

# Jazz<sup>®</sup> Micro-OPLC<sup>®</sup>

Operator Panel and Programmable Logic Controller



## The Music of Efficient Automation



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# Jazz<sup>®</sup> OPLC<sup>®</sup>

Break the rules. Replace that "smart relay" with a real Programmable Logic Controller that includes a full-function Operator Panel with numeric keypad—for the same low price.



## PLC notes:

- Onboard I/Os: Digital and Temperature inputs, Relay or Transistor and Analog outputs
- High-speed inputs
- Windows-based Ladder Logic software
- Ladder code memory: 24K (virtual)
- SMS-enabled via GSM
- Remote access utilities
- Time-based control in 3 clicks
- Auto-tune PID, up to 4 loops

## HMI notes:

- Two 16-character text lines
- Up to 60 user-designed screens
- Multilingual - the Jazz<sup>®</sup> LCD display supports over 15 languages and 20 graphic icons
- Displays conditional messages
- Shows time, date, bit status, timer & integer values (up to 64 HMI variables per application)
- LCD illuminated screen



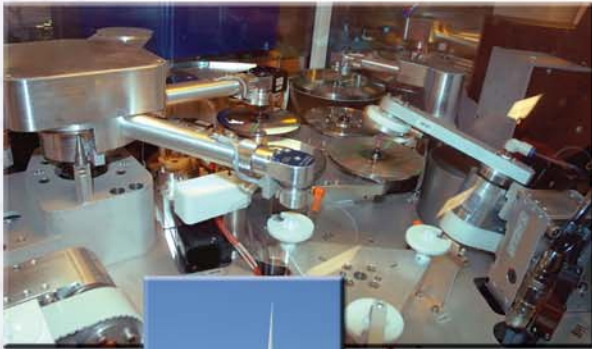


# Applications

Jazz®. It's all around you

## ■ Industrial Automation

Textile, robotics, packaging, production lines



## ■ Water & Agriculture

Pumping, irrigation, flow monitoring



## ■ Building Automation

Air conditioning, lighting, barrier/door control, alarm systems



# PLC & HMI

## PLC & HMI

### The ultimate duet

#### Saves labor:

- Reduces programming time
- No Panel-PLC wiring
- Built-in Panel-PLC communication

#### Boosts efficiency:

- Display instructions to machine operators
- Data entry via the Jazz® operator panel
- View application data via Jazz® Info Mode

#### Cuts budget:

- Reduces hardware requirements
- Saves cabinet space



# Jazz®



### The ultimate instrument

Far more than a "smart relay"—the Jazz® performs simple or complex control tasks

#### More PLC capabilities:

- Ladder Logic programming ensures functional flexibility
- Program capacity: 24K of Ladder code memory (virtual)
- Functions include math, store/load, compare, & clock functions, plus immediate read/write to I/Os, interrupts, and loops

#### More HMI functionality:

- Up to 60 user-designed screens
- Full alpha-numeric keypad
- Multilingual display

#### More communication options:

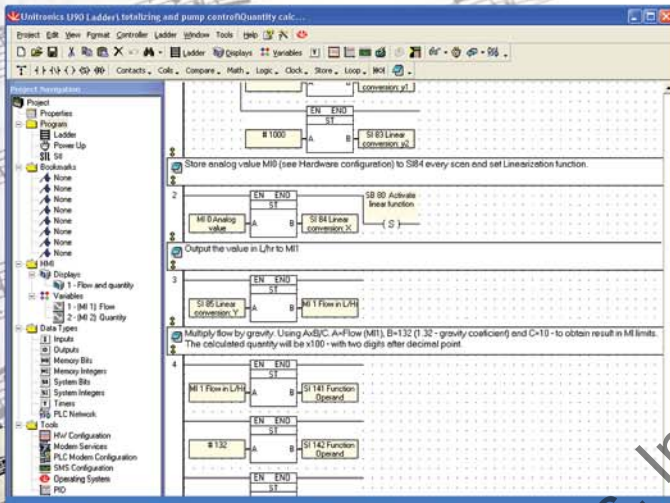
- GSM/SMS support
- Remote access utilities
- PC access via MODBUS or OPC

