Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Positive Opening Operation	NC contacts
Utilisation Category	AC15 A300 240V 3A
Minimum Current	5V 5mA dc
Thermal Current (Ith)	10A
Rated Insulation Voltage	300Vac
Rated Impulse Withstand	2500Vac
Maximum Switching Speed	250mm/sec
Maximum Switching Frequency	6,000 operations per hour
Case Material	Stainless Steel 316
Enclosure Protection	IP67/IP69K
Operating Temperature	-25C to +80C
Mechanical Life Expectancy	$5x10^{-6}$ cycle min.
Electrical Life Expectancy	100,000 cycle min (at full load)
Vibration	IEC68-2-6 10-55Hz 0.35mm
Conductor Size	$1.5mm^2$
Fixing	M5 bolts

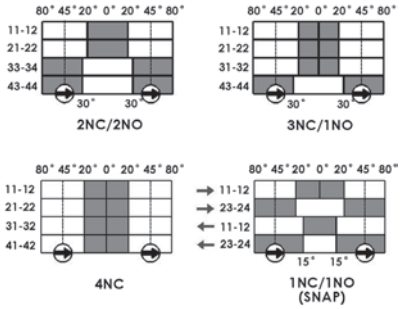
Safety Limit Switches: **HLM-SS (S/Steel 316)**

HLM-SS SHORT ROLLER LEVER:

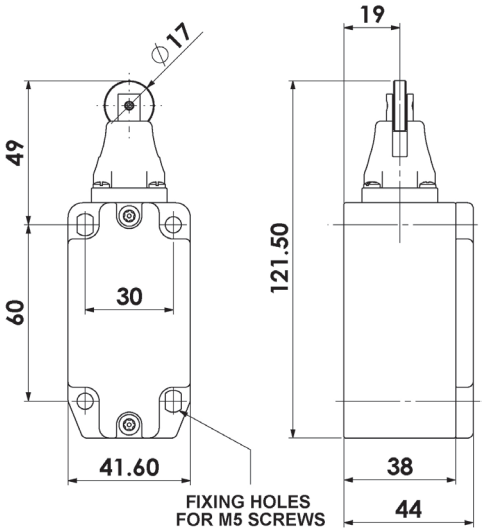


HLM-SS SHORT ROLLER LEVER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175001	175002	175003
3NC 1NO	175004	175005	175006
4NC	175007	175008	175009
1NC 1NO Snap	175010	175011	175012

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 175001-GC

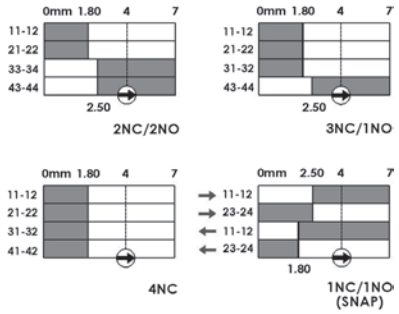


HLM-SS ROLLER PLUNGER:

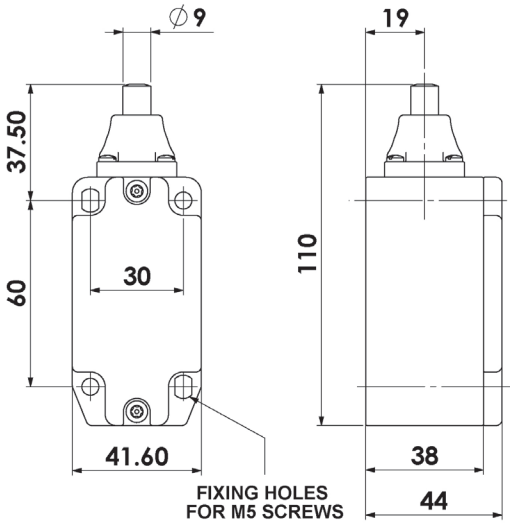


HLM-SS ROLLER PLUNGER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175051	175052	175053
3NC 1NO	175054	175055	175056
4NC	175057	175058	175059
1NC 1NO Snap	175060	175061	175062

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 175051-GC

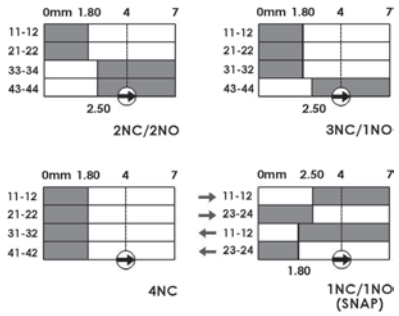


HLM-SS PIN PLUNGER:



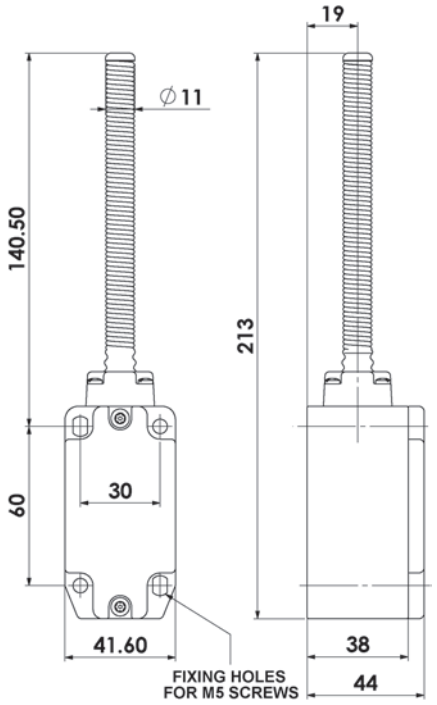
HLM-SS PIN PLUNGER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175101	175102	175103
3NC 1NO	175104	175105	175106
4NC	175107	175108	175109
1NC 1NO Snap	175110	175111	175112

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 175101-GC



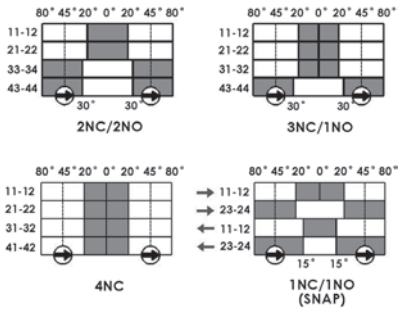
Safety Limit Switches: **HLM-SS (S/Steel 316)**

HLM-SS SPRING LEVER:

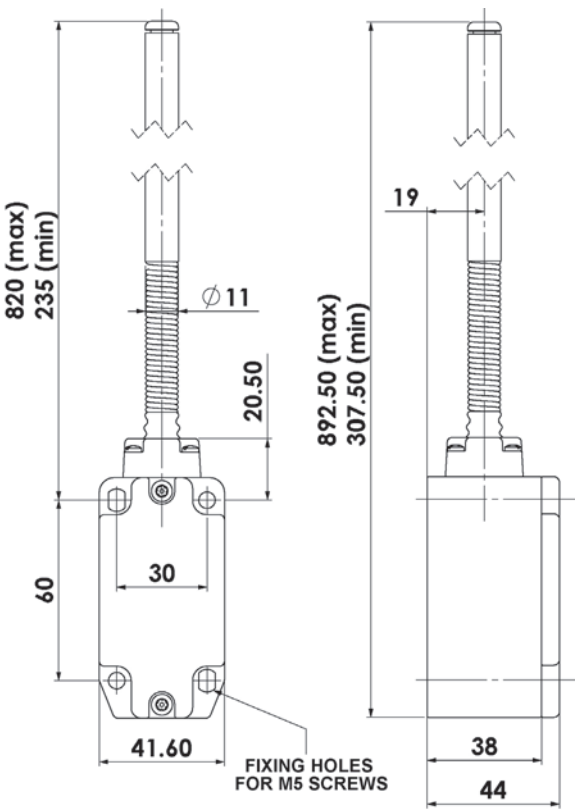


HLM-SS SPRING LEVER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175151	175152	175153
3NC 1NO	175154	175155	175156
4NC	175157	175158	175159
1NC 1NO Snap	175160	175161	175162

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 175151-GC

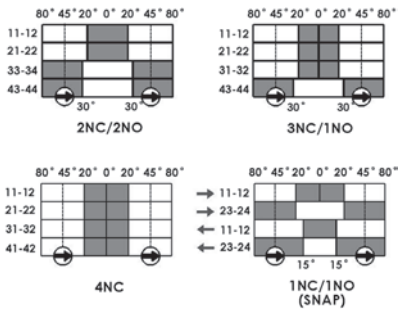


HLM-SS TELESCOPIC SPRING LEVER:



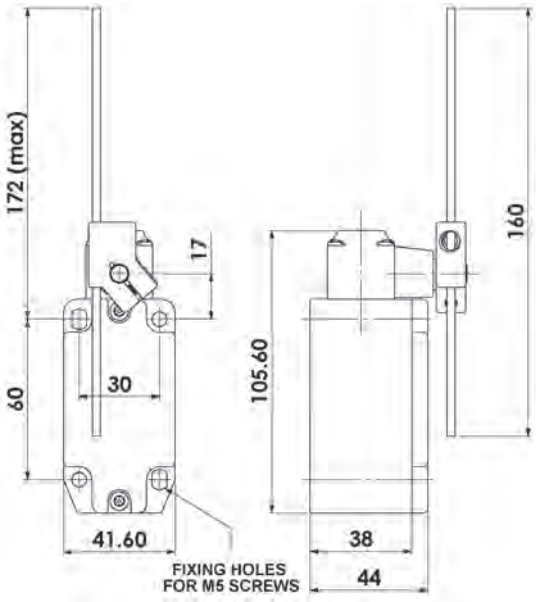
HLM-SS TELESCOPIC SPRING LEVER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175201	175202	175203
3NC 1NO	175204	175205	175206
4NC	175207	175208	175209
1NC 1NO Snap	175210	175211	175212

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 175201-GC



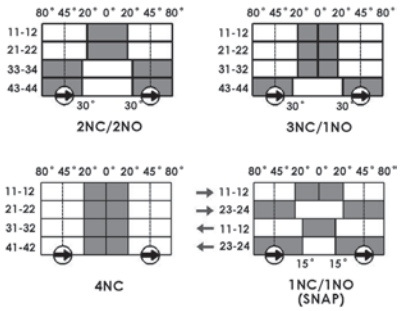
Safety Limit Switches: **HLM-SS (S/Steel 316)**

HLM-SS LEVER ARM

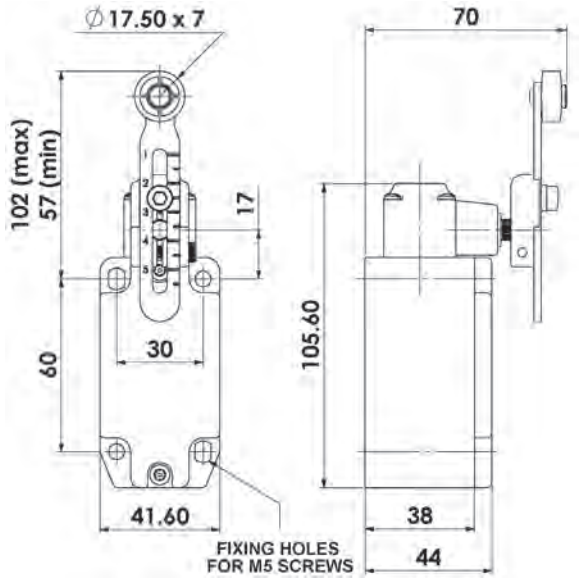


HLM-SS LEVER ARM	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175251	175252	175253
3NC 1NO	175254	175255	175256
4NC	175257	175258	175259
1NC 1NO Snap	175260	175261	175262

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174151-GC

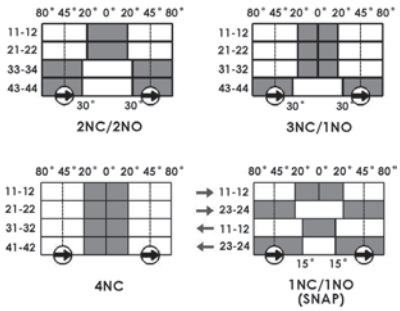


HLM-SS ADJUSTABLE ROLLER LEVER:



HLM-SS ADJUSTABLE ROLLER LEVER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175301	175302	175303
3NC 1NO	175304	175305	175306
4NC	175307	175308	175309
1NC 1NO Snap	175310	175311	175312

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 174201-GC



Safety Limit Switches **Type: LSPS (Plastic Body)**

APPLICATIONS:

IDEM's extensive range of LSPS Safety Limit Switches have been designed to be mounted for position sensing of moving applications e.g. guard doors, conveyors, machine beds and elevators. They are available with linear plungers, rotary levers, roller plungers or spring levers and are available with either slow break or snap action contacts.

FEATURES:

- Positive opening safety contact to EN60947-5-1
- High mechanical life over 5,000,000 cycles
- Enclosure protection to IP67 - suitable for washdown
- Extensive choice of 11 actuator heads - linear, rotary, roller or flexible actions
- Head position adjustment any of 4 positions
- Conduit entries available: M20, 1/2"NPT or Quick Connect option

OPERATION:

Operation of LSPS Safety Limit Switches is achieved by a sliding actuation of the moving object to cause deflection of the switch plungers, rollers, levers or flexible actuators.

For safety applications it is important that the moving object does not pass completely over the switch actuators so as to either cause damage to the actuator or allow it to return to its original position.

PP RP HL LHL RL ARL

CONTACT BLOCKS:

2NC	**1NO**	Slow Break
3NC		Slow Break
1NC	**1NO**	Snap Action

CONDUIT ENTRY:

M	M20 version
N	1/2" NPT version
Q	Quick Connect version

LRL LA CW PSL SL

ACTUATOR TYPES:

PP	Pin Plunger
RP	Roller Plunger
HL	Hinge Lever
LHL	Long Hinge Lever
RL	Roller Lever
ARL	Adjustable Roller Lever
LRL	Large Roller Lever
LA	Lever Arm
CW	Cats Whisker
PSL	Plastic Spring Lever
SL	Spring Lever

LSPS (all models) QUICK CONNECT:

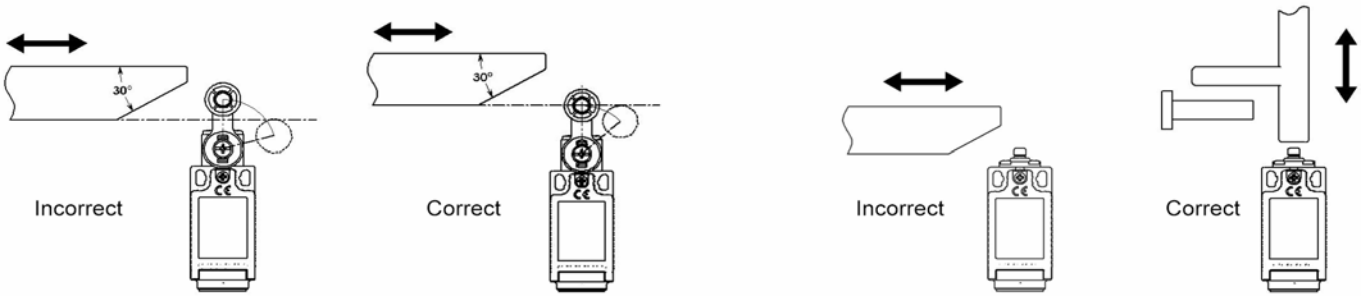
Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) (pin view from switch)	Switch Circuit
1 7	11/12
6 5	21/22
4 3	33/34 or 31/32

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 171001-GC

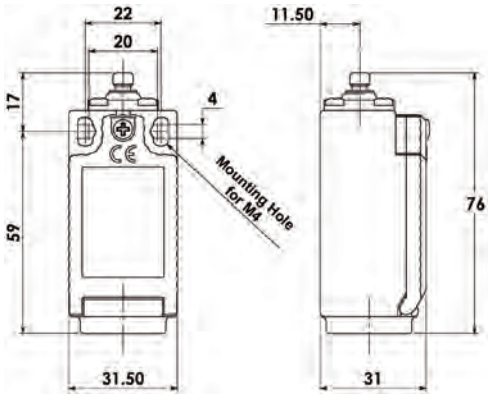
Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	$2.5x10^6$ operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data - Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilisation Category	AC15 A300 240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage	300Vac
Rated Impulse Withstand	2500Vac
Insulation Resistance	100MΩ min.
Maximum Switching Speed	250mm/sec
Case Material	UL approved glass-filled polyester
Roller Material	Various polyesters
Enclosure Protection	IP67
Operating Temperature	-25C to +80C
Mechanical Life Expectancy	$5x10^{-6}$ cycle min.
Vibration	IEC68-2-6 10-55Hz 0.35mm 1octave/min
Conduit Entry	M20 or 1.2"NPT

Safety Limit Switches **Type: LSPS (Plastic Body)**

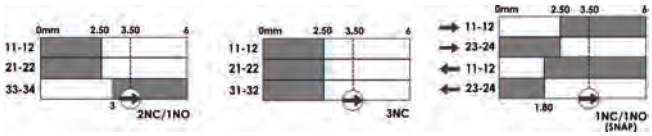
OPERATION:



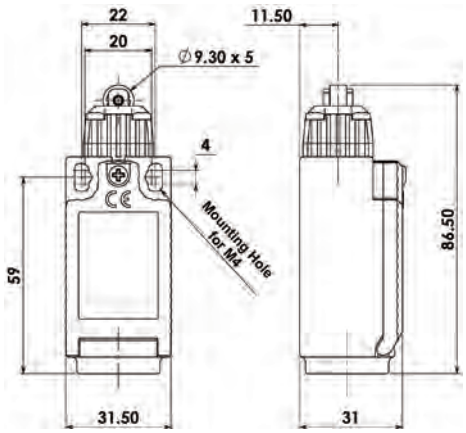
LSPS PIN PLUNGER:



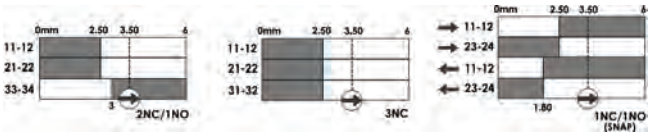
PIN PLUNGER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171001	171002	171003
3NC	171004	171005	171006
1NC 1NO Snap	171007	171008	171009



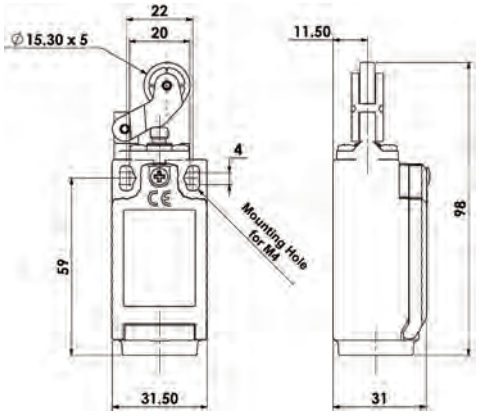
LSPS ROLLER PLUNGER:



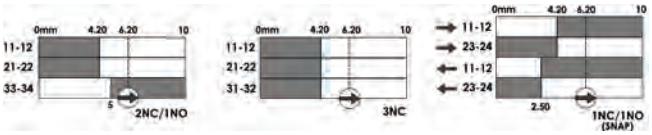
ROLLER PLUNGER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171010	171011	171012
3NC	171013	171014	171015
1NC 1NO Snap	171016	171017	171018



LSPS HINGE LEVER:



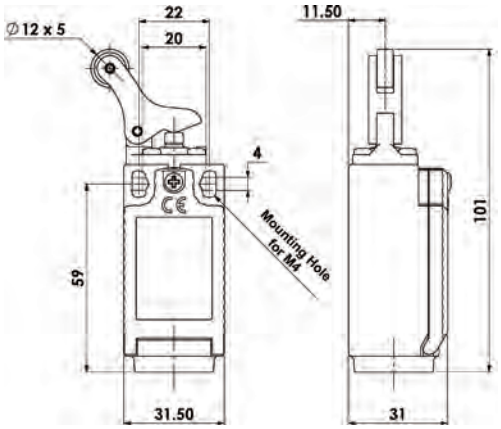
HINGE LEVER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171019	171020	171021
3NC	171022	171023	171024
1NC 1NO Snap	171025	171026	171027



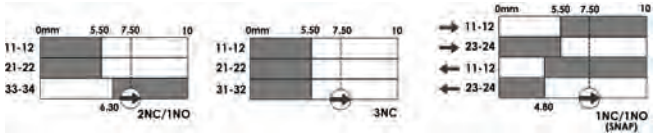
Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 171001-GC

Safety Limit Switches **Type: LSPS (Plastic Body)**

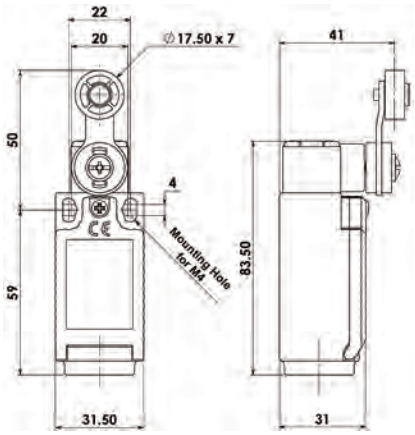
LSPS LONG HINGE LEVER:



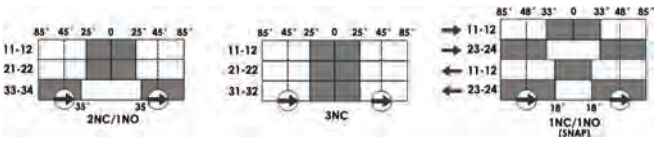
LONG HINGE LEVER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171028	171029	171030
3NC	171031	171032	171033
1NC 1NO Snap	171034	171035	171036



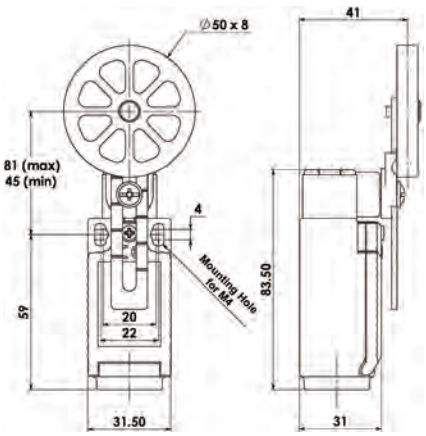
LSPS ROLLER LEVER:



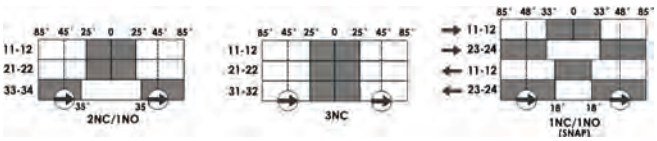
ROLLER LEVER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171037	171038	171039
3NC	171040	171041	171042
1NC 1NO Snap	171043	171044	171045



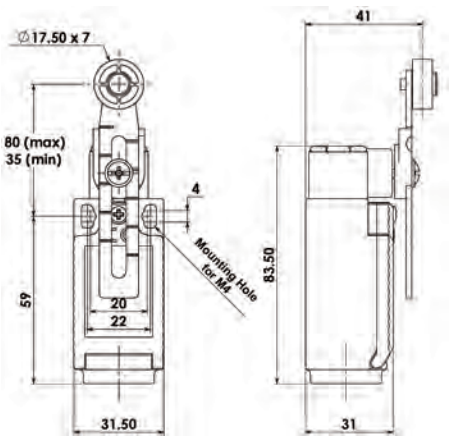
LSPS LARGE ROLLER LEVER:



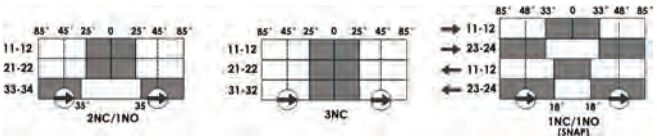
LARGE ROLLER LEVER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171046	171047	171048
3NC	171049	171050	171051
1NC 1NO Snap	171052	171053	171054



LSPS ADJUSTABLE ROLLER LEVER:



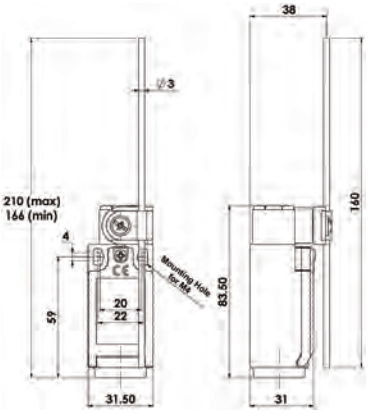
ADJUSTABLE ROLLER LEVER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171055	171056	171057
3NC	171058	171059	171060
1NC 1NO Snap	171061	171062	171063



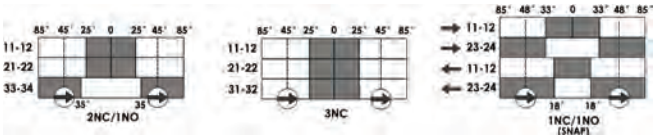
Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 171028-GC

Safety Limit Switches **Type: LSPS (Plastic Body)**

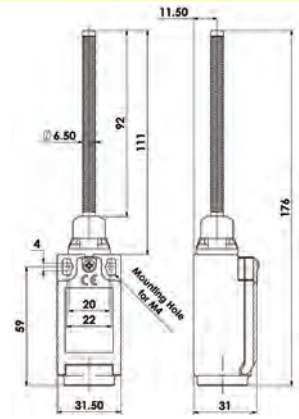
LSPS LEVER ARM:



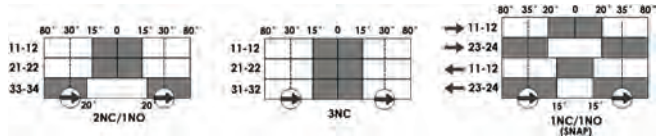
LEVER ARM	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171064	171065	171066
3NC	171067	171068	171069
1NC 1NO Snap	171070	171071	171072



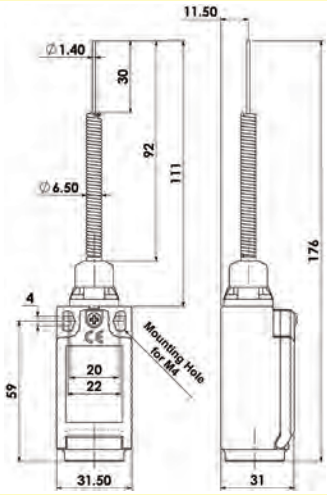
LSPS SPRING LEVER:



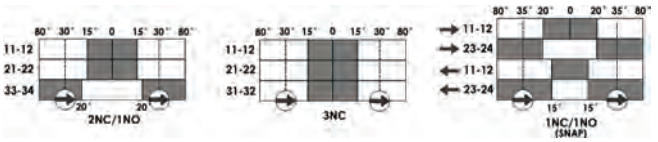
SPRING LEVER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171091	171092	171093
3NC	171094	171095	171096
1NC 1NO Snap	171097	171098	171099



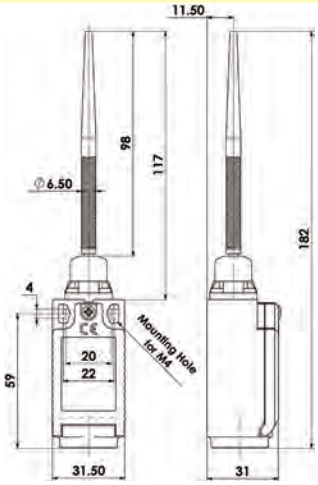
LSPS CATS WHISKER:



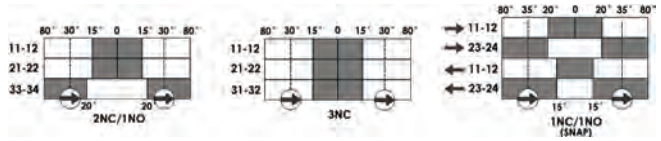
CATS WHISKER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171073	171074	171075
3NC	171076	171077	171078
1NC 1NO Snap	171079	171080	171081



LSPS PLASTIC SPRING LEVER:



PLASTIC SPRING LEVER	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	171082	171083	171084
3NC	171085	171086	171087
1NC 1NO Snap	171088	171089	171090



Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 171064-GC

Safety Limit Switches **Type: LSPS-R (Plastic Body with Reset)**

OVERVIEW:

PP-R RP-R HL-R LHL-R RL-R ARL-R LRL-R LA-R

FEATURES:

- Lockable head mechanism
- Requires manual reset after the lock has been engaged
- Positive opening safety contacts to EN60947-5-1
- Extensive choice of 8 actuator heads - linear or rotary actions
- Head position adjustment any of 4 positions
- Enclosure protection to IP67 - suitable for washdown
- Conduit entries: M20, 1/2"NPT or QC (Quick Connect)

ACTUATOR TYPES:

PP-R	Pin Plunger
RP-R	Roller Plunger
HL-R	Hinge Lever
LHL-R	Long Hinge Lever
RL-R	Roller Lever
ARL-R	Adjustable Roller Lever
LRL-R	Large Roller Lever
LA-R	Lever Arm

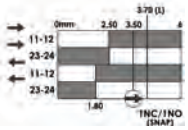
CONTACT BLOCKS:

2NC	**1NO**	Slow Break
3NC		Slow Break
1NC	**1NO**	Snap Action

CONDUIT ENTRY:

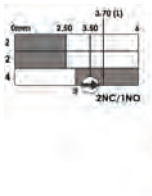
M	M20 version
N	1/2" NPT version
Q	Quick Connect version

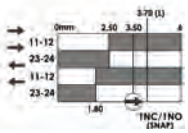
LSPS-R PIN PLUNGER WITH RESET:



PIN PLUNGER WITH RESET	SALES NUMBERS		
Contacts	**M20**	**1/2"NPT**	**QC12**
2NC 1NO	173001	173002	173003
3NC	173004	173005	173006
1NC 1NO Snap	173007	173008	173009

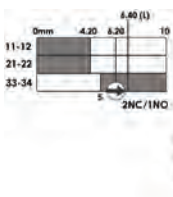
LSPS-R ROLLER PLUNGER WITH RESET:

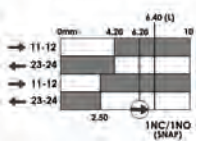




ROLLER PLUNGER WITH RESET	SALES NUMBERS		
Contacts	**M20**	**1/2"NPT**	**QC12**
2NC 1NO	173010	173011	173012
3NC	173013	173014	173015
1NC 1NO Snap	173016	173017	173018

LSPS-R HINGE LEVER WITH RESET:

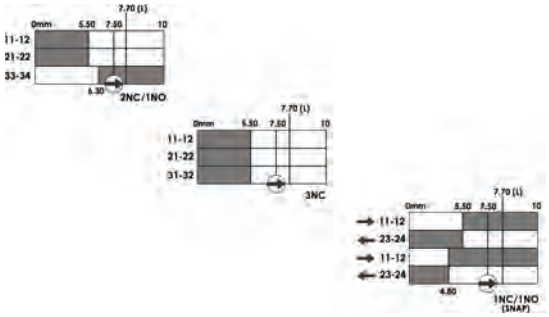




HINGE LEVER WITH RESET	SALES NUMBERS		
Contacts	**M20**	**1/2"NPT**	**QC12**
2NC 1NO	173019	173020	173021
3NC	173022	173023	173024
1NC 1NO Snap	173025	173026	173027

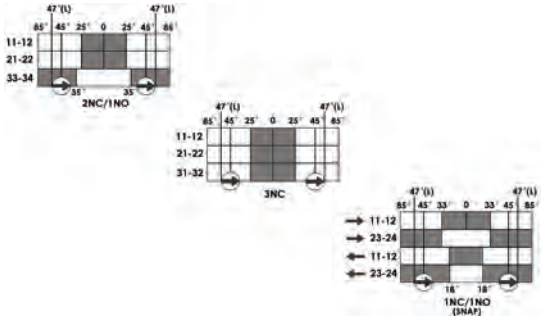
Safety Limit Switches **Type: LSPS-R (Plastic Body with Reset)**

LSPS-R LONG HINGE LEVER WITH RESET:



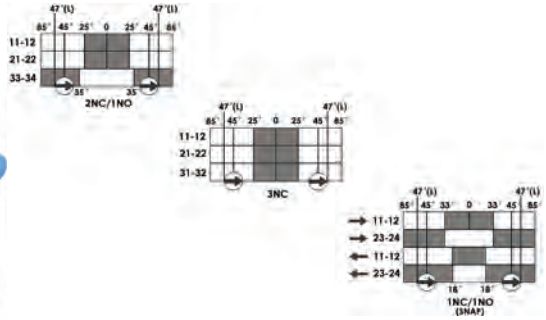
LONG HINGE LEVER WITH RESET	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	173028	173029	173030
3NC	173031	173032	173033
1NC 1NO Snap	173034	173035	173036

LSPS-R ROLLER LEVER WITH RESET:



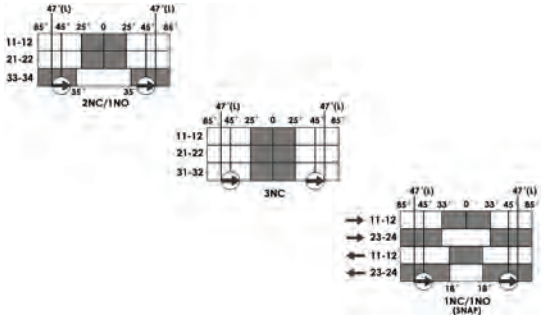
ROLLER LEVER WITH RESET	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	173037	173038	173039
3NC	173040	173041	173042
1NC 1NO Snap	173043	173044	173045

LSPS-R LARGE ROLLER LEVER WITH RESET:



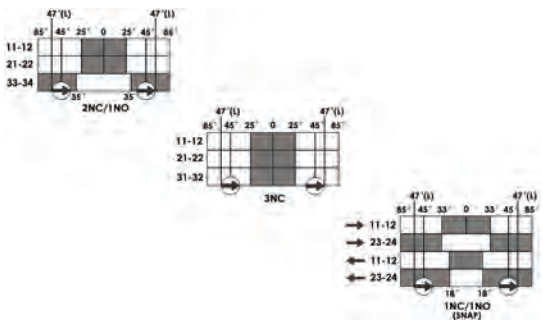
LARGE ROLLER LEVER RESET	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	173046	173047	173048
3NC	173049	173050	173051
1NC 1NO Snap	173052	173053	173054

LSPS-R ADJUSTABLE ROLLER LEVER WITH RESET:



ADJUSTABLE ROLLER LEVER RESET	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	173055	173056	173057
3NC	173058	173059	173060
1NC 1NO Snap	173061	173062	173063

LSPS-R LEVER ARM WITH RESET:

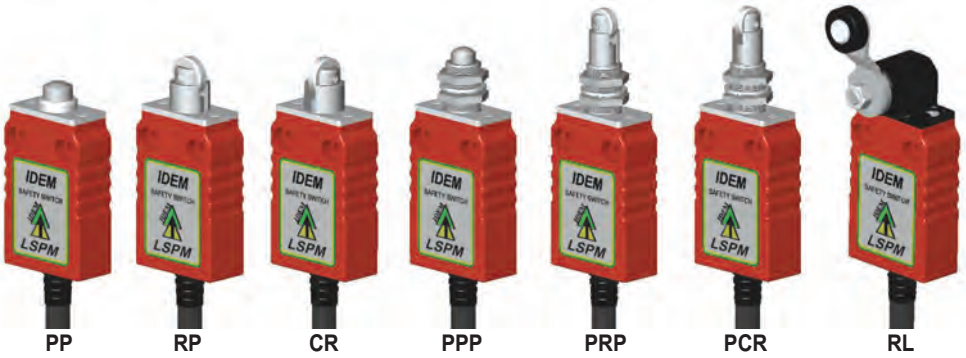


LEVER ARM RESET	SALES NUMBERS		
Contacts	M20	1/2"NPT	QC12
2NC 1NO	173064	173065	173066
3NC	173067	173068	173069
1NC 1NO Snap	173070	173071	173072

Safety Limit Switches **Type: LSPM (Plastic Body)**

APPLICATION:

IDEM's range of LSPM Safety Limit Switches are designed to be mounted for position sensing of moving applications e.g. guard doors, conveyors, machine beds and elevators. They are available with linear plungers, rotary levers or roller plungers with either slow break or snap action contacts.



FEATURES:

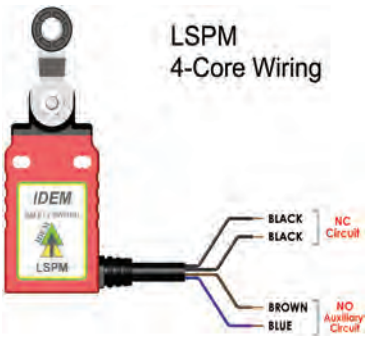
- Standard Duty with plastic body (red colour)
- Positive opening NC safety contacts to EN60947-5-1
- High mechanical life over 5,000,000 cycles
- Enclosure protection to IP67 - suitable for washdown
- Unique 3 pole positively operated contacts
- Extensive choice of 7 actuator heads - linear and rotary
- Side or end cable exit available to assist with fitting
- Wide operating temperature range from -25C up to +80C

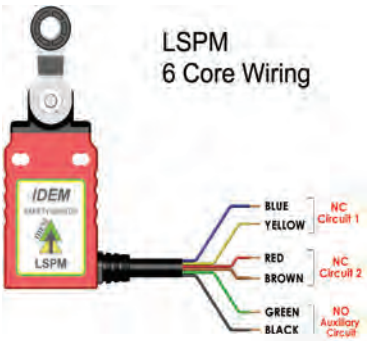
OPERATION:

Operation of LSPM Safety Limit Switches is achieved by a sliding actuation of the moving object to cause deflection of the switch plungers or levers.

For safety applications it is important that the moving object does not pass completely over the switch actuators so as to either cause damage to the actuator or allow it to return to its original position.

