

# Color your *Vision*<sup>TM</sup>

Vision350<sup>TM</sup> / Vision570<sup>TM</sup> PLC & Color touchpanel HMI





# Vision350™/Vision570™ PLC & Color touchpanel HMI

Add a splash of color to your automated system. A drop of paint to your process. Watch the operator interface spring to life, & the operator instructions become bright & clear. The Vision350™ / Vision570™ integrated PLC & HMI enables you to add color into your system while cutting programming time, hardware, wiring, & space requirements.

Recipes & Menus

## Red-hot PLC Features

- Supports up to 512 I/Os
- I/O options: onboard (V350), snap-in (V570) & expansion modules
- Logic memory: 1MB (V350) / 2MB (V570)
- Scan time per 1K of typical application: 15µsec (V350) / 9µsec (V570)
- Auto-tune PID
- SD card- log, backup, clone, and more
- Recipe programming and datalogging via Data Tables

## Cool-blue HMI Features

- Color Touchscreen, QVGA, 3.5" / 5.7"
- 256 colors, TFT LCD display
- Up to 1024 displays per application
- Application memory in V350: 3MB images, 512K fonts
- Application memory in V570: 6MB images, 1MB fonts
- HMI graphs—color-code Trends
- Built-in alarm screens



## Green-light Communication

- Ethernet via TCP/IP
- GSM/SMS/GPRS support
- MODBUS, CANopen, & UniCAN
- Free Remote Access utilities
- Web server capabilities: view PLC data via the Internet
- Adaptable to most TCP/IP/serial protocols

*The Vision350™/Vision570™ package includes:*

PLC with embedded HMI Color touchscreen, programming software CD, connectors, mounting hardware, and communication cable.





## Ethernet via TCP/IP

The universal COM standard is embedded in the Vision350™/Vision570™. The Vision's Ethernet port (optional) enables MODBUS or open protocol commands over TCP/IP to run over existing LAN wiring.

Use the Ladder Function Blocks to easily implement:

- PLC to PLC data exchange
- Access to external slave devices that support TCP/IP
- SCADA control (PC access) via MODBUS IP or OPC

## Cellular Remote Control

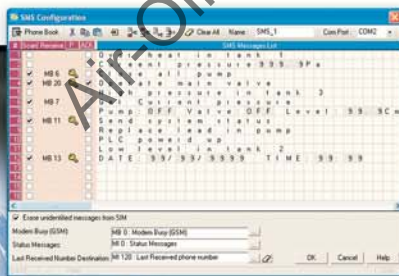
The Vision350™/Vision570™ can send and receive SMS messages to/from any GSM cellular phone. The controllers can send an SMS to report events. You can send an SMS to the controller in order to modify parameters in your system, or to request information.

The GPRS/GSM-enabled Vision350™/Vision570™:

- Sends & receives SMS messages containing both fixed text and variable data
- Sends messages to any number of phone numbers, & routes different messages to different 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 and Web Server

Use your PC to access remote Vision350™/Vision570™ units, via network connections, Ethernet or GSM/Landline modem. Powerful Remote Access utilities enable you to operate the controller's panel via a remote PC, download or debug PLC programs, read/write/store online operands and database values, and send application data to Excel according to a user-defined schedule. Use the controller's Web Server capabilities to view PLC data via the Internet from any location.





## MODBUS

Create a stable multi-device network over TCP/IP or serial wiring. Establish master-slave communications between Vision units and any connected device that supports MODBUS protocol. Any Vision unit in the network can function as either master or slave.

## CANbus

### CANopen

Communicate with remote devices, ranging from simple, fast I/O-related devices such as encoders, to complex frequency converters. Compliant with CiA DS 301.

### CANbus Layer 2

CANbus Layer 2: supports 11 and 29-bit identifiers in accordance with the CANbus V2.0 standard.

### UniCAN

Use Unitronics' protocol to integrate up to 60 PLCs into a high-speed network, and to transfer up to 512 MI register values during a single program scan.

Broadcast objects of the CANopen Predefined Connection Set		
Object	Function Code (0x00-0x0F)	COB-ID
EMT Module Control	0005	0005
EMT	0006	0006
EMT STAMP	0007	0007

Peer-to-Peer objects of the CANopen Predefined Connection Set		
Object	Function code (0x10-0x1F)	COB-ID
EMT	0010	0010 - 001F
EMT	0011	0010 - 001F
EMT	0012	0010 - 001F
EMT	0013	0010 - 001F
EMT	0014	0010 - 001F
EMT	0015	0010 - 001F
EMT	0016	0010 - 001F
EMT	0017	0010 - 001F
EMT	0018	0010 - 001F
EMT	0019	0010 - 001F
EMT	001A	0010 - 001F
EMT	001B	0010 - 001F
EMT	001C	0010 - 001F
EMT	001D	0010 - 001F
EMT	001E	0010 - 001F
EMT	001F	0010 - 001F

## Additional Communication Protocols

The "Protocol" Function Block enables Vision350™/Vision570™ to communication with a broad variety of external devices, such as bar-code readers and servos, over serial or TCP/IP networks.

