

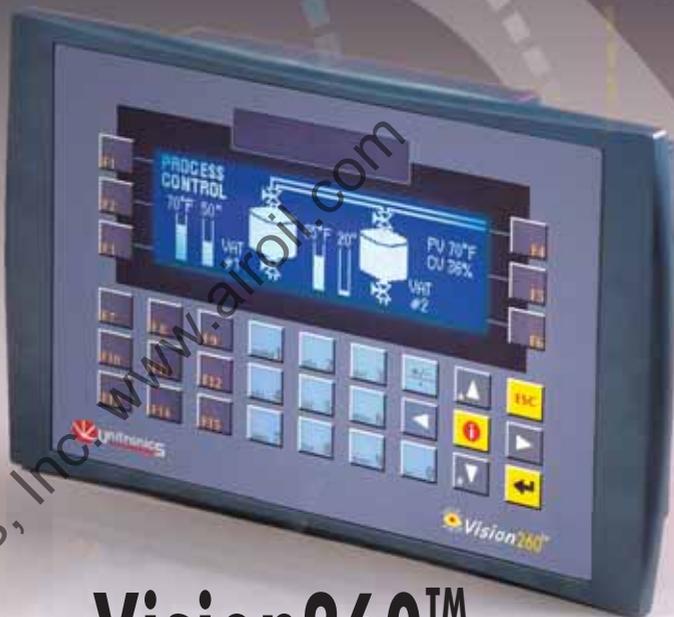


# Vision OPLC™

Graphic Operator Panel & Programmable Logic Controller



Vision230™



Vision260™

www.airon.com  
AirOil Systems, Inc.



# Vision230™ / Vision260™ OPLC™



7.24" (184 mm)



10.24" (260 mm)

## *The Vision package includes:*

PLC with graphic HMI, programming software, mounting hardware, connectors, extra set of key labels, communication cable and user guide.

## PLC with integrated Graphic Operator Interface

### *The PLC*

- Supports up to 171 I/Os via Snap-in or Expansion modules
- I/O types: Digital (including High-speed/PWM), Analog and direct temperature/weight measurement
- Windows-based Ladder Logic software
- Application memory: 1000K
- Execution time: 0.5µsec for bit operations

### *The Graphical HMI*

- Displays images and text according to run-time conditions
- Graphic Display Screen  
V260: 240 x 64 pixels  
V230: 128 x 64 pixels
- 100 user-designed displays per typical application
- Text messages:  
V260: Up to 8 lines x 40 characters  
V230: Up to 8 lines x 22 characters
- Hundreds of user-designed graphic images can be implemented in one application
- Customizable keyboard
- LCD illuminated screen

### *Communication*

- 2 RS232 ports
- Ethernet or RS485 port (optional)
- CANbus port
- MODBUS, Master-Slave
- GPRS/ CDMA/GSM SMS support

### *An integrated HMI: a built-in advantage*

- One programming environment for both PLC and HMI
- Eliminates PLC-HMI communication
- Saves I/O points, reduces hardware
- Simplifies assigning functions to keys and data entry via the keyboard
- Requires less wiring and less space

# Industrial Ethernet

The universal COM standard, now embedded in Vision controllers. Built-in Ethernet 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)

## Networking: Powerful Distributed Control

### *MODBUS via RS485/RS232*

Use RS485/RS232 to create a multi-device network. Establish master-slave communications between Vision OPLC™ units and any connected device that supports the MODBUS protocol. Any Vision230™/260™ in the network may function as either master or slave.

### *CANbus Networking*

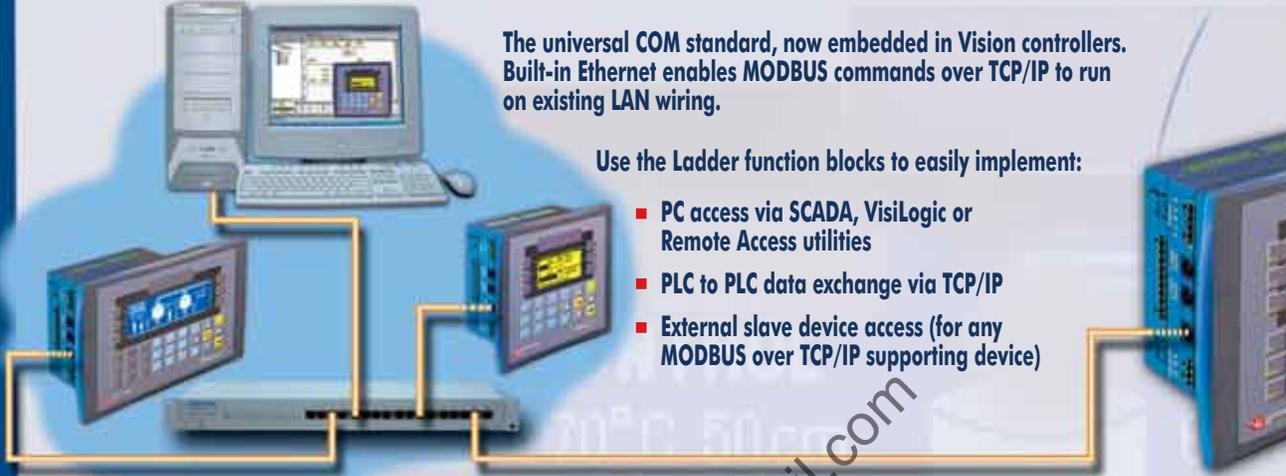
Integrate up to 63 Vision and M90/M91OPLC™ units into an efficient high-speed network, using Unitronics' CANbus protocol.