WIRING:





ACTUATOR TYPES:

PP	Pin Plunger
RP	Roller Plunger
CR	Cross Roller Plunger
RL	Roller Lever
PPP	Panel Mount Pin Plunger
PRP	Panel Mount Roller Plunger
PCR	Panel Mount Cross Roller Plunger

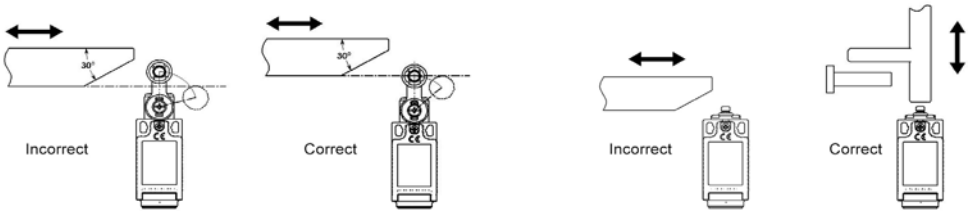
CONTACT BLOCKS:

2NC	**1NO**	Slow Break
1NC	**1NO**	Snap Action

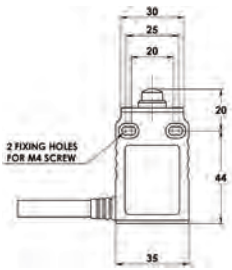
CONDUIT EXIT:

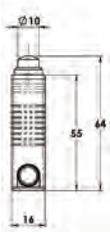
S	Side Exit version
E	End Exit version

Standards:	ISO14119 EN60947-5-1 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	$2.5x10^6$ operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data - Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Utilisation Category	AC15 A300 240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage	300Vac
Rated Impulse Withstand	2500Vac
Insulation Resistance	100MΩ min.
Max. Switching Speed	250mm/sec
Max. Switching Frequency	6,000 operations per hr.
Case Material	Plastic
Roller Material	Various polymers
Enclosure Protection	IP67
Operating Temperature	-25C to +80C
Mechanical Life Expectancy	5,000,000
Vibration	IEC68-2-6 10-55Hz 0.35mm 1octave/min
Conductor Size	$1.5mm^2$ 4 core or 6 core
Cable OD	8mm max.
Fixing	2xM4
Cable Length	2m

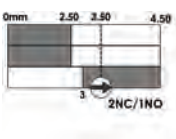


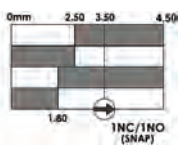
LSPM (Plastic Body) PIN PLUNGER:





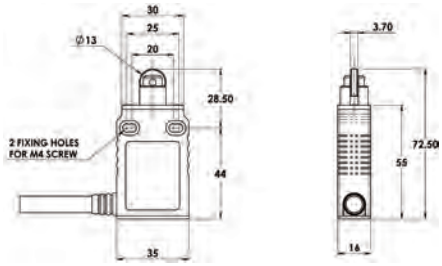
LSPM PIN PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170001	170003
1NC 1NO Snap	170002	170004



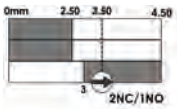


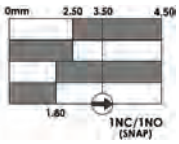
Safety Limit Switches **Type: LSPM (Plastic Body)**

LSPM (Plastic Body) ROLLER PLUNGER:

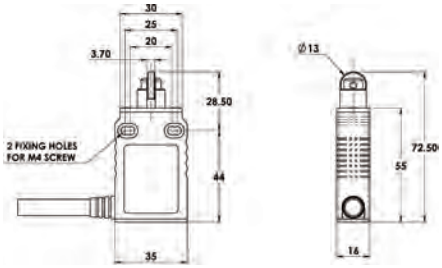


LSPM ROLLER PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170005	170007
1NC 1NO Snap	170006	170008

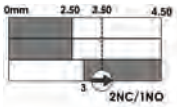


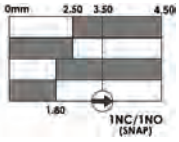


LSPM (Plastic Body) CROSS ROLLER PLUNGER:

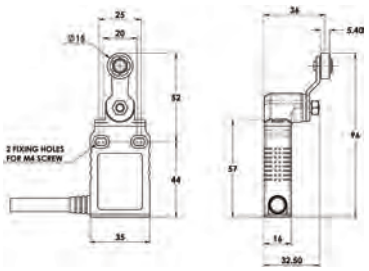


LSPM CROSS ROLLER PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170009	170010
1NC 1NO Snap	170011	170012

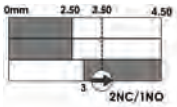


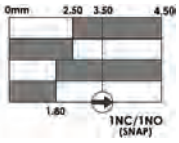


LSPM (Plastic Body) ROLLER LEVER:

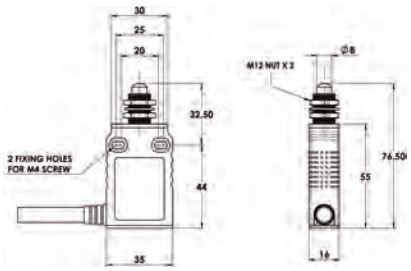


LSPM ROLLER LEVER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170013	170014
1NC 1NO Snap	170015	170016

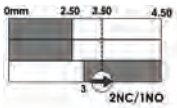


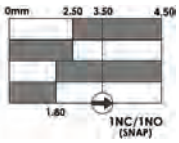


LSPM (Plastic Body) PANEL MOUNT PIN PLUNGER:

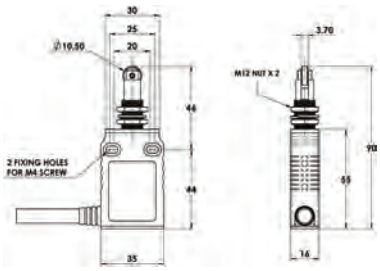


PANEL MOUNT PIN PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170017	170018
1NC 1NO Snap	170019	170020

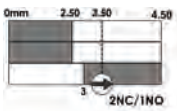


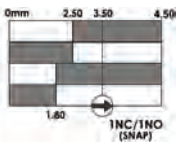


LSPM (Plastic Body) PANEL MOUNT ROLLER PLUNGER:

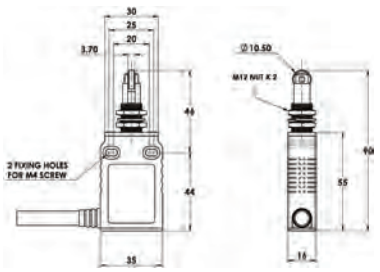


PANEL MOUNT ROLLER PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170021	170022
1NC 1NO Snap	170023	170024

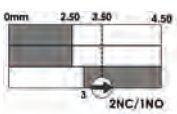


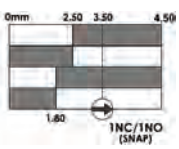


LSPM (Plastic Body) PANEL MOUNT CROSS ROLLER PLUNGER:



PANEL MOUNT CROSS ROLLER PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170025	170026
1NC 1NO Snap	170027	170028

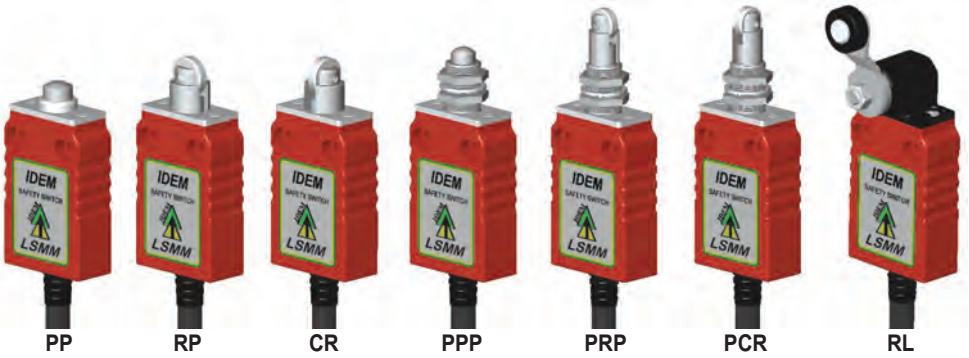




Safety Limit Switches **Type: LSMM (Metal Body)**

APPLICATION:

IDEM's range of LSMM Safety Limit Switches are designed to be mounted for position sensing of moving applications e.g. guard doors, conveyors, machine beds and elevators. They are available with linear plungers, rotary levers or roller plungers with either slow or snap action contacts.



FEATURES:

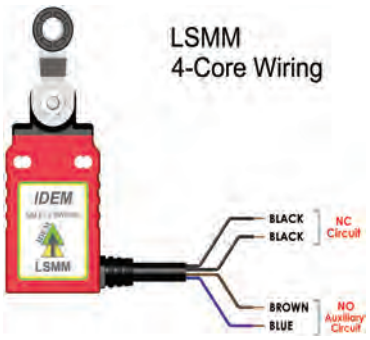
- Heavy Duty Die-Cast metal body (painted red)
- Positive opening NC safety contact to EN60947-5-1
- High mechanical life over 5,000,000 cycles
- Enclosure protection to IP67 - suitable for washdown
- Unique 3 pole positively operated contacts
- Extensive choice of 7 actuator heads - linear and rotary
- Side or end cable exit available to assist with fitting
- Wide operating temperature range from -25C up to +80C

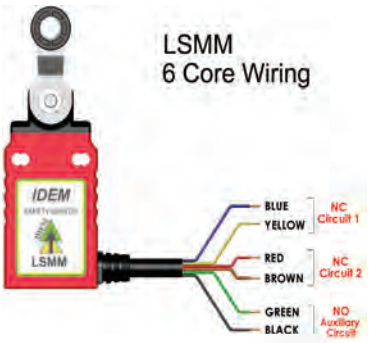
OPERATION:

Operation of LSMM Safety Limit Switches is achieved by a sliding actuation of the moving object to cause deflection of the switch plungers or levers.

For safety applications it is important that the moving object does not pass completely over the switch actuators so as to either cause damage to the actuator or allow it to return to its original position.

WIRING:





ACTUATOR TYPES:

PP Pin Plunger
RP Roller Plunger
CR Cross Roller Plunger
RL Roller Lever
PPP Panel Mount Pin Plunger
PRP Panel Mount Roller Plunger
PCR Panel Mount Cross Roller Plunger

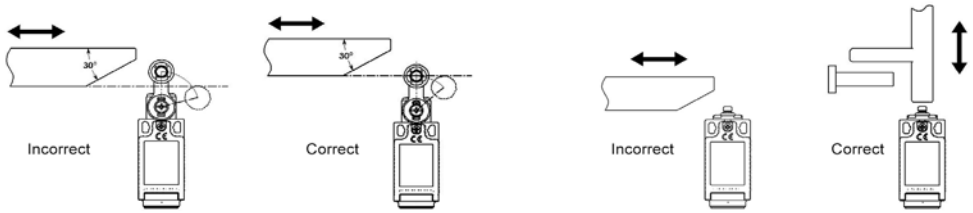
CONTACT BLOCKS:

2NC 1NO Slow Break
1NC 1NO Snap Action

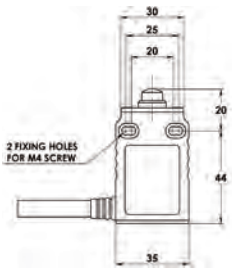
CONDUIT EXIT:

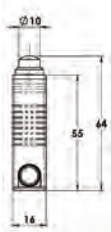
S Side Exit version
E End Exit version

Standards:	ISO14119 EN60947-5-1 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	$2.5x10^6$ operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data - Annual Usage	8 cycles per hour/24 hours per day/365 days
PFHd	$3.44x10^{-8}$
Proof Test Interval (Life)	35 years
MTTFd	356 years
Utilisation Category	AC15 A300 240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage	300Vac
Rated Impulse Withstand	2500Vac
Insulation Resistance	100MΩ min.
Max. Switching Speed	250mm/sec
Max. Switching Frequency	6,000 operations per hour
Case Material	Die-Cast Metal (painted red)
Roller Material	Various polymers
Enclosure Protection	IP67
Operating Temperature	-25C to +80C
Mechanical Life Expectancy	5,000,000
Vibration	IEC68-2-6 10-55Hz 0.35mm 1octave/min
Conductor Size	$1.5mm^2$ 4 core or 6 core
Cable OD	8mm max.
Fixing	2xM4
Cable Length	2m

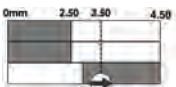


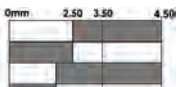
LSMM (Die-Cast Metal Body) PIN PLUNGER:





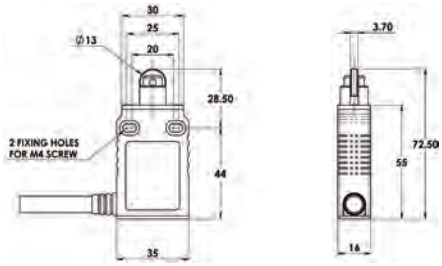
LSMM PIN PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	172001	172003
1NC 1NO Snap	172002	172004



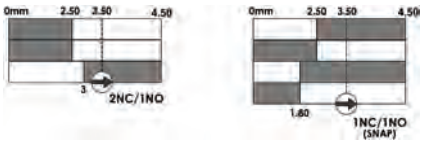


Safety Limit Switches **Type: LSMM (Metal Body)**

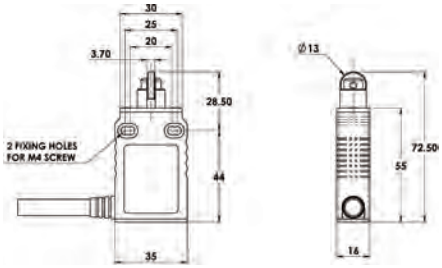
LSMM (Die-Cast Metal Body) ROLLER PLUNGER:



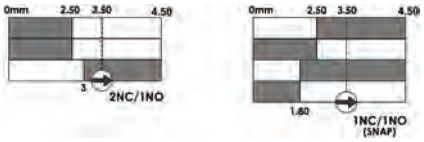
LSMM ROLLER PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	172005	172007
1NC 1NO Snap	172006	172008



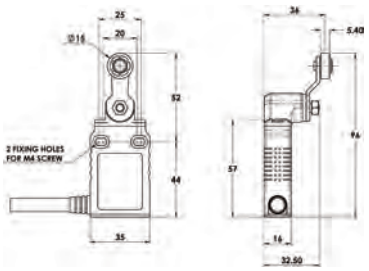
LSMM (Die-Cast Metal Body) CROSS ROLLER PLUNGER:



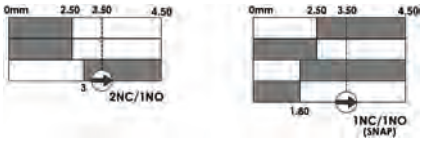
LSMM CROSS ROLLER PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	172009	172010
1NC 1NO Snap	172011	172012



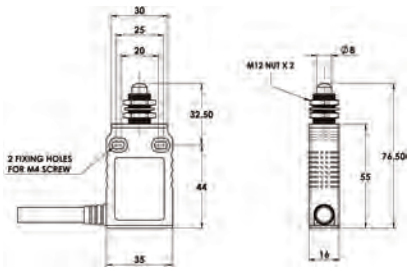
LSMM (Die-Cast Metal Body) ROLLER LEVER:



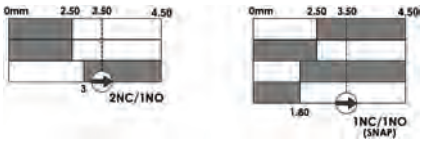
LSMM ROLLER LEVER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	172013	172014
1NC 1NO Snap	172015	172016



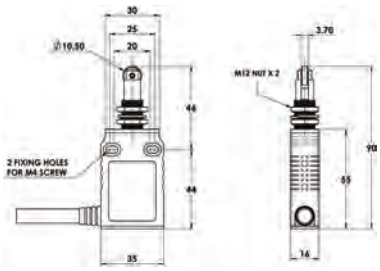
LSMM (Die-Cast Metal Body) PANEL MOUNT PIN PLUNGER:



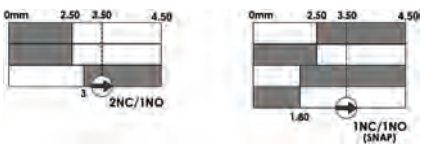
PANEL MOUNT PIN PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	172017	172018
1NC 1NO Snap	172019	172020



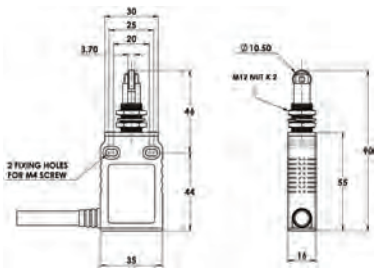
LSMM (Die-Cast Metal Body) PANEL MOUNT ROLLER PLUNGER:



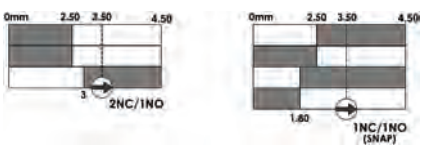
PANEL MOUNT ROLLER PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	172021	172022
1NC 1NO Snap	172023	172024



LSMM (Die-Cast Metal Body) PANEL MOUNT CROSS ROLLER PLUNGER:



PANEL MOUNT CROSS ROLLER PLUNGER	SALES NUMBERS	
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	172025	172026
1NC 1NO Snap	172027	172028



Emergency Stop Stations: **Z-Range with OSSD**

APPLICATIONS & FEATURES:

ES-P-Z

ESL-SS-Z

ESL-SS(P)-Z

EMERGENCY STOPS WITH Z-RANGE:

Our range of emergency stop buttons with OSSD (Output Signal Switching Device) outputs is engineered to meet the highest standards of industrial safety. These buttons are available in both durable plastic and premium 316 grade stainless steel, making them suitable for a variety of environments, including those with stringent hygiene or corrosion resistance requirements.

Designed in compliance with international safety standards such as ISO 13850, EN/IEC 60947-5-5, and EN/ISO 13849-1, these emergency stop buttons ensure reliable and immediate cessation of machinery operations during critical situations. The integrated LED indicators on the lid provide clear, real-time status visibility, enabling rapid and effective response during emergencies.

Built to integrate seamlessly with safety circuits, these emergency stop buttons not only meet but exceed the rigorous demands of modern industrial safety protocols. Whether you opt for the plastic or stainless steel variant, you can trust that these buttons deliver reliability and durability in even the most challenging environments.

- Available in Polyester Plastic or Stainless Steel 316
- Reliable Button Mechanism for Long Lifecycle
- OSSD Outputs for Series Connectivity
- Quick Connect for Fast Installation and Maintenance

APPLICATION:

Emergency Stop Switches are mounted on machines and sections of plant conveyors that cannot be protected by guards.

In combination with any dual channel safety monitoring controllers these switches can be used as emergency stop devices and monitored for up to Category 4/PLe to ISO13849-1.

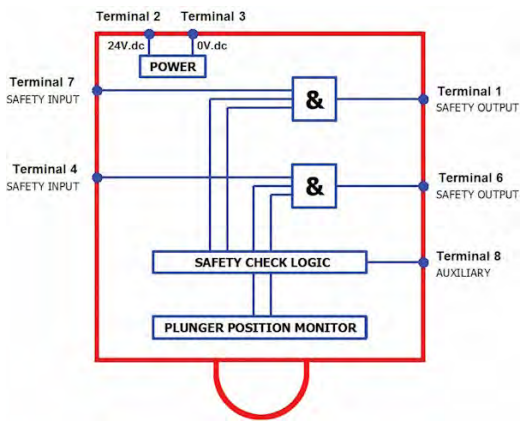
OPERATION:

All Emergency Stop Switches conform to European Standard EN ISO 13850 and IEC 60947-5-5. They have a positive mechanical linkage between the switch contacts and the E-Stop Button.

The switches are mechanically latched and can then only be returned to the operational condition by twisting the button as required by EN ISO 13850 and IEC 60947-5-5.

INTERNAL LED's (remove switch cover):

LED Function		Status
GREEN	RED	
ON	OFF	Inputs active, outputs enabled
OFF	ON	Outputs disabled
FLASHING	ON	Inputs missing, outputs disabled
OFF	FLASH 2Hz	Output fault (check for wiring short circuits)
OFF	FLASH 4Hz	Internal fault

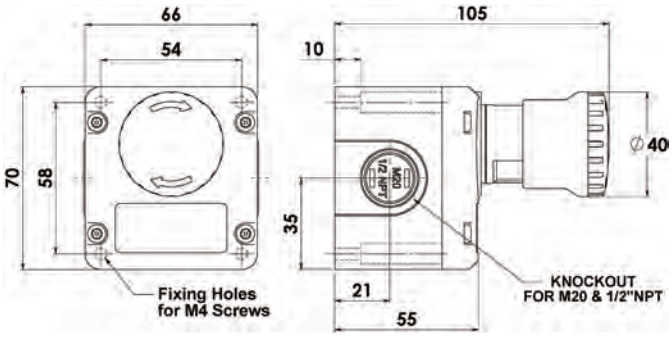


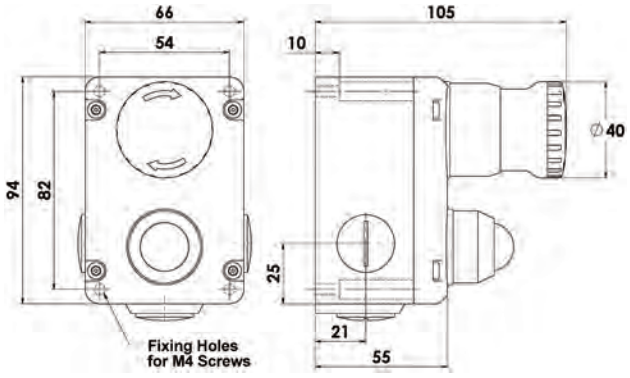
TECHNICAL SPECIFICATIONS:

Standards	
IEC 60947-5-5 UL 60947-5-1 EN ISO 13850	
Technical Data	
Rated Operating Voltage	24V DC -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24V DC
Outputs max. / min.Current	0.2 A / 1mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage / Current	24V DC / 2mA
Auxiliary Signalling Output Rated	24V DC
Auxiliary Signalling Output Max.	0.2 A PNP
Mechanical Reliability B10d	1.5 x 10 6 operations
Response Time Guard Open	60ms max.
Response Time Inputs Off	20ms max.
Operating Temperature	-20 / 50C
Dielectric Withstand	250V AC
Enclosure Protection	IP67 (Plastic) IP69K (S/Steel) QC-M12 rated to IP67
Body Material	Plastic or S/Steel 316

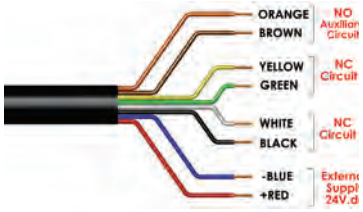
Emergency Stop Stations: **Z-Range with OSSD**

DIMENSIONS:

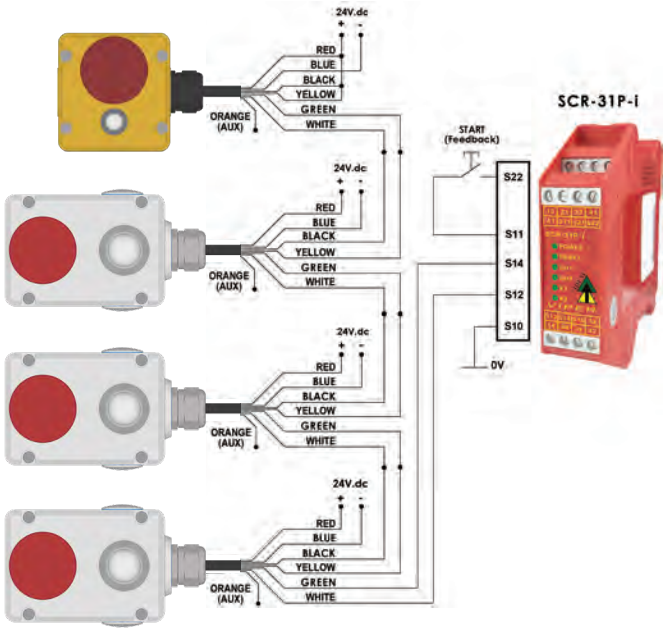




CONNECTIVITY:



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
5		Not used
8	Orange	Auxiliary



ORDERING:

ES-P-Z

ESL-SSL-Z

ESL-SSLP-Z

SALES NUMBER	DESCRIPTION	MATERIAL		CONNECTIVITY
230300-Z	ES-P-Z (Left-Hand Connector)	Plastic	2 OSSD / 1 AUX	QC-M12 8way 250mm Pigtail
230301-Z	ES-P-Z (Right-Hand Connector)	Plastic		
232300-Z	ESL-SSL-Z	Stainless Steel		
232301-Z	ESL-SSLP-Z with Shroud	Stainless Steel		

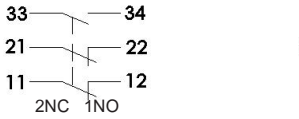
SALES NUMBER	DESCRIPTION
140101	M12 Female 5m. 8 way
140102	M12 Female 10m. 8 way
140210-Z	Z-Range 8 ports, 8-pin M12 sockets, 24 VDC LED indicator(s)
140201	Patch Cord M12 Male to Female 2m
140202	Patch Cord M12 Male to Female 5m
140203	Patch Cord M12 Male to Female 10m
140206	T-Port M12 Connector
140207	M12 Short Plug

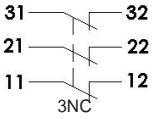
Standard Duty Emergency Stops: **ES-P (3 pole)**

DESCRIPTION & FEATURES:

IDEM ES-P Standard Duty Emergency Stop Switches have been designed to provide robust emergency stop protectionfor machines or exposed conveyors and are suitable for use within all industry sectors.

- Plastic bodies (IP67)
- Conformance to ISO13850, EN60947-5-1 and EN60947-5-5.
- A special lid safety trip mechanism means that the safety contacts will open if the lid is removed - this provides an extra degree of anti-tamper.
- Button protection shroud versions with padlock holes to enable “Lock Off” in maintenance situations.
- 3 pole contact blocks provide positively operated switch contacts.





Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 230001-GC

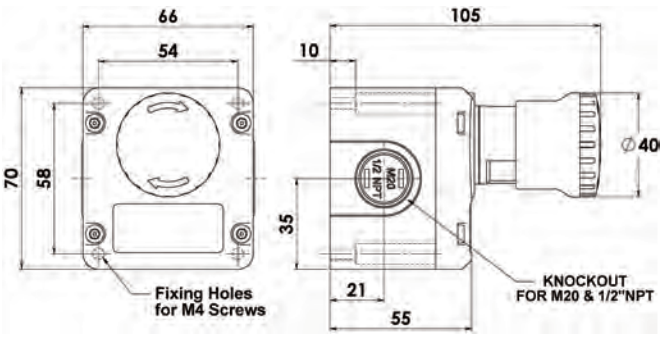
TYPE: ES-P (Plastic)
Knock out for plastic version

SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
230001	ES-P	Knockout M20 / 1/2"NPT	2NC 1NO
230002	ES-P	Knockout M20 / 1/2"NPT	3NC

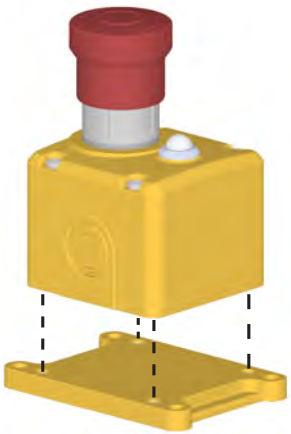
TYPE: ES-P(P) (Plastic) with button shroud
Knock out for plastic version

SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
230003	ES-P (P)	Knockout M20 / 1/2"NPT	2NC 1NO
230004	ES-P (P)	Knockout M20 / 1/2"NPT	3NC

DIMENSIONS:



TYPE: ES-P (PLASTIC)



External Mounting base for ES-P plastic emergency stops.
PN: 230110

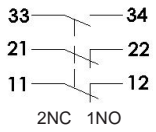
Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13850 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure/Cover Material	Polyester/Stainless Steel 316
IP Rating	IP69K - Stainless Steel 316 IP67 - Plastic
Mounting	4 x M4
Mounting Position	Any
Conduit Entries	2 x M20 or 2 x 1/2” NPT (by Sales Number) Knock out for Plastic version (ES-P)
Tongue Settings	Mounting M4 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Weight	295g to 1000g
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 3NC (positive break) 1NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

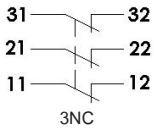
Standard Duty Emergency Stops: **ES-SS (3 pole)**

DESCRIPTION & FEATURES:

IDEM ES-SS Standard Duty Emergency Stop Switches have been designed to provide robust emergency stop protection for machines or exposed conveyors and are suitable for use within virtually all industry sectors.

- Stainless Steel 316 Housing (IP69K).
- Conformance to ISO13850, EN60947-5-1 and EN60947-5-5.
- A special lid safety trip mechanism means that the safety contacts will open if the lid is removed - this provides an extra degree of anti-tamper.
- Button protection shroud versions with padlock holes to enable “Lock Off” in maintenance situations.
- 3 pole contact blocks provide positively operated switch contacts.





TYPE: ES-SS
Stainless Steel 316

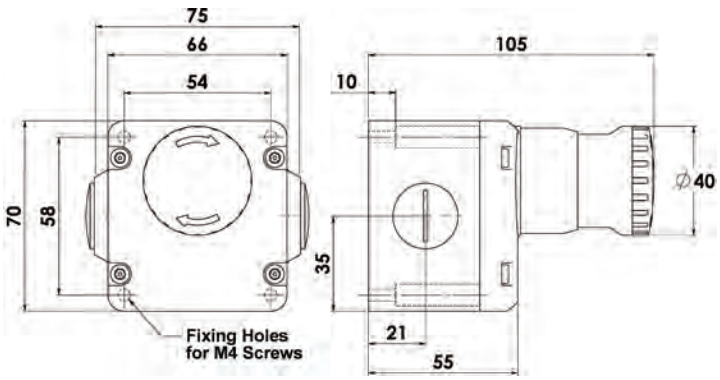
SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
231001	ES-SS	M20	2NC 1NO
231002	ES-SS	1/2”NPT	2NC 1NO
231003	ES-SS	M20	3NC
231004	ES-SS	1/2”NPT	3NC
Replacement Lid quote Sales Number: 231100			

TYPE: ES-SS(P) Stainless Steel 316 with button protection shroud and padlock holes

SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
231005	ES-SS(P)	M20	2NC 1NO
231006	ES-SS(P)	1/2”NPT	2NC 1NO
231007	ES-SS(P)	M20	3NC
231008	ES-SS(P)	1/2”NPT	3NC
Replacement Lid quote Sales Number: 231101			

Gold Plated Contacts available for low power circuits (5V 5mA). Ordering: Add GC to Part Number e.g. 230001-GC

DIMENSIONS:



TYPE: ES-SS (STAINLESS STEEL 316)

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13850 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure/Cover Material	Polyester/Stainless Steel 316
IP Rating	IP69K - Stainless Steel 316 IP67 - Plastic
Mounting	4 x M4
Mounting Position	Any
Conduit Entries	2 x M20 or 2 x 1/2” NPT (by Sales Number) Knock out for Plastic version (ES-P)
Tongue Settings	Mounting M4 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Weight	295g to 1000g
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 3NC (positive break) 1NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

Heavy Duty Emergency Stops: **GLES & GLES-SS**

DESCRIPTION & FEATURES:

IDEM GLES and GLES-SS Heavy Duty Emergency Stop Switches have been designed to provide robust emergency stop protection for machines or exposed conveyors, and are suitable for use within virtually all industry sectors.

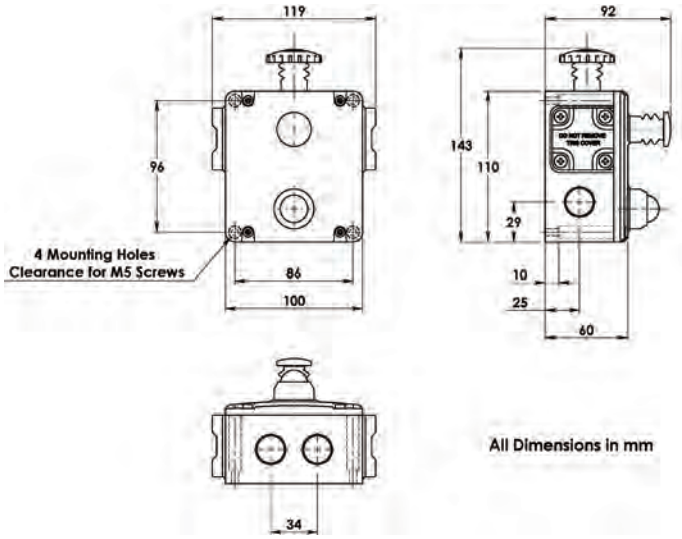
Visual indication is available (large LEDs) to provide powerful indication of system and switch status from a distance, therefore enabling the rapid re-setting of the system. Optional LED indication - Steady Green: Machine Running and Flashing Red: Machine Stopped.

Contact blocks provide up to 4 positively operated switch contacts. An optional Explosion Proof ATEX certified contact block version is available for potentially explosive areas.

- Heavy duty rugged die-cast metal body (painted yellow) or Stainless Steel 316 (Food Industry compatible).
- Conformance to ISO13850, EN60947-5-1 and EN60947-5-5.
- LED visual indication of status.
- All internal and external screws and fittings are Stainless Steel.
- Enclosure protection to IP67 - washdown suitable.
- Easy to wire offering up to 4 conduit entry points for flexibility.

IP69K

DIMENSIONS:



SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
146001	GLES	M20	4NC 2NO
146002	GLES	1/2"NPT	4NC 2NO
146003	GLES-Ex	3m 4 core Ex	1NC 1NO
146004	GLES-Ex	3m 8 core Ex	3NC 1NO
146005	GLES-Ex	3m 4 core Ex	2NC
146006	GLES-Ex	3m 8 core Ex	2NC 2NO
147001	GLES-SS	M20	4NC 2NO
147002	GLES-SS	1/2"NPT	4NC 2NO
147003	GLES-SS-Ex	3m 4 core Ex	1NC 1NO
147004	GLES-SS-Ex	3m 8 core Ex	3NC 1NO
147005	GLES-SS-Ex	3m 4 core Ex	2NC
147006	GLES-SS-Ex	3m 8 core Ex	2NC 2NO

For LED Models add Voltage Code to Sales Number
A - 24Vdc B - 110Vac C - 230Vac (i.e. 146001 with 24Vdc LED: Order 146001-A

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 146001-A-GC

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

TECHNICAL SPECIFICATIONS:

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13850 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure/Cover Material	Die-cast (painted yellow) or Stainless Steel 316
IP Rating	IP67 IP69K
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	4 x M20 or 4 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Weight	765g to 2050g
EX Contact Type	230V 4A (4-core) 230V 2.5A (8-core)

Heavy Duty Emergency Stops: **ESL-SS (4 pole)**

DESCRIPTION & FEATURES:

IDEM ESL-SS Standard Duty Emergency Stop Switches have been designed to provide robust emergency stop protection for machines or exposed conveyors, and are suitable for use within virtually all industry sectors.

- Stainless Steel 316 (IP69K) can be high pressure hosed with detergents at high temperature.
- Conformance to ISO13850, EN60947-5-1 and EN60947-5-5.
- A special lid safety trip mechanism means that the safety contacts will open if the lid is removed.
- Button protection shroud versions with padlock holes for “Lock Off” in maintenance situations.
- Optional 2-colour LED.

TYPE: ESL-SS(LP) Stainless Steel 316 with 2-Colour LED and Protection Shroud

TYPE: ESL-SS (Stainless Steel 316)

SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
232001	ESL-SS	M20	2NC 2NO
232002	ESL-SS	1/2”NPT	2NC 2NO
232003	ESL-SS	M20	3NC 1NO
232004	ESL-SS	1/2”NPT	3NC 1NO
232005	ESL-SS	M20	4NC
232006	ESL-SS	1/2”NPT	4NC
Replacement Lid quote Sales Number: 232100			

TYPE: ESL-SS(P) Stainless Steel 316 with Protection Shroud and Padlock Holes

SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
232009	ESL-SS(P)	M20	2NC 2NO
232010	ESL-SS(P)	1/2”NPT	2NC 2NO
232011	ESL-SS(P)	M20	3NC 1NO
232012	ESL-SS(P)	1/2”NPT	3NC 1NO
232013	ESL-SS(P)	M20	4NC
232014	ESL-SS(P)	1/2”NPT	4NC
Replacement Lid quote Sales Number: 232101			

TYPE: ESL-SS(L) Stainless Steel 316 with 2-Colour LED

SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
232017	ESL-SS(L)	M20	2NC 2NO
232018	ESL-SS(L)	1/2”NPT	2NC 2NO
232019	ESL-SS(L)	M20	3NC 1NO
232020	ESL-SS(L)	1/2”NPT	3NC 1NO
232021	ESL-SS(L)	M20	4NC
232022	ESL-SS(L)	1/2”NPT	4NC
232023	ESL-SS(LP)	M20	2NC 2NO
232024	ESL-SS(LP)	1/2”NPT	2NC 2NO
232025	ESL-SS(LP)	M20	3NC 1NO
232026	ESL-SS(LP)	1/2”NPT	3NC 1NO
232027	ESL-SS(LP)	M20	4NC
232028	ESL-SS(LP)	1/2”NPT	4NC
For LED Models add Voltage Code to Sales Number			
ESL-SS(L) Replacement Lid: 232102- (A, B or C)			
ESL-SS(LP) Replacement Lid: 232103- (A, B or C)			
Steady Green/Flashing Red A - 24Vdc B - 110Vac C - 230Vac			
Steady Green/Steady Red AS - 24Vdc BS - 110Vac CS - 230Vac			

Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Part Number e.g. 232001-GC

Gold Plated Contacts available for low power circuits (5V 5mA).
Ordering: Add GC to Part Number e.g. 232017-GC

EXPLOSION PROOF MODELS ALSO AVAILABLE.
PLEASE SEE PAGES 228 and 229.

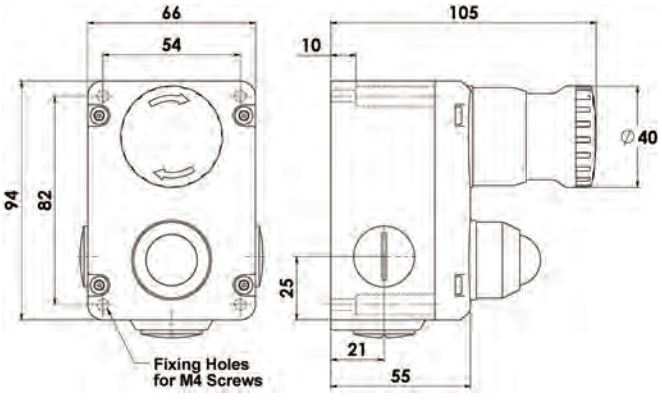
Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb **Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db**

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13850 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure/Cover Material	Stainless Steel 316
IP Rating	IP67 IP69K
Mounting	4 x M4
Mounting Position	Any
Conduit Entries	3 x M20 or 3 x 1/2” NPT (by Sales Number)
Tongue Settings	Mounting M4 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Weight	1060g to 1190g
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

IDEM recommend their Stainless Steel 316 Gland with this switch.

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

DIMENSIONS:



TYPE: ESL-SS(L)

Hygienic Emergency Stops **Type: ESL-SS-WR (4 pole)**

DESCRIPTION & FEATURES:

ESL-SS-WR

IP69K

ESL-SSL-WR
with bi-colour LED

IP69K

OVERVIEW:

The stainless steel Emergency Stop ESL-SS-WR is the latest addition to our hygienic product line. Designed specifically for stringent wash-down environments in the food, beverage, and pharmaceutical industries, this model meets the highest standards for hygiene and durability.

Constructed from 316-grade stainless steel with a mirror-polished finish, the ESL-SS-WR is easy to clean and completely non-absorbent, ensuring that a simple surface cleaning effectively removes all bacteria and germs. Its IP69K rating certifies its resistance to high-pressure, high-temperature wash-downs, making it suitable for use in strict hygienic environments.

Furthermore, the ESL-SS-WR is engineered to resist external factors such as dents and scratches, which could threaten its hygienic integrity. This ensures a sealed and protected surface, maintaining its sanitary condition even in the most demanding applications.

- Stainless Steel 316 (IP69K) can be high pressure hosed with detergents at high temperature.
- Conformance to ISO13850, EN60947-5-1 and EN60947-5-5.
- Optional 2-colour LED.
- X-Ray and Metal detectable button material.
- Flat head screws for reducing potential food-traps.

APPLICATION:

Emergency Stop Switches are mounted on machines and sections of plant conveyors that cannot be protected by guards.

In combination with any dual channel safety monitoring controllers these switches can be used as emergency stop devices and monitored for up to Category 4/PLe to ISO13849-1.

OPERATION:

All Emergency Stop Switches conform to European Standard EN ISO 13850 and IEC 60947-5-5. They have a positive mechanical linkage between the switch contacts and the E-Stop Button.

The switches are mechanically latched and can then only be returned to the operational condition by twisting the button as required by EN ISO 13850 and IEC 60947-5-5.

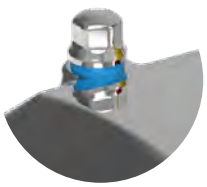
Installation on a conveyor in a food manufacturing facility.

Suitable for use in Hygienic Design Zones

These are areas where equipment regularly and predictably comes in contact with food as it being produced. Food conveyors, mixers, nozzles and cooking surfaces are examples of Hygienic Design environments.

The button is designed using a special material that is both **metal and x-ray detectable**, for use in modern food production environments. Should the button be damaged and end up on the production line, it will be detected before entering the supply chain.

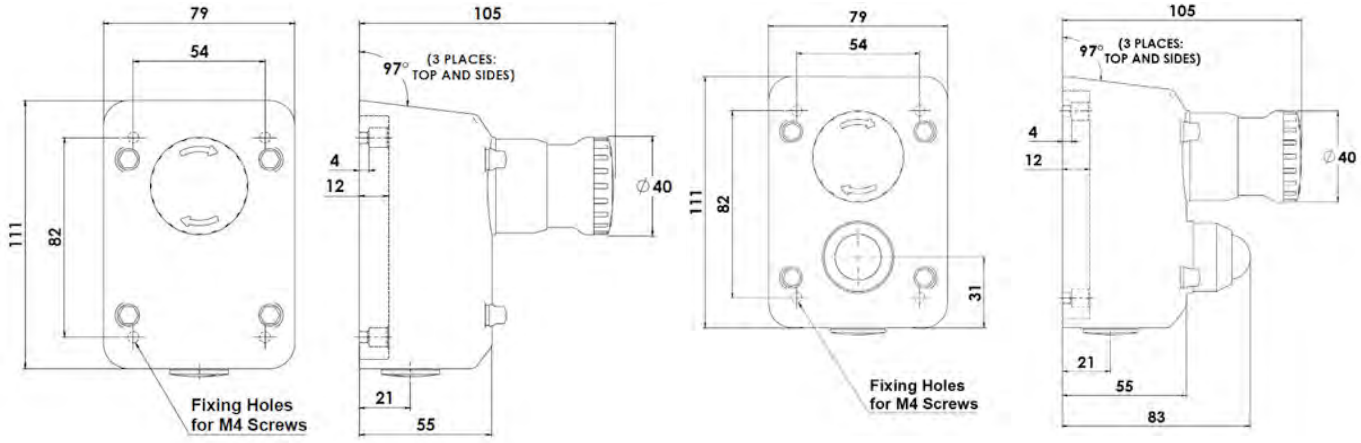
Flat screw heads removes the potential of a food trap within the "drive" section. The smooth surface area is easier to clean with rounded edges and sloped sides.



