

Vision1040™ Color OPLC™

... An advanced PLC with an integrated color Touchscreen, plus Snap-in and Expansion I/Os ...



Color Vision1040™ Series Featuring:

PLC

- I/O options include high-speed, temperature & weight measurement
- Auto-tune PID, up to 24 independent loops
- Recipe programs and datalogging via Data Tables
- Micro SD card - log, backup, done, & more
- Time-based control in 3 clicks

Communication

- Ethernet via TCP/IP
- Web server: Use built-in HTML pages, or design complex pages to view and edit PLC data via the Internet
- Send e-mail function
- SMS messaging
- GPRS/GSM/CDMA enabled
- Remote Access utilities
- MODBUS protocol support

HMI

- Up to 1024 user-designed screens
- 500 images per application
- HMI graphs - color-code Trends
- Built-in alarm screens
- Text String Library—easy localization
- Troubleshoot via the HMI panel—no PC needed

- CANbus: CANopen, UniCAN, SAE J1939 & more
- DF1 Slave
- Ports: supplied with 2 isolated RS232/RS485 and 1 CANbus; 1 USB programming port; 1 port may be added for serial/Ethernet

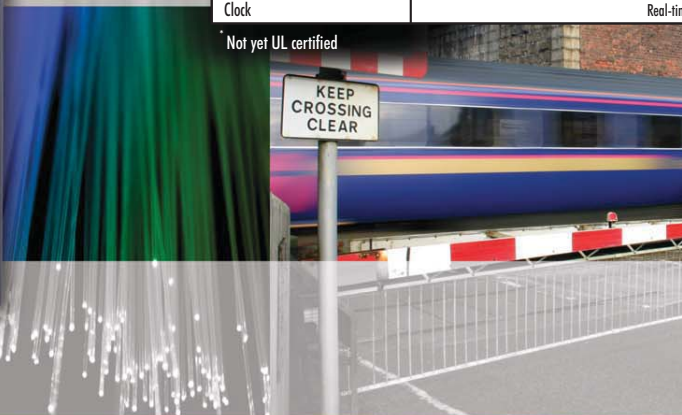


Get the big picture - Vision1040™ PLC & 10.4" touchscreen HMI

New!

Article Number	V1040-T20B*
I/O Options	
Snap-in I/O Modules	Plug these modules directly into the back of the Vision unit to create a self-contained PLC with up to 62 I/Os. Inputs may include Digital, Analog and Temperature Measurement. Outputs may include Transistor, Relay or Analog (sold separately).
I/O Expansion	Local or Remote I/Os may be added via expansion port or via CANbus
Program	
Application Memory	Application Logic: 2MB • Images: 32MB • Fonts: 1MB
Scan Time	9µsec per 1K of typical application
Memory Operands	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, 256 X-long integers, 64 X-double words
Data Tables	120K dynamic RAM data (recipe parameters, datalogs, etc.), up to 256K Flash data
SD Card (Micro)	Store datalogs, Alarm History, Data Tables, Trend data, export to Excel • Back up Ladder, HMI & OS, clone PLCs
USB	1 USB programming port (Mini-B)
Enhanced Features	Trends: graph any value and display on HMI • Built-in Alarm management system • String Library: instantly switch HMI language
Operator Panel	
Type	TFT LCD
Display Backlight Illumination	white LED
Colors	65,536 colors, 16-bit resolution • Brightness- Adjustable via touchscreen or software
Display Resolution & Size	800 x 600 pixels (SVGA), 10.4"
Touchscreen	Resistive, Analog
Keyboard	
Number of keys	9 programmable function keys
General	
Power Supply	12/24VDC
Battery	7 years typical at 25°C, battery back-up for all memory sections and RTC
Environment	IP65/NEMA4X (when panel mounted)
Clock	Real-time clock functions (date and time)

Not yet UL certified



I/O Expansion Modules

Snap-in I/O Modules



Expand your system with local or remote I/O expansion modules¹. Vision series support both local & remote I/O modules. M90/M91² support local modules only.

Digital Modules

IO-D18-TO8	IO-D18-RO4	IO-D18-RO8	EX90-D18-RO8 ³	IO-DI16
24VDC 8 Digital Inputs, pnp/npn, including one High-speed Counter 8 pnp Transistor Outputs	24VDC 8 Digital Inputs, pnp/npn, including one High-speed Counter 4 Relay Outputs	24VDC 8 Digital Inputs, pnp/npn, including one High-speed Counter 8 Relay Outputs	24VDC 8 Digital Inputs, pnp, including one High-speed Counter 8 Relay Outputs	24VDC 16 Digital Inputs, pnp/npn, including one High-speed Counter
IO-TO16	IO-RO8	IO-RO16	IO-DI8ACH	
24VDC 16 pnp Transistor Outputs	24VDC (power supply) 8 Relay Outputs	24VDC (power supply) 16 Relay Outputs	110/220 VAC 8 AC Inputs	