### *OPC Server / DDE Server via RS232*

Use RS232 to gain PC access to your Vision OPLC™ network. Unitronics' OPC/DDE server enables the Vision230™/260™ to exchange data with any Windows-based application.

### *Additional Communication Protocols*

The "Protocol" Function Block enables Vision OPLC™ to communicate with a broad variety of external devices, such as bar-code readers, printers and servos.



# Cellular Remote Control

## Remote monitoring:

The Vision OPLC™ can send/receive SMS messages to/from a GPRS/CDMA/GSM cell phone in response to any user-defined event.

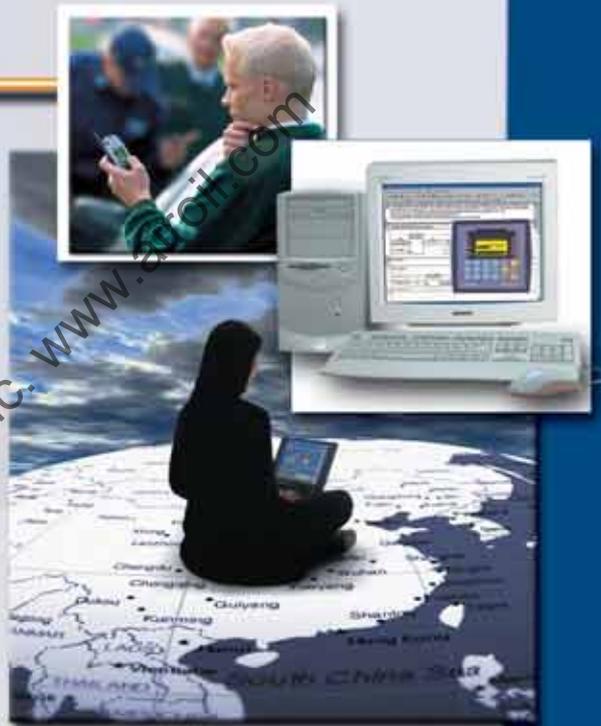
## Remote trouble-shooting:

Send SMS messages from your GPRS/CDMA/GSM phone to monitor and modify set-points or run-time parameters in your system.



### *The GPRS/CDMA/GSM enabled Vision OPLC™:*

- Sends and receives SMS messages containing both fixed text and variable data
- Sends messages to different GPRS/CDMA/GSM cell phones
- Can route different messages to different phone numbers
- Protects your system: prevents unauthorized callers
- Auto-acknowledges received messages
- Answers data requests from your cell phone
- Contains up to 1k of user-defined messages



## Remote Access via Wireless/Landline Modem

### Use a modem to trouble-shoot and program a remote Vision OPLC™

Connect your Vision230™/260™ to a GPRS, GSM, CDMA, CDPD or a landline modem to:

- Operate the controller's panel via a remote PC
- Download, upload or debug the Vision230™/260™ program from remote locations
- View real-time parameter-data on your office/portable PC
- Send/receive SMS messages while on-line—an exceptional debugging advantage

# Vision. There's more than meets the eye



## All *Vision* OPLCs™ include:

- Supports up to 12 Auto-tune PID<sup>1</sup> loops.
- **120K Database.** Enables dynamic data logging and production recipes.
  - 2 pnp/npn Shaft encoder inputs<sup>2</sup>/ High-speed counters/ Frequency measurers, 10 kHz.
  - 2 pnp/npn High-speed outputs<sup>2</sup> using PWM, for stepper motor control or PID outputs, 50 kHz (for npn outputs).
  - Vast display options via "List" Variables. Lists of 150 messages/images can be linked to a single variable; up to 16 variables can be shown per display. "List" Variables allow easy scrolling among pre-programmed recipes/menus.
  - Easy graphic display design using the Images Library and user-friendly editing tools.
  - Built-in Information mode. Provides you with powerful diagnostic capabilities via the operating panel.