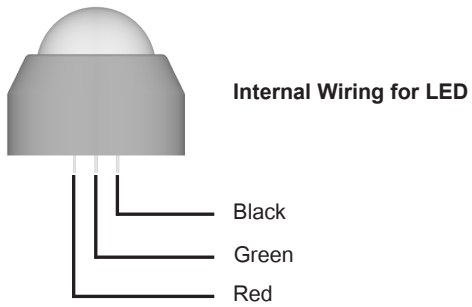
The ESL-SS-WR is comprised of **mirror polished 316 stainless steel** and combines the lid and body into a single part. This reduces the likelihood of food traps in the seam and the **10-degree angled surface** ensures no liquid remains on the product at any time.

Hygienic Emergency Stops **Type: ESL-SS-WR (4 pole)**

DIMENSIONS:



LED INDICATION:

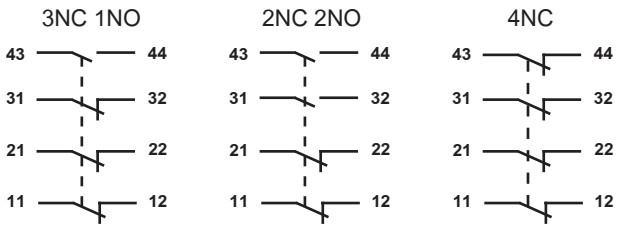


Black (or Terminal 2) is 0V (or Neutral for 110V and 230V ac versions).
When power is applied to the Red wire (or Terminal 1), the LED will illuminate Red.
When power is applied to the Green wire (or Terminal 3), the LED will illuminate Green.

GREEN ON	Run
RED ON	Stopped

INTERNAL CONTACTS:

NC - Machine able to run



TECHNICAL SPECIFICATION:

Standards	
IEC 60947-5-5 UL 60947-5-1 EN ISO 13850	
Technical Data	
Case Material	Stainless Steel 316
Safety Contact type	IEC 60947-5-1 Double break Type Zb
Contact Material	Silver
Termination	Clamp up to 2.5 sq. mm conductors
Rating	Utilisation Category : AC15
Operational Rating	AC15 A300 240V. 3A /120V 6A. ac
Thermal Current (Ith)Voltage	10A.
Rated Insulation Voltage (Ui)	500V.
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse Externally 10A. (FF)
Operating Temperature	-25C / 80C
Enclosure Protection	IP69K Stainless Steel (NEMA 6)

ORDERING:

TYPE: ESL-SS-WR (Stainless Steel 316)

SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
239001	ESL-SS-WR	M20	2NC 2NO
239002	ESL-SS-WR	1/2"NPT	2NC 2NO
239003	ESL-SS-WR	M20	3NC 1NO
239004	ESL-SS-WR	1/2"NPT	3NC 1NO
239005	ESL-SS-WR	M20	4NC
239006	ESL-SS-WR	1/2"NPT	4NC

TYPE: ESL-SSL-WR with LED (Stainless Steel 316)

SALES NUMBER	TYPE	CONDUIT ENTRY	CONTACTS
239017	ESL-SSL-WR	M20	2NC 2NO
239018	ESL-SSL-WR	1/2"NPT	2NC 2NO
239019	ESL-SSL-WR	M20	3NC 1NO
239020	ESL-SSL-WR	1/2"NPT	3NC 1NO
239021	ESL-SSL-WR	M20	4NC
239022	ESL-SSL-WR	1/2"NPT	4NC
Add Voltage Code to Sales Number			
Steady Green/Flashing Red A - 24Vdc B - 110Vac C - 230Vac			
Steady Green/Steady Red AS - 24Vdc BS - 110Vac CS - 230Vac			

IDEM recommend their Stainless Steel spacer kit and rubber mounting seal for improved hygiene. This accessory allows for easy cleaning behind the ESL-SS-WR.

SALES NUMBER	TYPE
239301	S/Steel Spacer Kit
239300	Rear Rubber Seal

IDEM recommend their Stainless Steel 316 Gland with this switch.

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

Grab Wire Safety Rope Switches: **Guardian Line Series**

GLH Range (Die Cast Housings - cover up 250m (GLHD) with one switch):

Heavy Duty Single Head
Type: GLHL (Die Cast)

Heavy Duty Dual Head
Type: GLHD (Die Cast)

Heavy Duty Single Head
Type: GLHR (Die Cast)

GLH-SS Range (Stainless Steel Housings - cover up 250m (GLHD-SS) with one switch):

IP69K

Heavy Duty Single Head
Type: GLHL-SS (Stainless Steel)

Heavy Duty Dual Head
Type: GLHD-SS (Stainless Steel)

Heavy Duty Single Head
Type: GLHR-SS (Stainless Steel)

GLS Range (Die Cast or Stainless Steel Housings - cover up 100m (S/S) or 80m (Die Cast) with one switch):

General Duty
Type: GLS (Die Cast)

IP69K

General Duty
Type: GLS-SS (Stainless Steel)

GLM Range (Die Cast or Stainless Steel - cover up 50m with one switch):

Mini Duty
Type: GLM (Die Cast)

IP69K

Mini Duty
Type: GLM-SS (Stainless Steel)

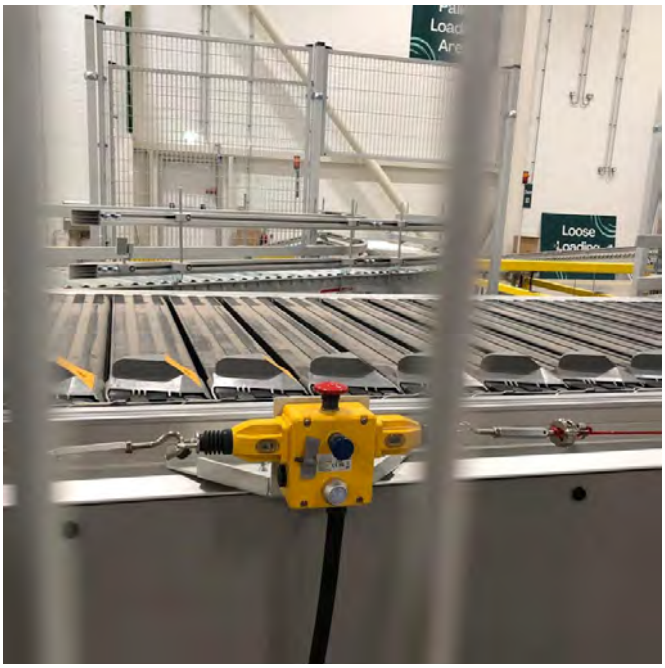
Grab Wire Safety Rope Switches: **Guardian Line Series**

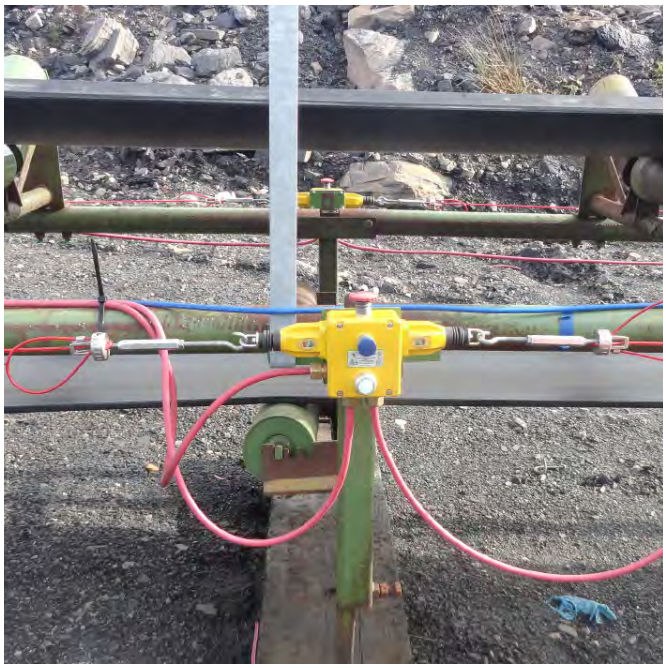
APPLICATION:

Safety Rope Emergency Stop Switches are mounted on machines and sections of plant conveyors which cannot be protected by guards.

In contrast to traditional mushroom head type Emergency Stop buttons, Safety Rope Switches can initiate the emergency command from any point along the installed rope length.

In combination with any dual channel safety monitoring controllers IDEM Safety Rope Systems can be used as emergency stop devices and monitored for up to PLe to ISO13849-1.





OPERATION:

All IDEM Safety Rope Emergency Stop Switches conform to European Standard ISO13850 and EN60947-5-5.

They have a positive mechanical linkage between the switch contacts and the wire rope as per EN60947-5-1. The emergency stop switches are brought into the operational condition by pre-tensioning the rope by use of a tensioner/gripper device which clamps the rope and then hooks to the switch eyebolts.

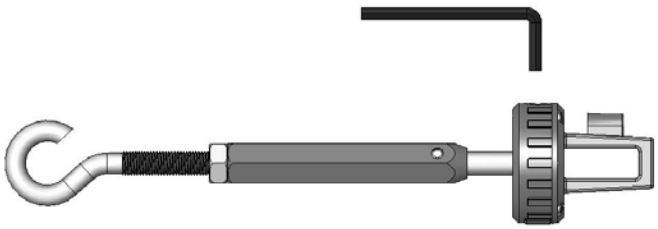
Correct tension can be observed by viewing the tension indicator on the switch housing. Once tensioned the switch contact blocks can be set to the operational condition (safety contacts closed, auxiliary contacts open) by pressing the blue reset button on the switch cover.

All of the Safety Rope Switches have wire-breakage monitoring. On pulling or breakage (tension loss) of the rope, the safety contacts are positively opened and the auxiliary contacts are closed. The switches are mechanically latched and can then only be returned to the operational condition by pressing the reset button as required by ISO13850 (EN418).

PATENTED TENSIONER/GRIPPER:

IDEM have designed and patented a Tensioner/Gripper accessory available in Stainless Steel or Galvanised metal that provides rapid installation for connection to the switch eyebolts and prevents frequent re-tensioning or maintenance that can be caused by cable tension loss.

The use of this accessory greatly reduces installation time and can be carried out by one man. The benefit of reducing the time required for re-tensioning greatly reduces machine down time.



FEATURES:

- LED visual indication of rope status:
  - Steady Green = Machine Running
  - Steady or Flashing Red = Machine Stopped
- Choice of body housings:
  - Rugged die-cast metal body (painted yellow)
  - Stainless Steel 316 - ideal for Food Industry
- All internal and external screws are stainless steel.
- Enclosure protection to IP67 (Die-cast versions).
- Enclosure protection to IP69K (Stainless Steel 316 versions).
- Easy to wire - up to 4 conduit entries.

E STOP BUTTON:

Screw fitting mushroom type E Stop button.

Using Safety Rope Switches: **Guardian Line Series**

APPLICATION:

IDEM Guardian Line Safety Rope Switches are designed to be mounted on machines and sections of conveyors which cannot be protected by guards. In contrast to traditional mushroom head type Emergency Stop buttons, Safety Rope Switches can initiate the emergency command from any point along the installed rope length and provide robust Emergency Stop Rope Pull protection for exposed conveyors or machines.

In combination with a dual channel safety monitoring relay IDEM Safety Rope Systems can be used as emergency stop devices monitored for up to PLe to ISO13849-1. All IDEM Safety Rope Emergency stop switches conform to ISO13850 and EN60947-5-5. They have a positive mechanical linkage between the switch contacts and the wire rope. The switches have wire-breakage monitoring.

On pulling the rope the safety contacts are positively opened and the auxiliary contacts are closed. The switches are mechanically latched and can then only be returned to the operational condition by pressing the blue reset button as required by ISO13850.

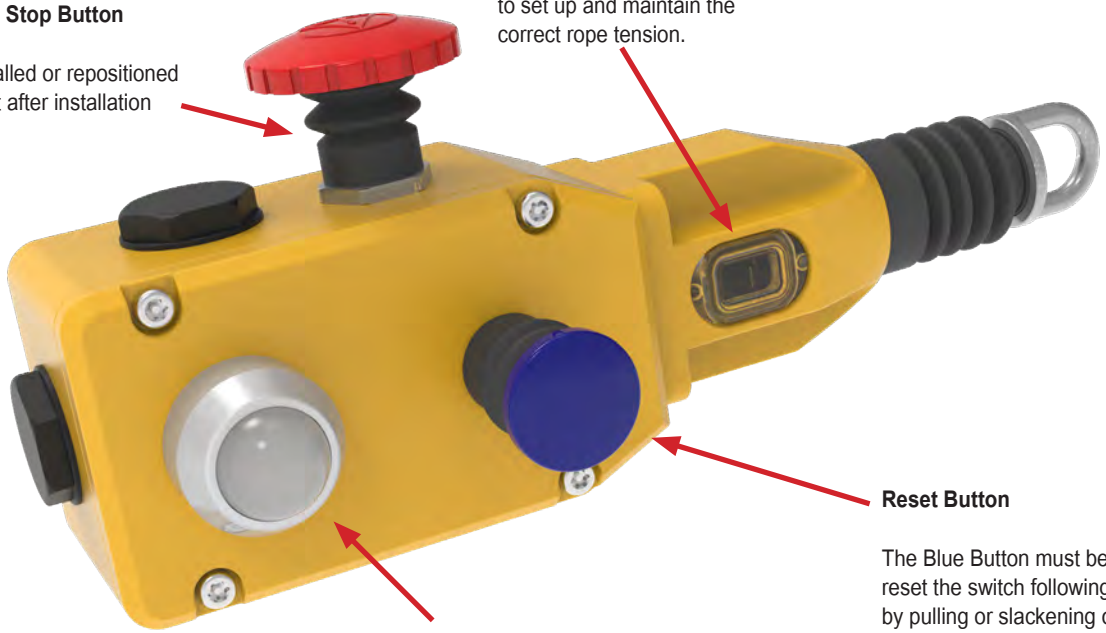
An optional 2 colour LED indicator is available to enable switch status to be viewed from a distance.

Tension Indicator

Ensures the system is easy to set up and maintain the correct rope tension.

Mushroom Type Emergency Stop Button

Can be installed or repositioned Left or Right after installation



Reset Button

The Blue Button must be pushed to reset the switch following activation by pulling or slackening of the Rope

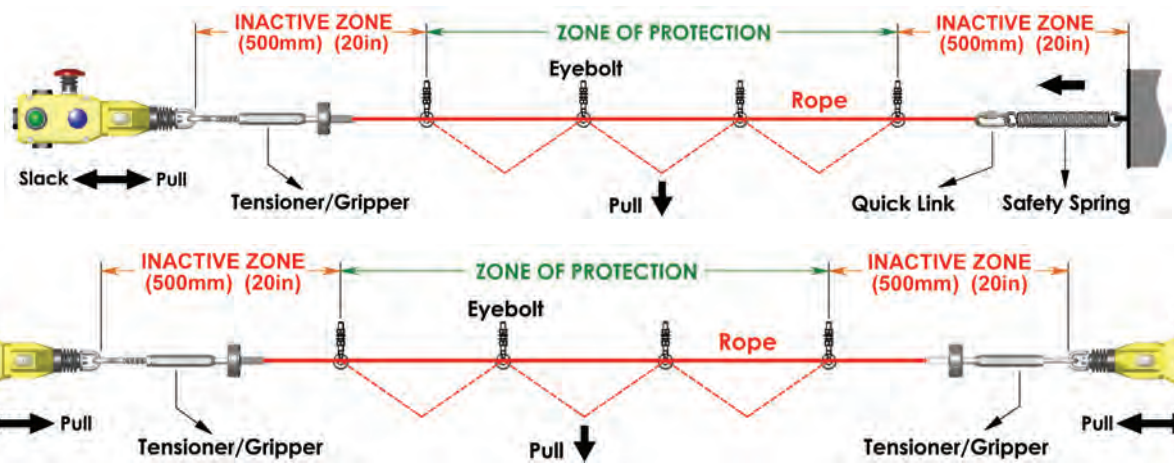
Indicator LED

Can be wired to flash RED in the event of the Rope being pulled - switch activated, or illuminate steady GREEN to indicate a reset switch in machine "Run" state. Visible from long distances.

SET UP OF THE SYSTEM:

Rope support eyebolts must be fitted at 2.5m min. to 3m max. intervals along all rope lengths between switches. The rope must be supported **no more than 500mm from the Rope Switch's eyebolt or Safety Spring** (if used). It is important that this first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button.

When using one switch the rope must be anchored at the other end using a Safety Spring. When using a Safety Spring a maximum of one corner pulley only may be used to ensure complete lengths of rope are visible to either the switch or the spring anchorage.



Using Safety Rope Switches: **Guardian Line Series**

RELIABLE CONNECTIVITY:

Tensioning of the rope is achieved by the use of IDEM's new patented Tensioner/Gripper accessory.

Traditional turnbuckle and clamp systems are difficult to tension and adjust and frequent re-tensioning or maintenance is normally required of either the turnbuckle or the clamps. Traditional tensioning systems make viewing of the switch tension window difficult.

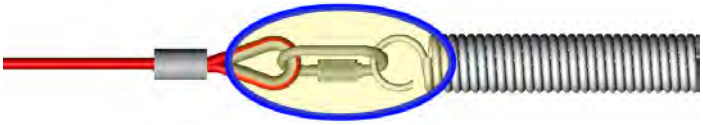
For greater reliability and ease of installation the Tensioner/Gripper accessory significantly reduces the installation time by offering an eyehook and tensioner thimble and high strength gripper in one assembly to enable rapid connection to the switch eyebolts and fast and accurate tensioning of the Rope. By being in close proximity to the viewing window of the switch systems can be easily tensioned accurately and quickly. The double clamp mechanism prevents rope slippage and significantly reduces machine downtime which can occur with traditional turnbuckle systems.

TENSIONER/GRIPPER SYSTEM:

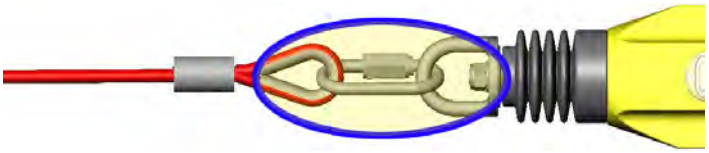
The end of the safety rope is fed through a central hole in a cone shaped guide which protrudes from the main housing.

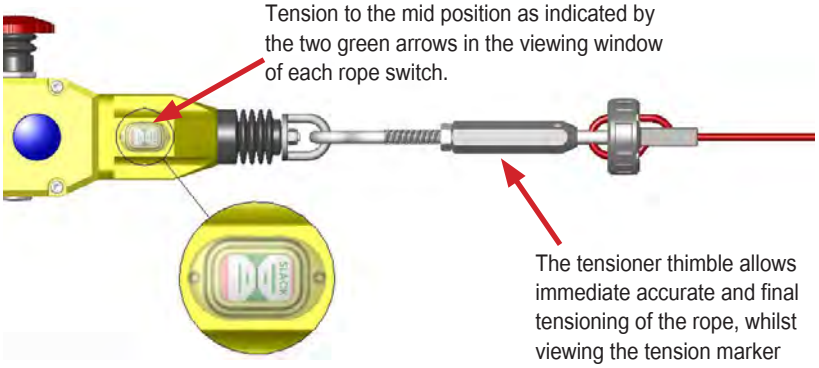
After being fed through the guide hole the rope enters the main housing by going through a feed hole and then is looped back through 180 degrees and is fed through a second feed hole on the opposite side of the mechanism.

The rope is then pulled for maximum tension and is locked in position by a locking bar inside the main housing which is moved by turning an Allen type locking bolt.



For systems up to 50m a Quick Link termination is provided for easy connection to either a Safety Spring or Switch eyebolt.
(Note: For systems above 50m a Tensioner/Gripper is required for each side).





Tension to the mid position as indicated by the two green arrows in the viewing window of each rope switch.

The tensioner thimble allows immediate accurate and final tensioning of the rope, whilst viewing the tension marker through the viewing window on the rope switch.

Patented Design
Withstands 1500N force

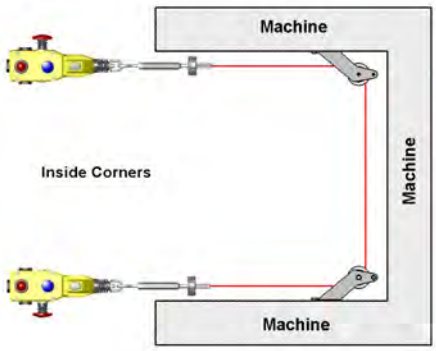
UNIVERSAL PULLEY:

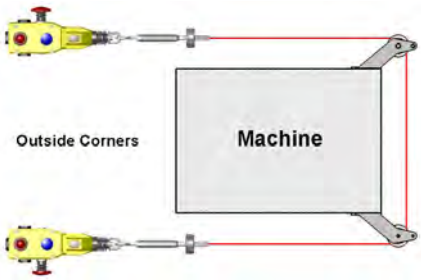
Universal Pulley
Can be used on inside and outside corners.
Stainless Steel.

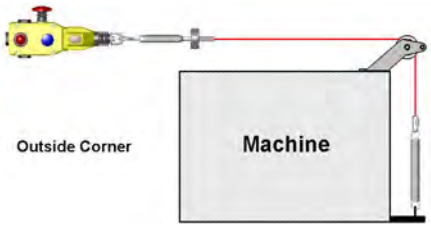
NAVIGATING CORNERS:

Because of the added friction on the eyebolts and rope when navigating corners, IDEM's unique "universal" pulley can be used to navigate inside or outside corners without causing damage to the rope. They are manufactured in Stainless Steel and can be rigidly mounted.

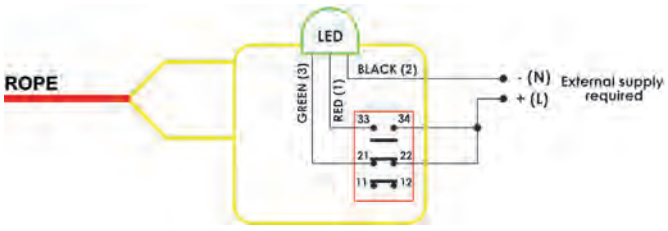
Examples of using the Universal Pulley:







WIRING DIAGRAM FOR LED:



Using Safety Rope Switches: **Guardian Line Series**

FLEXIBLE ROLLER EYEBOLT WITH ADJUSTMENT APPLICATION:

When using rope pull switch systems on conveyors the rope is supported along the conveyor length by equally spaced eyebolts.

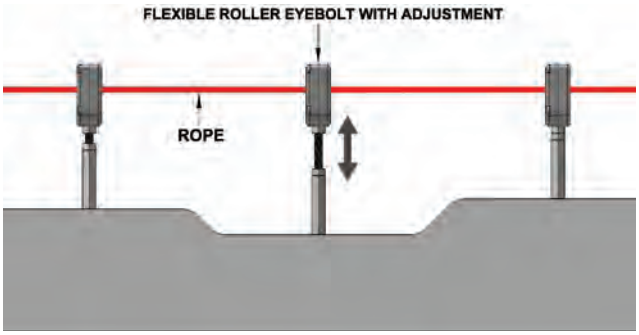
Traditional eyebolts are made from solid metal and offer an eyelet to support the rope and provide a catenary between eyebolts to deflect the rope during pulling. On long conveyors eyebolt mounting positions can vary along the length of the conveyor and therefore mis-alignment of the eyebolts along the conveyor can cause a friction problem making the systems difficult to operate.

After operation the rope system, the rope may not be able to move (due to the friction) and allow the switch mechanism to be reset.

Ultimately the rope can be damaged or wear to breaking point.

PROPERTIES & FEATURES:

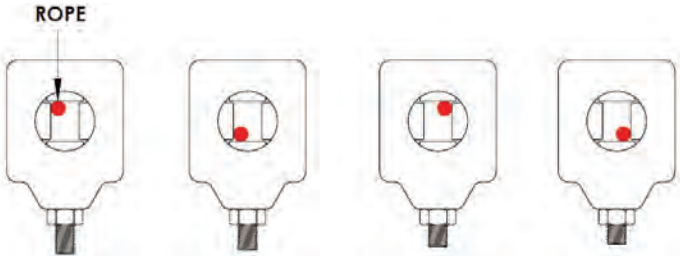
Adjustable mounting positions provides mounting flexibility in adjustment in two planes. This better copes with uneven positioning of eyebolts over the length of the conveyor or conveyors with radius profiles.



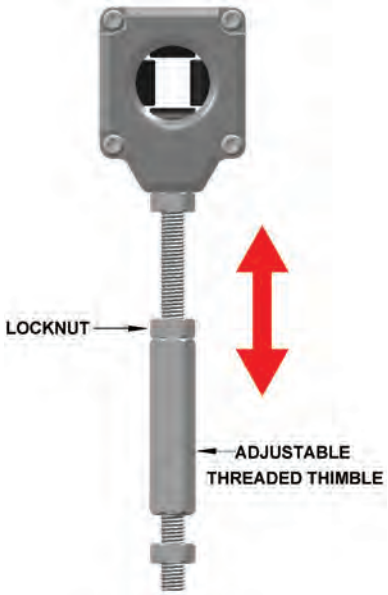
Moveable rollers within the eyebolt structure to ensure no loss of movement due to friction when pulled in any direction.

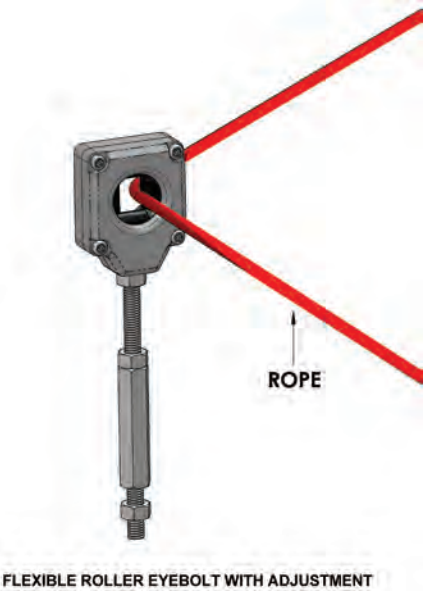
The position of the rollers allow contact with the rope through 360 degrees within the eyelet of the eyebolt.

Friction is eliminated due to the fact that at any point of contact between the rope and a roller there is rotational movement.



The eyebolt position relative to the mounting frame of the conveyor can be adjusted in length away from the conveyor mounting frame by turning an integral adjustable threaded thimble. The eyebolt head can be rotated to provide further adjustment depending upon the direction of the rope along the conveyor length. The final position of the head can be fixed by the locknut or left free to rotate during use.

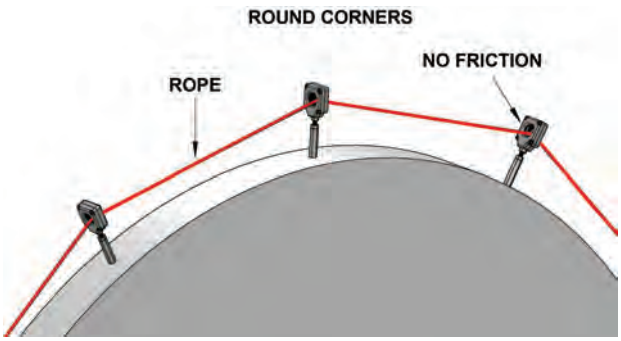




ORDERING:

Thimble, nuts and bolt are manufactured in stainless steel.
Housing is manufactured in mirror polished die cast metal.
Rollers are manufactured from plastic

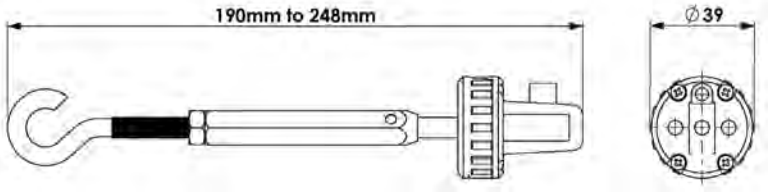
SALES NUMBER	ITEM
140048	Flexible Roller Eyebolt with Adjustment
140099	Flexible Roller Eyebolt with Nuts - No Adjustment



Using Safety Rope Switches: **Guardian Line Series**

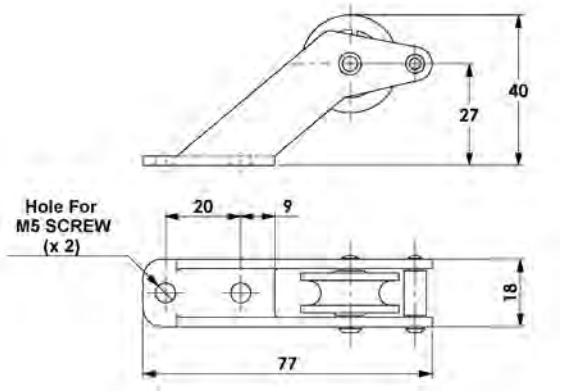
GUARDIAN LINE CONNECTIVITY ACCESSORIES (see p207) DIMENSIONS:

TENSIONER/GRIPPER SYSTEM



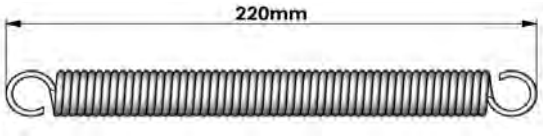
SALES NUMBER	ITEM	MATERIAL
140019	Rope Tensioner Gripper	Stainless Steel
140020	Rope Tensioner Gripper	Galvanised Steel

UNIVERSAL PULLEY



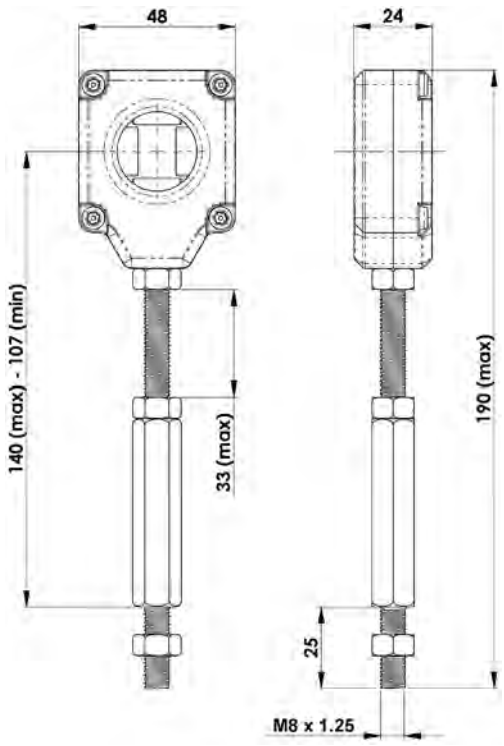
SALES NUMBER	ITEM	MATERIAL
140021	Universal Pulley	Stainless Steel
140064	Universal Pulley	Galvanised

STAINLESS STEEL SAFETY SPRING



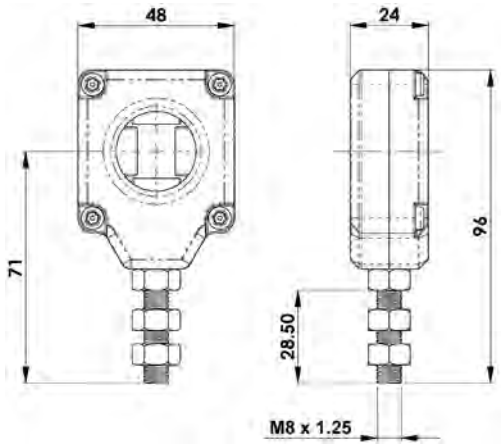
SALES NUMBER	ITEM	MATERIAL
140043	220mm Long Safety Spring	Stainless Steel

FLEXIBLE ROLLER EYEBOLT WITH ADJUSTMENT



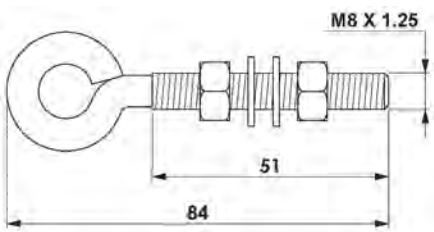
SALES NUMBER	ITEM
140048	Flexible Roller Eyebolt with Adjustment

FLEXIBLE ROLLER EYEBOLT WITH NUTS NO ADJUSTMENT



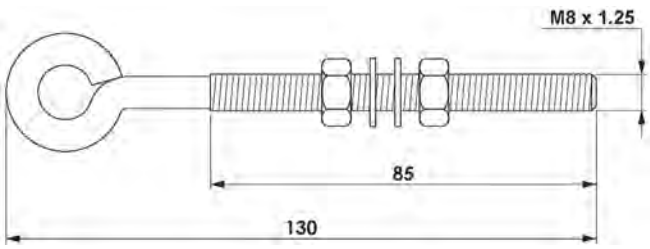
SALES NUMBER	ITEM
140099	Flexible Roller Eyebolt with Nuts - No Adjustment

STANDARD EYEBOLT 84mm LONG



SALES NUMBER	ITEM	MATERIAL
140045	Eyebolt (8 Pack) 84mm Long	Stainless Steel
140046	Eyebolt (8 Pack) 84mm Long	Galvanised

STANDARD EYEBOLT 130mm LONG



SALES NUMBER	ITEM	MATERIAL
140126	Eyebolt (8 Pack) 130mm Long	Stainless Steel
140127	Eyebolt (8 Pack) 130mm Long	Galvanised

Guardian Line Mini Duty: **GLM**

FEATURES:

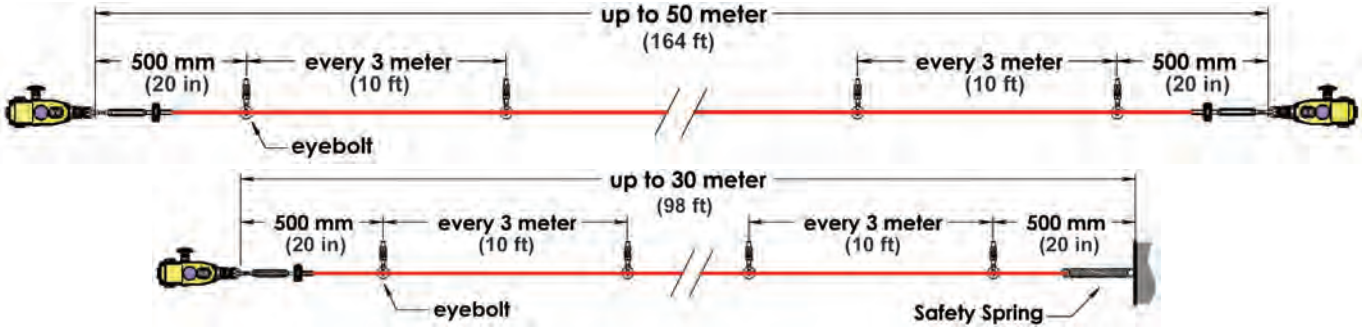
PROTECTION UP TO 50 METRES (164 FEET)

The GLM is a compact yet robust die-cast Mini Duty Safety Rope Pull Switch which has been designed to protect short conveyor lengths where protection is required up to 50m using two switches or up to 30m using just a single switch.

The GLM provides a reliable, cost-effective safety solution for conveyor systems and can be enhanced by adding an external mushroom type emergency stop at the switch or a bi-colour LED is available to show switch status from a distance.

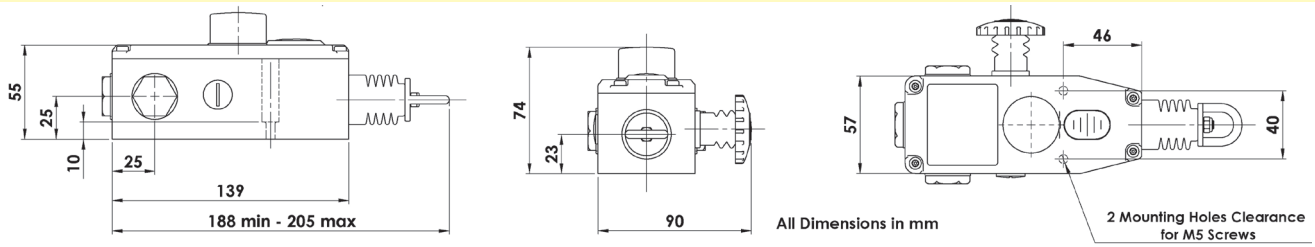
The GLM has a choice of 3 or 4 pole contacts to ensure flexibility with all modern control applications.

With the added benefit of rugged internal sealing bellows the GLM is able to undergo high pressure hosing at high temperature.



It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

DIMENSIONS:



Standards: EN60947-5-1 EN60947-5-5 EN62061
UL 60947-5-1 ISO13850 ISO13849-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure Material	Die Cast (painted yellow)
IP Rating	IP67 (NEMA 6)
Rope Span	Up to 50m (2 switches) 30m (1 switch)
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	3 x M20 or 3 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Weight	640g approx.
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15 A300
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

SALES NUMBER	CONDUIT	CONTACTS	FITTINGS
143001	M20	2NC 1NO	
143002	1/2" NPT	2NC 1NO	
143003	M20	3NC	
143004	1/2" NPT	3NC	
143005	M20	2NC 1NO	E- Stop
143006	1/2" NPT	2NC 1NO	E- Stop
143007	M20	3NC	E- Stop
143008	1/2" NPT	3NC	E- Stop
143050	M20	3NC 1NO	
143051	1/2" NPT	3NC 1NO	
143052	M20	2NC 2NO	
143053	1/2" NPT	2NC 2NO	
143054	M20	4NC	
143055	1/2" NPT	4NC	
143056	M20	3NC 1NO	E- Stop
143057	1/2" NPT	3NC 1NO	E- Stop
143058	M20	2NC 2NO	E- Stop
143059	1/2" NPT	2NC 2NO	E- Stop
143060	M20	4NC	E- Stop
143061	1/2" NPT	4NC	E- Stop
143062	M20	3NC 1NO	LED
143063	1/2" NPT	3NC 1NO	LED
143064	M20	2NC 2NO	LED
143065	1/2" NPT	2NC 2NO	LED
143066	M20	3NC 1NO	E-Stop & LED
143067	1/2" NPT	3NC 1NO	E-Stop & LED
143068	M20	2NC 2NO	E-Stop & LED
143069	1/2" NPT	2NC 2NO	E-Stop & LED
143009	Replacement Lid		
143010	Replacement Lid/LED		LED
For LED Models add voltage code to Sales Number see below			
Steady Green/Flashing Red A - 24Vdc B - 110Vac C - 230Vac			
Steady Green/Steady Red AS - 24Vdc BS - 110Vac CS - 230Vac			

Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 143001-GC

Guardian Line Mini Duty: **GLM-SS**

FEATURES:

PROTECTION UP TO 50 METRES (164 FEET)

The GLM-SS is a Stainless Steel compact but extremely robust Mini Duty Safety Rope Pull Switch designed to protect short conveyor lengths where protection is required up to 50m using two switches or up to 30m using just a single switch.

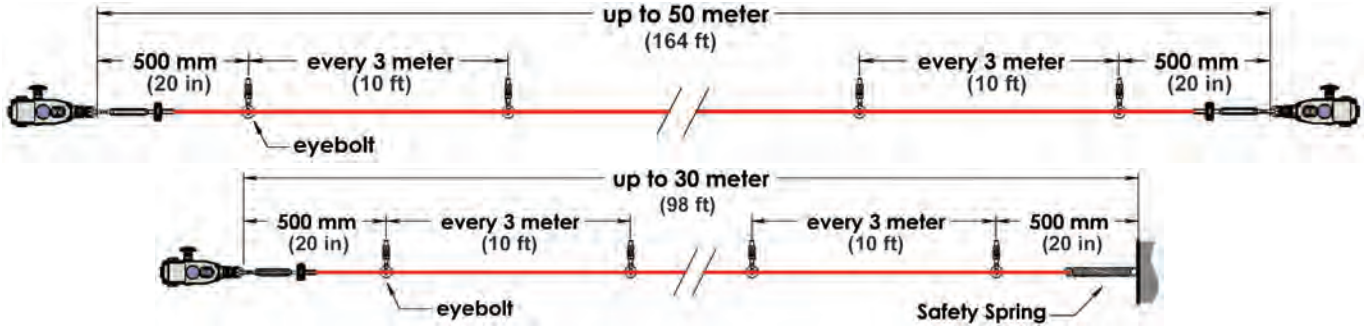
The GLM-SS provides a reliable, cost-effective safety solution for conveyor systems and can be enhanced by adding an external mushroom type emergency stop at the switch or a bi-colour LED to show switch status from a distance.

The GLM-SS comes with a choice of 3 or 4 pole contacts to ensure flexibility with all modern control applications.

With the added benefit of rugged internal sealing bellows the GLM-SS is able to undergo high pressure hosing at high temperature.