Analog, Temperature and Weight/Strain Measurements

IO-A14-AO2	IO-PT400	IO-PT4K		
24VDC (power supply) 4 Analog Inputs 12-bit, 0-10V, 0-20mA, 4-20mA, 2 Analog Outputs, 12-bit + sign, ±10V, 0-20mA, 4-20mA	4 PT100/NI100/NI120 Inputs Range PT100: -50°C ÷ 460°C (-58°F ÷ 860°F) Range NI100: -50°C ÷ 232°C (-58°F ÷ 449°F) Range NI120: -50°C ÷ 172°C (-58°F ÷ 341°F) 12-bit	4 PT1000/NI1000 Inputs Range PT1000: -50°C ÷ 460°C (-58°F ÷ 860°F) Range NI1000: -50°C ÷ 232°C (-58°F ÷ 449°F) 12-bit		
IO-AO6X	IO-LC1 ⁴	IO-LC3 ⁴	IO-ATC8	IO-AI8 ⁶
24VDC (power supply) 6 Isolated Analog Outputs 0-10V, 0-20mA, 4-20mA 12-bit	12/24VDC (Power Supply) 1-3 Loadcell / Strain gauge Inputs Input voltage ranges: ±20mV, ±80mV Excitation: AC/DC 1 Digital pnp Input 2 pnp Outputs Not supported by all OPLCs™	8 Thermocouple/ Analog Inputs T/C J, K, T, B, E, N, R, S, 0.1 ¹⁰ Resolution, 0-10V, 0-20mA, 4-20mA, 12/14-bit	8 Analog Inputs 0 ÷ 10V / 0 ÷ 20mA 14-bit	

I/O Expansion Module Adapters

EX-A2X ¹
Local I/O module adapter. Galvanic isolation. Up to 8 modules may be connected to a single PLC ¹ . Supports both 12/24 VDC
EX-RC1 ⁵
Remote I/O module adapter, via CANbus. Multiple adapters may be connected to a single PLC, with up to 8 modules to each adapter ¹ . Supports both 12/24 VDC.

New!

- ¹ Number of I/Os may vary according to module
- ² Except for M90-19-B1A
- ³ The EX90 is housed in an open casing. Only one EX90 can be connected per PLC as single expansion module; Expansion adapter not required.
- ⁴ IO-LCx models are supported by the M91 & Vision series. Not supported by the M90 series.
- ⁵ EX-RC1 is supported by Vision series. Not supported by M91 series.
- ⁶ Not yet UL certified.

* Additional 12VDC models are listed on Utronics web site.

XL Digital/Analog Modules⁶

IO-D16A3-RO16	IO-D16A3-TO16	EX-D16A3-RO8	EX-D16A3-TO16
24VDC, 16 Digital Inputs pnp/npn, including two High-speed Counters, 3 Analog Inputs, 10-bit, 0-20mA, 4-20mA, 16 Relay Outputs	24VDC, 16 Digital Inputs pnp/npn, including one High-speed Counter, 3 Analog Inputs, 10-bit, 0-20mA, 4-20mA, 15 pnp + 1 pnp/npn Transistor Outputs including 1 HSO	24VDC, built-in Expansion Module Adapter, 16 Digital Inputs, pnp/npn, including two High-speed Counters, 3 Analog Inputs 10-bit, 0-20mA, 4-20mA, 8 Relay Outputs	24VDC, built-in Expansion Module Adapter, 16 Digital Inputs, pnp/npn, including one High-speed Counter, 3 Analog Inputs 10-bit, 0-20mA, 4-20mA, 15 pnp + 1 pnp/npn Transistor Outputs including 1 HSO

Plug a Snap-in module directly into the back of a Vision PLC. Compatible with all V200, V500 and V1040 (V2XX, V5XX, V1040) Vision models.

New!

Article No.	V200-18-E1B	V200-18-E2B	V200-18-E3XB	V200-18-E4XB	V200-18-E5B	V200-18-E6B ¹	V200-18-E62B ¹
Digital Inputs (isolated)	16 nnp/pnp (including 2 Shaft-encoder inputs)	16 nnp/pnp (including 2 Shaft-encoder inputs)	18 nnp/pnp (including 2 Shaft-encoder inputs)	18 nnp/pnp (including 2 Shaft-encoder inputs)	18 nnp/pnp (including 2 Shaft-encoder inputs)	18 nnp/pnp (including 2 Shaft-encoder inputs)	30 nnp/pnp (including 2 Shaft-encoder inputs)
Analog Inputs	3 10-bit 0-10V, 0-20mA 4-20mA	2 10-bit 0-10V, 0-20mA 4-20mA	4 isolated 12-14-bit (software dependent) 0-10V, 0-20mA 4-20mA and/or 4 TC/PT100	4 isolated 12-14-bit (software dependent) 0-10V, 0-20mA 4-20mA and/or 4 TC/PT100	3 10-bit 0-10V, 0-20mA 4-20mA	3 10-bit 0-10V, 0-20mA 4-20mA & 2 14-bit 0-10V, 0-20mA 4-20mA and/or 2 TC/PT100	2 10-bit 0-10V, 0-20mA 4-20mA
Temperature Measurement	None	None	4 TC/PT100	4 TC/PT100	None	2 TC/PT100	None
Digital Outputs (isolated)	4 nnp/pnp (including 2 High-speed outputs)	4 nnp/pnp (including 2 High-speed outputs)	2 nnp/pnp High-speed	17 nnp/pnp (including 2 High-speed)	15 pnp, 2 nnp/pnp (including 2 High-speed)	2 nnp/pnp High-speed	28 pnp 2 nnp/pnp High-speed
Relay Outputs (isolated)	10	10	15	None	None	15	None
Analog Outputs	None	2 12-bit 0-10V, 0-20mA 4-20mA	4 12-bit 0-10V, 4-20mA isolated	4 12-bit 0-10V, 4-20mA isolated	None	2 12-bit 0-10V, 4-20mA isolated	None