## OPC Server/DDE Server

Use RS232 to gain PC access to your Vision OPLC™ network.

Unitronics' OPC/DDE server enables the Vision350™/Vision570™ to exchange data with any Windows-based application.

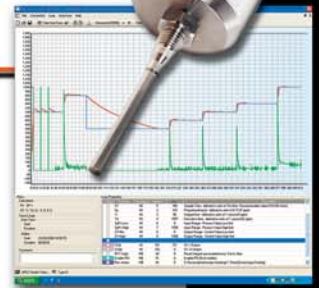


# A Broad Spectrum of Features



Recipes & Menus

- Multiple PID loops, including auto-tune, ramp-soak programmer and bumpless transfer
- Information Mode—powerful diagnostics via touchscreen
- Scroll between pre-programmed recipes, and switch between operating modes
- Shaft encoder inputs and PWM outputs
- Rich Image Library: design your HMI application in a snap
- Application requires data entry? A virtual keyboard pops up automatically
- Text string library—easy localization



PID



Image Library



Virtual Keyboard



Temp & Weight

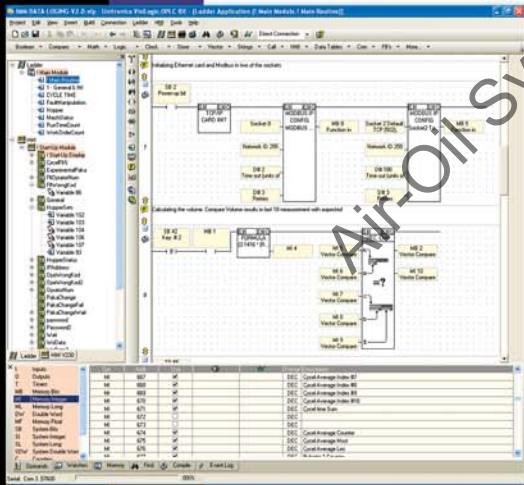


Easy Localization



Info Mode

# Color your Control Application



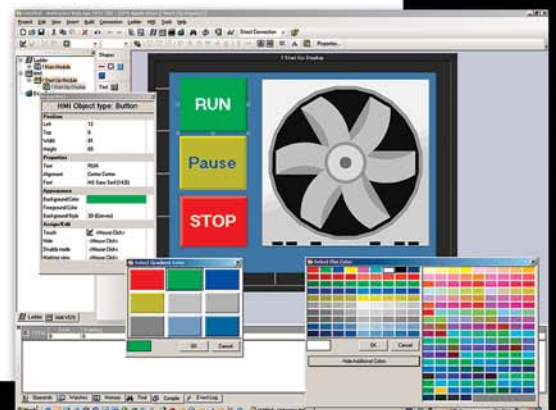
**VisiLogic Ladder software - one program for both PLC and HMI applications**

### PLC Editor:

- Click and drop Ladder elements
- Modular program function; create subroutines and call them into your program
- Built-in Function Blocks and utilities save application code and simplify complex tasks
- Embedded modem support for remote access and SMS messaging

### HMI Editor:

- Assign "Touch" properties to any screen element
- Create and conditionally display operator messages that contain text and images
- Use color images and graphs to reflect current variable values and historical trends
- Assign functions to softkeys and touchscreen elements