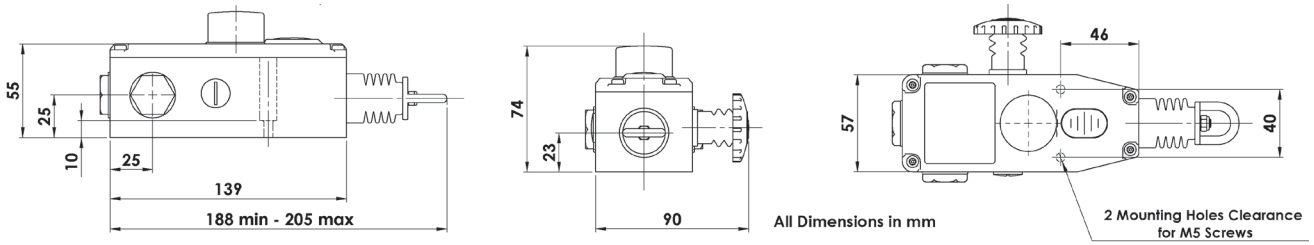
STAINLESS STEEL 316

IP69K



It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

DIMENSIONS:



Standards: EN60947-5-1 EN60947-5-5 EN62061
UL 60947-5-1 ISO13850 ISO13849-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days
	MTTFd 214 years
Enclosure Material	Stainless Steel 316
IP Rating	IP69K
Rope Span	Up to 50m (2 switches) 30m (1 switch)
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	3 x M20 or 3 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm
	Lid T20 Torx M4 1.5Nm
	Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Weight	640g approx.
Contact Type	EN60947-5-1 double break type Zb
	Snap Action up to 4NC (positive break)
	2NO (Auxiliary)
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15 A300
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

SALES NUMBER	CONDUIT	CONTACTS	FITTINGS
148001	M20	2NC 1NO	
148002	1/2" NPT	2NC 1NO	
148003	M20	3NC	
148004	1/2" NPT	3NC	
148005	M20	2NC 1NO	E- Stop
148006	1/2" NPT	2NC 1NO	E- Stop
148007	M20	3NC	E- Stop
148009	1/2" NPT	3NC	E- Stop
148050	M20	3NC 1NO	
148051	1/2" NPT	3NC 1NO	
148052	M20	2NC 2NO	
148053	1/2" NPT	2NC 2NO	
148054	M20	4NC	
148055	1/2" NPT	4NC	
148056	M20	3NC 1NO	E- Stop
148057	1/2" NPT	3NC 1NO	E- Stop
148058	M20	2NC 2NO	E- Stop
148059	1/2" NPT	2NC 2NO	E- Stop
148060	M20	4NC	E- Stop
148061	1/2" NPT	4NC	E- Stop
148062	M20	3NC 1NO	LED
148063	1/2" NPT	3NC 1NO	LED
148064	M20	2NC 2NO	LED
148065	1/2" NPT	2NC 2NO	LED
148066	M20	3NC 1NO	E-Stop & LED
148067	1/2" NPT	3NC 1NO	E-Stop & LED
148068	M20	2NC 2NO	E-Stop & LED
148069	1/2" NPT	2NC 2NO	E-Stop & LED
148009	Replacement Lid		
148010	Replacement Lid/LED		LED
For LED Models add voltage code to Sales Number see below			
Steady Green/Flashing Red A - 24Vdc B - 110Vac C - 230Vac			
Steady Green/Steady Red AS - 24Vdc BS - 110Vac CS - 230Vac			

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 143001-GC

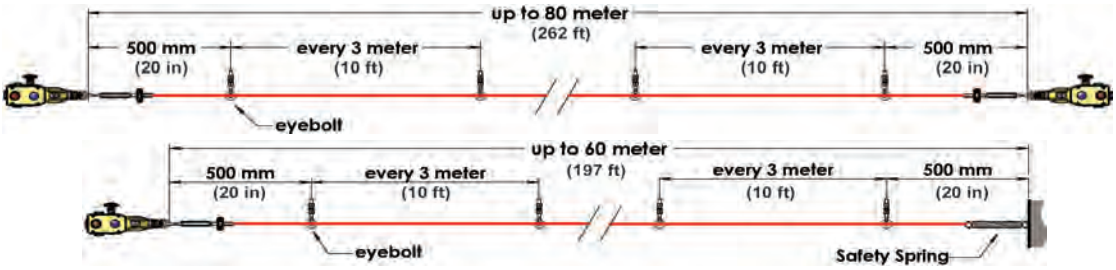
Guardian Line Standard Duty: **GLS**

FEATURES:

PROTECTION UP TO 80 METRES (262 FEET)

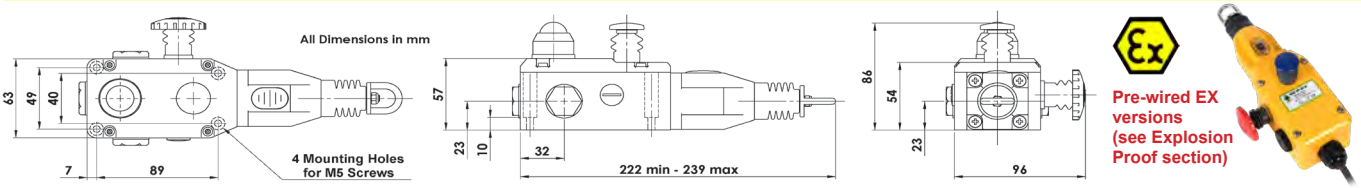
The GLS is a General/Standard Duty robust die-cast Safety Rope Pull Switch designed to protect conveyor lengths where protection is required up to 80m using two switches or up to 60m using a single switch.
They provide a reliable general purpose safety solution for conveyors and offer a choice of fittings depending upon the application.
They can be supplied with a mushroom type Emergency Stop button which can be fitted to the side of the switch to offer an extra traditional Emergency Stop function close to the switch, or can be fitted later after installation without any extra wiring.
A bi-colour LED is also available to show switch status from a distance and they have a choice of 3 pole, 4 pole or Explosion Proof contact blocks to ensure flexibility with all modern control applications.
Rugged internal sealing bellows means the GLS can be high pressure hosed and choice of materials makes them suitable for internal or external use.

GLS-FZ: Special low temperature version -40C available.



It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

DIMENSIONS:



Pre-wired EX versions (see Explosion Proof section)

Standards: EN60947-5-1 EN60947-5-5 EN62061
UL 60947-5-1 ISO13850 ISO13849-1

Safety Classification and Reliability Data:

Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure Material	Die Cast (painted yellow)
IP Rating	IP67 (NEMA 6)
Rope Span	Up to 80m (2 switches) 60m (1 switch)
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	3 x M20 or 3 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Weight	735g approx.
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

SALES NUMBER	CONDUIT	CONTACTS	FITTINGS
142001	3 x M20	2NC 1NO	
142002	3 x 1/2" NPT	2NC 1NO	
142005	3 x M20	2NC 1NO	LED
142006	3 x 1/2" NPT	2NC 1NO	LED
142009	3 x M20	2NC 1NO	E-Stop
142010	3 x 1/2" NPT	2NC 1NO	E-Stop
142017	3 x M20	2NC 1NO	E-Stop & LED
142018	3 x 1/2" NPT	2NC 1NO	E-Stop & LED
142050	3 x M20	3NC 1NO	
142051	3 x 1/2" NPT	3NC 1NO	
142052	3 x M20	2NC 2NO	
142053	3 x 1/2" NPT	2NC 2NO	
142054	3 x M20	4NC	
142055	3 x 1/2" NPT	4NC	
142056	3 x M20	3NC 1NO	LED
142057	3 x 1/2" NPT	3NC 1NO	LED
142058	3 x M20	2NC 2NO	LED
142059	3 x 1/2" NPT	2NC 2NO	LED
142060	3 x M20	4NC	LED
142061	3 x 1/2" NPT	4NC	LED
142062	3 x M20	3NC 1NO	E-Stop
142063	3 x 1/2" NPT	3NC 1NO	E-Stop
142064	3 x M20	2NC 2NO	E-Stop
142065	3 x 1/2" NPT	2NC 2NO	E-Stop
142066	3 x M20	4NC	E-Stop
142067	3 x 1/2" NPT	4NC	E-Stop
142074	3 x M20	3NC 1NO	E-Stop & LED
142075	3 x 1/2" NPT	3NC 1NO	E-Stop & LED
142076	3 x M20	2NC 2NO	E-Stop & LED
142077	3 x 1/2" NPT	2NC 2NO	E-Stop & LED
142078	3 x M20	4NC	E-Stop & LED
142079	3 x 1/2" NPT	4NC	E-Stop & LED
142026	Replacement Lid		
142027	Replacement Lid/LED		LED

For LED Models add voltage code to Sales Number see below

Steady Green/Flashing Red
A - 24Vdc B - 110Vac C - 230Vac

Steady Green/Steady Red
AS - 24Vdc BS - 110Vac CS - 230Vac

Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 142001-GC

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Guardian Line Standard Duty: **GLS-SS**

FEATURES:

PROTECTION UP TO 100 METRES (328 FEET)

The GLS-SS is General Duty Safety Rope Pull Switch designed to protect long conveyor lengths up to 100m. The Stainless Steel 316 housings are designed specifically to withstand the harsh environments found in the Food and Pharmaceutical industries. The fixing holes are under the cover of the switch to prevent food trap areas and will survive chemical and detergent washdown by providing all stainless steel parts and robust IP67 and IP69K sealing by using integral bellows and gaskets.

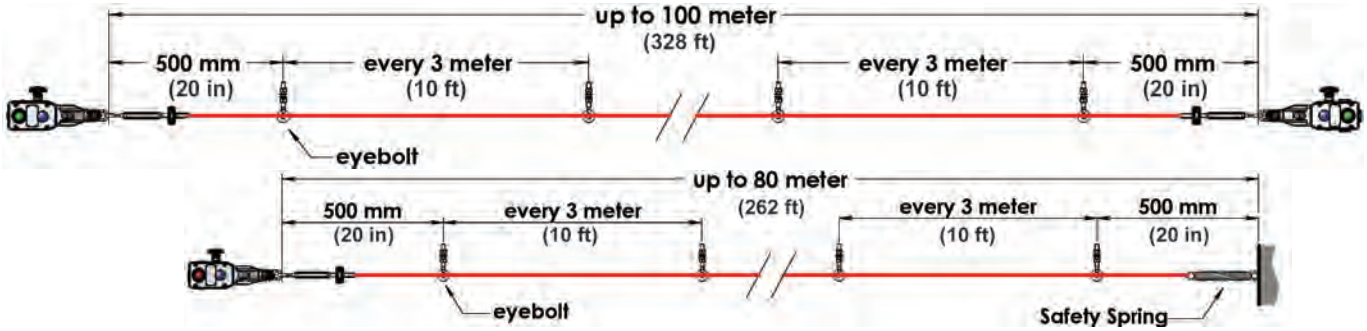
An easily visible bi-colour LED is available to show switch status from a distance and they have a choice of 3 pole, 4 pole or Explosion Proof contact blocks to ensure flexibility with all modern control applications.

Shorter rope spans up to 80m can be achieved by using just one switch therefore making a cost-effective solution and also reducing electrical wiring runs.

IP69K

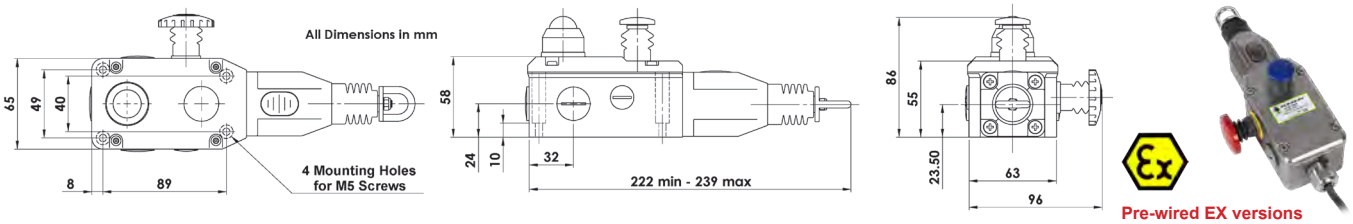
STAINLESS STEEL 316

Low temperature version -40C available GLS-SS-FZ



It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

DIMENSIONS:



Pre-wired EX versions
(see Explosion Proof section)

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13850 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure/Cover Material	Stainless Steel 316
External Parts	Stainless Steel
IP Rating	IP69K (NEMA PW12) IP67 (NEMA 6)
Rope Span	Up to 100m (2 switches) 80m (1 switch)
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	3 x M20 or 3 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C (100C cleaning)
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Weight	1810g approx.
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15 A300
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER	CONDUIT	CONTACTS	FITTINGS
144001	3 x M20	3NC 1NO	
144002	3 x 1/2" NPT	3NC 1NO	
144003	3 x M20	2NC 2NO	
144004	3 x 1/2" NPT	2NC 2NO	
144005	3 x M20	4NC	
144006	3 x 1/2" NPT	4NC	
144007	3 x M20	3NC 1NO	LED
144008	3 x 1/2" NPT	3NC 1NO	LED
144009	3 x M20	2NC 2NO	LED
144010	3 x 1/2" NPT	2NC 2NO	LED
144011	3 x M20	4NC	LED
144012	3 x 1/2" NPT	4NC	LED
144013	3 x M20	3NC 1NO	E-Stop
144014	3 x 1/2" NPT	3NC 1NO	E-Stop
144015	3 x M20	2NC 2NO	E-Stop
144016	3 x 1/2" NPT	2NC 2NO	E-Stop
144017	3 x M20	4NC	E-Stop
144018	3 x 1/2" NPT	4NC	E-Stop
144019	3 x M20	3NC 1NO	E-Stop & Led
144020	3 x 1/2" NPT	3NC 1NO	E-Stop & Led
144021	3 x M20	2NC 2NO	E-Stop & Led
144022	3 x 1/2" NPT	2NC 2NO	E-Stop & Led
144023	3 x M20	4NC	E-Stop & Led
144024	3 x 1/2" NPT	4NC	E-Stop & Led
144040	Replacement Lid		
144041	Replacement Lid/LED		LED
For LED Models add voltage code to Sales Number see below			
Steady Green/Flashing Red A - 24Vdc B - 110Vac C - 230Vac			
Steady Green/Steady Red AS - 24Vdc BS - 110Vac CS - 230Vac			

Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 144001-GC

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Guardian Line Heavy Duty: **GLHD**

FEATURES:

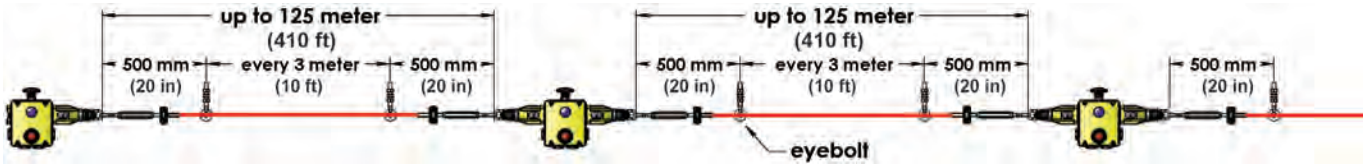
PROTECTION UP TO 250 METRES (820 FEET)

The GLHD is a Heavy Duty Safety Rope Pull Switch designed to protect long conveyor lengths. The die-cast housings are robust to survive indoor or outdoor use including washdown (IP67 rating). Lengths over 2 Km can be achieved with less than 20 switches.

A bi-colour LED ensures switch status can be seen easily from a distance. They have 4NC 2NO contacts to ensure flexibility with all modern control applications and optional Explosion Proof contact blocks are available.

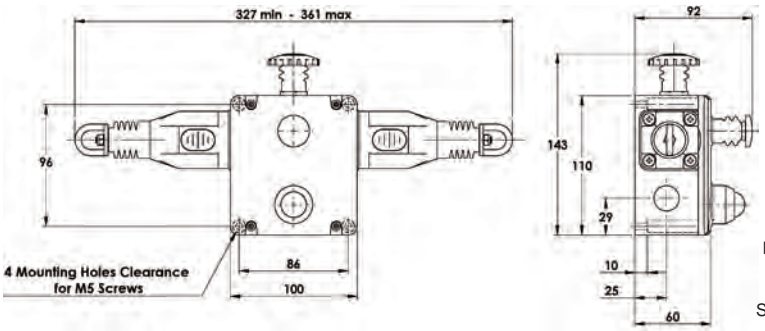
Shorter rope spans up to 200m can be achieved by using just one switch therefore making a cost effective solution and also reducing electrical wiring runs.

Low temperature version -40C available GLHD-FZ

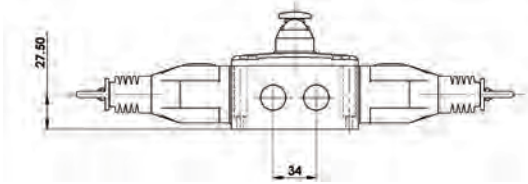


It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

DIMENSIONS:



All Dimensions in mm



Pre-wired EX versions (see Explosion Proof section)

SALES NUMBER	TYPE	CONDUIT	CONTACTS	FITTINGS
141001	GLHD	4 x M20	4NC 2NO	LED & E-Stop
141002	GLHD	4 x 1/2" NPT	4NC 2NO	LED & E-Stop
141029	GLHD	4 x M20	4NC 2NO	LED
141030	GLHD	4 x 1/2" NPT	4NC 2NO	LED
141039	GLHD	4 x M20	4NC 2NO	E-Stop
141040	GLHD	4 x 1/2" NPT	4NC 2NO	E-Stop
141041	GLHD	4 x M20	4NC 2NO	
141042	GLHD	4 x 1/2" NPT	4NC 2NO	
141012	GLH	Replacement Lid		
141013	GLH	Replacement Lid with LED		
For LED Models add voltage code to Sales Number see below				
Steady Green/Flashing Red A - 24Vdc B - 110Vac C - 230Vac				
Steady Green/Steady Red AS - 24Vdc BS - 110Vac CS - 230Vac				

Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 141001-A-GC

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13850 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure/Cover Material	Die-Cast (painted yellow)
IP Rating	IP67 (NEMA 6)
Rope Span	250m Dual Head
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	4 x M20 or 4 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Mechanical Life	1,000,000 operations
Weight	1350g approx.
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15 A300
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Guardian Line Heavy Duty: **GLHL & GLHR**

FEATURES:

PROTECTION UP TO 125 METRES (410 FEET)

The GLHL/R is a robust die-cast Heavy Duty Safety Rope Pull Switch designed to protect long conveyor lengths where protection is required up to 125m using two switches or up to 100m using a single switch. The die-cast housings are robust to survive indoor or outdoor use.

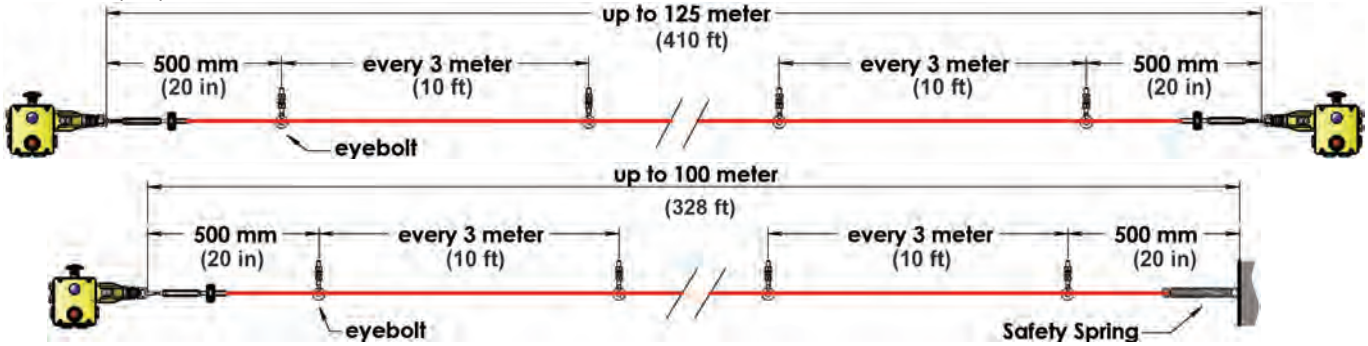
A bi-colour LED ensures switch status can be seen easily from a distance. They have 4NC 2NO contacts to ensure flexibility with all modern control applications and optional Explosion Proof contact blocks are available.

They can be used to complement the GLHD versions at each end of the rope span.

GLHL (Left Hand)

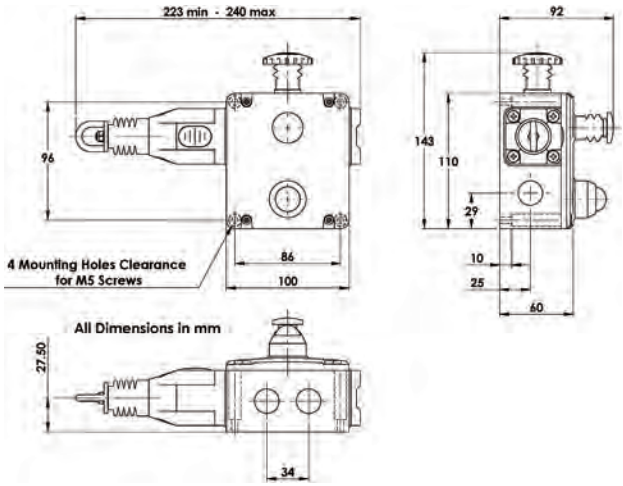
GLHR (Right Hand)

Low temperature versions -40C available GLHL-FZ and GLHR-FZ



It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

DIMENSIONS:



SALES NUMBER	TYPE	CONDUIT	CONTACTS	FITTINGS
141005	GLHL	4 x M20	4NC 2NO	LED & E-Stop
141006	GLHL	4 x 1/2" NPT	4NC 2NO	LED & E-Stop
141053	GLHL	4 x M20	4NC 2NO	LED
141055	GLHL	4 x 1/2" NPT	4NC 2NO	LED
141051	GLHL	4 x M20	4NC 2NO	E-Stop
141035	GLHL	4 x 1/2" NPT	4NC 2NO	E-Stop
141037	GLHL	4 x M20	4NC 2NO	
141057	GLHL	4 x 1/2" NPT	4NC 2NO	
141009	GLHR	4 x M20	4NC 2NO	LED & E-Stop
141010	GLHR	4 x 1/2" NPT	4NC 2NO	LED & E-Stop
141054	GLHR	4 x M20	4NC 2NO	LED
141056	GLHR	4 x 1/2" NPT	4NC 2NO	LED
141052	GLHR	4 x M20	4NC 2NO	E-Stop
141036	GLHR	4 x 1/2" NPT	4NC 2NO	E-Stop
141038	GLHR	4 x M20	4NC 2NO	
141058	GLHR	4 x 1/2" NPT	4NC 2NO	
141012	GLH	Replacement Lid		
141013	GLH	Replacement Lid with LED		
For LED Models add voltage code to Sales Number see below				
Steady Green/Flashing Red A - 24Vdc B - 110Vac C - 230Vac				
Steady Green/Steady Red AS - 24Vdc BS - 110Vac CS - 230Vac				

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 141005-A-GC

Pre-wired EX versions (see Explosion Proof section)

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13850 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days
PFHd	<1.0 x 10^{-7}
Proof Test Interval (Life)	21 years
MTTFd	214 years
Enclosure/Cover Material	Die-Cast (painted yellow)
IP Rating	IP67 (NEMA 6)
Rope Span	125m
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	4 x M20 or 4 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Weight	1030g approx.
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15 A300
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Guardian Line Heavy Duty: **GLHD-SS (Stainless Steel)**

FEATURES:

PROTECTION UP TO 250 METRES (820 FEET)

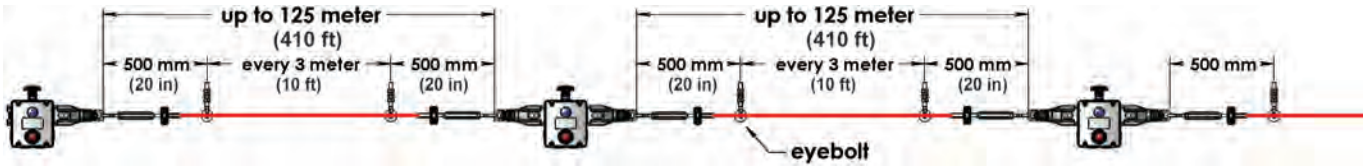
The GLHD-SS is a Heavy Duty Safety Rope Pull Switch designed to protect long conveyor lengths. The Stainless Steel 316 housings are designed specifically to withstand the tough environments found in the Food and Pharmaceutical industries. They will survive chemical and detergent washdown by providing all stainless steel parts and robust IP67 and IP69K sealing by using integral bellows and gaskets.

A bi-colour LED ensures switch status can be seen easily from a distance. They have 4NC 2NO contacts to ensure flexibility with all modern control applications and optional Explosion Proof contact blocks are available.

Shorter rope spans up to 200m can be achieved by using just one switch which makes a cost effective solution and also reducing electrical wiring runs.

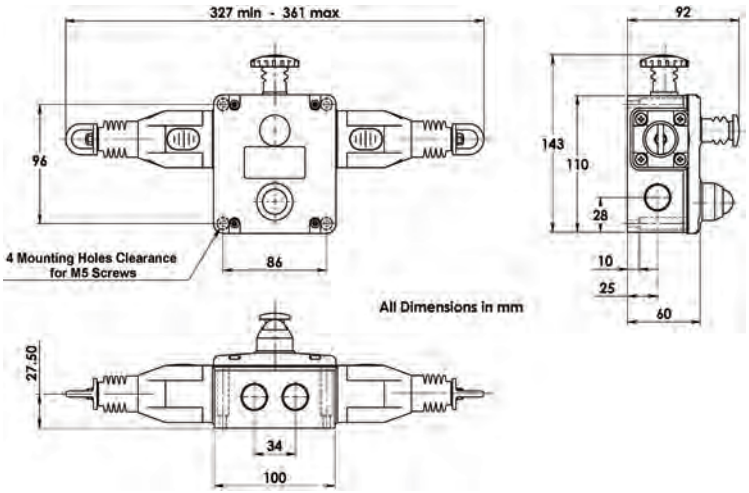
IP69K

Low temperature version -40C available GLHD-SS-FZ



It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

DIMENSIONS:



IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER	TYPE	CONDUIT	CONTACTS	FITTINGS
145001	GLHD-SS	4 x M20	4NC 2NO	LED & E-Stop
145002	GLHD-SS	4 x 1/2" NPT	4NC 2NO	LED & E-Stop
145029	GLHD-SS	4 x M20	4NC 2NO	LED
145030	GLHD-SS	4 x 1/2" NPT	4NC 2NO	LED
145023	GLHD-SS	4 x M20	4NC 2NO	E-Stop
145024	GLHD-SS	4 x 1/2" NPT	4NC 2NO	E-Stop
145025	GLHD-SS	4 x M20	4NC 2NO	
145026	GLHD-SS	4 x 1/2" NPT	4NC 2NO	
145012	GLH-SS	Replacement Lid		
145013	GLH-SS	Replacement Lid with LED		
For LED Models add voltage code to Sales Number see below				
Steady Green/Flashing Red A - 24Vdc B - 110Vac C - 230Vac				
Steady Green/Steady Red AS - 24Vdc BS - 110Vac CS - 230Vac				

Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 145001-A-GC

Pre-wired EX versions (see Explosion Proof section)

Standards: EN60947-5-1 EN60947-5-5 EN62061
UL 60947-5-1 ISO13850 ISO13849-1

Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure/Cover Material	Stainless Steel 316
External Parts	Stainless Steel
IP Rating	IP69K (NEMA PW12) IP67 (NEMA 6)
Rope Span	250m Dual Head
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	4 x M20 or 4 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C (Cleaning 100C)
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Weight	2850g approx.
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15 A300
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Guardian Line Heavy Duty: **GLHL-SS & GLHR-SS**

FEATURES:

PROTECTION UP TO 125 METRES (410 FEET)

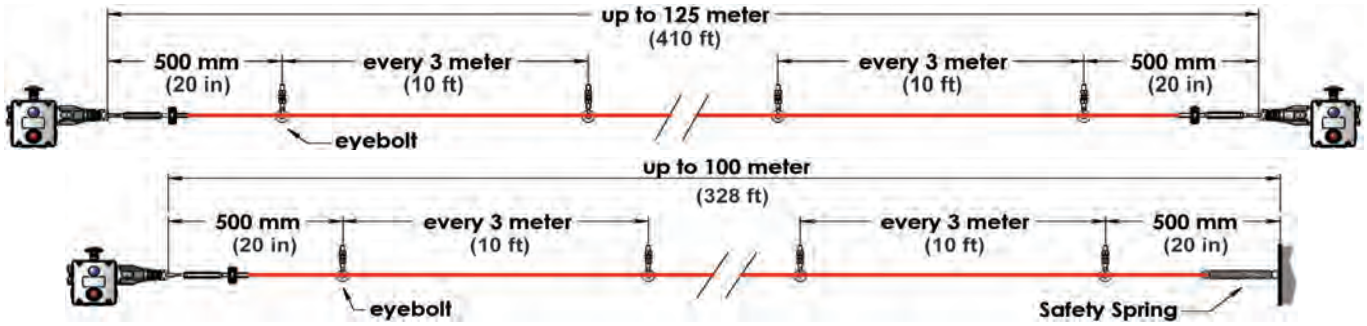
The GLHL/R-SS a robust Heavy Duty Safety Rope Pull Switch is designed to protect long conveyor lengths up to 125m (2 switches) or up to 100m using a single switch. The Stainless Steel 316 housings are designed specifically to withstand the tough environments found in the Food and Pharmaceutical industries. They will survive chemical and detergent washdown by providing all stainless steel parts and robust IP67 and IP69K sealing by using integral bellows and gaskets.

They can be used to complement the GLHD-SS (dual head) versions at each end of the rope span.

GLHL-SS (Left Hand)

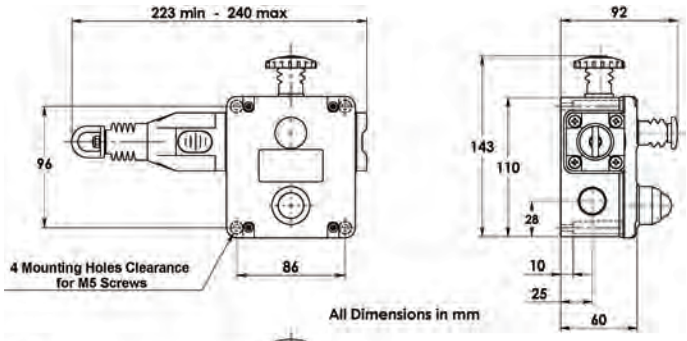
GLHR-SS (Right Hand)

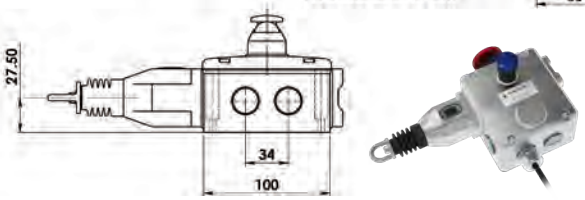
Low temperature version -40C available GLHL-SS-FZ & GLHR-SS-FZ



It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

DIMENSIONS:





Pre-wired EX versions (see Explosion Proof section)

SALES NUMBER	TYPE	CONDUIT	CONTACTS	FITTINGS
145005	GLHL-SS	4 x M20	4NC 2NO	LED & E-Stop
145006	GLHL-SS	4 x 1/2" NPT	4NC 2NO	LED & E-Stop
145053	GLHL-SS	4 x M20	4NC 2NO	LED
145055	GLHL-SS	4 x 1/2" NPT	4NC 2NO	LED
145051	GLHL-SS	4 x M20	4NC 2NO	E-Stop
145035	GLHL-SS	4 x 1/2" NPT	4NC 2NO	E-Stop
145037	GLHL-SS	4 x M20	4NC 2NO	
145057	GLHL-SS	4 x 1/2" NPT	4NC 2NO	
145009	GLHR-SS	4 x M20	4NC 2NO	LED & E-Stop
145010	GLHR-SS	4 x 1/2" NPT	4NC 2NO	LED & E-Stop
145054	GLHR-SS	4 x M20	4NC 2NO	LED
145056	GLHR-SS	4 x 1/2" NPT	4NC 2NO	LED
145052	GLHR-SS	4 x M20	4NC 2NO	E-Stop
145036	GLHR-SS	4 x 1/2" NPT	4NC 2NO	E-Stop
145038	GLHR-SS	4 x M20	4NC 2NO	
145058	GLHR-SS	4 x 1/2" NPT	4NC 2NO	
145012	GLH-SS	Replacement Lid		
145013	GLH-SS	Replacement Lid with LED		

For LED Models add voltage code to Sales Number see below

Steady Green/Flashing Red

A - 24Vdc B - 110Vac C - 230Vac

Steady Green/Steady Red

AS - 24Vdc BS - 110Vac CS - 230Vac

Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 145005-A-GC

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13850 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days
PFHd	<1.0 x 10^{-7}
Proof Test Interval (Life)	21 years
MTTFd	214 years
Enclosure/Cover Material	Stainless Steel 316
External Parts	Stainless Steel
IP Rating	IP69K (NEMA PW12) IP67 (NEMA 6)
Rope Span	125m
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	4 x M20 or 4 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C (Cleaning 100C)
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Weight	2475g approx.
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15 A300
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

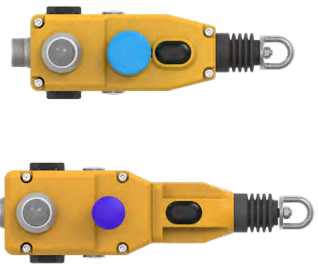
For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

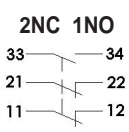
Safety Rope Pull Switches: **Quick Connect Versions**

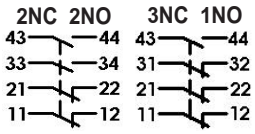
QUICK CONNECT DETAILS FOR SWITCHES WITHOUT LED INDICATION:

NOTE: All Quick Connect safety rope pull switches are also available with LED - please contact your local sales office.

GLM/GLS Models



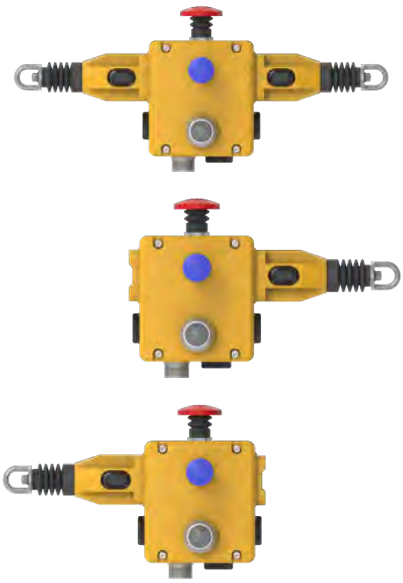


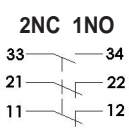


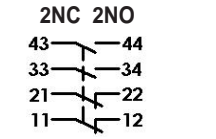
QUICK CONNECT (QC) M12 8 WAY MALE (ON FLYING LEAD 250mm (10")) PIN VIEW FROM SWITCH	GLM/GLS WITHOUT LED SWITCH CIRCUIT	QUICK CONNECT (QC) M23 12 WAY MALE (CONNECTOR LENGTH 26mm) PIN VIEW FROM SWITCH
8 5	11/12 NC	1 3
4 6	21/22 NC	4 6
1 7	31/32 NC or 33/34 NO	7 8
	43/44 NO	9 10
3	Earth	12

Sales Numbers		Sales Numbers		
GLM with E-Stop	143005-QCM12	GLM with E-Stop	3NC 1NO	143056-QCM23
GLM	143001-QCM12	GLM with E-Stop	2NC 2NO	143058-QCM23
		GLM	3NC 1NO	143050-QCM23
GLS with E-Stop	142009-QCM12	GLM	2NC 2NO	143052-QCM23
GLS	142001-QCM12			
		GLS with E-Stop	3NC 1NO	142062-QCM23
		GLS with E-Stop	2NC 2NO	142064-QCM23
		GLS	3NC 1NO	142050-QCM23
		GLS	2NC 2NO	142052-QCM23

GLHD/GLHL/GLHR Models





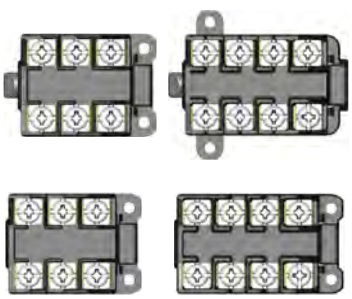


QUICK CONNECT (QC) M12 8 WAY MALE (ON FLYING LEAD 250mm (10")) PIN VIEW FROM SWITCH	GLHD OR GLHL/R WITHOUT LED SWITCH CIRCUIT	QUICK CONNECT (QC) M23 12 WAY MALE (CONNECTOR LENGTH 26mm) PIN VIEW FROM SWITCH
8 5	11/12 NC	1 3
4 6	21/22 NC	4 6
1 7	31/32 NC or 33/34 NO	7 8
	43/44 NO	9 10
3	Earth	12

Sales Numbers		Sales Numbers	
GLHD with E-Stop	141039-QCM12	GLHD with E-Stop	141039-QCM23
GLHL with E-Stop	141051-QCM12	GLHL with E-Stop	141051-QCM23
GLHR with E-Stop	141052-QCM12	GLHR with E-Stop	141052-QCM23
GLHD	141041-QCM12	GLHD	141041-QCM23
GLHL	141037-QCM12	GLHL	141037-QCM23
GLHR	141038-QCM12	GLHR	141038-QCM23

ACCESSORIES - CONTACT BLOCKS & FITTINGS:

SALES NUMBER	ROPE SWITCHES GLM, GLS, GLH & EMERGENCY STOP SWITCHES		
140057	3 Pole Contact Block	2NC 1NO	(End Fixing and Tip)
140058	3 Pole Contact Block	3NC	(End Fixing and Tip)
140061	4 Pole Contact Block	2NC 2NO	(Side Fixing and Tip)
140062	4 Pole Contact Block	3NC 1NO	(Side Fixing and Tip)
140063	4 Pole Contact Block	4NC	(Side Fixing and Tip)
SALES NUMBER	**TONGUE AND HINGE SWITCHES - IDIS, K-15, KP, K-SS, KM, KM-SS, HLM**		
140112	3 Pole Contact Block	2NC 1NO	(End Fixing without Tip)
140113	3 Pole Contact Block	3NC	(End Fixing without Tip)
140114	4 Pole Contact Block	2NC 2NO	(End Fixing without Tip)
140115	4 Pole Contact Block	3NC 1NO	(End Fixing without Tip)
140116	4 Pole Contact Block	4NC	(End Fixing without Tip)



For all IDEM Rope Switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

SALES NUMBER	GLANDS AND PLUGS PLASTIC	STAINLES STEEL 316	SALES NUMBER
140050	M20 to 1/2" NPT Adaptor	M12 x 1.75 Conduit Plug	140122
140051	1/2" NPT Conduit Plug	1/2" NPT Conduit Plug	140117
140052	M20 x 1.5 Conduit Plug	M20 x 1.5 Conduit Plug	140118
140053	1/2" NPT Gland	1/2" NPT Gland	140121
140054	M20 x 1.5 Gland	M20 x 1.5 Gland	140120
140056	M12 x 1.5 Gland	M12 x 1.5 Gland	140119

FEMALE QC LEADS

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (16ft)	140101
M12 8 Way	10m (32ft)	140102
M23 12 Way	5m (16ft)	140143
M23 12 Way	10m (32ft)	140144

Guardian Line Rope Switches: **Accessories**

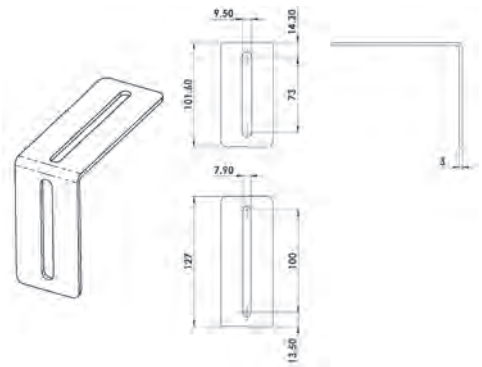
SALES NUMBER GALVANISED	SALES NUMBER STAINLESS STEEL	DESCRIPTION	ROPE	EYEBOLTS 84mm LONG	TENSIONER/ GRIPPER	ALLEN KEY
140001	140010	5M Rope Kit	5M QL	3	1	1
140002	140011	10M Rope Kit	10M QL	5	1	1
140003	140012	15M Rope Kit	15M QL	7	1	1
140004	140013	20M Rope Kit	20M QL	9	1	1
140005	140014	30M Rope Kit	30M QL	12	1	1
140006	140015	50M Rope Kit	50M QL	20	1	1
140007	140016	80M Rope Kit	80M	30	2	2
140008	140017	100M Rope Kit	100M	37	2	2
140009	140018	126M Rope Kit	126M	45	2	2
140033		Rope only 5M				
140034		Rope only 10M				
140036		Rope only 20M				
140037		Rope only 30M				
140038		Rope only 50M				
140039		Rope only 80M				
140040		Rope only 100M				
140041		Rope only 126M				
140068		Rope only 500M Drum				
140019		Rope Tensioner/Gripper Stainless Steel				
140020		Rope Tensioner/Gripper Galvanised Steel				
140021		77mm Long 40mm High Fixing Hole Centres 20mm Universal Pulley (for Inside and Outside Corners) Stainless Steel				
140064		Universal Pulley (for Inside and Outside Corners) Galvanised				
140045		Eyebolt Stainless Steel (8 Pack) 84mm Long Thread Length 51mm M8 x 1.25				
140046		Eyebolt Galvanised (8 Pack) 84mm Long Thread Length 51mm M8 x 1.25				
140126		Eyebolt Stainless Steel (8 Pack) 130mm Long Thread Length 85mm M8 x 1.25				
140127		Eyebolt Galvanised (8 Pack) 130mm Long Thread Length 85mm M8 x 1.25				
140047-Long		Pigtail Eyebolt Stainless Steel (8 Pack) 154mm Long Thread Length 66mm M10 x 1.5				
140047-Short		Pigtail Eyebolt Stainless Steel (8 Pack) 114mm Long Thread Length 46mm M10 x 1.5				
140048		Flexible Roller Eyebolt with Adjustment				
140099		Flexible Roller Eyebolt with Nuts - no adjustment				
Standard Bezel	S/Steel Bezel					
140042-A	140042-A-SS	LED Green/Flashing Red 24Vdc				
140042-B	140042-B-SS	LED Green/Flashing Red 110-120Vac				
140042-C	140042-C-SS	LED Green/Flashing Red 230Vac				
140132-AS	140132-AS-SS	LED Steady Green/Steady Red 24Vdc				
140132-BS	140132-BS-SS	LED Steady Green/Steady Red 110-120Vac				
140132-CS	140132-CS-SS	LED Steady Green/Steady Red 230Vac				
140043		220mm Long Safety Spring Stainless Steel				
140140		E-Stop Mechanism Stainless Steel				
140044		E-Stop Mechanism				
140059		Screwdriver Anti-Tamper T20				

NOTE: Rope Kits eyebolts 84mm long.