¹ V200-18-E6B, V200-18-E62B is not yet UL certified



Additional COM Module

Use these modules to enhance Vision's communication capabilities¹

Ethernet	RS232/RS485	Isolated RS232/RS485	CANbus
V100-17-ET2 (for V130 and V350 series) V200-19-ET1 (for V200, V500 and V1040 series)	V100-17-RS4 (for V130 and V350 series) V200-19-RS4 (for V200, V500 and V1040 series)	V100-17-RS4X (for V130 and V350 series) V200-19-RS4-X (for V200, V500 and V1040 series)	V100-17-CAN (for V130 and V350 series)

¹ V200/V500/V1040: 1 optional port for serial or Ethernet, V130/V350: 1 optional port for serial or Ethernet & 1 optional port for CANbus

A single, integrated programming environment - Free of charge!

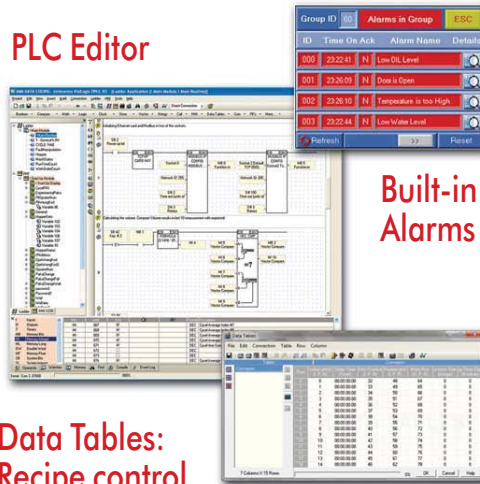
Software Utilities: Added Value - Free of charge!

Easy Hardware Configuration



- Select base PLC
- Configure I/Os

PLC Editor



Built-in Alarms

Data Tables: Recipe control

- Click & drop Ladder elements
- Modular program function: create & call subroutines
- Built-in function blocks save code & simplify tasks

Intuitive HMI Design



String Library: instantly switch HMI language

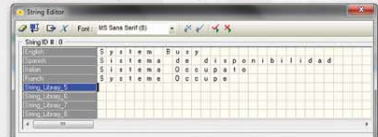


Image Library

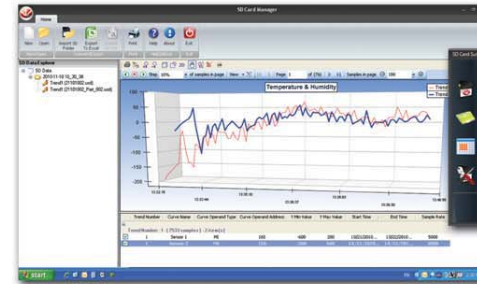
- Assign functions to HMI keys
- Create & conditionally display operator messages
- Assign "Touch" properties to any screen element
- Use color images & graph to reflect variable values & trends



* Note that graphics are supported by the Vision series; (Touch Library, & Alarms are supported by the Enhanced features, String Vision series.)

* Note that software features are PLC model-dependent

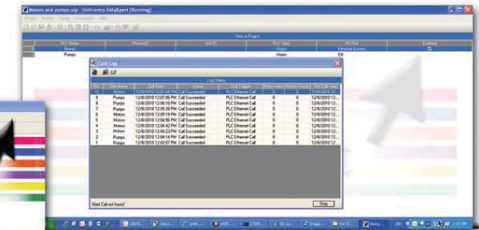
Remote Access & Operator: PC to PLC access/control via modem or network, view multiple operator panels



SD Card Suite: Manage data— Trends, Alarms, Data Table; remotely read/write data to SD Card

DataXport:

Log run-time/stored Data Table data, export to Excel



- UniOPC/UniDDE Server: Communicate with SCADA/Windows applications
- UniDownload Manager: Download multiple, compressed PLC applications simultaneously
- UniVision Licensing: Protect your Intellectual Property
- ActiveX & .NET communication driver - Easily implement communication between PLC and PC applications

Free Technical Support

- ☎ When you call Unitronics Technical Support, you speak to an actual Support Team expert
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