# Programming Software

Compose your PLC and HMI applications in one environment

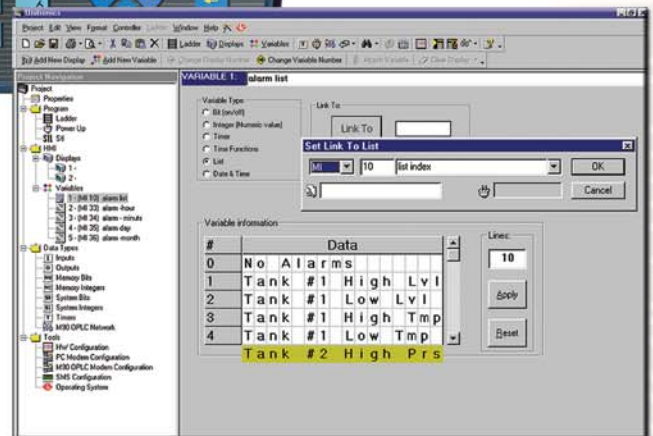
## Use the Ladder editor to:

- Program your application
- Drag-and-drop contacts, coils, timers and function blocks (math, logic, clock)
- Test and debug programs



## Use the HMI editor to:

- Design your operator interface
- Compose operator instructions
- Assign functions to keys
- Create and display variables





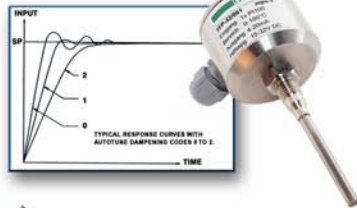
# Features

## Features

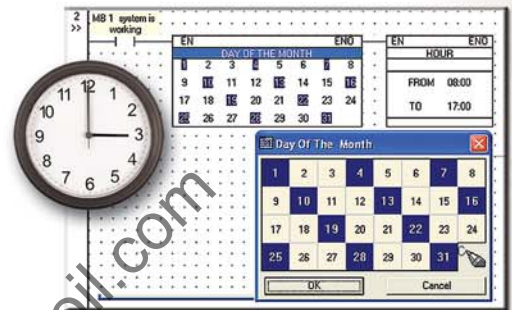
That let you keep up the beat



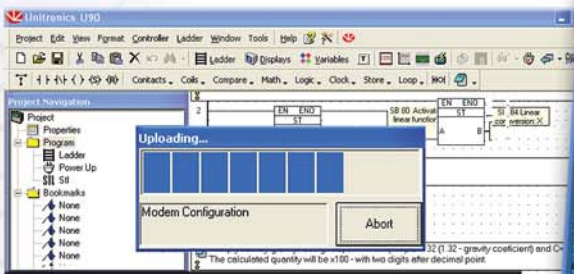
► **Customizable, user-labeled keyboard\***



▲ **4 PID loops with internal auto-tune**



▲ **Time-based control**



▲ **Full source upload\***

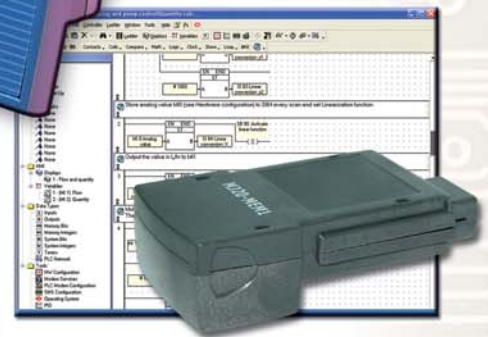


▲ **Print utility\***



▲ **Multilingual display**

▲ **Scroll between pre-programmed recipes/menus**



▲ **Program Cloner\***  
(optional Add-on Module), enables you to copy applications from PLC to PLC

▲ **High-speed counters**



\* Feature may require additional purchase of add-on module or accessory (Add-on port, Program Cloner, Slide kit).



# Communication

## Jazz<sup>®</sup> SMS Control

Music knows no boundaries

Use your GSM cell phone to implement real-time remote control in your application

The GSM-enabled Jazz<sup>®</sup>:

Sends and receives SMS messages containing both fixed text & variable data



Number	Description
1 +16175491187	Duty Electrician1
2 +16175491186	Duty Electrician2
3 +16175491185	Production Supervisor
4 +16175491184	Production Manager
5 +16175491183	Support Engineer
6 +16175491182	Shift Manager

Sends messages to many cell phone numbers

Phone Number	Phone Description
0	Last Received Phone Number
1 <input checked="" type="checkbox"/> +16175491187	Duty Electrician1
2 <input type="checkbox"/> +16175491186	Duty Electrician2
3 <input type="checkbox"/> +16175491185	Production Supervisor
4 <input type="checkbox"/> +16175491184	Production Manager
5 <input checked="" type="checkbox"/> +16175491183	Support Engineer
6 <input checked="" type="checkbox"/> +16175491182	Shift Manager