Tensioner/Gripper Assembly
Allen Key 4mm
Quick Link (QL)
For up to 50m spans - 1 rope end is terminated with a thimble and permanent clamp.
For over 50m spans - 2 Tensioner/Gripper Assemblies are supplied (no Quick Link).

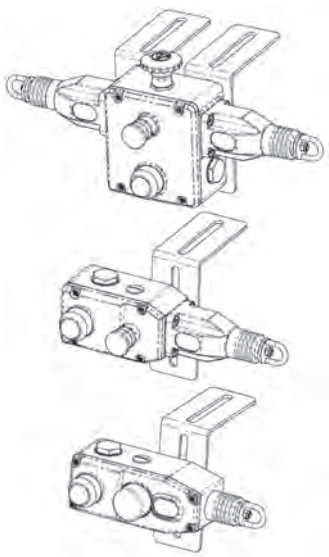
Screwdriver Anti-Tamper T20

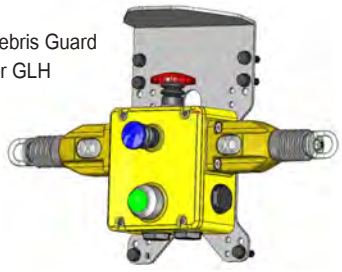
ACCESSORIES - MOUNTING & DEBRIS GUARD:



MOUNTING BRACKET FOR ROPE SWITCHES ALL VARIATIONS	SALES NUMBER
Stainless Steel	140165

DEBRIS GUARD FOR GLH	SALES NUMBER
Stainless Steel	140167
Metal (Nickel Plated)	140166





Debris Guard for GLH

Safety Rope Pull Switches: **Z-Range with OSSD**

GUARDIAN LINE WITH Z-RANGE TECHNOLOGY:

IDEM's Rope pull safety switches with OSSD (Output Signal Switching Device) outputs are essential safety devices used in industrial environments to ensure the rapid shutdown of machinery in emergency situations. These switches are strategically placed along the length of conveyors or other equipment, allowing operators to quickly and easily stop the machinery by pulling the rope.

The OSSD outputs provide a dual-channel, failsafe signal, ensuring a higher level of safety by continuously monitoring the switch's status and immediately detecting any faults or tampering. This feature makes rope pull safety switches with OSSD outputs a reliable choice for safeguarding personnel and equipment in dynamic and potentially hazardous work environments.

- Suitable for Series Connection up to PLe
- LED Indication for Quick Device Evaluation
- Die-Cast Metal or 316 Grade Stainless Steel
- Stainless Steel Versions are Rated to IP69K
- Quick Connect for Fast Installation and Maintenance
- GLHD-Z Suitable for Long Conveyors up to 250m

INTERNAL LED's (remove switch cover):

Green LED Red LED

OPERATION:

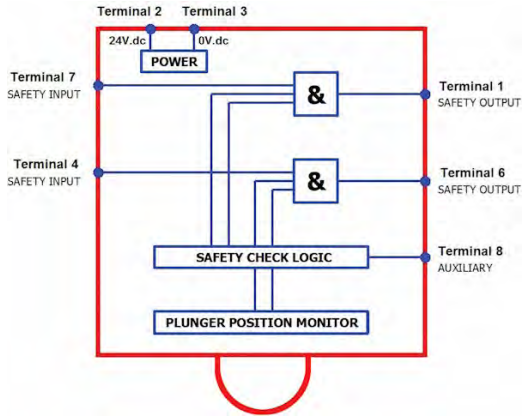
All IDEM Safety Rope Emergency Stop Switches conform to European Standard ISO13850 (EN418) and EN60947-5-5.

They have a positive mechanical linkage between the switch contacts and the wire rope as per EN60947-5-1. The emergency stop switches are brought into the operational condition by pre-tensioning the rope by use of a tensioner/gripper device which clamps the rope and then hooks to the switch eyebolts.

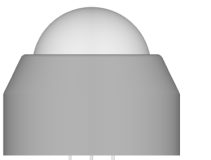
Correct tension can be observed by viewing the tension indicator on the switch housing. Once tensioned the switch contact blocks can be set to the operational condition (safety contacts closed, auxiliary contacts open) by pressing the blue reset button on the switch cover.

All of the Safety Rope Switches have wire-breakage monitoring. On pulling or breakage (tension loss) of the rope, the safety contacts are positively opened and the auxiliary contacts are closed. The switches are mechanically latched and can then only be returned to the operational condition by pressing the reset button as required by ISO13850 (EN418).

LED Function		Status
GREEN	RED	
ON	OFF	Inputs active, outputs enabled
OFF	ON	Outputs disabled
FLASHING	ON	Inputs missing, outputs disabled
OFF	FLASH 2Hz	Output fault (check for wiring short circuits)
OFF	FLASH 4Hz	Internal fault



Standards	
ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL 60947-5-1 UL60947-5-1 IEC 60947-5-5	
Technical Data	
Rated Operating Voltage	24V DC -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24V DC
Outputs max. / min.Current	0.2 A / 1mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage / Current	24V DC / 2mA
Auxiliary Signalling Output Rated	24V DC
Auxiliary Signalling Output Max.	0.2 A PNP
Mechanical Reliability B10d	1.5 x 10 6 operations
Response Time Guard Open	60ms max.
Response Time Inputs Off	20ms max.
Operating Temperature	-20 / 50C
Dielectric Withstand	250V AC
Enclosure Protection	IP67 (Die Cast Metal) IP69K (S/Steel) (Temporary cleaning)
Body Material	Die Cast Metal or S/Steel 316



Internal Wiring for LED

Brown (Terminal 2 of CBZ)
Green (Terminal 3 of CBZ)
Red (Terminal 8 of CBZ)

GREEN ON	Outputs Enabled
RED ON	Outputs Disabled
RED FLASH	Fault - Check Internal LED's Diagnostics

Safety Rope Pull Switches: **Z-Range with OSSD**

GLM-Z:

GLM-SS-Z:

IP69K
M12 Connector
Rated IP67

GLS-Z:

GLS-SS-Z:

IP69K
M12 Connector
Rated IP67

GLHD-Z:

GLHD-SS-Z:

IP69K
M12 Connector
Rated IP67

GLHR-Z:

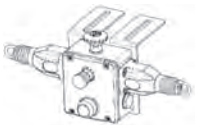
GLHR-SS-Z:

IP69K
M12 Connector
Rated IP67

GLHL-Z:

GLHL-SS-Z:

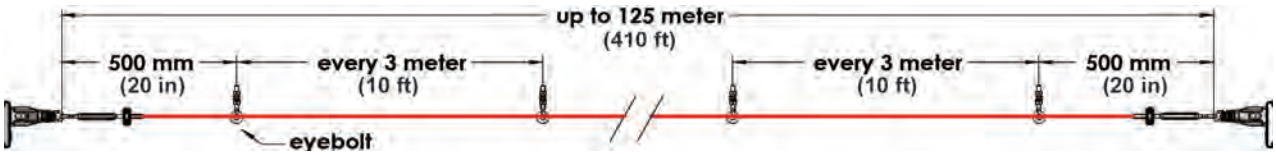
IP69K
M12 Connector
Rated IP67



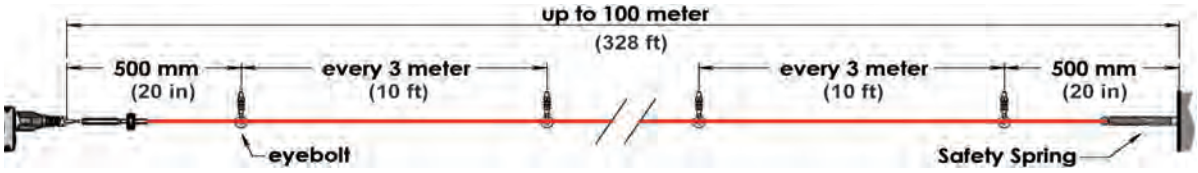
MOUNTING BRACKET FOR GLH ROPE SWITCHES	SALES NUMBER
Stainless Steel	140165

INSTALLATION:

Installation with 2 rope switches:



Installation with 1 rope switch:



It is important that the first 500mm is not used as part of the active protection coverage. If protection is required in this first 500mm then it is recommended to use switches fitted with a mushroom type E-Stop button. IDEM also recommend when using a Safety Spring that a maximum of one corner pulley is used.

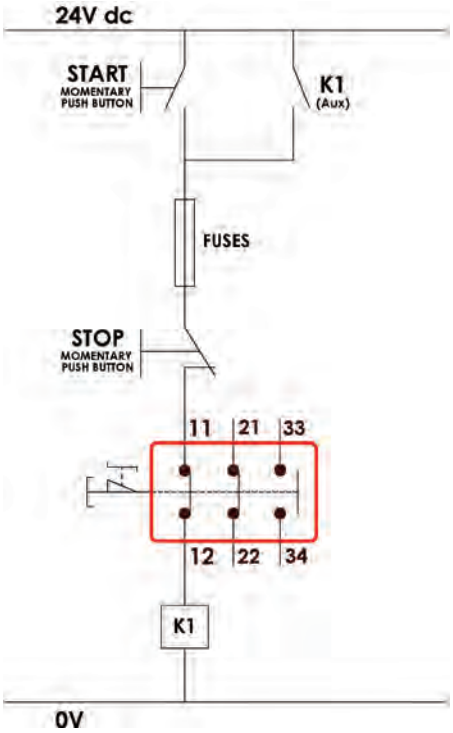
ORDERING:

SALES NUMBER	DESCRIPTION	CONTACTS	CONNECTIVITY	FITTINGS
143300-Z	GLM-Z	2 OSSD / 1 AUX	QC-M12 8way 250mm Pigtail	E-STOP & LED
148300-Z	GLM-SS-Z			
142300-Z	GLS-Z			
144300-Z	GLS-SS-Z			
141300-Z	GLHD-Z			
145300-Z	GLHD-SS-Z			
141302-Z	GLHR-Z			
145302-Z	GLHR-SS-Z			
141301-Z	GLHL-Z			
145301-Z	GLHL-SS-Z			

SALES NUMBER	DESCRIPTION
140101	M12 Female 5m. 8 way
140102	M12 Female 10m. 8 way
140210-Z	Z-Range 8 ports, 8-pin M12 sockets, 24 VDC LED indicator(s)
140201	Patch Cord M12 Male to Female 2m
140202	Patch Cord M12 Male to Female 5m
140203	Patch Cord M12 Male to Female 10m
140206	T-Port M12 Connector
140207	M12 Short Plug

Application Information **Emergency Stop Switches**

APPLICATION 1:



Application 1: Single Channel E Stop and Stop/Start Circuit.

Used in applications with a lower risk, pressing the E Stop will stop the machine. The E Stop will latch and needs re-setting before the machine Start Button can be effective.

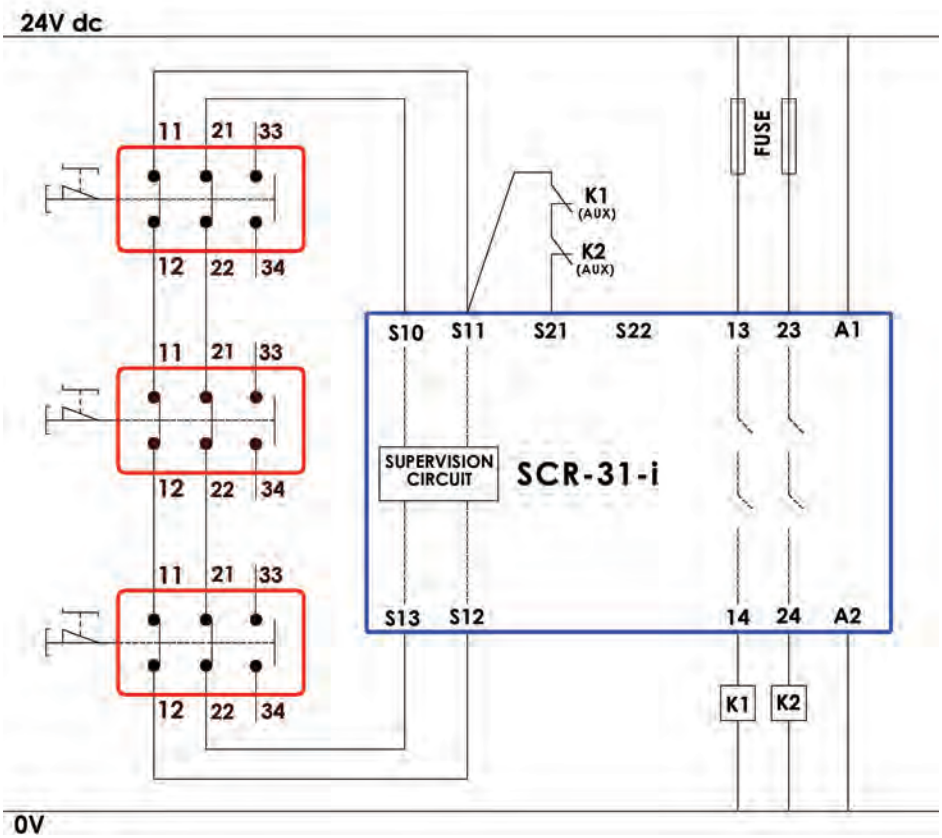
Pressing the Start button will cause the machine contactor K1 to close and latch via its own auxiliary contacts (K1 (Aux)).

No wiring cross monitoring, all wiring should be protected and the components chosen for correct durability and ratings.

Regular checks of the Safety Function is required.

Stop Category 0 EN60204-1

APPLICATION 2:



Application 2: Dual Channel E-Stops in Series with wiring cross-monitoring and auto reset.

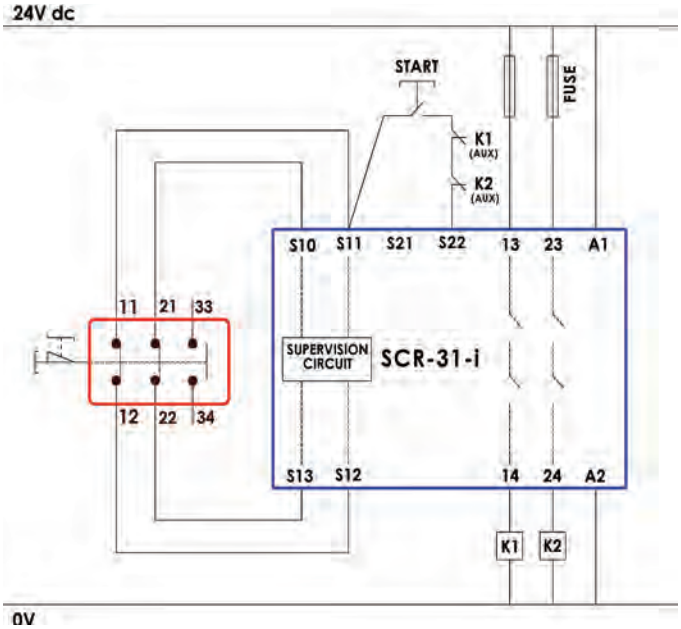
Multiple E-Stop switches connected dual circuit to a Safety Relay.

Generally used on machines with a medium risk. Activating any E Stop Switch will open the outputs from contactors K1 and K2 and stop the machine. The E Stop switch will latch. Re-setting the E Stop switch will enable the machine contactors K1 and K2 to close providing the feedback circuit check from both contactors (K1 K2 Aux) is closed. Due to series wiring and multiple devices, not all contact or wiring faults will be detected before the next start up.
Regular checks of the Safety Function is required.

Stop Category 0 EN60204-1

Application Information **Emergency Stop Switches**

APPLICATION 3:



Application 3: Dual Channel E Stop with wiring cross-monitoring and external manual reset.

Single E-Stop switch connected dual circuit to a Safety Relay.

Generally used on machines with a high risk.

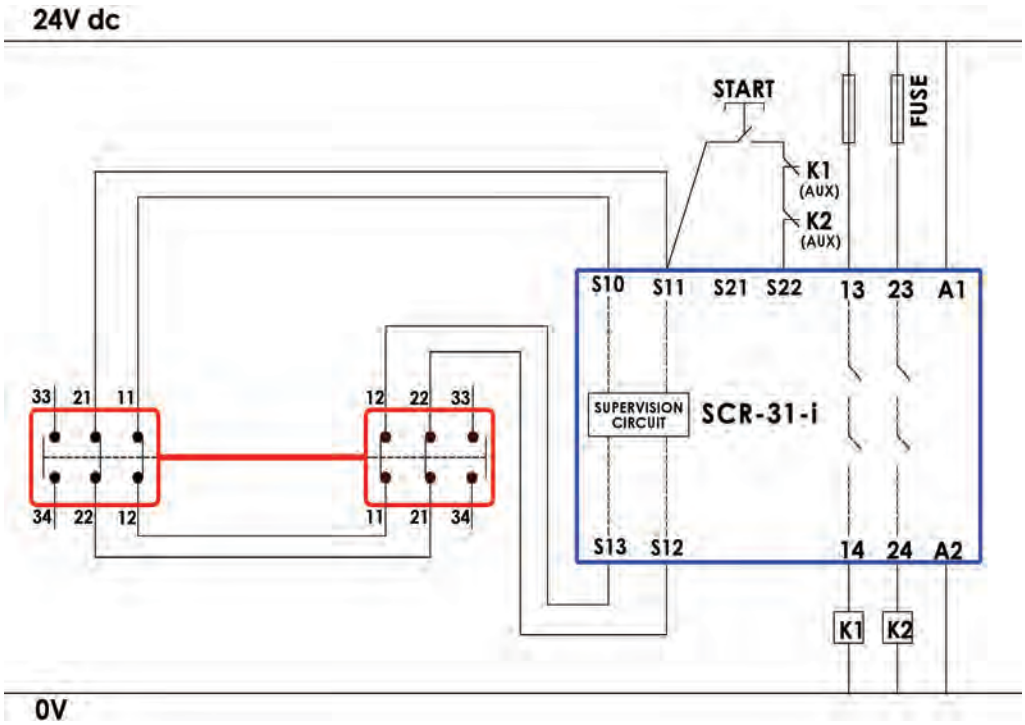
Activating the E Stop Switch will open contactors K1 and K2 and stop the machine.

The E Stop switch will latch and need to be reset before the Start Button can be effective.

Pressing the Start Button will cause the machine contactors K1 and K2 to close providing the feedback circuit check from both contactors (K1 K2 Aux) is closed. A failure of one of the switching elements of the E Stop switch or wiring short circuit will be detected at least before the next start up.

Stop Category 0 EN60204-1

APPLICATION 4:



Application 4: Dual Channel Rope Pull E-Stop Switches with wiring cross-monitoring and external manual reset.

Generally used on conveyor applications with a high risk.

Activating the Rope Pull Switch will open the Safety Relay outputs and stop the machine.

The Rope Pull Switches, (one or both}, will latch and need re-setting before the Start Button can be effective.

Pressing the Start button will cause the machine contactors K1 and K2 to close providing the feedback circuit check from both contactors (K1 K2 Aux) is closed. A failure of one of the switching elements of the E-Stop switch or wiring short circuit will be detected at least before the next start up.

Stop Category 0 EN60204-1

Python Line Series - Conveyor Belt Alignment Switches

OPTIONS:

Housings:
Die-cast painted yellow, or Stainless Steel 316.

Roller Options:
35 x 120mm Short Roller
35 x 230mm Long Roller
50 x 170mm Medium Roller

MINIATURE BELT ALIGNMENT SWITCHES
Please see P214-215 HLM-CBA Types.
Housings: Die-cast painted red or S/Steel 316.

APPLICATION:

Conveyor Belt Alignment switches are mounted on sections of plant conveyors to protect against excessive belt drift due to an unintentional movement. They can be fitted at appropriate points along the conveyor length to ensure that should the belt position drift, the roller arm of the switch will move to a pre-determined position and cause activation of a control circuit.
All switches conform to European Standard IEC 60947-5-1 and provide positively operated contacts at the point of tripping. They can be used to satisfy the requirements of EN 620 with regard to conveyor control hazards caused by shifting of the belt position during running.
They are available in different roller diameters to provide heavy duty performance and long life.

OPERATION:

The steel roller of the switch is placed near to the running edge of the conveyor belt such that deflection of the roller and arm will cause activation "tripping" of the internal contacts of the switch. Adjustment of the tripping angles and necessary activation torque is provided by the switch.

INSTALLATION GUIDE:

1. Installation of all switch systems must be in accordance with a risk assessment for the individual application.
   Installation must only be carried out by competent personnel and in accordance with these instructions.
2. M5 mounting bolts must be used to fix the switches. Tightening torque for mounting bolts to ensure reliable fixing is 4 Nm.
   Tightening torque for the lid screws, conduit entry plugs and cable glands must be 1.5 Nm to ensure IP seal. Only use the correct size gland for the conduit entry and cable outside diameter.
3. The position of the roller must be chosen to ensure that in normal use the belt does not touch the roller, but that should the belt move beyond its normal guides it will make contact with the roller. After selecting the correct mounting position, the switching points of the internal contact blocks can be finely adjusted via internal cams.

There are 2 internal contact blocks one to provide a "STOP" signal the other to provide a "WARNING" signal. The blocks offer NC and NO circuits.

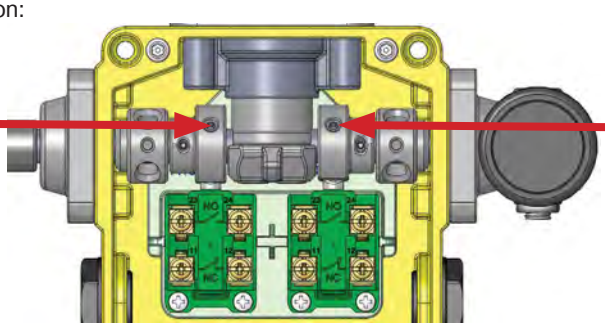
Final Adjustment of contact block action:

WARNING SIGNAL

Contact block 1
Adjustment cam.

Allen screw (2.5mm)
Tightening Torque 2Nm

Factory setting 14 degrees
(Adjustable 10 to 18 degrees)



BLOCK 1 **BLOCK 2**

STOP SIGNAL

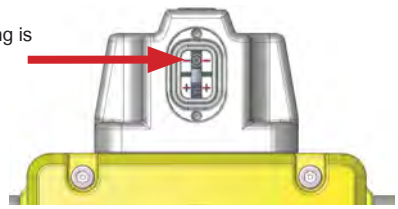
Contact block 2
Adjustment cam.

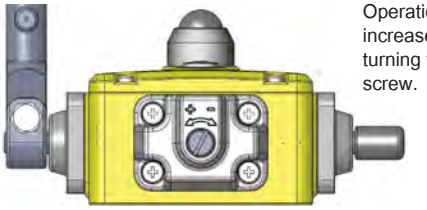
Allen screw (2.5mm)
Tightening Torque 2Nm

Factory setting 25 degrees.
(Adjustable 15 to 35 degrees)

4. The operational torque can be adjusted to cope with belt sensitivity or mounting angle.

Factory setting is
low setting





Operational torque can be increased or decreased by turning the adjustment screw.

Python Line Series - Conveyor Belt Alignment Switches

MAINTENANCE:

Every month:
Check correct operation at all switch locations along all coverage length. Check for nominal warning and trip angle, re-set if necessary.

Every 6 months:
Isolate power and remove cover. Check screw terminal tightness and check for signs of moisture ingress. Never attempt to repair any switch.

CONTACT OPERATION/DEFLECTION OF ROLLER:

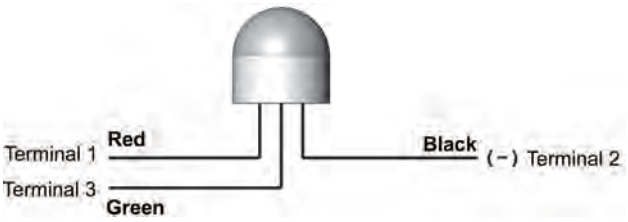
			0 Degrees	14 Degrees WARNING	25 Degrees STOP	65 Degrees
		1NC 1NO				
WARNING SIGNAL Contact Block 1	NC	11/12				
	NO	23/24				
STOP SIGNAL Contact Block 2	NC	11/12				
	NO	23/24				

CONTACTS OPEN
CONTACTS CLOSED

Direction of roller

WIRING EXAMPLES (Standard Versions):

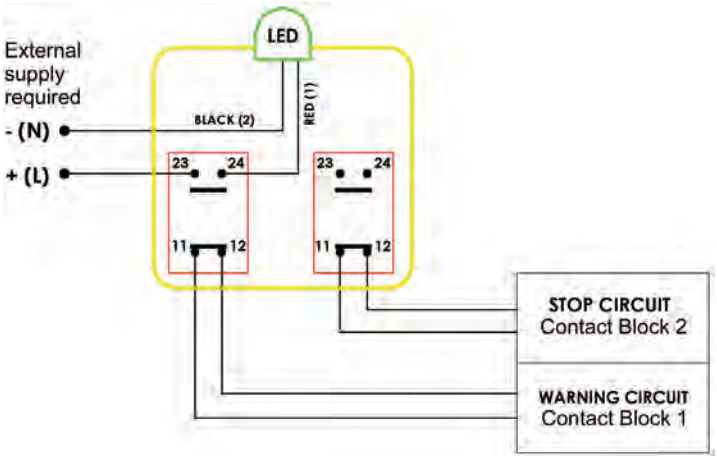
LED Steady Green or Flashing Red (Bi-colour)



When power is applied to the Red wire, the lamp will illuminate Red and Flash.

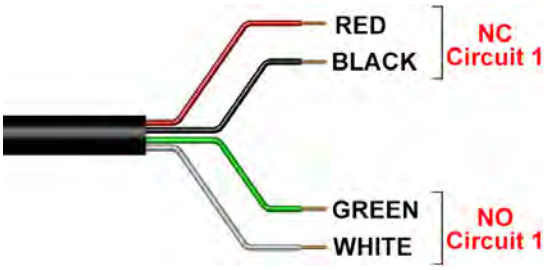
When power is applied to the Green Wire, the Lamp will illuminate Green.

Black is 0V.dc or Neutral for 110Vac and 230Vac versions.



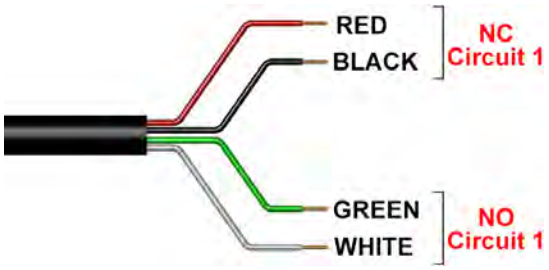
WIRING COLOURS (EX Versions):

WARNING SIGNAL Contact Block 1



Pre-wired EX versions (see Part Numbers)

STOP SIGNAL Contact Block 2



Standards: IEC 60947-5-1 EN 620

Mechanical Features:

Enclosure/Cover	Die-Cast (Painted Yellow) or Stainless Steel 316
External Parts	Stainless Steel
IP Rating	IP67
Mounting	4 x M5
Mounting position	Any
Conduit entries	4 x M20 or 4 x ½ " NPT by part number
Torque settings	Mounting M5 4.0 Nm Lid T20 Torx M4 1.5 Nm Terminals 1.0 Nm
Ambient Temperature	--25C. 80 C.
Vibration resistance	10-500Hz 0.35mm
Shock resistance	15g 11ms
Mechanical Reliability	150,000 operations at 100mA load
Switching range	WARNING signal 10 to 18 degrees STOP signal 15 to 35 degrees
Operating Torque range (adjustable)	Medium Duty 1.8Nm to 2.8Nm Heavy Duty 3.0Nm to 5.0Nm
Maximum tilt angle (mounting angle)	30 degrees
Maximum Deflection	65 degrees

Electrical Features:

Safety Contact type	IEC 60947-5-1 Double break Type Zb
Contact Material	Silver
Termination	Clamp up to 2.5 sq. mm conductors
Rating	Utilisation Category : AC15
Operational Rating	AC15 A300 240V. 3A. / 120V. 6A. ac 24V. 2.5A dc
Thermal Current (Ith)	10A.
Rated Insulation Voltage (Ui)	500V.
Withstand Voltage (Uimp)	2500V.
Short Circuit Overload Protection	Fuse Externally 10A. (FF)

Optional Explosion Proof Contact Blocks:

ATEX Zones	1,21,2,22
Classification	Ex d IIC T6 (-20C Ta 60C) Gb Ex tb IIIC T85C (-20C Ta 60C) Db
Rated Voltage	250V ac/dc
Rated Current	2 pole 4A.

Python Line Series - Conveyor Belt Alignment Switches

MEDIUM DUTY - DIE-CAST BELT SWITCH 35mm x 120mm ROLLER ORDERING:

SALES NUMBER	DESCRIPTION	MEDIUM DUTY BELT ALIGNMENT SWITCH		
	ALL VERSIONS ARE 2NC 2NO	Operating Torque	WARNING	STOP
500001	Belt Switch 35 x 120mm Roller M20			
500002	Belt Switch 35 x 120mm Roller 1/2" NPT			
500003A	Belt Switch 35 x 120mm Roller M20 24V LED	1.8Nm to 2.8Nm	10-18 degrees	15-35 degrees
500003B	Belt Switch 35 x 120mm Roller M20 110V LED			
500003C	Belt Switch 35 x 120mm Roller M20 230V LED	(Factory set to 1.8Nm)	(Factory set at 14 degrees)	(Factory set at 25 degrees)
500004A	Belt Switch 35 x 120mm Roller 1/2" NPT 24V LED			
500004B	Belt Switch 35 x 120mm Roller 1/2" NPT 110V LED			
500004C	Belt Switch 35 x 120mm Roller 1/2" NPT 230V LED			
500021	Belt Switch 35 x 120mm Roller **EX** 3m pre-wired			

HEAVY DUTY - DIE-CAST BELT SWITCH 35mm x 230mm ROLLER ORDERING:

SALES NUMBER	DESCRIPTION	MEDIUM DUTY BELT ALIGNMENT SWITCH		
	ALL VERSIONS ARE 2NC 2NO	Operating Torque	WARNING	STOP
500005	Belt Switch 35 x 230mm Roller M20			
500006	Belt Switch 35 x 230mm Roller 1/2" NPT			
500007A	Belt Switch 35 x 230mm Roller M20 24V LED	3.0Nm to 5.0Nm	10-18 degrees	15-35 degrees
500007B	Belt Switch 35 x 230mm Roller M20 110V LED			
500007C	Belt Switch 35 x 230mm Roller M20 230V LED	(Factory set to 3.0Nm)	(Factory set at 14 degrees)	(Factory set at 25 degrees)
500008A	Belt Switch 35 x 230mm Roller 1/2" NPT 24V LED			
500008B	Belt Switch 35 x 230mm Roller 1/2" NPT 110V LED			
500008C	Belt Switch 35 x 230mm Roller 1/2" NPT 230V LED			
500051	Belt Switch 35 x 230mm Roller **EX** 3m pre-wired			

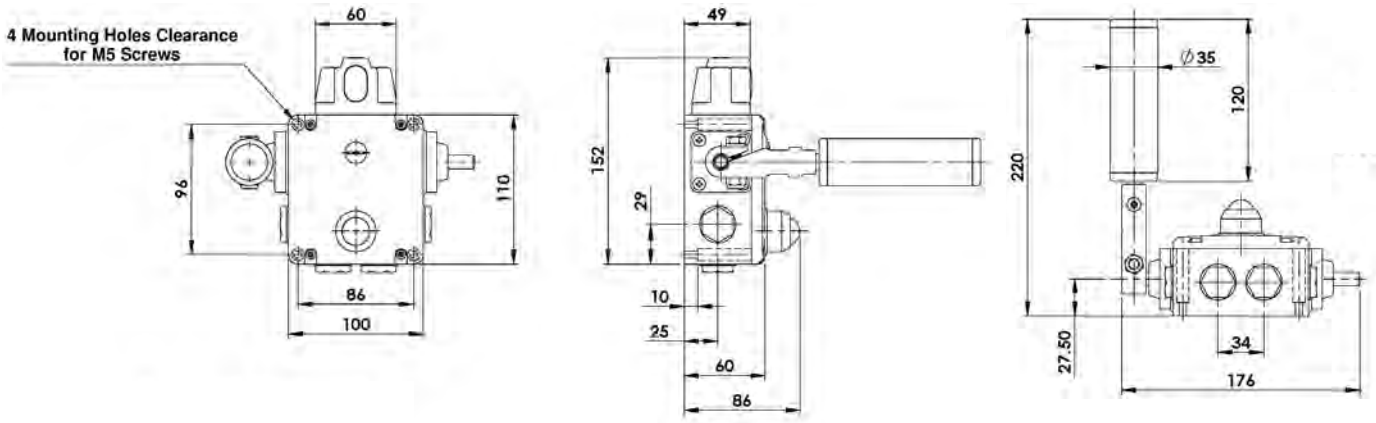
HEAVY DUTY - DIE-CAST BELT SWITCH 50mm x 170mm ROLLER ORDERING:

SALES NUMBER	DESCRIPTION	MEDIUM DUTY BELT ALIGNMENT SWITCH		
	ALL VERSIONS ARE 2NC 2NO	Operating Torque	WARNING	STOP
500009	Belt Switch 50 x 170mm Roller M20			
500010	Belt Switch 50 x 170mm Roller 1/2" NPT			
500011A	Belt Switch 50 x 170mm Roller M20 24V LED	3.0Nm to 5.0Nm	10-18 degrees	15-35 degrees
500011B	Belt Switch 50 x 170mm Roller M20 110V LED			
500011C	Belt Switch 50 x 170mm Roller M20 230V LED	(Factory set to 3.0Nm)	(Factory set at 14 degrees)	(Factory set at 25 degrees)
500012A	Belt Switch 50 x 170mm Roller 1/2" NPT 24V LED			
500012B	Belt Switch 50 x 170mm Roller 1/2" NPT 110V LED			
500012C	Belt Switch 50 x 170mm Roller 1/2" NPT 230V LED			
500091	Belt Switch 50 x 170mm Roller **EX** 3m pre-wired			

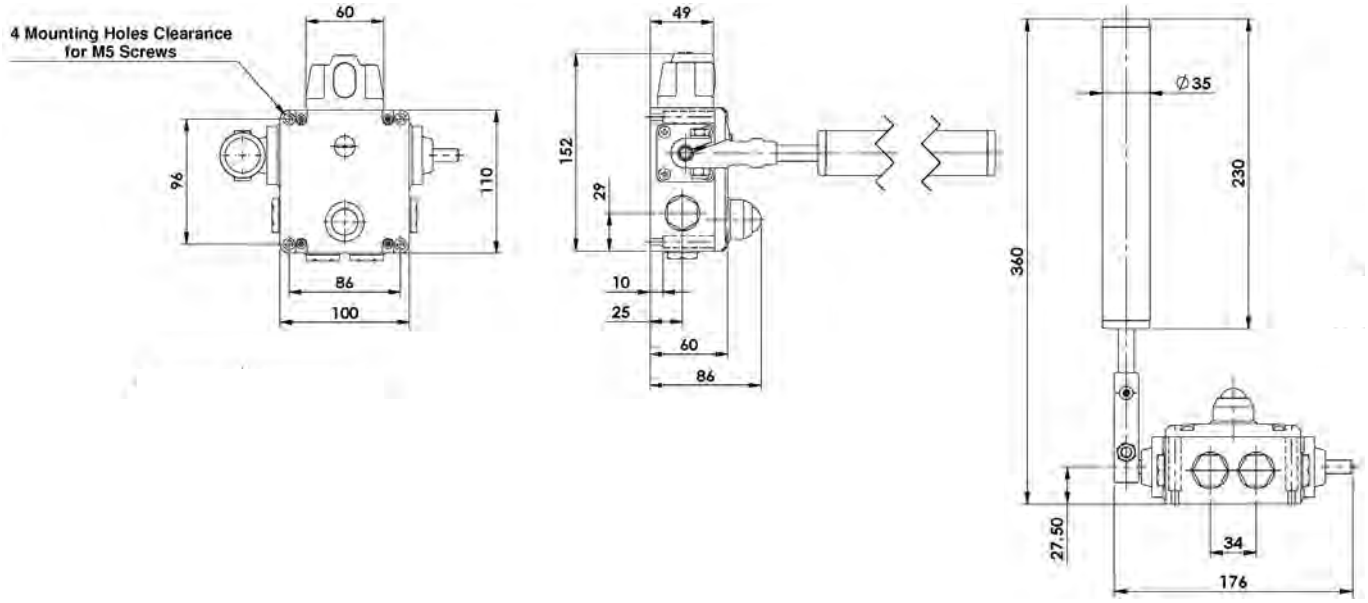
For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Python Line Series - Conveyor Belt Alignment Switches

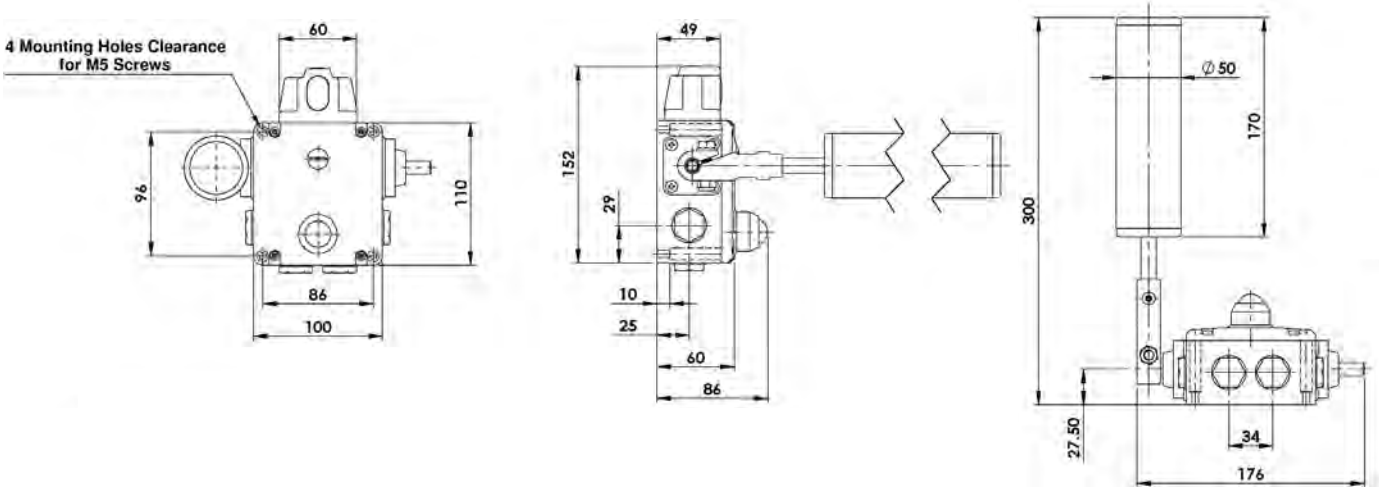
MEDIUM DUTY - DIE-CAST BELT SWITCH 35mm x 120mm DIMENSIONS (mm):



HEAVY DUTY - DIE-CAST BELT SWITCH 35mm x 230mm DIMENSIONS (mm):



HEAVY DUTY - DIE-CAST BELT SWITCH 50mm x 170mm DIMENSIONS (mm):



For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Python Line Series - Conveyor Belt Alignment Switches

MEDIUM DUTY - STAINLESS STEEL BELT SWITCH 35mm x 120mm ROLLER ORDERING:

