

This guide provides specifications for Unitronics' models V230-13-B20B, V280-18-B20B, V290-19-B20B.

You can find additional information in the Technical Library at [www.unitronics.com](http://www.unitronics.com).

### Technical Specifications

#### Power Supply

Input voltage	12VDC or 24VDC
Permissible range	10.2VDC to 28.8VDC with less than 10% ripple
Max. current consumption	

	V230	V280	V290
@12VDC	280mA	540mA	470mA
@24VDC	140mA	270mA	230mA
Typical power consumption	2.5W	5.4W	5.1W

#### Battery

Back-up	7 years typical at 25°C, battery back-up for RTC and system data, including variable data.
Replacement	Yes. Refer to instructions in the document: <i>Replacing a Battery V230-280-290.pdf</i> , available from Unitronics' Technical Library.

#### Graphic Display Screen

	V230	V280	V290
LCD Type	STN	Graphic B&W FSTN	
Illumination backlight	LED yellow-green	CCFL fluorescent lamp	
Display resolution, pixels	128x64	320x240 (QVGA)	
Viewing area	3.2"	4.7"	5.7"
Touchscreen	None	Resistive, analog	
'Touch' indication	None	Software (SB16)	Software (SB16); Via buzzer
Screen contrast	Manually adjusted. Refer to VisiLogic Help topic: <i>Setting LCD Contrast/Brightness</i>	Via software (Store value to SI 7). Refer to VisiLogic Help topic: <i>Setting LCD Contrast/Brightness</i>	

#### Keyboard

	V230	V280	V290
Number of keys	24	27	none (virtual)
	Includes soft keys and alphanumeric keypad		
Key type	Metal dome, sealed membrane switch		none
Slides	Picture, alphanumeric keypad, and Function keys		none

**Program**

Application memory	1MB		
Operand type	Quantity	Symbol	Value
Memory Bits	4096	MB	Bit (coil)
Memory Integers	2048	MI	16-bit signed/unsigned
Long Integers	256	ML	32-bit signed/unsigned
Double Word	64	DW	32-bit unsigned
Memory Floats	24	MF	32-bit signed/unsigned
Timers	192	T	32-bit
Counters	24	C	16-bit
Data Tables	120K (dynamic)/192K (static)		
HMI Displays	Up to 255		
Scan Time	30μsec per 1K of typical application		

**Communication**

Serial Ports	2. See Note 1		
RS232			
Galvanic isolation	No		
Voltage limits	±20V absolute maximum		
Baud rate range	COM1	COM2	
	300 to 57600 bps	300 to 115200 bps	
Cable length	Up to 15m (50')		
RS485			
Galvanic isolation	No		
Voltage limits	-7 to +12V differential maximum		
Baud rates	300 to 115200 bps		
Nodes	Up to 32		
Cable type	Shielded twisted pair, in compliance with EIA RS485		
Cable length	Up to 1200m (4000')		
CANbus port	1		
Nodes	CANopen	Unitronics' CANbus protocols	
	127	60	
Power requirements	24VDC (±4%), 40mA max. per unit		
Galvanic isolation	Yes, between CANbus and controller		
Cable length/ baud rate	25 m	1 Mbit/s	
	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
	1000 m*	20 Kbit/s	meters, contact technical support.
Optional port	User may install an additional port, available by separate order. Available port types are: RS232/RS485, and Ethernet.		

**Notes:**

1. COM1 supports RS232 only.  
COM2 may be set to either RS232/RS485 according to jumper settings as shown in the product's Installation Guide. Factory setting: RS232.

**I/Os**

Via module	Number of I/Os and types vary according to module. Supports up to 256 digital, high-speed, and analog I/Os.
Snap-in I/O modules	Plugs into rear port to create self-contained PLC with up to 43 I/Os.
Expansion modules	Local adapter, via I/O Expansion Port. Integrate up to 8 I/O Expansion Modules comprising up to 128 additional I/Os. Remote I/O adapter, via CANbus port. Connect up to 60 adapters; connect up to 8 I/O expansion modules to each adapter.

**Dimensions**

Size	See mechanical drawings in the document <i>V230_280_290 Installation Guide.pdf</i> , available from Unitronics' Technical Library.		
	<b>V230</b>	<b>V280</b>	<b>V290</b>
Weight	429g (15.1 oz)	860g (30.4 oz)	840g (29.7 oz)

**Mounting**

Panel-mounting	Via brackets
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**Environment**

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

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