Can route different messages to different phone numbers

Auto-acknowledges received messages



Phone Number	Phone Description
0	Last Received Phone Number
1 <input type="checkbox"/> +16175491187	Duty Electrician1
2 <input type="checkbox"/> +16175491186	Duty Electrician2
3 <input checked="" type="checkbox"/> +16175491185	Production Supervisor
4 <input checked="" type="checkbox"/> +16175491184	Production Manager
5 <input type="checkbox"/> +16175491183	Support Engineer
6 <input type="checkbox"/> +16175491182	Shift Manager

Protects your system: prevents unauthorized calls





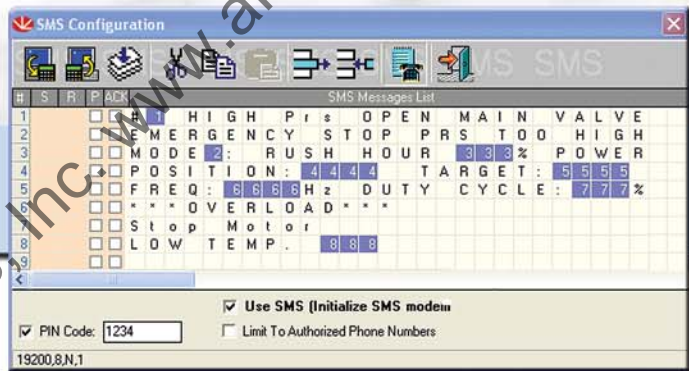
# Jazz® SMS Control

Answers data requests from your cell phone



Sends data to any local or remote serial printer, via GSM

Contains up to 1K of user defined messages



## Remote GSM control requires:

- A Jazz® OPLC® unit
- RS232/Programming Add-on port and cable
- A GSM kit (includes a modem, magnetic antenna, cables and adapters)



# Communication

## Remote Access

Jazz® reaches across time and space



### Access remote Jazz® controllers via GSM or landline modem

- Download, upload, or debug remote Jazz programs
- Operate the controller's panel via remote PC
- View real-time parameters
- View and operate several controllers on your PC screen, simultaneously, in real-time
- Read, write, and store online operand values
- Run, reset, or initialize a remote controller



**Remote Access can run independently of the Ladder software, thereby protecting your program from unauthorized users**



## Serial Communication

Let's talk... Jazz®

### RS232

Plug an Add-on port Module (optional) into the Jazz® OPLC® to enable PC access and to communicate with external serial devices, such as modems and printers.

### MODBUS

Establish master-slave communications between Jazz® controllers and any PC application that supports the MODBUS protocol (such as SCADA systems).



### OPC/DDE Server

Enable the OPLC® to exchange data with external applications. Unitronics' OPC/DDE servers can interface with SCADA systems, and read/write PLC data from/to Excel, Access, or other Windows-based applications.

### DataXport

A powerful software utility that captures PLC application data and exports it to Excel files for logging or processing. Exports data according to a user-defined schedule or manually, via direct connection or GSM/landline modem.