SALES NUMBER	DESCRIPTION	MEDIUM DUTY BELT ALIGNMENT SWITCH		
	ALL VERSIONS ARE 2NC 2NO	Operating Torque	WARNING	STOP
501001	Belt Switch 35 x 120mm Roller M20			
501002	Belt Switch 35 x 120mm Roller 1/2" NPT			
501003A	Belt Switch 35 x 120mm Roller M20 24V LED	1.8Nm to 2.8Nm	10-18 degrees	15-35 degrees
501003B	Belt Switch 35 x 120mm Roller M20 110V LED			
501003C	Belt Switch 35 x 120mm Roller M20 230V LED	(Factory set to 1.8Nm)	(Factory set at 14 degrees)	(Factory set at 25 degrees)
501004A	Belt Switch 35 x 120mm Roller 1/2" NPT 24V LED			
501004B	Belt Switch 35 x 120mm Roller 1/2" NPT 110V LED			
501004C	Belt Switch 35 x 120mm Roller 1/2" NPT 230V LED			
501021	Belt Switch 35 x 120mm Roller **EX** 3m pre-wired			

HEAVY DUTY - STAINLESS STEEL BELT SWITCH 35mm x 230mm ROLLER ORDERING:

SALES NUMBER	DESCRIPTION	MEDIUM DUTY BELT ALIGNMENT SWITCH		
	ALL VERSIONS ARE 2NC 2NO	Operating Torque	WARNING	STOP
501005	Belt Switch 35 x 230mm Roller M20			
501006	Belt Switch 35 x 230mm Roller 1/2" NPT			
501007A	Belt Switch 35 x 230mm Roller M20 24V LED	3.0Nm to 5.0Nm	10-18 degrees	15-35 degrees
501007B	Belt Switch 35 x 230mm Roller M20 110V LED			
501007C	Belt Switch 35 x 230mm Roller M20 230V LED	(Factory set to 3.0Nm)	(Factory set at 14 degrees)	(Factory set at 25 degrees)
501008A	Belt Switch 35 x 230mm Roller 1/2" NPT 24V LED			
501008B	Belt Switch 35 x 230mm Roller 1/2" NPT 110V LED			
501008C	Belt Switch 35 x 230mm Roller 1/2" NPT 230V LED			
501051	Belt Switch 35 x 230mm Roller **EX** 3m pre-wired			

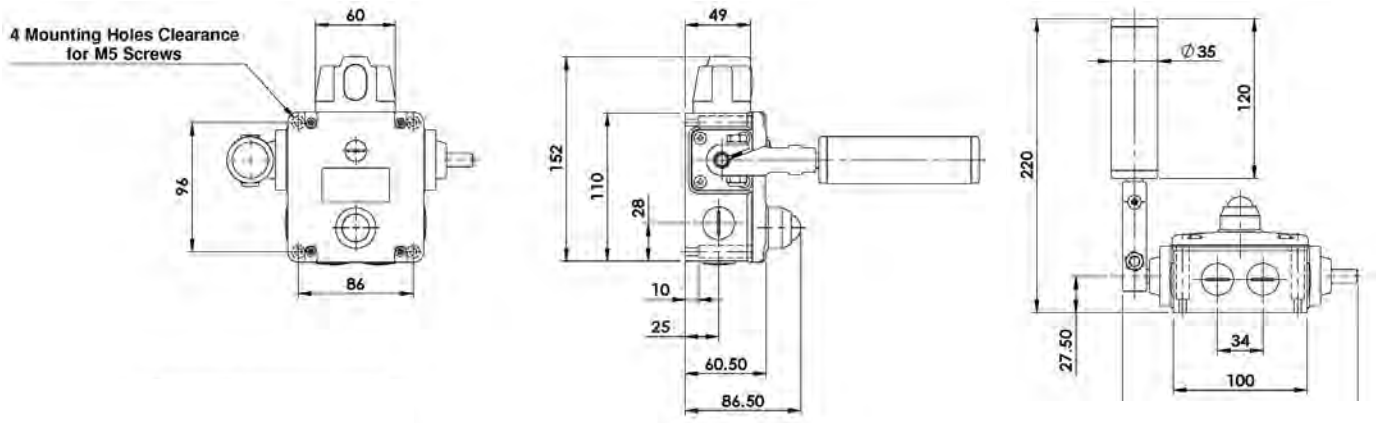
HEAVY DUTY - STAINLESS STEEL BELT SWITCH 50mm x 170mm ROLLER ORDERING:

SALES NUMBER	DESCRIPTION	MEDIUM DUTY BELT ALIGNMENT SWITCH		
	ALL VERSIONS ARE 2NC 2NO	Operating Torque	WARNING	STOP
501009	Belt Switch 50 x 170mm Roller M20			
501010	Belt Switch 50 x 170mm Roller 1/2" NPT			
501011A	Belt Switch 50 x 170mm Roller M20 24V LED	3.0Nm to 5.0Nm	10-18 degrees	15-35 degrees
501011B	Belt Switch 50 x 170mm Roller M20 110V LED			
501011C	Belt Switch 50 x 170mm Roller M20 230V LED	(Factory set to 3.0Nm)	(Factory set at 14 degrees)	(Factory set at 25 degrees)
501012A	Belt Switch 50 x 170mm Roller 1/2" NPT 24V LED			
501012B	Belt Switch 50 x 170mm Roller 1/2" NPT 110V LED			
501012C	Belt Switch 50 x 170mm Roller 1/2" NPT 230V LED			
501091	Belt Switch 50 x 170mm Roller **EX** 3m pre-wired			

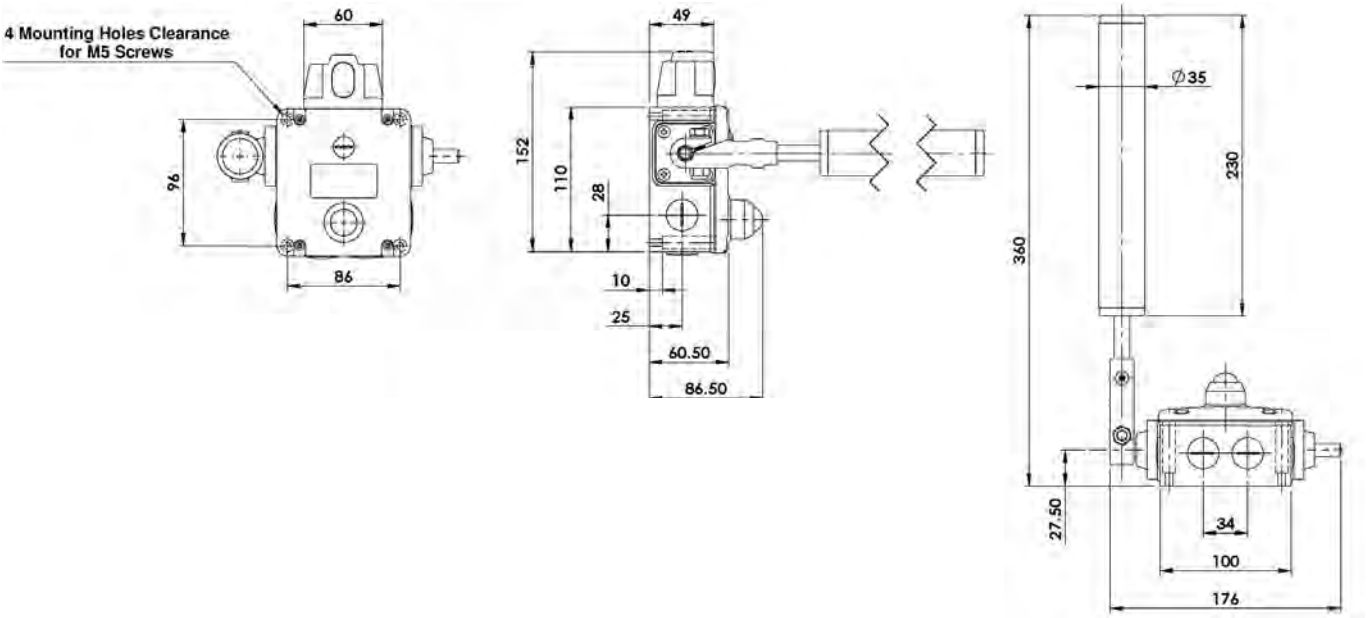
For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Python Line Series - Conveyor Belt Alignment Switches

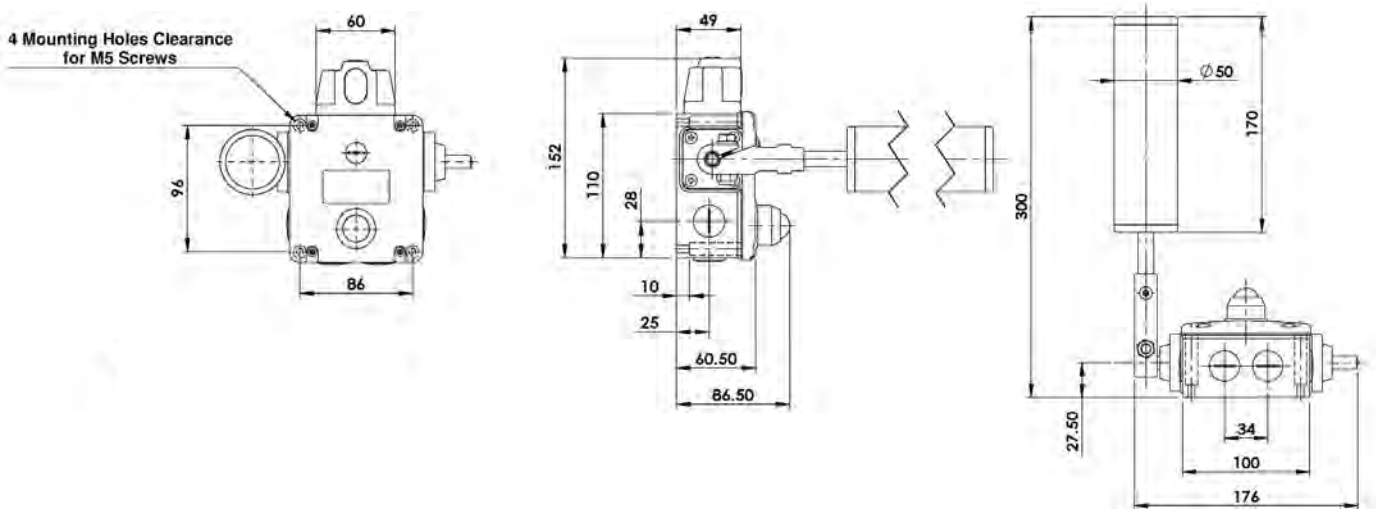
MEDIUM DUTY - STAINLESS STEEL BELT SWITCH 35mm x 120mm DIMENSIONS (mm):



HEAVY DUTY - STAINLESS STEEL BELT SWITCH 35mm x 230mm DIMENSIONS (mm):



HEAVY DUTY - STAINLESS STEEL BELT SWITCH 50mm x 170mm DIMENSIONS (mm):



For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Mini Belt Alignment Switches **TYPE: HLM-CBA**

APPLICATIONS:

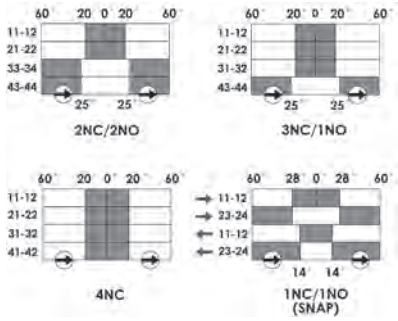
IDEM's HLM-CBA mini conveyor belt alignment switches come with either plastic roller or stainless steel roller.
They are available with either slow break or snap action contacts.

FEATURES:

- Heavy duty die cast bodies (painted red)
- Positive opening NC safety contact to EN60947-5-1
- High mechanical life over 500,000 cycles
- Industry standard mounting to EN50041
- Choice of Stainless Steel or Plastic Roller

CONTACT BLOCKS:

Contact blocks provide positively operated safety contacts to EN60947-5-1 with optional Explosion Proof versions available.



EX CLASSIFICATION:

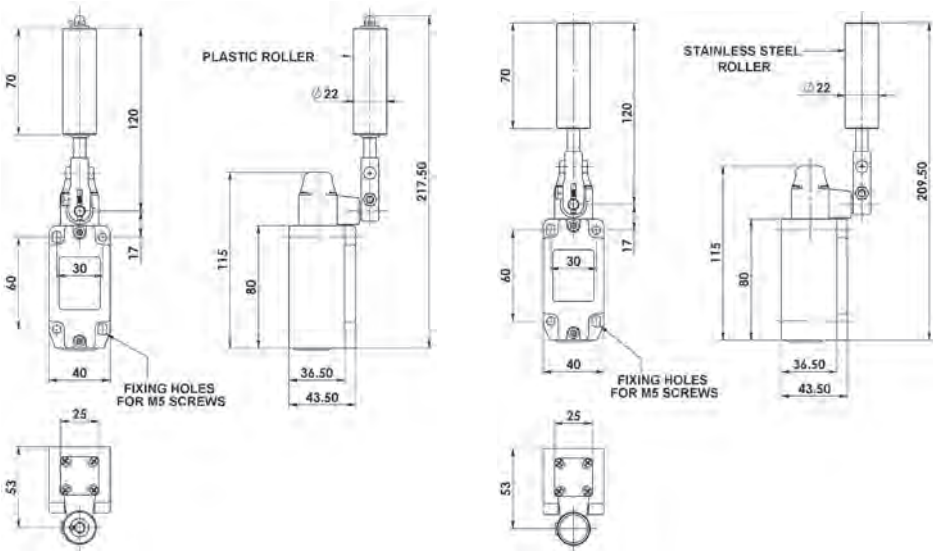
EXPLOSION PROOF MODELS ALSO AVAILABLE.
SEE MODELS/PART NUMBERS MARKED WITH EX

HLM-CBA-P
Plastic Roller

HLM-CBA-S
S/Steel Roller

Quick Connect (QC) M23 12 Way Male (connector length 26mm) (pin view from switch)	Switch Circuit
1 3	11/12
4 6	21/22
7 8	33/34 or 31/32
9 10	41/42 or 43/44
12	Earth

DIMENSIONS:



ORDERING:

HLM-CBA-P with PLASTIC ROLLER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174401	174402	174403
3NC 1NO	174404	174405	174406
4NC	174407	174408	174409
1NC 1NO Snap	174410	174411	174412
1NC 1NO **EX**	174413	3m 4 core Ex	
2NC **EX**	174414	3m 4 core Ex	
2NC 2NO **EX**	174415	3m 8 core Ex	

HLM-CBA-S with STAINLESS STEEL ROLLER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	174451	174452	174453
3NC 1NO	174454	174455	174456
4NC	174457	174458	174459
1NC 1NO Snap	174460	174461	174462
1NC 1NO **EX**	174463	3m 4 core Ex	
2NC **EX**	174464	3m 4 core Ex	
2NC 2NO **EX**	174465	3m 8 core Ex	

TECHNICAL SPECIFICATIONS:

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	500,000 operations at 100mA load
Positive Opening Operation	NC contacts
Utilisation Category	AC15 A300 240V 3A
Minimum Current	5V 5mA dc
Thermal Current (Ith)	10A
Rated Insulation Voltage	300Vac
Rated Impulse Withstand	2500Vac
Maximum Switching Speed	250mm/sec
Housing Material	Die Cast
Roller Material:	Stainless Steel or Plastic
Enclosure Protection	IP67
Operating Temperature	-25C to +80C
Electrical Life Expectancy	100,000 cycle min (at full load)
Vibration	IEC68-2-6 10-55Hz 0.35mm
Conductor Size	1.5mm^2
Fixing	M5 bolts
Operating Torque	1.10Nm Plastic Roller 1.40Nm Stainless Steel Roller

Mini Belt Alignment Switches **TYPE: HLM-SS-CBA**

APPLICATIONS:

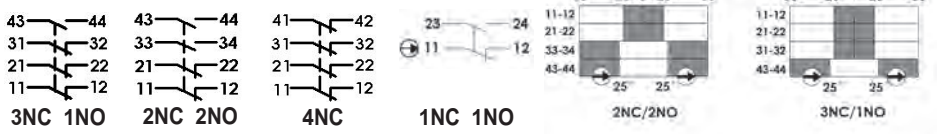
IDEM's HLM-SS-CBA mini conveyor belt alignment switches are manufactured in Stainless Steel 316 and come with either plastic roller or stainless steel roller.
They are available with either slow break or snap action contacts.

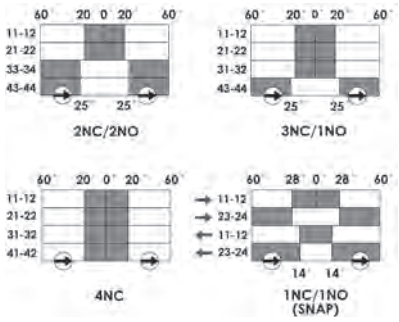
FEATURES:

- Fully Stainless Steel 316 housing
- Positive opening NC safety contact to EN60947-5-1
- High mechanical life over 500,000 cycles
- Industry standard mounting to EN50041
- Choice of Stainless Steel or Plastic Roller

CONTACT BLOCKS:

Contact blocks provide positively operated safety contacts to EN60947-5-1 with optional Explosion Proof versions available.





EX CLASSIFICATION:

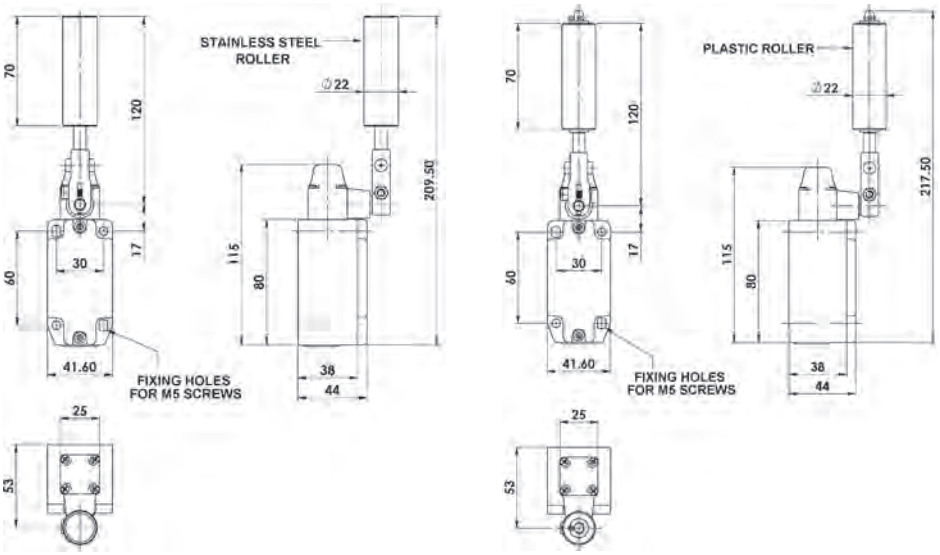
EXPLOSION PROOF MODELS ALSO AVAILABLE.
SEE MODELS/PART NUMBERS MARKED WITH EX

HLM-SS-CBA-P
Plastic Roller

HLM-SS-CBA-S
S/Steel Roller

Quick Connect (QC) M23 12 Way Male (connector length 26mm) (pin view from switch)	Switch Circuit
1 3	11/12
4 6	21/22
7 8	33/34 or 31/32
9 10	41/42 or 43/44
12	Earth

DIMENSIONS:



ORDERING:

HLM-SS-CBA-P with PLASTIC ROLLER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175401	175402	175403
3NC 1NO	175404	175405	175406
4NC	175407	175408	175409
1NC 1NO Snap	175410	175411	175412
1NC 1NO **EX**	175413	3m 4 core Ex	
2NC **EX**	175414	3m 4 core Ex	
2NC 2NO **EX**	175415	3m 8 core Ex	

HLM-SS-CBA-S with STAINLESS STEEL ROLLER	SALES NUMBERS		
	M20	1/2"NPT	QC M23
2NC 2NO	175451	175452	175453
3NC 1NO	175454	175455	175456
4NC	175457	175458	175459
1NC 1NO Snap	175460	175461	175462
1NC 1NO **EX**	175463	3m 4 core Ex	
2NC **EX**	175464	3m 4 core Ex	
2NC 2NO **EX**	175465	3m 8 core Ex	

TECHNICAL SPECIFICATIONS:

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	500,000 operations at 100mA load
Positive Opening Operation	NC contacts
Utilisation Category	AC15 A300 240V 3A
Minimum Current	5V 5mA dc
Thermal Current (Ith)	10A
Rated Insulation Voltage	300Vac
Rated Impulse Withstand	2500Vac
Maximum Switching Speed	250mm/sec
Housing Material	Stainless Steel 316
Roller Material:	Stainless Steel or Plastic
Enclosure Protection	IP69K
Operating Temperature	-25C to +80C
Electrical Life Expectancy	100,000 cycle min (at full load)
Vibration	IEC68-2-6 10-55Hz 0.35mm
Conductor Size	1.5mm^2
Fixing	M5 bolts
Operating Torque	1.10Nm Plastic Roller 1.40Nm Stainless Steel Roller

Grab Wire Auto-Reset Trip Switch **Type: GLS-AR**

FEATURES:

Grab Wire Auto-Reset Rope Switches are mounted on machines and sections of plant conveyors to initiate a momentary control signal command from any point along the installed rope length.

Pulling the rope causes instant tripping of the control circuit contacts.

Ideal for normal stop circuits where manual resetting of the switch is not required. **This switch is not an emergency stop, it is a "trip" switch with automatic reset.**

Rope Pull operated Auto Reset- Stop Switch

GLS-AR

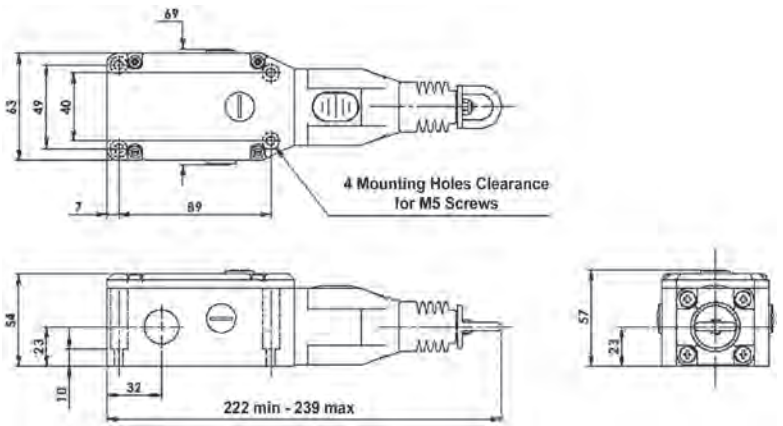
APPLICATION:

The switches have a positive mechanical linkage between the switch contacts and the wire rope as per EN60947-5-1. The switches are brought into the operational condition by pre-tensioning the rope by use of a tensioner device which clamps the rope and then hooks to the switch eyebolts. Correct tension can be observed by viewing the tension indicator on the switch housing. Once tensioned the switch contact blocks are set to the operational condition. i.e. Signal Contacts Closed - Auxiliary Contacts Open.

All of the switches have wire breakage monitoring. On pulling or breakage (loss of tension) of the rope, the normally closed Signal Contacts are opened and the Auxiliary Contacts are closed. The switches will be returned to the operational condition as soon as the rope returns to the set position.

Explosion Proof version:
Zones 1,2,21,22

DIMENSIONS:



Mechanical Features:	
Enclosure/Cover Material	Die-Cast (painted yellow)
IP Rating	IP67
Rope Span	Up to 80m
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	3 x M20 or 3 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Mechanical Life	1,000,000 operations
Approx.Weight	760g
Electrical Features:	
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 2NC + 1NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ATEX Classification (EX Versions)	Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db
Rated Voltage	250Vac
Rated Current	4Aac
Cable Length	3m pre-wired (EX versions)

SALES NUMBER	TYPE	CONDUIT	CONTACTS	FITTINGS
142498	GLS-AR	3 x M20	2NC 1NO	
142499	GLS-AR	3 x 1/2" NPT	2NC 1NO	
142496	GLS-AR	EX	1NC 1NO	Pre-Wired 3m
142497	GLS-AR	EX	2NC	Pre-Wired 3m

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 142498-GC

Grab Wire Auto-Reset Trip Switch **Type: GLS-SS-AR**

FEATURES:

Grab Wire Auto-Reset Rope Switches are mounted on machines and sections of plant conveyors to initiate a momentary control signal command from any point along the installed rope length.

Pulling the rope causes instant tripping of the control circuit contacts.

Ideal for normal stop circuits where manual resetting of the switch is not required. **This switch is not an emergency stop, it is a "trip" switch with automatic reset.**

Rope Pull operated Auto Reset- Stop Switch

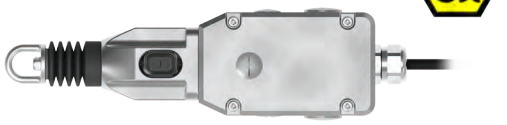
GLS-SS-AR

APPLICATION:

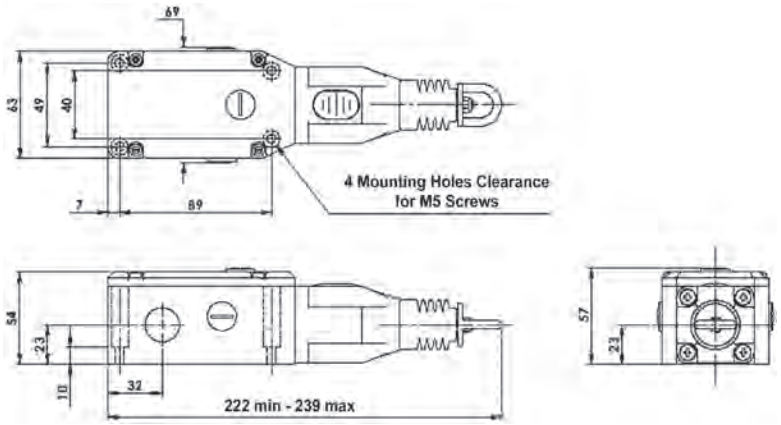
The switches have a positive mechanical linkage between the switch contacts and the wire rope as per EN60947-5-1. The switches are brought into the operational condition by pre-tensioning the rope by use of a tensioner device which clamps the rope and then hooks to the switch eyebolts. Correct tension can be observed by viewing the tension indicator on the switch housing. Once tensioned the switch contact blocks are set to the operational condition. i.e. Signal Contacts Closed - Auxiliary Contacts Open.

All of the switches have wire breakage monitoring. On pulling or breakage (loss of tension) of the rope, the normally closed Signal Contacts are opened and the Auxiliary Contacts are closed. The switches will be returned to the operational condition as soon as the rope returns to the set position.

Explosion Proof version:
Zones 1,2,21,22



DIMENSIONS:



Mechanical Features:	
Enclosure/Cover Material	Die-Cast (painted yellow) or Stainless Steel 316
IP Rating	IP69K
Rope Span	Up to 80m
Rope Tension Device	IDEM Tensioner/Gripper (quick fixing)
Rope Type	4.00mm outside dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting Position	Any
Conduit Entries	3 x M20 or 3 x 1/2" NPT (by Sales Number)
Tongue Settings	Mounting M5 4.0Nm Lid T20 Torx M4 1.5Nm Terminals 1.0Nm
Ambient Temperature	-25C +80C
Vibration Resistance	10-500Hz 0.35mm
Shock Resistance	11ms 15g
Tension Force (typical mid setting)	130N
Typical Operating Force (Rope pulled)	<125N <300mm deflection
Mechanical Life	1,000,000 operations
Approx.Weight	1780g
Electrical Features:	
Contact Type	EN60947-5-1 double break type Zb Snap Action up to 2NC + 1NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5mm^2 conductors
Rating	Utilisation category AC15
Operational Rating	240V 3A
Thermal Current (Ith)	10A
Rated Insulation Voltage (U)	500V
Withstand Voltage (Uimp)	2500V
Short Circuit Overload Protection	Fuse externally 10A(FF)

For all IDEM switches the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

Standards:	EN60947-5-1 EN60947-5-5 EN62061 UL 60947-5-1 ISO13849-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	1.5 x 10^6 operations at 100mA load
ATEX Classification (EX Versions)	Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db
Rated Voltage	250Vac
Rated Current	4Aac
Cable Length	3m pre-wired (EX versions)

SALES NUMBER	TYPE	CONDUIT	CONTACTS	FITTINGS
144498	GLS-SS-AR	3 x M20	2NC 1NO	
144499	GLS-SS-AR	3 x 1/2" NPT	2NC 1NO	
144496	GLS-SS-AR	EX	1NC 1NO	Pre-Wired 3m
144497	GLS-SS-AR	EX	2NC	Pre-Wired 3m

Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 142498-GC

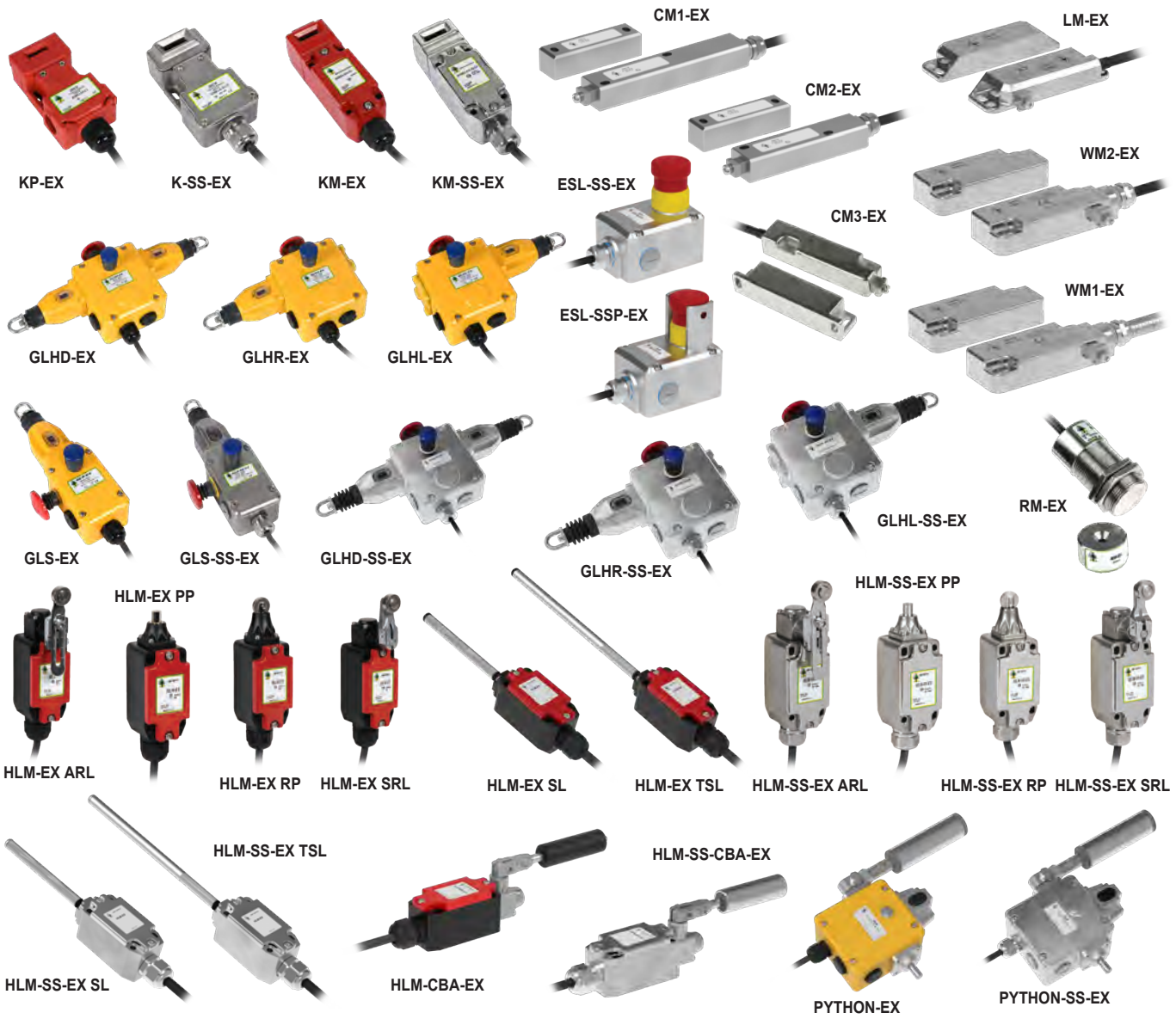
Safety Products for Explosive Environments

FEATURES:

IDEM's range of safety products for ATEX environments have been developed to satisfy the latest IECEx and ATEX standards and provide explosion proof switching to satisfy the hazardous conditions created within the petro-chemical, pharmaceutical, food processing and packaging industries. They combine explosion proof protection and satisfy high functional safety requirements all in one device.

- Safety Switches for use in Hazardous Areas
- Gas and Dust
- High Strength Plastic, Die-Cast Metal or Stainless Steel 316
- Electrical Switching Elements Fully Encapsulated
- High Temperature Stability up to 80°C
- Resistance to High Temperature Hosing and Detergent Washdown – IP67

PRODUCTS: *All products come pre-wired with 3m or 5m of cable. For longer lengths, contact us directly.*



Tongue, Limit, Belt and Emergency Stop Switches

- Zones 1,21,2,22
- High power switching up to 230Vac 4A ***(depending on model)***
- Positive break contacts to EN60947-5-1
  - USR - For use in CLass 1, Zone 1, AEx dbIIC Hazardous Locations
  - CNR - For use in Class 1, Zone 1, Ex db IIC Hazardous Locations

Non-Contact Switches

- Zones 0,20,1,21,2,22
- Highly reliable high power reed switching elements
- Contacts de-rated and protected by internal fuses
- High tolerance to guard misalignment

Safety Products for Explosive Environments

APPLICATION:

Interlock and Emergency Stop Safety Switches for use in hazardous areas - positively operated contacts or high life non contact dry reed switching.
For use in hazardous areas IECEx and ATEX IIC T6. (Gas and Dust).
Designed for petro-chemical, pharmaceutical and food processing and packaging applications where explosive atmospheres exist.

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db
II 2G Ex mb IIC T6 Gb
II 2D Ex mb IIIC T80C Db

Mechanical Interlock Switches and Emergency Stop Switches
Limit Switches and Belt Alignment Switches
Non Contact Magnetic Interlock Switches

IDEM's safety interlock switches for hazardous environments are engineered to fit to the leading edge of sliding, hinged, or lift-off machine guards, ensuring safe electrical switching in environments with explosion risks, such as petrochemical, pharmaceutical, food production, and packaging industries. Our ATEX rope pull switches are designed to protect conveyors in hazardous areas like beverage production and chemical handling.

In addition to providing explosion-proof switching, these devices can be integrated with dual-channel safety monitoring relays, depending on the application's risk assessment. This combination offers high functional safety, meeting standards up to Category 4 and PLe according to ISO 13849-1 or SIL3 per EN 62061.

TECHNICAL SPECIFICATION:

Includes Tongue Interlocks, Belt Alignment Switches, Limit Switches, Emergency Stops and Rope Pull Switches

Standards	IEC/EN60079-0 IEC/EN60079-1 ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061
Mechanical Reliability B10d	1.5 x 10 6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 214 years
Enclosure Protection	IP69K IP67
Operating Temperature	-20C +60C
Vibration	IEC 68-2-6 10-50Hz + 1Hz Excursion 0.35mm 1 octave/min
Internal Contact Switch	Type LS-EX
Classification	Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db
Rated Voltage	250Vac
Rated Current	2 Pole 4.0A 4 Pole 2.5A
Cable Length	3m

NON-CONTACT TECHNICAL SPECIFICATION:

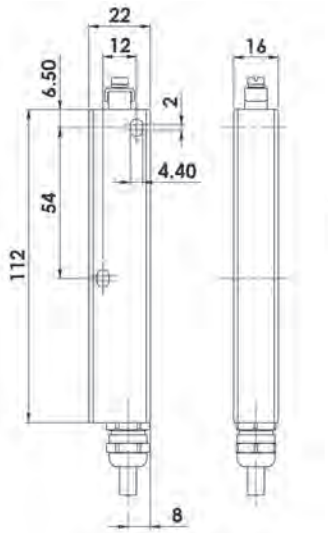
Includes CM1-EX, CM2-EX, CM3-EX, RM-EX, LM-EX, WM1-EX and WM2-EX

Standards	IEC/EN60079-0 IEC/EN60079-18 ISO14119 EN60947-5-3 EN60204-1
Mechanical Reliability B10d	3.3 x 106 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 470 years
Contact Release Time	<2ms
Initial Contact Resistance	<500 milliohm
Minimum Switched Current	10Vdc 1mA
Insulation Resistance	100 Mohms
Recommended Setting Gap	5mm
Switching Distance	Sao 10mm Close
(Target to Time)	Sar 22mm Open
Approach Speed	200mm/m to 1000mm/s
Temperature Range	-20/+80 (or +60C for 2A version)
Enclosure Protection	IP67
Body Material	Stainless Steel 316
Cable Type	6mm OD

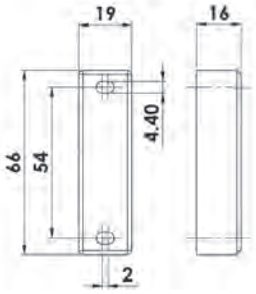
Non-Contact Safety Switches for Explosive Environments

CM1-Ex STAINLESS STEEL 316

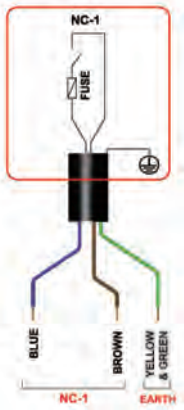
II 2G Ex mb IIC T6 Gb II 2D Ex mb IIIC T80 Db IP67* Zones 1, 21, 2, 22 Gas and Dust



SWITCH



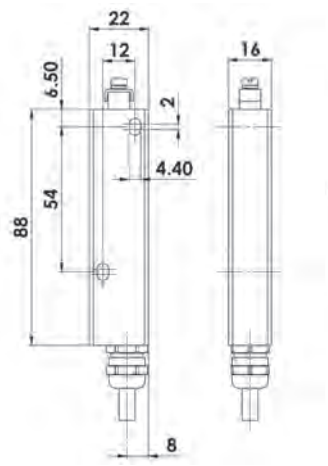
ACTUATOR



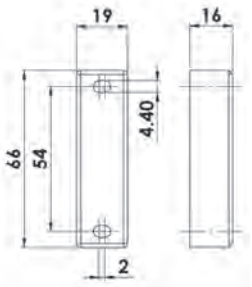
SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) NC
901101	CM1-Ex	S/Steel	5M	1NC	230Vac/24Vdc 2A Max. INTERNALLY FUSED
901102	CM1-Ex	S/Steel	10M	1NC	

CM2-Ex STAINLESS STEEL 316

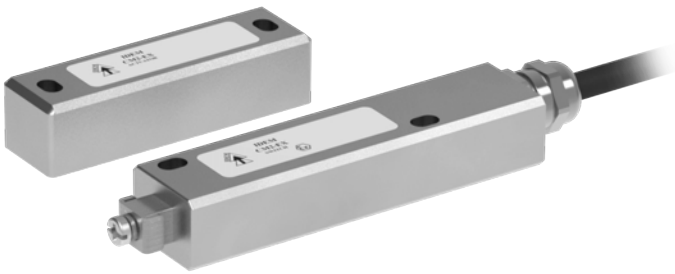
II 2G Ex mb IIC T6 Gb II 2D Ex mb IIIC T80 Db IP67* Zones 1, 21, 2, 22 Gas and Dust

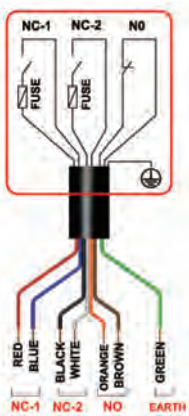


SWITCH



ACTUATOR





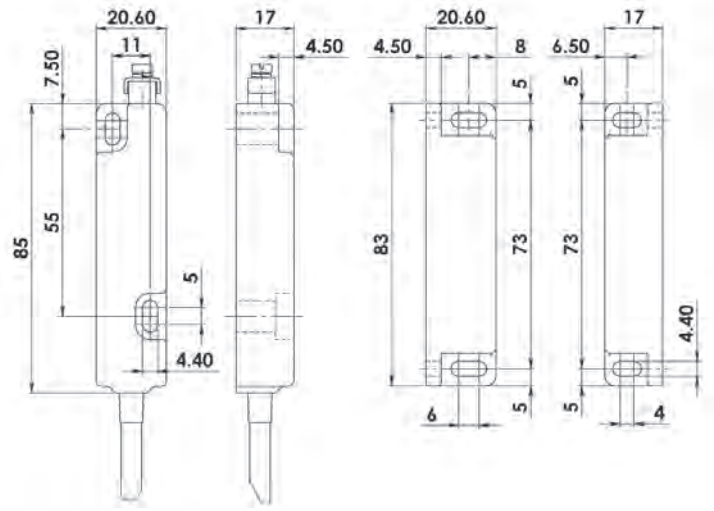
SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) NC	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) NO
902103	CM2-Ex	S/Steel	5M	1NC	230Vac/24Vdc 1A Max. INTERNALLY FUSED	
902104	CM2-Ex	S/Steel	10M	1NC		
902105	CM2-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 0.6A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
902106	CM2-Ex	S/Steel	10M	2NC 1NO		

*Product is fully encapsulated which is considered to provide ingress protection to at least IP67.