	V350-35-B1	V350-35-R2	V350-35-R34	V350-35-RA22	V350-35-T2	V350-35-T38	V350-35-TA24	V570-57-T20B
	No on-board I/Os	10 Digital Inputs 2 Analog/Digital Inputs 6 Relay Outputs	20 Digital Inputs 2 Analog/Digital Inputs 12 Relay Outputs	8 Digital Inputs 2 Analog/Digital Inputs 2 TC/PT/Digital Inputs 8 Relay Outputs 2 Analog Outputs	10 Digital Inputs 2 Analog/Digital Inputs 12 Transistor Outputs	20 Digital Inputs 2 Analog/Digital Inputs 16 Transistor Outputs	8 Digital Inputs 2 Analog/Digital Inputs 2 TC/PT/Digital Inputs 10 Transistor Outputs 2 Analog Outputs	Via Snap-in I/O module
<b>I/O</b>								
Digital Inputs <sup>1</sup> (maximum)	None	12 pnp/npn (source/sink) 24VDC	22 pnp/npn (source/sink) 24VDC	12 pnp/npn (source/sink) 24VDC	12 pnp/npn (source/sink) 24VDC	22 pnp/npn (source/sink) 24VDC	12 pnp/npn (source/sink) 24VDC	Use snap-in I/O module to create a self contained PLC with up to 43 I/Os. See selection of modules in the table below.
High-speed Counters/ Shaft-Encoder/ Frequency Measurer <sup>2</sup>		Three, 10 kHz 32 bit resolution	Three, 10 kHz 32 bit resolution	One, 10 kHz 32 bit resolution	Three, 10 kHz 32 bit resolution	Two, 10 kHz 32 bit resolution	One, 10 kHz 32 bit resolution	
Analog Inputs <sup>1</sup>		Two 10 bit inputs: 0-10V, 0-20mA, 4-20mA	Two 10 bit inputs: 0-10V, 0-20mA, 4-20mA	Two 14 bit inputs: 0-10V, 0-20mA, 4-20mA and 2 PT100 or Thermocouple inputs	Two 10 bit inputs: 0-10V, 0-20mA, 4-20mA	Two 10 bit inputs: 0-10V, 0-20mA, 4-20mA	Two 14 bit inputs: 0-10V, 0-20mA, 4-20mA and 2 PT100 or Thermocouple inputs	
Temperature Measurement		None	None	None	None	None	None	
Digital Outputs		6 relay outputs	12 relay outputs	8 relay outputs	12 pnp (source)	16 pnp (source)	10 pnp (source)	
PWM Outputs <sup>2</sup>		None	None	None	Seven, 0.5 kHz	Seven, 0.5 kHz	Five, 0.5 kHz	
Analog Outputs		None	None	Two 12 bit outputs: 0-10V, 4-20mA	None	None	Two 12 bit outputs: 0-10V, 4-20mA	
I/O Expansion	Local or remote I/Os may be added via expansion port or via CANbus, up to 512 I/Os (number of I/Os may vary according to expansion module)							
<b>Operator Panel</b>								
Display	3.5"						5.7"	
HMI Displays	320x240 pixels (QVGA), Graphic TFT LCD, 256 Colors, Resistive, analog touchscreen						1024 displays, 500 images	
Program	1024 displays, 250 images per application							
Application Memory	Application Logic: 1MB • Images: 3MB • Fonts: 512K						2MB • 6MB • 1MB	
Scan Time	15µsec per 1K of typical application						9µsec per 1K of typical application	
Operand Capacity	8192 coils, 4096 registers, 512 long integers (32 bit), 256 double words (32 bit unsigned), 64 floats, 384 timers (32 bit), 32 counters Additional non-retainable operands: 1024 X-bits, 512 X-integers, 255 X-long integers, 64 X-double words							
Data Tables	120K dynamic data (recipe parameters, datalogs, etc.), 192K fixed data (read-only data, ingredient names, etc.)							
Enhanced Features	Trends: graph any value • Alarms: built-in screens • String Library: Instantly switch HMI language							
SD card	Store datalogs, Alarm history, Data Tables; export to Excel/.csv • Backup Ladder, HMI & OS • Use backup data to 'clone' PLCs							
<b>Communication</b>								
Built-in Serial ports	1 RS232/RS485 port (selectable)						2 isolated RS232/RS485	
Additional Serial / Ethernet port (optional)	Ethernet (V100-17-ET2 for V350, V200-19-ET1 for V570)		or RS232/RS485 (V100-17-RS4 for V350, V200-19-RS4 for V570)		- or - RS232/RS485 (isolated) (V100-17-RS4X for V350, V200-19-RS4-X for V570)			
CANbus	1 isolated port, Available by separate order (V100-17-CAN)						1 isolated built-in port	
MODBUS	Supports MODBUS serial/TCP/IP, Master/Slave							
GPRS / GSM	Programming, data acquisition and SMS, via wireless data transmission							
<b>General</b>								
PID	Up to 24 independent loops, including internal auto-tune, ramp-soak programmer and bumpless transfer							
Info Mode	Troubleshoot, view, and edit system data in real-time-directly from the HMI panel via built-in Info Mode screens. Supported by Remote Access							
Power supply	12/24VDC	24VDC						
Battery back-up	7 years typical at 77°F, , back-up for all memory sections and real-time clock (RTC).							
Dimensions	4.291 x 4.492 x 2.667"						7.756 x 5.772 x 2.697"	
Environment	NEMA4X/IP65 (for panel, when mounted)							

### Snap-in I/O Modules (For V570)

Article Number	V200-18-E1B	V200-18-E2B	V200-18-E3XB	V200-18-E4XB	V200-18-E5B
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>2</sup>	Two 10 kHz Inputs	Two 10 kHz Inputs	Two 10 kHz Inputs	Two 10 kHz Inputs	Two 10 kHz 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.	Four Isolated 14 bit Inputs, 0-10V, 0-20mA, 4-20mA.	Three 10 bit Inputs, 0-10V, 0-20mA, 4-20mA
Temperature Measurement	None	None	May also be set to Thermocouple or PT100 (Res. 0.1°)	May also be set to 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 / 1/2 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

<sup>1</sup> Certain inputs can function as either digital, analog, thermocouple or PT100 (model-dependent). Using those inputs, regardless of the combination among analog, thermocouple and PT100, will reduce the amount of free digital inputs.  
<sup>2</sup> Certain inputs can function as high-speed counters, shaft-encoder inputs, frequency measurers or normal digital inputs. In some of the models certain outputs can function as PWM outputs or normal digital outputs.

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