VisionOPLC™

PLC & Touchscreen HMI

Vision290™

Vision280™

UNITRONICS

PLC & HMI with Touchscreen LCD

The Vision280™/Vision290™ is a high-performance PLC and a touchpanel HMI integrated into one seamless device. The PLC can handle up to 171[1] I/Os via Snap-in and Expansion modules. The Graphic HMI displays 'touchable' images, graphs and texts according to real-time conditions and historical values.

Product Specifications

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	V280	V290
Graphic Display Screen		
Type	Black & White FSTN LCD	Black & White FSTN LCD
Touchscreen	Resistive, Analog	Resistive, Analog
Illumination Backlight	CCFL (Fluorescent lamp)	CCFL (Fluorescent lamp)
Display Resolution	320 x 240 pixels (QVGA), 4.7" active area	320 x 240 pixels (QVGA), 5.7" active area
HMI Displays	Up to 255	Up to 255
Keyboard		
Number of Keys	27, user-labeled, includes soft keys & numeric keypad	None, Virtual keyboard
Program		
Application Memory	1000K	
Execution Time for Bit Operation	0.5μsec	
Memory Bits (coils)	4096	
Memory Integers (registers)	2048	
Long Integers (32 bit)	256	
Memory Floats	24	
Double Word (32 bit unsigned)	64	
Timers (32 bit)	192	
Counters	24	
Data Tables	Up to 120K (RAM), 64K (Flash)	
Communication		
RS232/RS485	2 RS232 ports + 1 optional RS232 or RS485 (see additional communication modules)	
Ethernet	1 optional port (see additional communication modules)	
CANbus	1 port	
MODBUS	Supports MODBUS protocol, Master/Slave	
GPRS	Access your Vision using a remote PC, via wireless data transmission, SMS-enabled	
GSM/CDMA	SMS messages to/from any quantity of phone numbers, Remote Access-enabled	
General		
Power Supply	12VDC or 24VDC	
PID	Up to 12 independent PID loops, including internal auto-tune, ramp-soak programmer & bumpless transfer	
Battery Back-up	7 years typical battery back-up, at 25°C, for all memory sections and real-time clock (RTC)	
Environment	IP65/NEMA4X (front panel, when mounted)	
Expansion option	Up to 128[1] additional I/Os, via plug-in expansion modules	
Dimensions	10.24" x 6.1" x 2.8" (260 x 155 x 72 mm)	10.24" x 6.1" x 2.8" (260 x 155 x 72 mm)
Article Number	V280-18-B20B	V290-19-B20B

Additional communication modules

Add one of the following COM ports:

Article Number	
V200-19-ET1	1 Ethernet port
V200-19-R4	1 RS485 port
V200-19-RS4-X[3]	1 RS232/RS485 port (Isolated)

[1] Number may vary according to I/O module.

[2] Certain digital inputs can function as high-speed counters, shaft-encoder inputs, frequency measurers or normal digital inputs.

[3] V200-18-E3XB, V200-18-E4XB, V200-18-E5 and V200-19-RS4-X are not yet UL certified.

Snap-in I/O Modules

Article Number	V200-18-E1B	V200-18-E2B	V200-18-E3XB[3]	V200-18-E4XB[3]	V200-18-E5B[3]
Digital Inputs (Isolated)	16 pnp/npn Inputs (24VDC)	16 pnp/npn Inputs (24VDC)	18 pnp/npn Inputs (24VDC)	18 pnp/npn Inputs (24VDC)	18 pnp/npn Inputs (24VDC)
High-speed Counter/Shaft Encoder/Frequency Measurer[2]	Two 10 kHz pnp/npn Inputs	Two 10 kHz pnp/npn Inputs	Two 10 kHz pnp/npn Inputs	Two 10 kHz pnp/npn Inputs	Two 10 kHz pnp/npn Inputs
Analog Inputs	Three 10 bit Inputs, 0-10V, 0-20mA, 4-20mA	Two 10 bit Inputs, 0-10V, 0-20mA, 4-20mA	Four Isolated 14 bit Inputs, 0-10V, 0-20mA, 4-20mA. May also be set to Thermocouple or PT100 (Res. 0.1°)	Four Isolated 14 bit Inputs, 0-10V, 0-20mA, 4-20mA. May also be set to Thermocouple or PT100 (Res. 0.1°)	Three 10 bit Inputs, 0-10V, 0-20mA, 4-20mA
Temperature Measurement	None	None			None
Digital Outputs (Isolated)	4 pnp/npn Outputs (24VDC)	4 pnp/npn Outputs (24VDC)	2 pnp/npn Outputs (24VDC)	2 pnp/npn Outputs (24VDC)	2 pnp/npn Outputs (24VDC)
	10 Relay Outputs	10 Relay Outputs	15 Relay Outputs	15 pnp Outputs (24VDC)	15 pnp Outputs (24VDC)
High-speed Output/ PWM	2 Transistor Outputs are high-speed outputs, 50 kHz for npn / 2 kHz for pnp				
Analog Outputs	None	Two 12 bit Outputs, 0-10V, 0-20mA, 4-20mA	Four Isolated 12 bit Outputs, 0-10V, 4-20mA	Four Isolated 12 bit Outputs, 0-10V, 4-20mA	None

