Vision™ OPLC™

Technical Specifications
V1040-T20B

V1040 OPLCs are programmable logic controllers that comprise a built-in operating panel containing a 10.4" Color Touchscreen. The V1040 offers function keys along with a virtual alpha-numeric keyboard which is automatically displayed when the application requires the operator to enter data. You can find additional documentation on the Unitronics' Setup CD and in the Technical Library at www.unitronics.com.

Technical Specifications

Power Supply	
Input voltage	12 or 24VDC
Permissible range	10.2-28.8VDC
Max. current consumption	840mA@12V 420mA@24V

Battery	
Back-up	7 years typical at 25°C, battery back-up for RTC and system data, including variable data.
Replaceable	Yes, without opening the controller.

Graphic Display Screen	See Note 1
LCD Type	TFT
Illumination backlight	White LED
Display resolution, pixels	800x600 (SVGA)
Viewing area	10.4"
Colors	65,536 (16-bit)
Touchscreen	Resistive, analog
'Touch' indication	Via buzzer
Screen brightness	Via software (Store value to SI 9).
Keypad	Displays virtual keyboard when the application requires data entry.

Notes:

1. Note that the LCD screen may have a single pixel that is permanently either black or white.

Keypad	
Number of keys	9 programmable function keys
Key type	Metal dome, sealed membrane switch

Program

Memory size	Application Logic – 2MB, Images – 80MB, Fonts – 1MB		
Operand type	Quantity	Symbol	Value
Memory Bits	8192	MB	Bit (coil)
Memory Integers	4096	MI	16-bit
Long Integers	512	ML	32-bit
Double Word	256	DW	32-bit unsigned
Memory Floats	64	MF	32-bit
Timers	384	T	32-bit
Counters	32	C	16-bit
Data Tables	120K dynamic RAM data (recipe parameters, datalogs, etc.) Up tp 256K Flash data		
HMI displays	Up to 1024		
Program scan time	9 µsec per 1K of typical application		

Removable Memory

Micro-SD card	Compatible with fast micro-SD cards; store datalogs, Alarms, Trends, Data Tables, backup Ladder, HMI, and OS. See Note 2

Notes:

2. User must format via Unitronics SD tools utility.

Communication

Serial ports	2. See Note 3
RS232	
Galvanic isolation	Yes
Voltage limits	±20VDC absolute maximum
Baud rate range	300 to 115200 bps
Cable length	Up to 15m (50')
RS485	
Galvanic isolation	Yes
Voltage limits	–7 to +12VDC differential maximum
Baud rate range	300 to 115200 bps
Nodes	Up to 32
Cable type	Shielded twisted pair, in compliance with EIA RS485
Cable length	1200m maximum (4000')
USB	See Note 4
Port type	Mini-B
Galvanic isolation	No
Specification	USB 2.0 compliant; full speed
Baud rate range	300 to 115200 bps
Cable	USB 2.0 compliant; up to 3m

CANbus port	1	
Nodes	CANopen	Unitronics' CANbus protocols
	127	60
Power requirements	24VDC (±4%), 40mA max. per unit. See Note 5	

Galvanic isolation	Yes, between CANbus and controller		
Cable length/baud rate	25 m	1 Mbit/s	
See Note 5	100 m	500 Kbit/s	
	250 m	250 Kbit/s	
	500 m	125 Kbit/s	
	500 m	100 Kbit/s	
	1000 m*	50 Kbit/s	* If you require cable lengths over 500 meters, contact technical support.
	1000 m*	20 Kbit/s	
Optional port	User may install a single Ethernet port, or an RS232/RS485 port. Available by separate order.		

Notes:

3. The standard for each port is set to either RS232/RS485 according to DIP switch settings. Refer to the Installation Guide.
4. The USB port may be used for programming, OS download, and PC access. Note that COM port 1 function is suspended when this port is physically connected to a PC.
5. Supports both 12 and 24VDC CANbus power supply, (±4%), 40mA maximum per unit. Note that if 12 VDC is used, the maximum cable length is 150 meters.

I/Os

	Number of I/Os and types vary according to module. Supports up to 1024 digital, high-speed, and analog I/Os.
Snap-in I/O modules	Plugs into rear port to create self-contained PLC with up to 62 I/Os.
Expansion modules	Local adapter (P.N. EX-A1), via I/O Expansion Port. Integrate up to 8 I/O Expansion Modules comprising up to 128 additional I/Os.
	Remote adapter (P.N. EX-RC1), via CANbus port. Connect up to 60 adapters; connect up to 8 I/O expansion modules to each adapter.
Exp. port isolation	Galvanic

Dimensions

Size	289X244.5X59.1mm (11.37"X9.62"X2.32"). See Note 6
Weight	1.5kg (52.9 oz)

Notes:

6. For exact dimensions, refer to the product's Installation Guide.

Mounting

Panel-mounting	Via brackets

Environment

Inside cabinet	IP20 / NEMA1 (case)
Panel mounted	IP65 / NEMA4X (front panel)
Operational temperature	0 to 50ºC (32 to 122ºF)
Storage temperature	-20 to 60ºC (-4 to 140ºF)
Relative Humidity (RH)	5% to 95% (non-condensing)