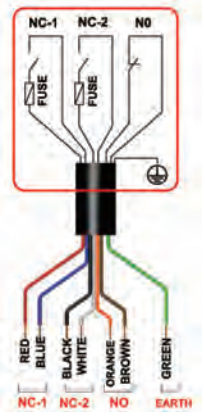
Non-Contact Safety Switches for Explosive Environments

CM3-Ex STAINLESS STEEL 316

II 2G Ex mb IIC T6 Gb II 2D Ex mb IIIC T80 Db IP67* Zones 1, 21, 2, 22 Gas and Dust



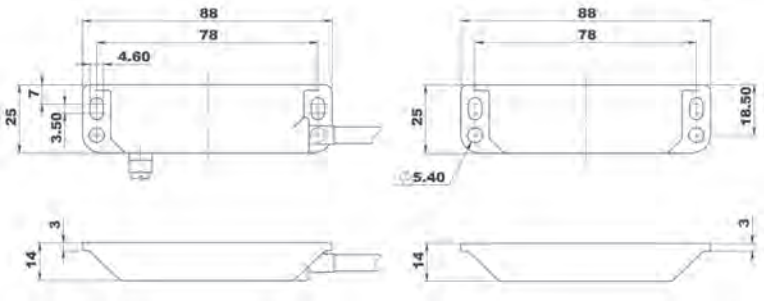
SWITCH ACTUATOR



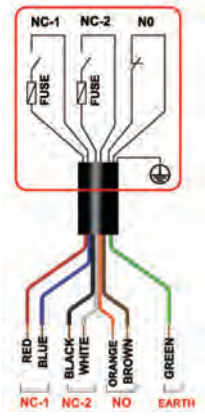
SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) NC	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) NO
903101	CM3-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 0.6A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
903102	CM3-Ex	S/Steel	10M	2NC 1NO		

LM-Ex STAINLESS STEEL 316

II 2G Ex mb IIC T6 Gb II 2D Ex mb IIIC T80 Db IP67* Zones 1, 21, 2, 22 Gas and Dust



SWITCH ACTUATOR



SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) RED/BLUE NC1 WHITE/BLACK NC2	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) ORANGE/BROWN NO
904101	LM-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 0.6A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
904102	LM-Ex	S/Steel	10M	2NC 1NO		

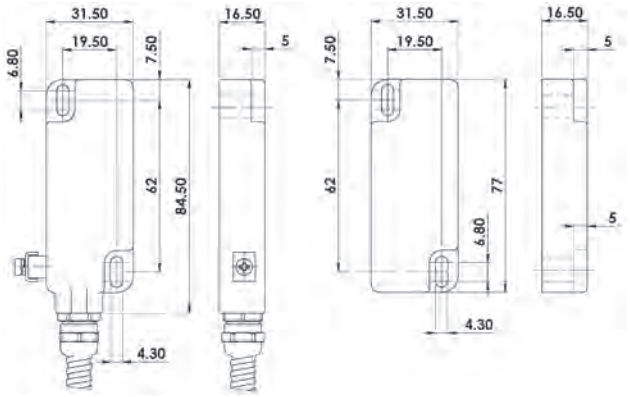
*Product is fully encapsulated which is considered to provide ingress protection to at least IP67.

Non-Contact Safety Switches for Explosive Environments

WM1-Ex STAINLESS STEEL 316

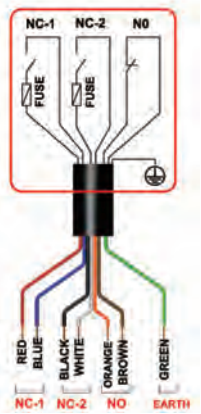
IEC IECEx ATEX

II 1G Ex ma IIC T6 Ga **II ID Ex ma IIIC T80 Da IP67*** **Zones 0, 20, 1, 21, 2, 22 Gas and Dust**



SWITCH ACTUATOR

(Supplied fitted with Stainless Steel Flexible Conduit)

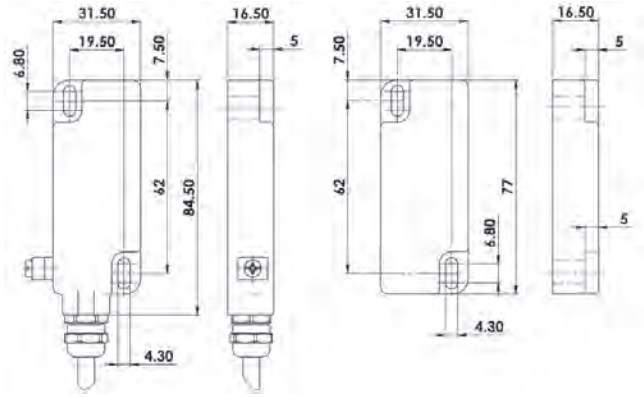


SALES NUMBER	TYPE ZONES 0,20	BODY HOUSING	CABLE/ CONDUIT LENGTH 10mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) RED/BLUE NC1 WHITE/BLACK NC2	ELECTRICAL RATING NORMALLY OPEN CIRCUIT (Actuator Present) ORANGE/BROWN NO
900101	WM1-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 0.6A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
900102	WM1-Ex	S/Steel	10M	2NC 1NO		

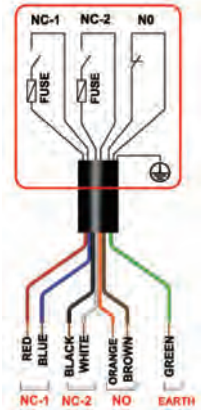
WM2-Ex STAINLESS STEEL 316

IEC IECEx ATEX

II 2G Ex mb IIC T6 Gb **II 2D Ex mb IIIC T80 Db IP67*** **Zones 1, 21, 2, 22 Gas and Dust**



SWITCH ACTUATOR



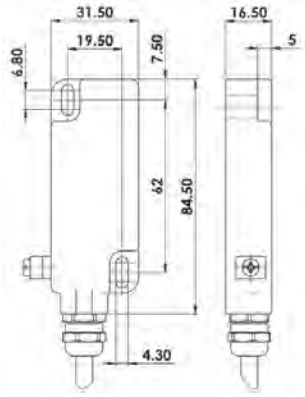
SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) RED/BLUE NC1 WHITE/BLACK NC2	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) ORANGE/BROWN NO
900201	WM2-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 2A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
900202	WM2-Ex	S/Steel	10M	2NC 1NO		

***Product is fully encapsulated which is considered to provide ingress protection to at least IP67.**

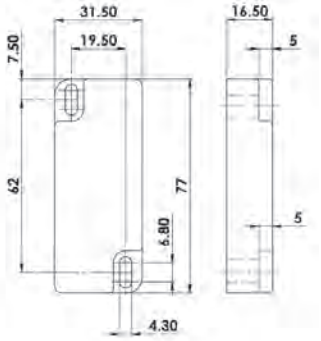
Non-Contact Safety Switches for Explosive Environments

WM2-Ex (CRUS Approved) STAINLESS STEEL 316

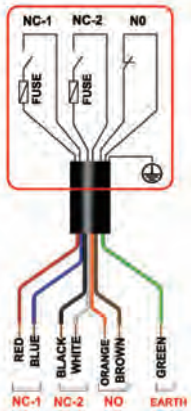
USR, Non-Contact Safety Interlock Switches for use in Class I, Zone 1, AEx mb IIC Hazardous Locations.
CNR, Non-Contact Safety Interlock Switch for use in Ex mb IIC Hazardous Locations.



SWITCH



ACTUATOR

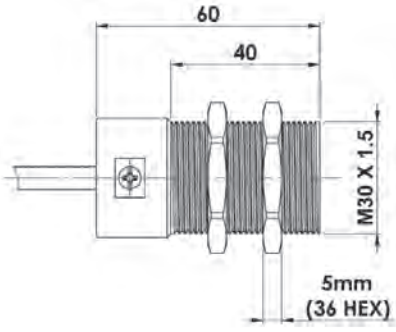


SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) RED/BLUE NC1 WHITE/BLACK NC2	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) ORANGE/BROWN NO
136402-CRUS	WM2-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 2A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
136403-CRUS	WM2-Ex	S/Steel	10M	2NC 1NO		
136404-CRUS	WM2-Ex	S/Steel	20M	2NC 1NO		

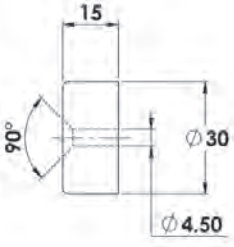
***Product is fully encapsulated which is considered to provide ingress protection to at least IP67.**

RM-Ex STAINLESS STEEL 316 M30 x 1.5mm threaded body

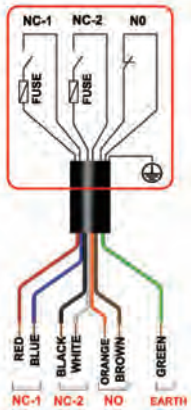
II 2G Ex mb IIC T6 Gb **II 2D Ex mb IIIC T80 Db IP67*** **Zones 1, 21, 2, 22 Gas and Dust**



SWITCH



ACTUATOR



SALES NUMBER	TYPE ZONES 1,21,2,22	BODY HOUSING	CABLE LENGTH 6mm OD	CIRCUITS	ELECTRICAL RATING NORMALLY CLOSED CIRCUITS (Actuator Present) RED/BLUE NC1 WHITE/BLACK NC2	ELECTRICAL RATING NORMALLY OPEN CIRCUITS (Actuator Present) ORANGE/BROWN NO
905101	RM-Ex	S/Steel	5M	2NC 1NO	230Vac/24Vdc 0.6A Max. INTERNALLY FUSED	230Vac/24Vdc 200mA. Max.
905102	RM-Ex	S/Steel	10M	2NC 1NO		

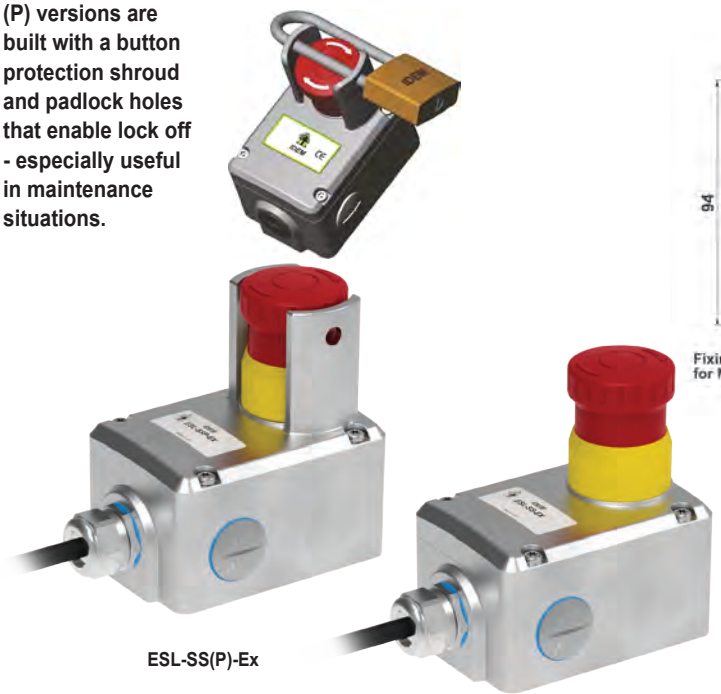
***Product is fully encapsulated which is considered to provide ingress protection to at least IP67.**

Emergency Stop Switches for Explosive Environments

ESL-SS(P)-Ex ESL-SS-Ex

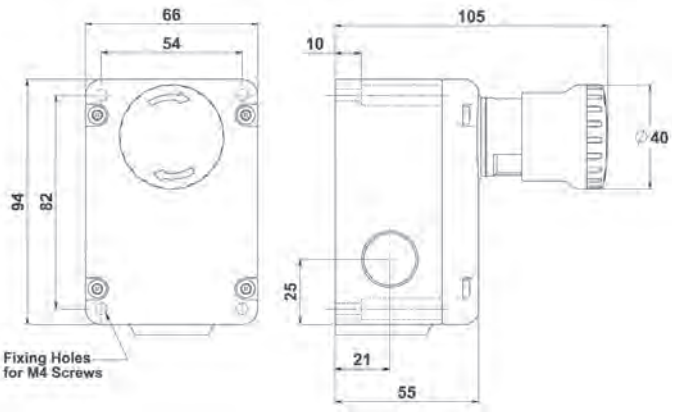
Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust

(P) versions are built with a button protection shroud and padlock holes that enable lock off - especially useful in maintenance situations.



ESL-SS(P)-Ex

ESL-SS-Ex



SALES NUMBER	TYPE	CONTACTS
232015	ESL-SS(P)-Ex	1NC 1NO
232016	ESL-SS(P)-Ex	2NC
232030	ESL-SS(P)-Ex	2NC 2NO
232007	ESL-SS-Ex	1NC 1NO
232008	ESL-SS-Ex	2NC
232029	ESL-SS-Ex	2NC 2NO

All switches are pre-wired with 3m length of cabling through the cable glands as shown. Other lengths and cable exits available on request.

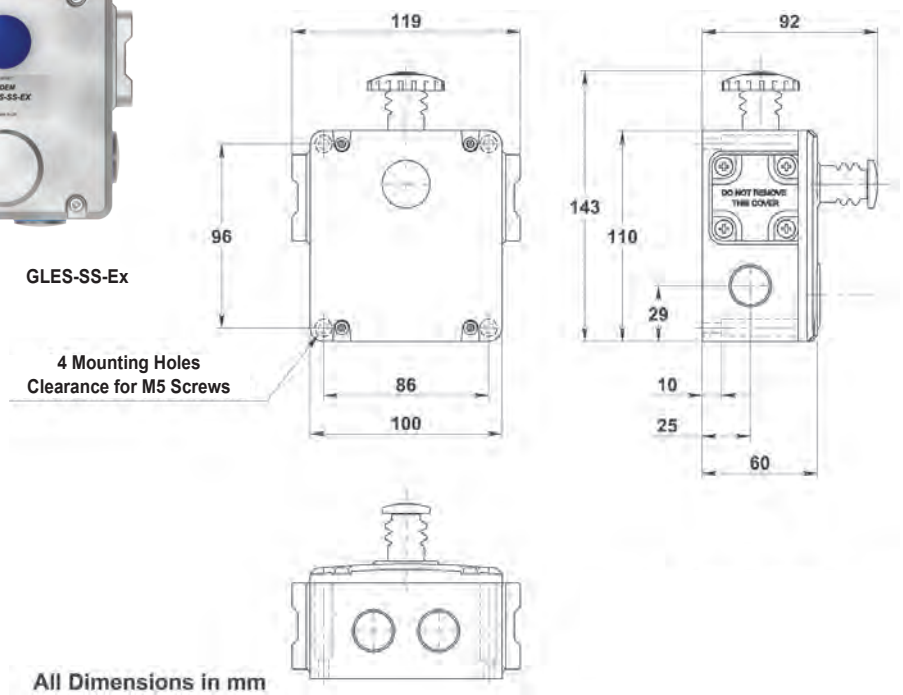
GLES-Ex GLES-SS-Ex

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust

All switches are pre-wired with 3m length of cabling through the cable glands as shown. Other lengths and cable exits available on request.

GLES-Ex

GLES-SS-Ex



SALES NUMBER	TYPE	CONTACTS
146003	GLES-Ex	1NC 1NO
146004	GLES-Ex	*3NC 1NO
146005	GLES-Ex	2NC
146006	GLES-Ex	2NC 2NO
147003	GLES-SS-Ex	1NC 1NO
147004	GLES-SS-Ex	*3NC 1NO
147005	GLES-SS-Ex	2NC
147006	GLES-SS-Ex	2NC 2NO

*3NC 1NO versions contain 2 contact blocks - 1 x 2NC and 1 x 1NC 1NO. Both contact blocks have 3m cabling.

Rope Pull Switches for for Explosive Environments

ROPE PULL EMERGENCY STOP SWITCHES

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust

GLHL-Ex

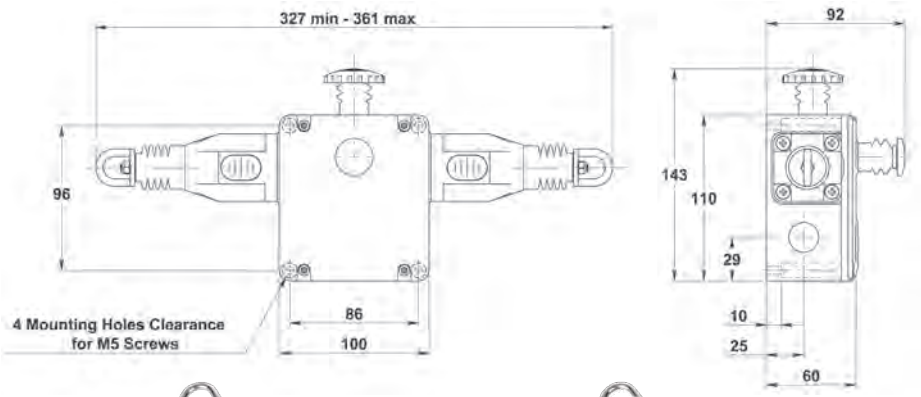
GLHD-Ex

GLHR-Ex

GLHL-SS-Ex

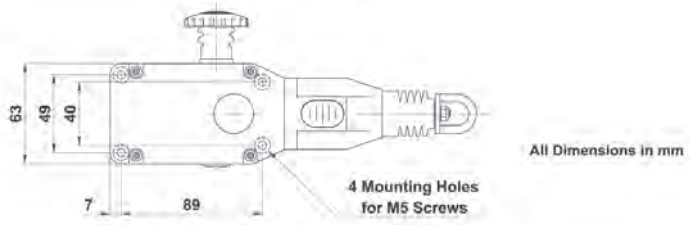
GLHD-SS-Ex

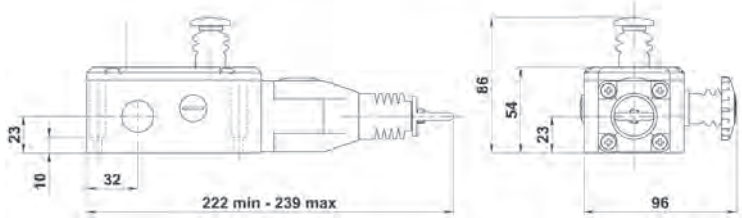
GLHR-SS-Ex



GLS-SS-Ex

GLS-Ex





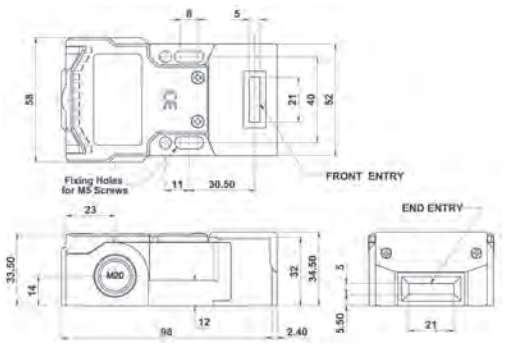
SALES NUMBER	TYPE	CONTACTS
141003	GLHD-Ex	1NC 1NO
141014	GLHD-Ex	*3NC 1NO
141017	GLHD-Ex	2NC
141018	GLHD-Ex	2NC 2NO
141007	GLHL-Ex	1NC 1NO
141015	GLHL-Ex	*3NC 1NO
141019	GLHL-Ex	2NC
141020	GLHL-Ex	2NC 2NO
141011	GLHR-Ex	1NC 1NO
141016	GLHR-Ex	*3NC 1NO
141021	GLHR-Ex	2NC
141022	GLHR-Ex	2NC 2NO
145003	GLHD-SS-Ex	1NC 1NO
145014	GLHD-SS-Ex	*3NC 1NO
145017	GLHD-SS-Ex	2NC
145018	GLHD-SS-Ex	2NC 2NO
145007	GLHL-SS-Ex	1NC 1NO
145015	GLHL-SS-Ex	*3NC 1NO
145019	GLHL-SS-Ex	2NC
145020	GLHL-SS-Ex	2NC 2NO
145011	GLHR-SS-Ex	1NC 1NO
145016	GLHR-SS-Ex	*3NC 1NO
145021	GLHR-SS-Ex	2NC
145022	GLHR-SS-Ex	2NC 2NO
142025	GLS-Ex	1NC 1NO
142028	GLS-Ex	2NC
142030	GLS-Ex	2NC 2NO
144025	GLS-SS-Ex	1NC 1NO
144026	GLS-SS-Ex	2NC
144030	GLS-SS-Ex	2NC 2NO

*3NC 1NO versions contain 2 contact blocks -
1 x 2NC and 1 x 1NC 1NO.
Both contact blocks have 3m cabling.

All switches are pre-wired with 3m length of cabling through the cable glands as shown. Other lengths and cable exits available on request.

KOBRA - Interlock Switches for Explosive Environments

KOBRA KP-Ex Explosion Proof Tongue Interlock Switch



Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb

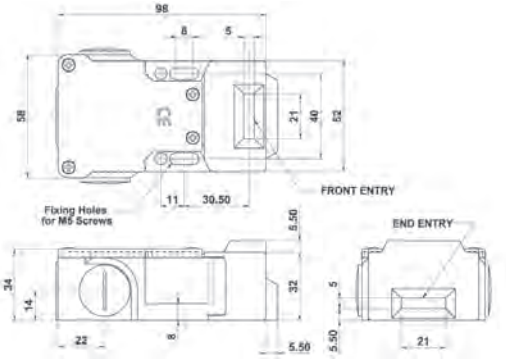
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Zones 1, 21, 2, 22 Gas and Dust

SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
200016	Kobra KP-Ex	3m 4 core	1NC 1NO
200019	Kobra KP-Ex	3m 4 core	2NC
200026	Kobra KP-Ex	3m 8 core	2NC 2NO
Stainless Steel Head Version		Add SS to Sales Part Number	

Add Actuator code to part number:
A-Standard, F-Flat, PF-Plastic Flexible, HF- Heavy Flexible, HFH-Heavy Flexible S/Steel

KOBRA K-SS-Ex Explosion Proof Tongue Interlock Switch



Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb

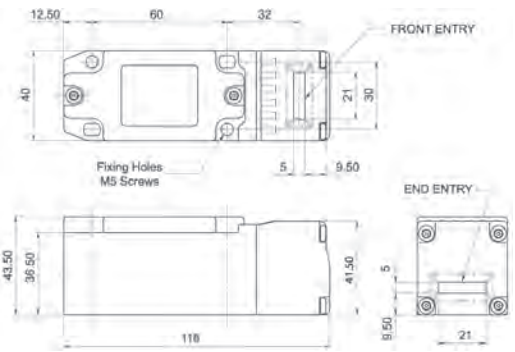
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Zones 1, 21, 2, 22 Gas and Dust

SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
208016	Kobra K-SS-Ex	3m 4 core	1NC 1NO
208019	Kobra K-SS-Ex	3m 4 core	2NC
208026	Kobra K-SS-Ex	3m 8 core	2NC 2NO

Add Actuator code to part number:
A-Standard, F-Flat, PF-Plastic Flexible, HF- Heavy Flexible, HFH-Heavy Flexible S/Steel

KOBRA KM-Ex Explosion Proof Tongue Interlock Switch



Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb

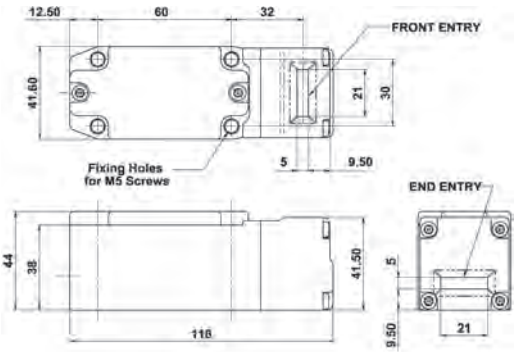
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Zones 1, 21, 2, 22 Gas and Dust

SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
203016	Kobra KM-Ex	3m 4 core	1NC 1NO
203019	Kobra KM-Ex	3m 4 core	2NC
203026	Kobra KM-Ex	3m 8 core	2NC 2NO
Stainless Steel Head Version		Add SS to Sales Part Number	

Add Actuator code to part number:
A-Standard, F-Flat, PF-Plastic Flexible, HF- Heavy Flexible, HFH-Heavy Flexible S/Steel

KOBRA KM-SS-Ex Explosion Proof Tongue Interlock Switch



Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb

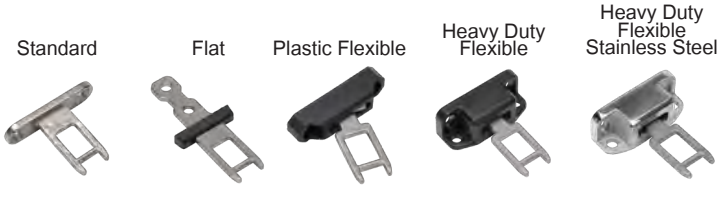
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Zones 1, 21, 2, 22 Gas and Dust

SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
204016	Kobra KM-SS-Ex	3m 4 core	1NC 1NO
204019	Kobra KM-SS-Ex	3m 4 core	2NC
204026	Kobra KM-SS-Ex	3m 8 core	2NC 2NO

Add Actuator code to part number:
A-Standard, F-Flat, PF-Plastic Flexible, HF- Heavy Flexible, HFH-Heavy Flexible S/Steel

ACTUATOR OPTIONS



Limit Switches for Explosive Environments

SAFETY LIMIT SWITCHES DIE-CAST METAL

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust

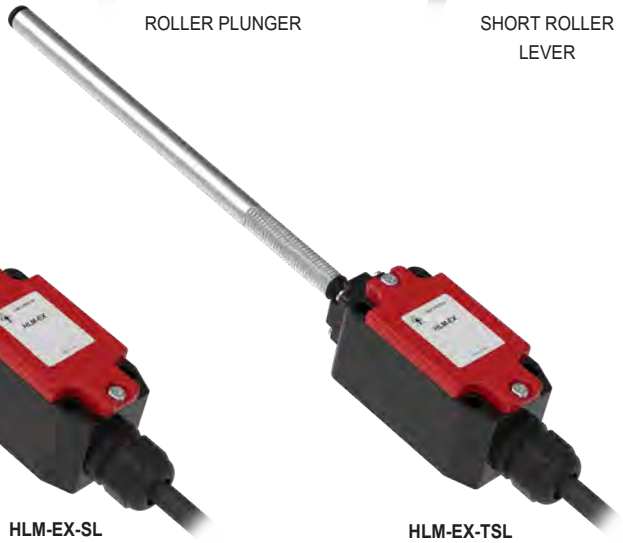
HLM-EX-ARL
ADJUSTABLE ROLLER LEVER

HLM-EX-PP
PIN PLUNGER

HLM-EX-RP
ROLLER PLUNGER

HLM-EX-SRL
SHORT ROLLER LEVER

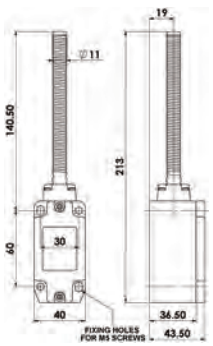
HLM-EX-SL
SPRING LEVER

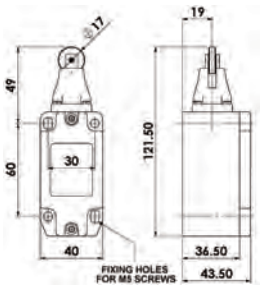


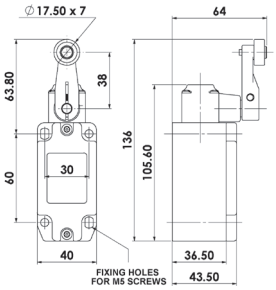
HLM-EX-TSL
TELESCOPIC SPRING LEVER

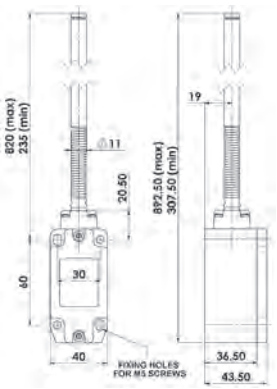
SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
174313	HLM-EX-ARL	3m 4 core	1NC / 1NO
174314	HLM-EX-ARL	3m 4 core	2NC
174315	HLM-EX-ARL	3m 8 core	2NC / 2NO
174113	HLM-EX-PP	3m 4 core	1NC / 1NO
174114	HLM-EX-PP	3m 4 core	2NC
174115	HLM-EX-PP	3m 8 core	2NC / 2NO
174063	HLM-EX-RP	3m 4 core	1NC / 1NO
174064	HLM-EX-RP	3m 4 core	2NC
174065	HLM-EX-RP	3m 8 core	2NC / 2NO
174013	HLM-EX-SRL	3m 4 core	1NC / 1NO
174014	HLM-EX-SRL	3m 4 core	2NC
174015	HLM-EX-SRL	3m 8 core	2NC / 2NO
174213	HLM-EX-TSL	3m 4 core	1NC / 1NO
174214	HLM-EX-TSL	3m 4 core	2NC
174215	HLM-EX-TSL	3m 8 core	2NC / 2NO
174163	HLM-EX-SL	3m 4 core	1NC / 1NO
174164	HLM-EX-SL	3m 4 core	2NC
174165	HLM-EX-SL	3m 8 core	2NC / 2NO

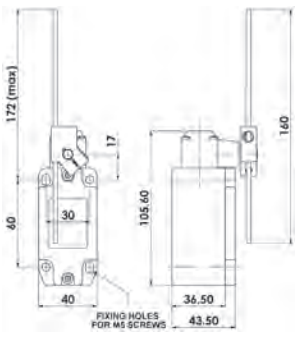
All switches are pre-wired with 3m length of cabling through the cable glands as shown. Other lengths and cable exits available on request.

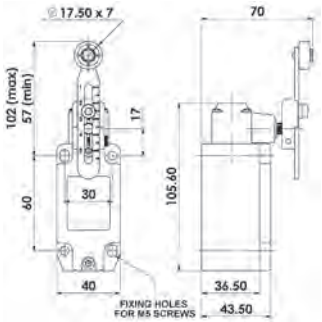


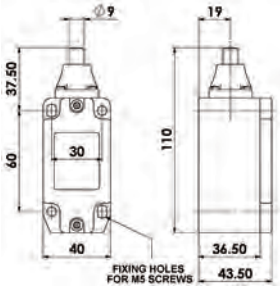












Limit Switches for Explosive Environments

SAFETY LIMIT SWITCHES STAINLESS STEEL 316

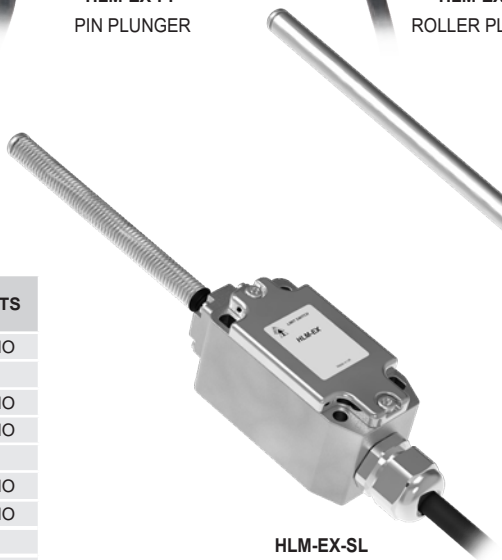
Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust

HLM-EX-ARL
ADJUSTABLE ROLLER LEVER

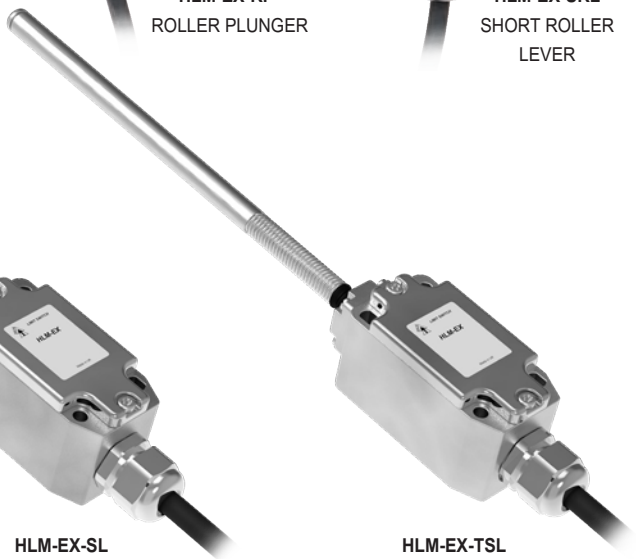
HLM-EX-PP
PIN PLUNGER

HLM-EX-RP
ROLLER PLUNGER

HLM-EX-SRL
SHORT ROLLER LEVER



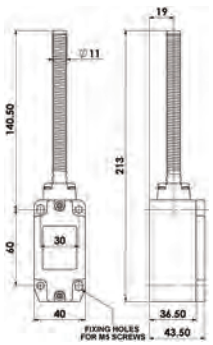
HLM-EX-SL
SPRING LEVER

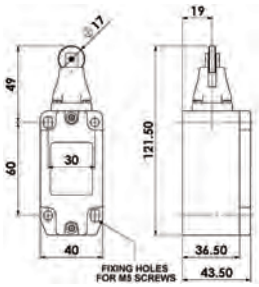


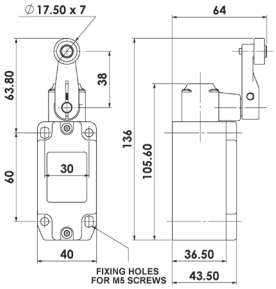
HLM-EX-TSL
TELESCOPIC SPRING LEVER

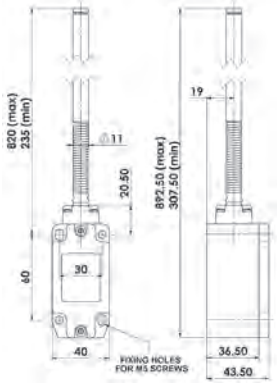
SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
175313	HLM-SS-EX-ARL	3m 4 core	1NC / 1NO
175314	HLM-SS-EX-ARL	3m 4 core	2NC
175315	HLM-SS-EX-ARL	3m 8 core	2NC / 2NO
175113	HLM-SS-EX-PP	3m 4 core	1NC / 1NO
175114	HLM-SS-EX-PP	3m 4 core	2NC
175115	HLM-SS-EX-PP	3m 8 core	2NC / 2NO
175063	HLM-SS-EX-RP	3m 4 core	1NC / 1NO
175064	HLM-SS-EX-RP	3m 4 core	2NC
175065	HLM-SS-EX-RP	3m 8 core	2NC / 2NO
175013	HLM-SS-EX-SRL	3m 4 core	1NC / 1NO
175014	HLM-SS-EX-SRL	3m 4 core	2NC
175015	HLM-SS-EX-SRL	3m 8 core	2NC / 2NO
175213	HLM-SS-EX-TSL	3m 4 core	1NC / 1NO
175214	HLM-SS-EX-TSL	3m 4 core	2NC
175215	HLM-SS-EX-TSL	3m 8 core	2NC / 2NO
175163	HLM-SS-EX-SL	3m 4 core	1NC / 1NO
175164	HLM-SS-EX-SL	3m 4 core	2NC
175165	HLM-SS-EX-SL	3m 8 core	2NC / 2NO

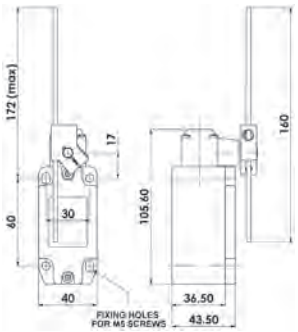
All switches are pre-wired with 3m length of cabling through the cable glands as shown. Other lengths and cable exits available on request.

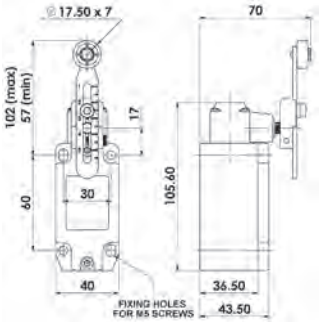


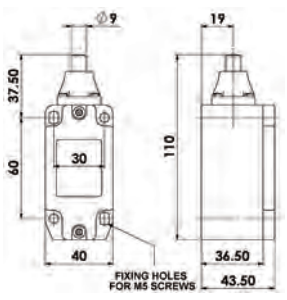








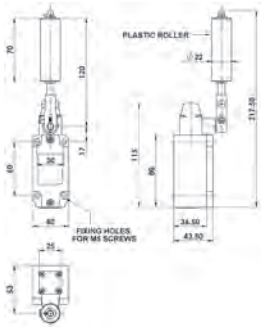




Belt Alignment Switches for Explosive Environments

HLM-CBA-EX STANDARD DUTY DIE-CAST

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust

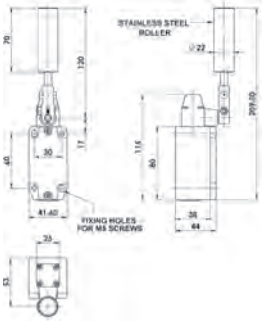


SALES NUMBER	TYPE	PRE-WIRED	CONTACTS	ROLLER TYPE
174413	HLM-CBA-EX	3m 4 core	1NC 1NO	PLASTIC
174463	HLM-CBA-EX	3m 4 core	1NC 1NO	S/STEEL
174414	HLM-CBA-EX	3m 4 core	2NC	PLASTIC
174464	HLM-CBA-EX	3m 4 core	2NC	S/STEEL
174415	HLM-CBA-EX	3m 8 core	2NC / 2NO	PLASTIC
174465	HLM-CBA-EX	3m 8 core	2NC / 2NO	S/STEEL

Longer cable lengths available on request.

HLM-SS-CBA-EX STANDARD DUTY STAINLESS STEEL 316

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust

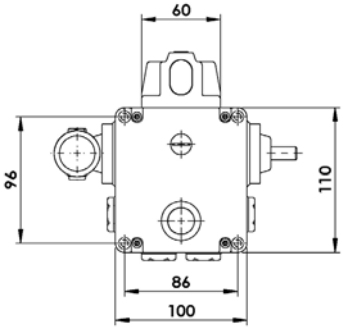


SALES NUMBER	TYPE	PRE-WIRED	CONTACTS	ROLLER TYPE
175413	HLM-SS-CBA-EX	3m 4 core	1NC 1NO	PLASTIC
175463	HLM-SS-CBA-EX	3m 4 core	1NC 1NO	S/STEEL
175414	HLM-SS-CBA-EX	3m 4 core	2NC	PLASTIC
175464	HLM-SS-CBA-EX	3m 4 core	2NC	S/STEEL
175415	HLM-SS-CBA-EX	3m 8 core	2NC / 2NO	PLASTIC
175465	HLM-SS-CBA-EX	3m 8 core	2NC / 2NO	S/STEEL

Longer cable lengths available on request.

PYTHON BELT SWITCH HEAVY DUTY DIE-CAST

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust



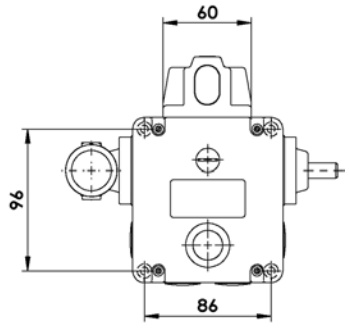
SALES NUMBER	TYPE	PRE-WIRED	CONTACTS	ROLLER SIZE
500051	Python Belt Switch	3m 8 core	2NC 2NO	35mm Long
500021	Python Belt Switch	3m 8 core	2NC 2NO	35mm Short
500091	Python Belt Switch	3m 8 core	2NC 2NO	50mm

Longer cable lengths available on request.

- Dual signal (WARNING + STOP)
- Operational torque can be adjusted
- 3 Roller sizes for heavy-duty performance

PYTHON BELT SWITCH HEAVY DUTY STAINLESS STEEL 316

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db Zones 1, 21, 2, 22 Gas and Dust



SALES NUMBER	TYPE	PRE-WIRED	CONTACTS	ROLLER SIZE
501051	Python Belt Switch	3m 8 core	2NC 2NO	35mm Long
501021	Python Belt Switch	3m 8 core	2NC 2NO	35mm Short
501091	Python Belt Switch	3m 8 core	2NC 2NO	50mm

Longer cable lengths available on request.

- Dual signal (WARNING + STOP)
- Operational torque can be adjusted
- 3 Roller sizes for heavy-duty performance
- Stainless steel enclosure suitable for outdoor use

Two-Hand Control Stations **- TouchSafe**

FEATURES & APPLICATIONS:

IDEM two-hand control stations are designed to satisfy the requirements of ISO13851. The TouchSafe stations are intended for use as part of a two-hand control system for powered machinery.