Networking & Communication

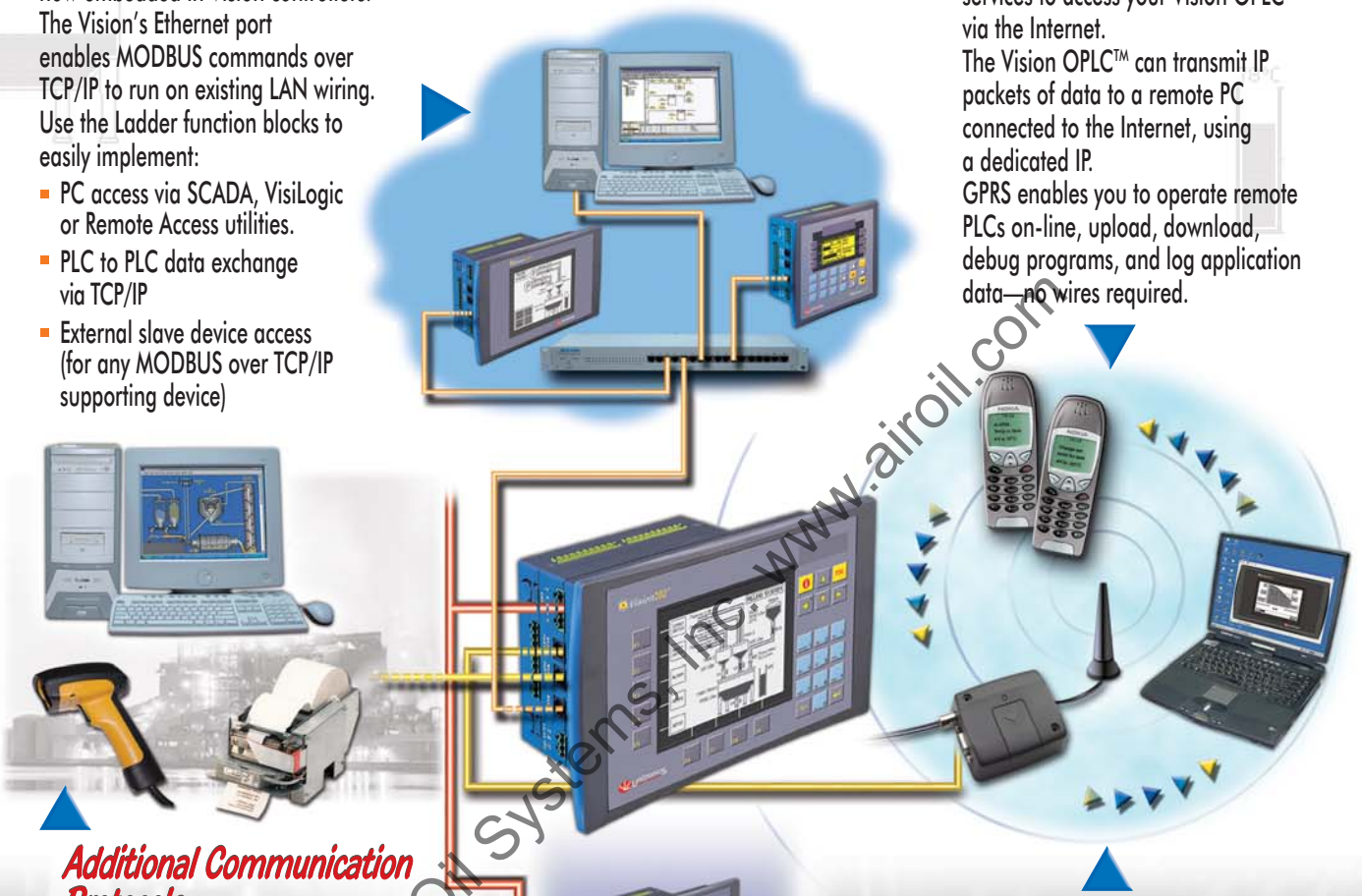
Ethernet via TCP/IP

The universal COM standard, now embedded in Vision controllers. The Vision's Ethernet port enables MODBUS commands over TCP/IP to run on existing LAN wiring. Use the Ladder function blocks to easily implement:

- PC access via SCADA, VisiLogic or Remote Access utilities.
- PLC to PLC data exchange via TCP/IP
- External slave device access (for any MODBUS over TCP/IP supporting device)

GPRS

Use GPRS wireless data transmission services to access your Vision OPLC™ via the Internet.
The Vision OPLC™ can transmit IP packets of data to a remote PC connected to the Internet, using a dedicated IP.
GPRS enables you to operate remote PLCs on-line, upload, download, debug programs, and log application data—no wires required.



Additional Communication Protocols

The "Protocols" Function Block enables the Vision OPLC™ to communicate, via RS232 and RS485, with a broad variety of external devices, such as bar-code readers and servos.

OPC Server / DDE Server

Unitronics' OPC and DDE Servers enable the Vision OPLC™ to exchange data with any Windows-based application.

SMS Control

The Vision OPLC™ can send and receive text and variable SMS messages to/from any GPRS/GSM/CDMA cellular phone. You can the SMSs to modify parameters in your system.
The controller can auto-acknowledge the message, answer your data requests and send SMSs to notify you of system faults.

Remote Access

Use your PC to access remote Vision units, via network connections, Ethernet or GPRS/GSM/CDMA/Landline modem.

Use powerful Remote Access utilities to operate the controller (via Ladder software or independently), download or debug PLC programs, read/write/store online operand and database values, and send application data to Excel according to a user-defined schedule.

MODBUS

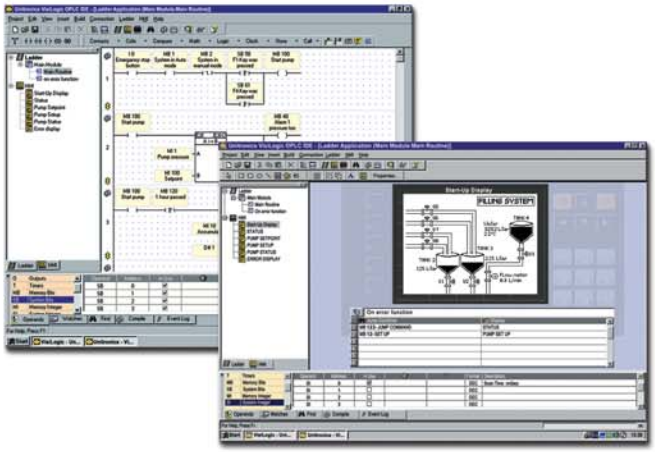
Establish master/slave MODBUS communication via two RS232 ports, RS485 or Ethernet port.

CANbus

Integrate up to 63 units into a high-speed network, using Unitronics' CANbus protocol.

VisiLogic Ladder Software

One Windows-based program for both PLC & HMI



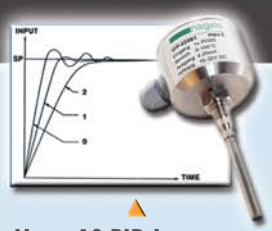
PLC editor:

- Click & drop Ladder elements
- Modular program function; create subroutines & call them into your program
- Built-in Function Blocks & utilities save application capacity & cut programming time
- Embedded modem support for remote access & SMS messaging

HMI editor:

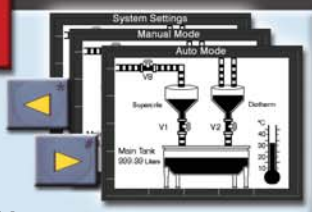
- Assign "Touch" properties to any screen element
- Import or design any image
- Create and display text messages
- Use images & graphs to reflect current variable values & historical trends
- Assign functions to the keyboard, softkeys & Touchscreen elements

More features



Up to 12 PID Loops, including Auto-tune

Information Mode



Scroll between Recipes

Smart Database - 120K

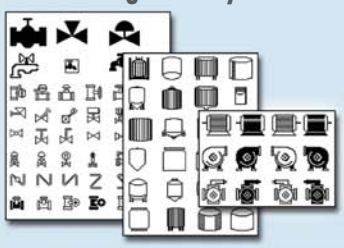


Image Library

Shaft-encoder Inputs & PWM Outputs

HMI Graphs & Trends

Temperature, weight & strain measurement

UNITRONICS

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