# Technical Specifications

## Technical Specifications

Article number	JZ10-11-R10	JZ10-11-T10	JZ10-11-R16	JZ10-11-T17	JZ10-11-R31	JZ10-11-T40	JZ10-11-UN20 <sup>1</sup>	JZ10-11-UA24 <sup>1</sup>	JZ10-11-PT15
	6 Digital Inputs 4 Relay Outputs	6 Digital Inputs 4 Transistor Outputs	6 Digital Inputs 2 Digital/ Analog Inputs 2 Analog Inputs 6 Relay Outputs	6 Digital Inputs 2 Digital/ Analog Inputs 2 Analog Inputs 7 Transistor Outputs	16 Digital Inputs 2 Digital/ Analog Inputs 2 Analog Inputs 11 Relay Outputs	16 Digital Inputs 2 Digital/ Analog Inputs 2 Analog Inputs 20 Transistor Outputs	9 Digital Inputs 2 Analog/ Digital Inputs 1 Analog input 1 PT100/TC Input 5 Relay Outputs 2 Transistor Outputs	9 Digital Inputs 2 Analog/Digital Inputs 2 Analog Inputs 2 PT100/TC Inputs 5 Relay Outputs 2 Transistor Outputs 2 Analog Outputs	3 Digital Inputs 3 Digital/ Analog Inputs 3 PT1000/ NI1000 Inputs 5 Relay outputs 1 Transistor Output
<b>I/Os</b>									
Digital inputs	6 pnp/npn (source/sink) 24VDC	6 pnp/npn (source/sink) 24VDC	8 <sup>2</sup> pnp/npn (source/sink) 24VDC	8 <sup>2</sup> pnp/npn (source/sink) 24VDC	18 <sup>2</sup> pnp/npn (source/sink) 24VDC	18 <sup>2</sup> pnp/npn (source/sink) 24VDC	11 <sup>2</sup> pnp/npn (source/sink) 24VDC	11 <sup>2</sup> pnp/npn (source/sink) 24VDC	6 <sup>2</sup> pnp/npn (source/sink) 24VDC
High-speed counters	2 inputs can function as either high-speed counters (5 kHz, 16 bit resolution), or as normal digital inputs						*One input can function as either high-speed counter (5 kHz, 16 bit resolution), or as a normal digital input		
Analog inputs	None	None	Two <sup>2</sup> 10 bit inputs: 0-10V and Two 10 bit inputs: 0-20mA, 4-20mA	Two <sup>2</sup> 10 bit inputs: 0-10V and Two 10 bit inputs: 0-20mA, 4-20mA	Two <sup>2</sup> 10 bit inputs: 0-10V and Two 10 bit inputs: 0-20mA, 4-20mA	Two <sup>2</sup> 10 bit inputs: 0-10V and Two 10 bit inputs: 0-20mA, 4-20mA	Two <sup>2</sup> 10 bit inputs: 0-10V and One 10 bit input: 0-20mA, 4-20mA	Two <sup>2</sup> 10 bit inputs: 0-10V and Two 10 bit inputs: 0-20mA, 4-20mA	Three <sup>2</sup> 10 bit inputs: 0-10V
Temperature measurement							1 PT100 or Thermocouple input	2 PT100 or Thermocouple inputs	3 PT1000/ NI1000 inputs
Digital outputs	4 Relay outputs	4 pnp (source)	6 Relay outputs	7 pnp (source)	11 Relay outputs	20 pnp (source)	5 Relay outputs 2 pnp (source)	5 Relay outputs 2 pnp (source)	5 Relay outputs 1 pnp/npn (source/sink)
PWM/High-speed outputs		2 PWM		2 PWM		2 PWM	2 PWM	2 PWM	1 HSO
Analog outputs								Two 12 bit inputs: +/-10V, 4-20mA	
<b>Program</b>									
Ladder code memory	24K (virtual)								
Bit/Coils	256								
Integers/Registers (16 Bit)	256								
Timers	64								
<b>Operator panel</b>									
Display size & Type	2 lines x 16 characters, STN LCD, LED backlight								
HMI displays	60 user-designed displays available								
Variables	64 HMI variables are available to conditionally display text and data. List variables add up to 1.5K's worth of HMI capacity								
Keypad	16 sealed membrane keys, including 15 programmable keys (10 of which are user-labeled)								
<b>Communication</b>									
Via an Add-on port Module <sup>3</sup>									
Serial communications	RS232/RS485, RS232/Programming Add-on port (optional, see Accessories)								
GSM support	SMS messages to/from many cell phone numbers, up to 1K of user-designed messages. Remote access-enabled								
MODBUS	Supports MODBUS protocol, Master-Slave								
<b>General</b>									
Power supply	24 VDC								
Clock (RTC)	Real-time clock functions (date and time)								
Battery back-up	10 years typical at 77°F, battery back-up for RTC and system data, including variable data								
Environment	NEMA4X/IP65 (from panel, when mounted)								

<sup>1</sup> JZ10-11-UN20, JZ10-11-UA24 are not yet UL certified.

<sup>2</sup> In these models some of the inputs may be wired as either digital or analog (voltage). The remaining analog inputs are current only. JZ10-11-PT15 comprises digital/analog (voltage) inputs only. Some models include additional temperature inputs.

<sup>3</sup> In order to download applications and enable communications, install Jazz™ with the appropriate Add-on Module.