The two-hand control station is permanently situated a specified distance away from the hazard and confirms the operators position such that the machine function will stop or start with the hazard out of reach of the operator.

- Robust die-cast metal construction.
- IP65 construction.
- Facility to fit 22mm auxiliary, E-Stop buttons, or diagnostic lamps.
- Various wiring entry points.

The MF and ZF buttons are designed to be operated by hand to maintain electrical outputs to a control circuit whilst direct hand contact is maintained.

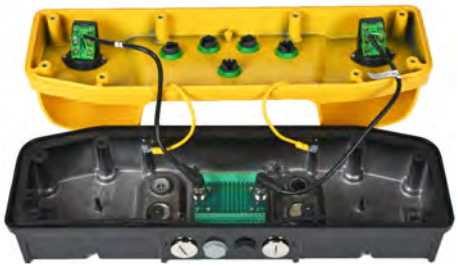
The MF version is a spring-loaded button requiring mechanical operation by depressing and holding down the button.

The ZF version is electronic and senses an operator's hand for proximity.

When fitted to the control housing and monitored by an external controller they satisfy the requirements to detect an operator's position relative to a machine control function, (see ISO13851) i.e., Prevention of defeat using one hand - the separation of the control actuating devices by at least 260 mm (internal dimension).

Prevention of defeat using the hand and elbow of the same arm –the shielding and separation of the control actuating devices by at least 550 mm (internal dimension).

To satisfy the measures to prevent defeat by using other parts of the body (e.g., knee, hip) in conjunction with one hand, the control actuating devices (buttons) should be on a horizontal or nearly horizontal surface



Simple connectivity via internal PCB with terminals and M12 connectors for MF or ZF buttons..

ORDERING:

Sales No.	Sales Description
240000	Two-hand control - housing only (Die-Cast painted yellow)
240001	Two-hand control station (Die-Cast painted yellow) fitted with 2 x ZF buttons
240002	Two-hand control station (Die-Cast painted yellow) fitted with 2 x MF buttons
240021	Two-hand control button only - Type ZF
240022	Two-hand control button only - Type MF
240050	Adjustable Two-hand control floor mount stand
180030	SCR2H Control relay Type IIIC 24V.dc supply
180031	SCR2H Control relay Type IIIC 230V.ac supply
180032	SCR2H Control relay Type IIIC 110V.ac supply
522401	Pilot light Yellow 24V. ac/dc (fit at installation)
522402	Pilot light Red 24V. ac/dc (fit at installation)
522403	Pilot light Green 24V. ac/dc (fit at installation)
522404	Pilot light Blue 24V. ac/dc (fit at installation)
522201	E Stop 2NC 30mm mushroom head (fit at installation)
522202	E Stop 1NC 1NO 30mm mushroom head (fit at installation)
522203	E Stop 2NC 30mm mushroom with reset key (fit at installation)
522204	E Stop 1NC 1NO 30mm mushroom with reset key (fit at installation)

Adjustable Floor Mount

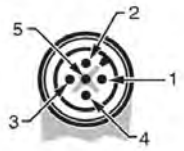
22mm Pilot Devices

SCR-2H Safety Relay

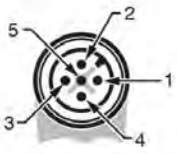
Two-Hand Control Stations - **TouchSafe**

Type MF buttons (Spring Return Loaded):

NC - Terminals 11/12
NO - Terminals 23/24

Quick Connect (QC) M12 5-pin Male Plug on 300 mm flying lead Pin view from Switch	
1	Not used
2 (White)	NC Contact
3	Not used
4 (Black)	NO Contact
5 (Grey)	Common

Type ZF buttons (Zero Force Actuation):

Quick Connect (QC) M12 5-pin Male Plug on 300 mm flying lead Pin view from Switch	
1	+24V.dc
2	NC Contact
3	0V.dc
4	NO Contact
5	Common

MF TECHNICAL SPECIFICATIONS:

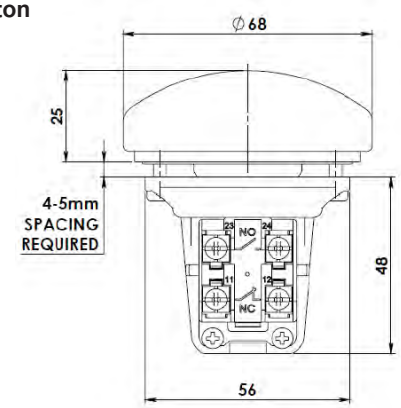
Technical Specification Type MF	
Insulating housing	Polyester
Operating Temperature	-20C. to +40C
Mechanical Life (B10d)	1,000,000 cycles
Output Contacts	Rated 240V. 3A. (A300)
Operating Force	20N
IP65 capability when fitted to 2 Hand Control Housing	

ZF TECHNICAL SPECIFICATIONS:

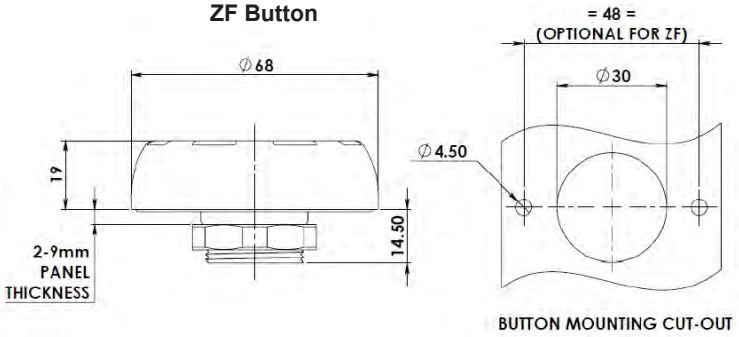
Technical Specification Type ZF	
Insulating housing	Polyester
Operating Temperature	-20C. to +40C
Operating Voltage	24V.dc (+/- 10%)
Power Supply	SELV / PELV
Output Circuits	Rated 24V.dc 0.1A
Operating Force	Zero
LED	Green – activated Red – waiting
IP65 capability when fitted to 2 Hand Control Housing	

DIMENSIONS:

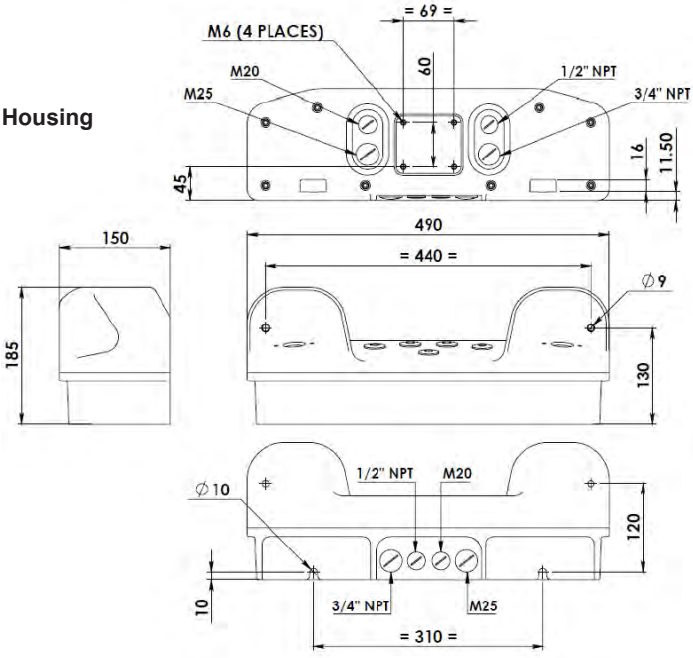
MF Button



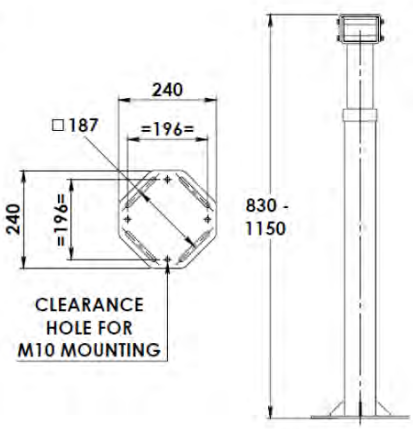
ZF Button



Control Housing



Adjustable Stand



Grip Style Safety Enabling Switch: **ENS Range**

Meets ANSI RIA 15.06 robotics standards

PRODUCT DESCRIPTION:

IDEM's safety enabling switches are three-position devices designed to ensure operator safety by disabling machinery in hazardous situations. These switches function by interrupting the machine's operation when either squeezed or released, thus preventing unintended machine activation. Engineered for use in high-risk environments, these switches play a critical role in mitigating serious accidents and safeguarding operators. Tasks such as visual inspections, minor adjustments, troubleshooting, calibration, tool changes, and lubrication benefit from the integration of these safety enabling switches, enhancing overall safety and operational control.

Three-position spring-return grip button: (OFF-ON-OFF) as required for manual control of a machine.
Ergonomic design: Suitable for both right- and left-handed users.
User-friendly operation: Easily operable even when wearing gloves.
Durable construction: Robust housing with IP67 protection.
Integrated safety features: Optional E-stop, LED's and pushbuttons.
Versatile connectivity: Universal connection via cable or terminals.

OPERATION:

A grip-style enabling pendant is used in industrial and robotic applications to enhance operator safety and control during manual operations. This type of pendant typically requires the user to maintain a firm grip, which acts as a safety mechanism, ensuring that machinery or robotic systems operate only when the operator is fully engaged. If the grip is released or the operator loses control, the system immediately stops or enters a safe state, preventing accidents. Additionally, the ergonomic design of a grip-style pendant reduces hand fatigue, allowing for prolonged use while maintaining precise control over complex tasks.

INDUSTRIES:

Manufacturing: In automotive, electronics, and general manufacturing, enabling pendants are used for tasks like machine setup, maintenance, and troubleshooting, particularly with CNC machines, automated assembly lines, and robotic arms.

Robotics: Robotics industries, including those focused on automation and artificial intelligence, use enabling pendants for programming, testing, and adjusting robotic systems, ensuring that the operator can safely interact with the robot during these processes.

Aerospace: In aerospace manufacturing and testing, enabling pendants are used to safely control and interact with complex machinery and automated systems involved in the production and inspection of aircraft components.

Healthcare and Medical Device Manufacturing: Enabling pendants are utilized in the production and maintenance of medical devices and equipment, where precise and safe control is essential to avoid any errors or accidents.

Packaging: In automated packaging lines, enabling pendants allow operators to safely intervene in the machinery for adjustments or troubleshooting without stopping the entire production line.

Logistics and Material Handling: Warehouses and distribution centers use enabling pendants to safely control automated systems like conveyors, sorting systems, and robotic pickers.

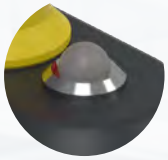
These industries rely on enabling pendants to ensure that human operators can safely interact with automated systems, reducing the risk of accidents and improving overall safety and efficiency.

TECHNICAL SPECIFICATIONS:

Conforming to Standards	
IEC60947-5-8, ISO 13849-1	
Technical Data	
Case Material	Polyester Plastic
Operating Temperature	–10 to +60°C (no freezing)
Rated Output Voltage	24V.dc
Rated Output Current	2A. (max)
Rated Insulation Voltage	250V.
Mechanical Durability	Position 1 → 2 → 1: 100,000 operations minimum
Electrical Durability	100,000 operations minimum
Shock Resistance	11ms - 15g
Vibration Resistance	Operating extremes: 10 to 55 Hz, amplitude 0.5 mm
Actuating Frequency	1200 Cycles per hour (max)
Terminal Style	Spring Terminal
Degree of Protection	IP65

Grip Style Safety Enabling Switch: **ENS Range**

There is space for two push buttons for running additional functions directly from the switch.



Optional build-in e-stop, LED's for indication and pushbuttons.

The LED indicator is used for visual feedback directly at the enabling switch.

3-Step enabling switch

Our grip-style enabling pendant features an ergonomic design that ensures comfortable, prolonged use while maintaining precise control over machinery and automated systems.

Cable gland with flexible spiral strain relief.

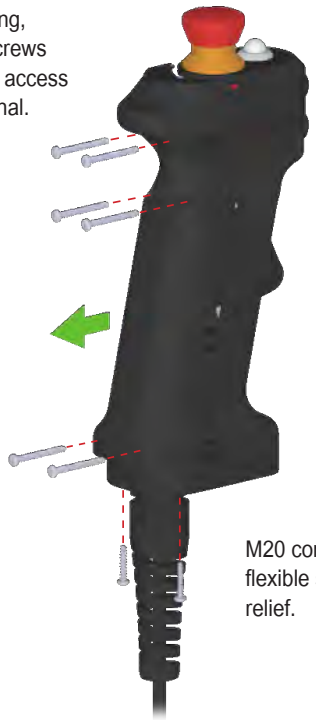
The magnetic holster for IDEM's Enabling Pendant can be easily mounted to any position for undertaking tasks such as visual inspections, minor adjustments, troubleshooting, calibration, tool changes and much more.

The magnetic holster and enabling pendant features 22mm fixing centers for attaching a non-contact safety switch. This is used to detect the position of the enabling pendant (on or off the holster) and can be monitored via a safety circuit.

Grip Style Safety Enabling Switch: **ENS Range**

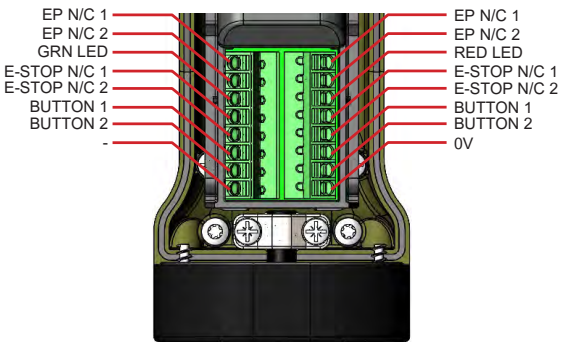
CONNECTIVITY:

For manual wiring, remove the 8 screws shown below to access the wiring terminal.

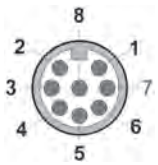


M20 conduit gland with flexible spiral strain relief.

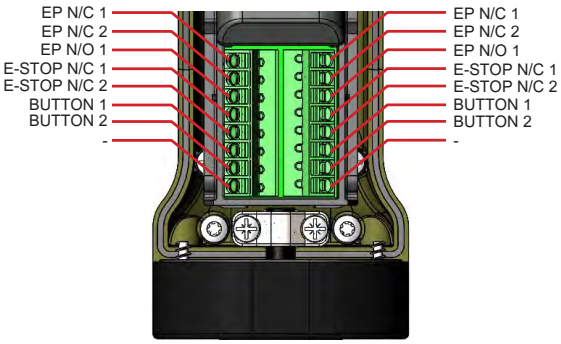
TERMINAL LAYOUT (with LED):



M12 Wiring:



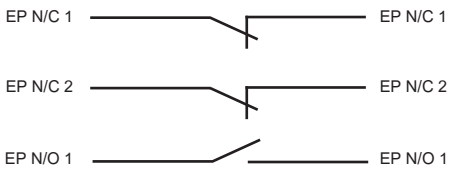
TERMINAL LAYOUT (NO LED):



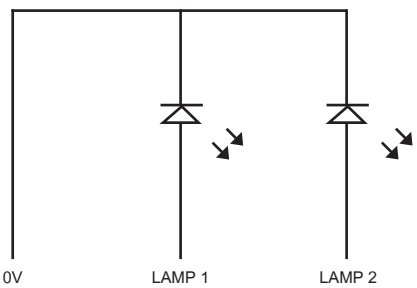
PIN Layout	Flying Lead Colour	EP	EP + ES	EP + BUTTONS	EP + LED
8	Orange	--	ES N/C 2	BUTTON 2	RED LED
5	Brown	EP N/C 2	EP N/C 2	EP N/C 2	EP N/C 2
4	Yellow	EP N/O 1	ES N/C 1	BUTTON 1	--
6	Green	EP N/C 2	EP N/C 2	EP N/C 2	EP N/C 2
7	Black	EP N/C 1	EP N/C 1	EP N/C 1	EP N/C 1
1	White	EP N/C 1	EP N/C 1	EP N/C 1	EP N/C 1
2	Red	--	ES N/C 2	BUTTON 2	GREEN LED
3	Blue	EP N/O 2	ES N/C 1	BUTTON 1	0V

ENABLING SWITCH:

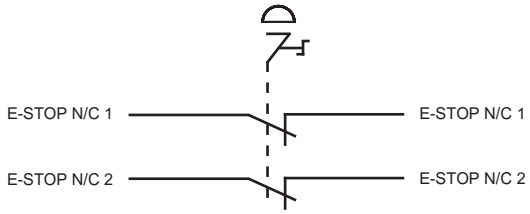
(Shown in position 2 - OFF-**ON**-OFF)



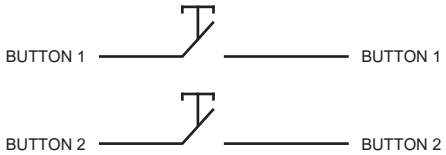
INDICATION:



EMERGENCY STOP:

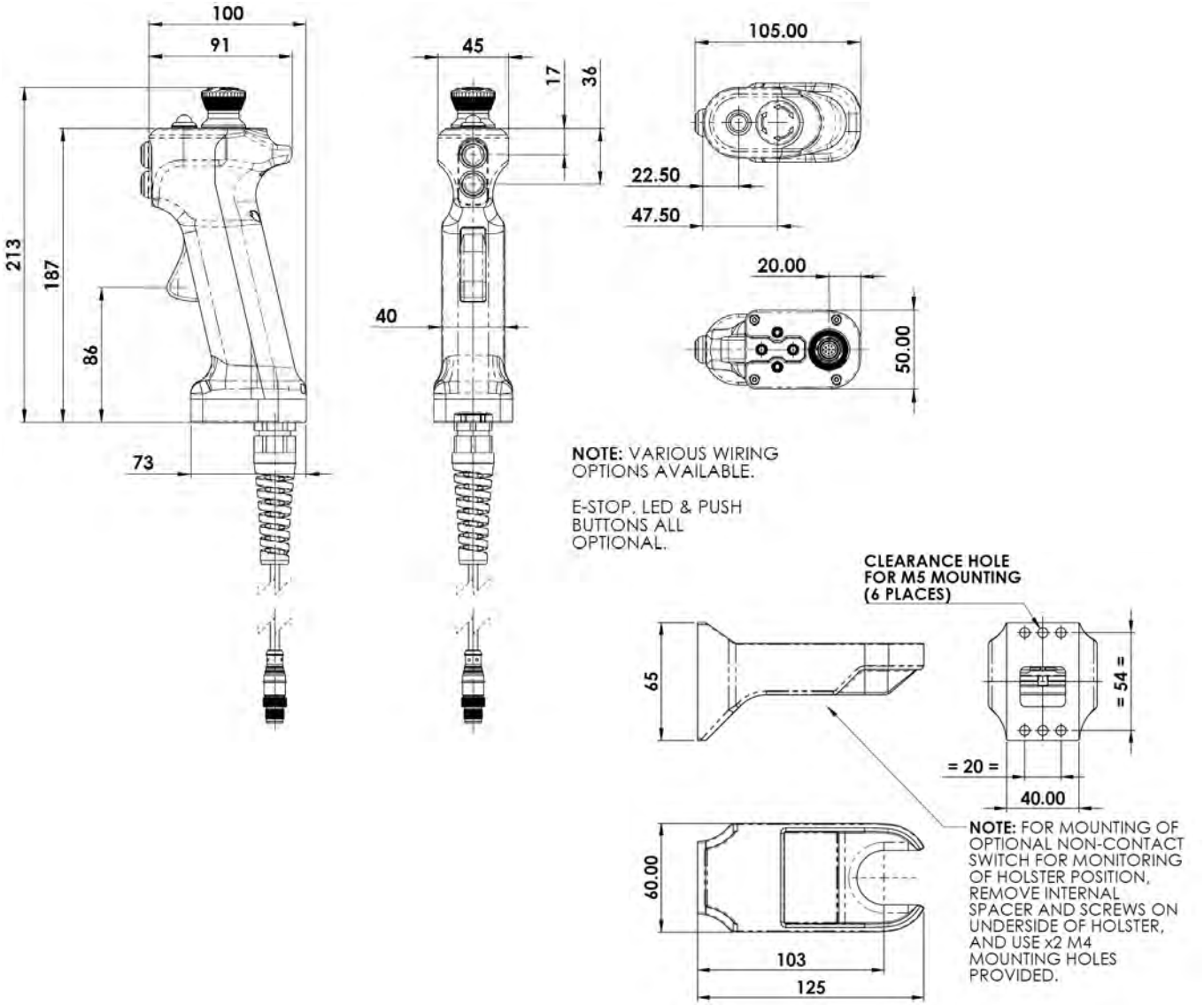


PUSH BUTTONS:



Grip Style Safety Enabling Switch: **ENS Range**

DIMENSIONS:



ORDERING:

Screw Terminal Versions	Extra Function / Features							
	Basic	1			2			3
Configuration	2NC 1NO	2NC 1NO E-Stop 2NC	2NC 1NO Push Button x 2	2NC LED (2 Colour)	2NC 1NO E-Stop 2NC Push Button x 2	2NC E-Stop 2NC LED (2 Colour)	2NC Push Buttonx 2 LED (2 Colour)	2NC E-Stop 2NC Push Button x 2 LED (2 Colour)
Part Number	241000	241001	241002	241003	241004	241005	241006	241007

QC Versions M12 Male 8-Way on 250mm Flying Lead	Extra Function / Features			
	Basic	1		
Configuration	2NC 1NO	2NC E-Stop 2NC	2NC Push Button x 2	2NC LED (2 Colour)
Part Number	241300	241301	241302	241303

Accessory Part Number	Enabling Pendant Magnetic Holster
	241400

SALES NUMBER	MASTER CODED	CABLE LENGTH
405104	SPF-M-RFID	QC-M12

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way

SPF-M

Magnetic Holster

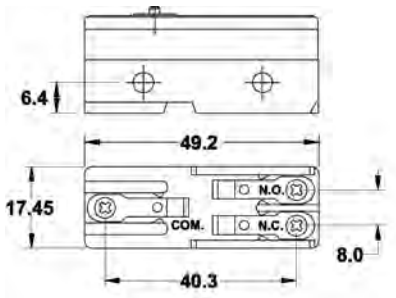
MICRO SWITCHES (PLEASE NOTE THESE ARE NOT CLASSED AS SAFETY SWITCHES)

FEATURES:

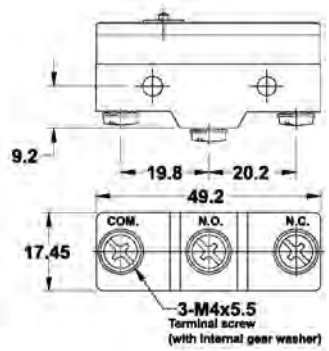
IDEM's range of Micro Switches provide the following features:

- A high precision basic micro switch available in a wide variety of styles.
- Available with a choice of actuator types: Solder Actuator or Screw Actuator.
- Wide margins of operating conditions increase the operating speed range.

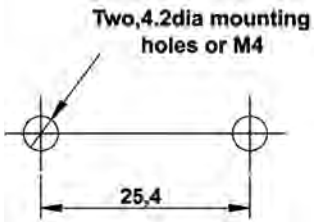
TERMINALS:



SOLDER TERMINAL



SCREW TERMINAL



MOUNTING HOLES

PRODUCT SELECTION (via Part Number):

SOLDER ACTUATOR TYPES:

Part Number	
176001	Pin Plunger
176002	Short Lever
176003	Roller Lever
176004	Slim Spring Plunger
176005	Short Spring Plunger
176006	Panel Mount Plunger
176007	Panel Mount Roller Plunger
176008	Panel Mount Cross Roller Plunger
176009	Long Hinge Lever
176010	Short Hinge Lever
176011	Long Hinge Roller Lever
176012	Short Hinge Roller Lever
176013	Uni-Directional Short Hinge Roller Lever
176014	IP67 Short Spring Plunger
176000	Terminal Enclosure

SCREW ACTUATOR TYPES:

Part Number	
176101	Pin Plunger
176102	Short Lever
176103	Roller Lever
176104	Slim Spring Plunger
176105	Short Spring Plunger
176106	Panel Mount Plunger
176107	Panel Mount Roller Plunger
176108	Panel Mount Cross Roller Plunger
176109	Long Hinge Lever
176110	Short Hinge Lever
176111	Long Hinge Roller Lever
176112	Short Hinge Roller Lever
171113	Uni-Directional Short Hinge Roller Lever
176114	IP67 Short Spring Plunger
176000	Terminal Enclosure

SPECIFICATIONS:

Standard:	20(4)A 250VAC EN61058-1
	15A 125VAC or 250VAC UL61058-1
Rating:	1/2A 125VDC 1/4A 250VDC
	1/8HP 125VAC 1/4HP 250VAC
Contact Resistance:	15m Ohms max. (initial)
Insulation Resistance:	100m Ohms min. (at 500VDC)
Dielectric Strength:	Between terminals of same polarity
	AC 100V (50/60Hz for 1 minute)
Electrical Life:	100,000 operations
Mechanical Life:	1,000,000 operations (minimum)

Pin Plunger

Short Lever

Roller Lever

Slim Spring Plunger

Short Spring Plunger

Panel Mount Plunger

Panel Mount Roller Plunger

Panel Mount Cross Roller Plunger

Long Hinge Lever

Short Hinge Lever

Long Hinge Roller Lever

Short Hinge Roller Lever

Uni-Directional Short Hinge Roller Lever

Short Spring Plunger (with dust protection

TERMINAL ENCLOSURE

MICRO SWITCHES (PLEASE NOTE THESE ARE NOT CLASSED AS SAFETY SWITCHES)

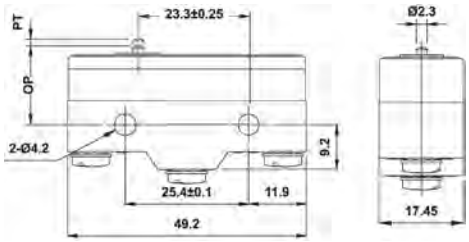
MICRO SWITCH - PIN PLUNGER:

OPERATION CHARACTERISTICS:

Operating Force:	250-350gr
Release Force (min):	114gr
Pre-Travel (max):	0.4mm
Over-Travel (min):	0.13mm
MD (max):	0.05mm
Operating Position:	15.9 ± 0.4mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176001	176101

DIMENSIONS:



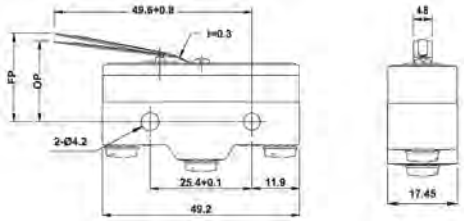
MICRO SWITCH - SHORT LEVER:

OPERATION CHARACTERISTICS:

Operating Force (max):	141gr
Release Force (min):	14gr
Pre-Travel (max):	4mm
Over-Travel (min):	1.6mm
MD (max):	1.3mm
FP (max):	20.6mm
Operating Position:	17.4 ± 0.8mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176002	176102

DIMENSIONS:



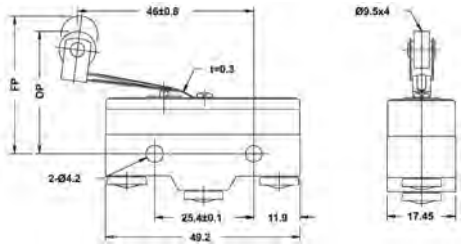
MICRO SWITCH - ROLLER LEVER:

OPERATION CHARACTERISTICS:

Operating Force (max):	141gr
Release Force (min):	14gr
Pre-Travel (max):	4mm
Over-Travel (min):	1.6mm
MD (max):	1.3mm
FP (max):	31.8mm
Operating Position:	28.6 ± 0.8mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176003	176103

DIMENSIONS:



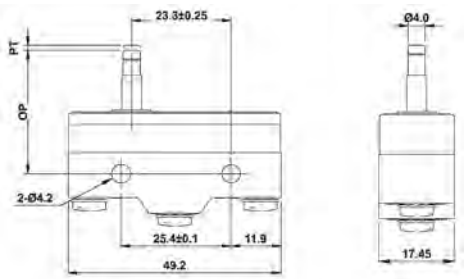
MICRO SWITCH - SLIM SPRING PLUNGER:

OPERATION CHARACTERISTICS:

Operating Force (max):	250-350gr
Release Force (min):	114gr
Pre-Travel (max):	0.4mm
Over-Travel (min):	1.6mm
MD (max):	0.5mm
Operating Position:	28.2 ± 0.5mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176004	176104

DIMENSIONS:



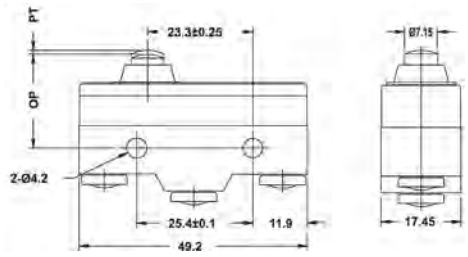
MICRO SWITCH - SHORT SPRING PLUNGER:

OPERATION CHARACTERISTICS:

Operating Force:	250-350gr
Release Force (min):	114gr
Pre-Travel (max):	0.4mm
Over-Travel (min):	1.6mm
MD (max):	0.05mm
Operating Position:	21.5 ± 0.5mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176005	176105

DIMENSIONS:



MICRO SWITCHES (PLEASE NOTE THESE ARE NOT CLASSED AS SAFETY SWITCHES)

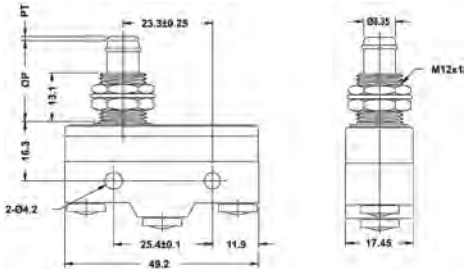
MICRO SWITCH - PANEL MOUNT PLUNGER:

OPERATION CHARACTERISTICS:

Operating Force:	250-350gr
Release Force (min):	114gr
Pre-Travel (max):	0.4mm
Over-Travel (min):	5.5mm
MD (max):	0.05mm
Operating Position:	21.8 ± 0.8mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176006	176106

DIMENSIONS:



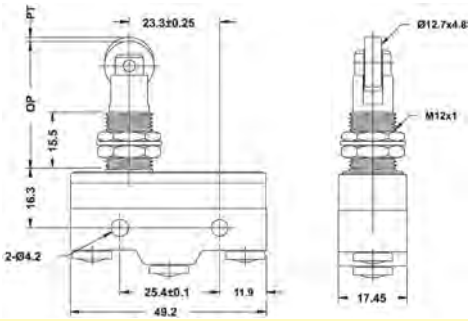
MICRO SWITCH - PANEL MOUNT ROLLER PLUNGER:

OPERATION CHARACTERISTICS:

Operating Force:	250-350gr
Release Force (min):	114gr
Pre-Travel (max):	0.4mm
Over-Travel (min):	3.58mm
MD (max):	0.05mm
Operating Position:	33.4 ± 1.2mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176007	176107

DIMENSIONS:



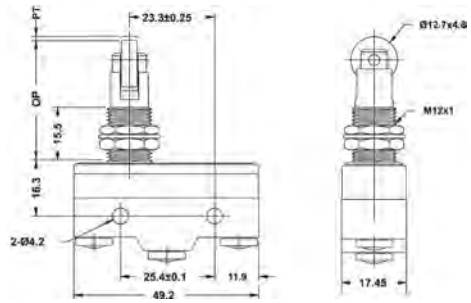
MICRO SWITCH - PANEL MOUNT CROSS ROLLER PLUNGER:

OPERATION CHARACTERISTICS:

Operating Force:	250-350gr
Release Force (min):	114gr
Pre-Travel (max):	0.4mm
Over-Travel (min):	3.58mm
MD (max):	0.05mm
Operating Position:	33.4 ± 1.2mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176008	176108

DIMENSIONS:



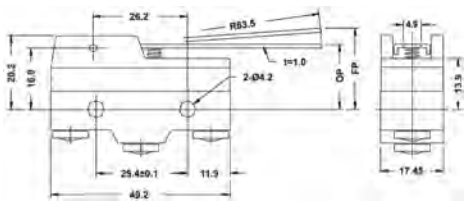
MICRO SWITCH - LONG HINGE LEVER:

OPERATION CHARACTERISTICS:

Operating Force (max):	70gr
Release Force (min):	14gr
Pre-Travel (max):	10mm
Over-Travel (min):	5.6mm
MD (max):	1.27mm
FP (max):	28.2mm
Operating Position:	19 ± 0.8mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176009	176109

DIMENSIONS:



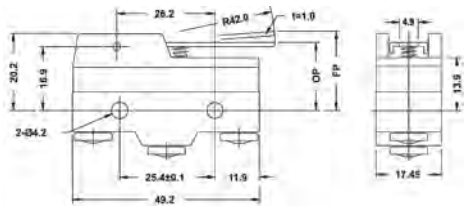
MICRO SWITCH - SHORT HINGE LEVER:

OPERATION CHARACTERISTICS:

Operating Force (max):	90gr
Release Force (min):	18gr
Pre-Travel (max):	7mm
Over-Travel (min):	3.5mm
MD (max):	1mm
FP (max):	26.2mm
Operating Position:	19.8 ± 0.8mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176010	176110

DIMENSIONS:



MICRO SWITCHES (PLEASE NOTE THESE ARE NOT CLASSED AS SAFETY SWITCHES)

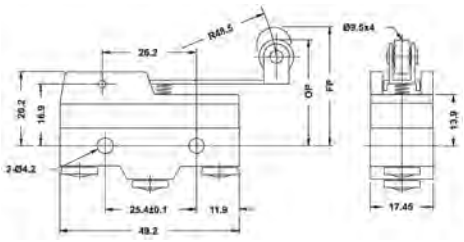
MICRO SWITCH - LONG HINGE ROLLER LEVER:

OPERATION CHARACTERISTICS:

Operating Force (max):	100gr
Release Force (min):	22gr
Pre-Travel (max):	7.1mm
Over-Travel (min):	4mm
MD (max):	1.02mm
FP (max):	36.5mm
Operating Position:	30.2 ± 0.8mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176011	176111

DIMENSIONS:



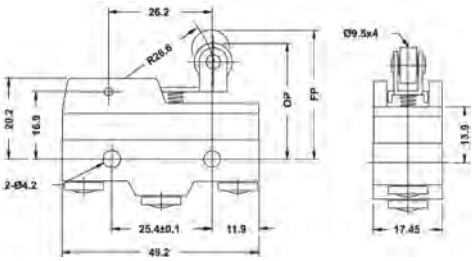
MICRO SWITCH - SHORT HINGE ROLLER LEVER:

OPERATION CHARACTERISTICS:

Operating Force (max):	160gr
Release Force (min):	42gr
Pre-Travel (max):	2.7mm
Over-Travel (min):	2.4mm
MD (max):	0.5mm
FP (max):	32.5mm
Operating Position:	30.2 ± 0.4mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176012	176112

DIMENSIONS:



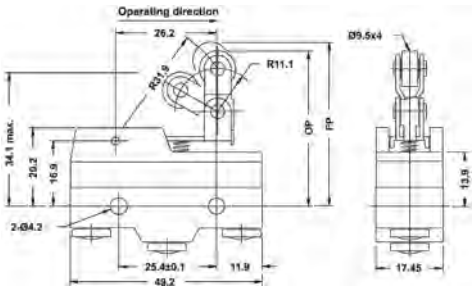
MICRO SWITCH - UNI-DIRECTIONAL SHORT HINGE ROLLER LEVER:

OPERATION CHARACTERISTICS:

Operating Force (max):	170gr
Release Force (min):	42gr
Pre-Travel (max):	2.7mm
Over-Travel (min):	2.4mm
MD (max):	0.51mm
FP (max):	43.6mm
Operating Position:	41.3 ± 0.8mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176013	176113

DIMENSIONS:



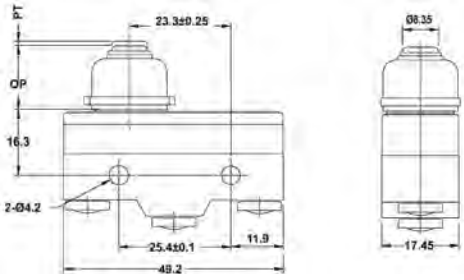
MICRO SWITCH - SHORT SPRING PLUNGER (with dust protection IP60):

OPERATION CHARACTERISTICS:

Operating Force (max):	540gr
Release Force (min):	114gr
Pre-Travel (max):	2.3mm
Over-Travel (min):	1.6mm
MD (max):	0.06mm
Operating Position:	28.2 ± 0.5mm

SALES NUMBERS	
SOLDER TERMINAL	SCREW TERMINAL
176014	176114

DIMENSIONS:



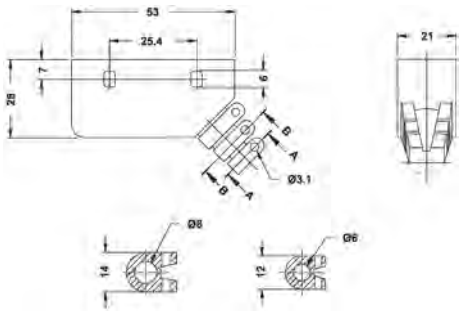
MICRO SWITCH - TERMINAL ENCLOSURE:

CHARACTERISTICS:

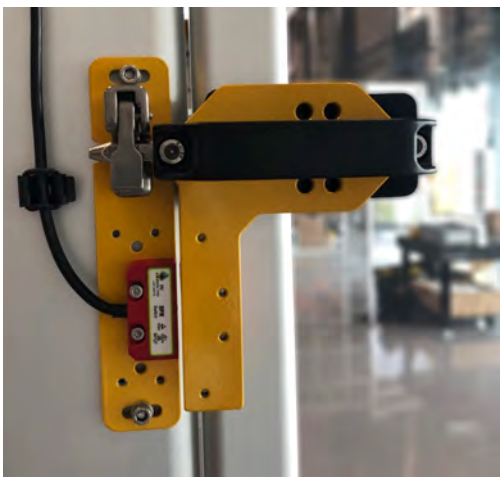
Designed to carry and protect all varieties of IDEM Micro Switches.

SALES NUMBERS
TERMINAL ENCLOSURE FOR ALL TYPES
176000

DIMENSIONS:



INDUSTRY LEADERS IN SAFETY



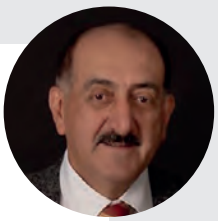
Winners of Three Royal Awards in Succession

We are honoured to have received the King's Award for Enterprise: Innovation 2024 for our outstanding advancements in machine safety, marking the third consecutive royal award for IDEM Safety Switches.

This achievement follows our previous recognitions, including the Queen's Award for Enterprise: International Trade in 2022 and the King's Award for Enterprise: Innovation in 2023, further reinforcing our leadership in the industry. The King's Award celebrates UK companies making exceptional contributions, and this recognition highlights our continued impact on machine safety.

This award underscores our significant innovation in machine safety rope switch technology, specifically our unique sliding cam system, which is arguably the most reliable in the industry. This innovation was conceived and meticulously engineered at our R&D and production facility in Wigan, UK. Since its introduction in 2005, it has achieved global acclaim, with hundreds of thousands of units sold worldwide. Under the visionary leadership of our Founder and CEO, Medi Mohtasham, we've developed pioneering products that meet the growing demand for dependable safety solutions. Our innovations have set a new standard, establishing us as a significant player on the global stage despite our modest size relative to some industry giants.

Our continued export growth has spurred workforce expansion at our state-of-the-art facility in Northern England, where we're committed to fostering new engineering talent. Reflecting on this honour, CEO Medi Mohtasham shared,



"At IDEM, we thrive on the challenge of pushing boundaries in machine safety, constantly advancing our technical expertise. This award is a magnificent recognition of our talented team and their remarkable achievements."

Since our founding in 2003, we have consistently set benchmarks in machine safety, offering one of the world's most comprehensive ranges of safety products. Today, IDEM stands as the largest manufacturer of stainless-steel safety switches, serving the Food, Beverage, Pharmaceutical, and hygienic manufacturing sectors worldwide.

IDEM Safety Switches

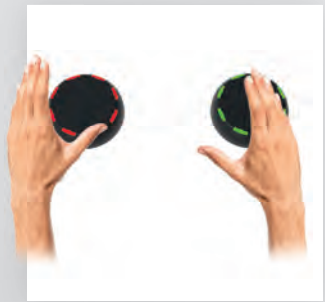
Leading Manufacturer of Machine Safety Switches and Solutions

Networked Safety Switches & Control Boxes

Stainless Steel Safety Products

Trapped Key Interlocking Systems

Compact Guard Locking Switches with RFID



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