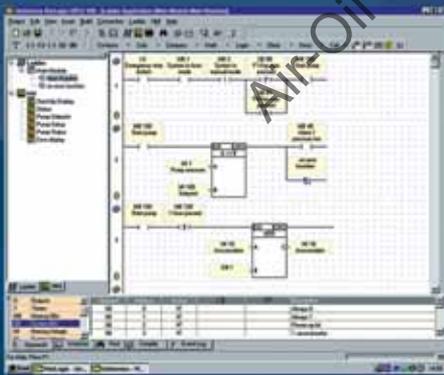
<sup>1</sup> PID FB includes internal Auto-tune (shares memory with other FBs).

<sup>2</sup> Using any available snap in I/O modules (V200-18-E1B, V200-18-E2B, V200-18-E3XB, V200-18-E4XB and V200-18-E5B).



## VisiLogic Ladder Software

One Windows-based program for both PLC & HMI



### PLC editor:

- Click & drop Ladder elements
- Modular program function; create subroutines and call them from anywhere in your program
- Built-in utility that saves application capacity and cuts programming time
- Embedded modem support for remote access and SMS messaging



### HMI editor:

- Design and import any bmp image (according to screen resolution)
- Create and display text messages
- Use bar graphs to represent real-time values
- Assign functions to the keyboard and softkeys

# Product Specifications & Ordering Information

	V230	V260
<b>Graphic Display Screen</b>		
Type	STN LCD	Negative blue STN LCD
Illumination Backlight	LED, yellow-green	CCFL (Fluorescent lamp)
Display Resolution	128 x 64 pixels	240 x 64 pixels
HMI Displays	Up to 255	Up to 255
<b>Keyboard</b>		
Number of Keys	24, user-labeled, includes soft keys & numeric keypad	33, user-labeled, includes soft keys & numeric keypad
<b>Program</b>		
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	
Data Tables	Up to 120K (RAM), 64K (Flash)	
<b>Communication</b>		
RS232	2 ports	
Ethernet/RS485	1 port (optional - see additional communication modules)	
CANbus	1 port	
MODBUS	Supports MODBUS protocol, Master/Slave	
GSM/CDMA	SMS messages to/from any quantity of phone numbers, Remote Access-enabled	
GPRS	GPRS supports remote access via wireless data transmission, SMS enabled	
<b>General</b>		
Power Supply	12VDC or 24VDC	
Battery Back-up	7 year typical battery back-up for all memory sections and real-time clock (RTC)	
Environment	IP65, NEMA4X (front panel, when mounted)	
Expansion option	Up to 128 additional I/Os, via plug-in expansion modules	
Dimensions	7.24" x 6.1" x 2.4" (184 x 155 x 61.4 mm)	10.24" x 6.1" x 2.8" (260 x 155 x 72 mm)
Article Number	V230-13-B20B	V260-16-B20B

## Snap-in I/O Modules

Article Number	V200-18-E1B	V200-18-E2B	V200-18-E3XB <sup>2</sup>	V200-18-E4XB <sup>2</sup>	V200-18-E5B <sup>2</sup>
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 <sup>1</sup>	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, 0-10V, 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	Thermocouple or PT100 (Res. 0.1°)	Thermocouple or PT100 (Res. 0.1°)	None
Digital Outputs (Isolated)	4 pnp/npn Outputs (24VDC) 10 Relay Outputs	4 pnp/npn Outputs (24VDC) 10 Relay Outputs	2 pnp/npn Outputs (24VDC) 15 Relay Outputs	2 pnp/npn Outputs (24VDC) 15 pnp Outputs (24VDC)	2 pnp/npn 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

## Additional communication modules

An additional COM module can be installed in any Vision OPLC<sup>3</sup>.

Article Number	Communication port
V200-19-R4	1 RS485 port
V200-19-ET1	1 Ethernet port
V200-19-RS4-X <sup>2</sup>	1 RS232/RS485 port (Isolated)



<sup>1</sup> Certain digital inputs can function as high-speed counters, shaft-encoder inputs, frequency measurers or normal digital inputs.

<sup>2</sup> V200-18-E3XB, V200-18-E4XB, V200-18-E5B and V200-19-RS4-X are not yet UL certified.

<sup>3</sup> Vision230™, Vision260™, Vision280™, Vision290™.