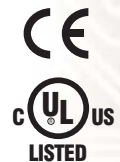
# Technical Specifications

## Add-on Modules and Accessories

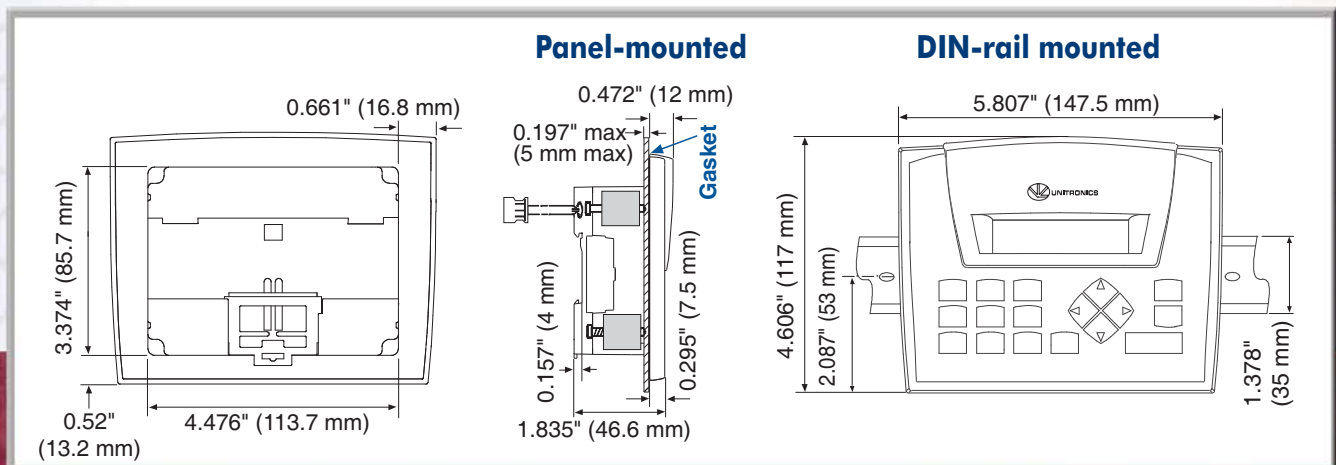
Description	Article number
<p><b>Programming Kit:</b>  <b>Programming software CD</b>                      Use it to configure your hardware and write your PLC &amp; HMI applications.</p> <p><b>Programming Add-on port</b>                      Provides an RS232 interface for PC access, modem connections and communications with devices that supply active RS232 voltage signals for purposes of power supply.</p> <p><b>Programming cable</b>  <b>D-type adapter</b>                      Interfaces between the PC serial port and the programming cable</p>	JZ-PRG
<p><b>Com Port Kit:</b>  <b>Isolated RS232/RS485 Add-on port</b>                      Enables networking and serial communication, including programming.</p> <p><b>Programming cable</b>  <b>D-type connector</b>                      Interfaces between the PC serial port and the programming cable</p>	JZ-RS4
<p><b>Program Cloner Add-on Module</b>                      Use the Cloner to copy applications from PLC to PLC</p>	MJ20-MEM1
<p><b>Slide Kit</b>                      A set of keypad slides, which can be individually labeled and inserted into the Jazz.</p>	MJ20-JZ-SL1

## Additional Unitronics Accessories

Description	Article number
GSM Kit including Enfora modem	GSM-KIT-41J
GSM Kit including Siemens TC65 modem	GSM-KIT-14J
Power supply 1.1 Ampere, 24V switching power supply. DIN-rail or surface mounted.	PS-24-11A
USB to RS232 converter	MJ10-22-CS35



## Jazz® dimensions and mounting



# About Unitronics®

## About Unitronics®



Unitronics designs, manufactures & markets quality PLCs for the global market.

Easy to use, efficient and affordable, our products have been automating processes and stand-alone applications since 1989.

Via our Israeli headquarters and U.S. subsidiary, Unitronics supports a global marketing network of over 100 distributors.

Unitronics' field-proven OPLC® controllers automate many thousands of installations in diverse fields: petrochemical, automotive, food processing, plastics & textile, energy and environment, water and wastewater management: anywhere automated processes are required.



### Our clients include:

- Coca-Cola
- General Motors
- Michelin
- Tupperware
- Intel

- Bayer
- Colgate-Palmolive
- Bosch-Rexroth
- ABB
- Land Instruments
- Mercedes

- Agfa
- Tyson Foods
- Pirelli
- Fiat
- Samsonite
- Black & Decker







# Worldwide Sales & Support

## Worldwide Sales & Support



Air-Oil Systems, Inc. [www.airoil.com](http://www.airoil.com)



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