Vision™PLC+HMI

V130-33-B1/V130-J-B1
V350-35-B1/V350-J-B1
V430-J-B1
Technical Specifications

Order Information

Item	
V130-33-B1	PLC with Classic panel, Monochrome display 2.4"
V130-J-B1	PLC with Flat panel, Monochrome display 2.4"
V350-35-B1	PLC with Classic panel, Color touch display 3.5''
V350-J-B1	PLC with Flat panel, Color touch display 3.5''
V430-J-B1	PLC with Flat panel, Color touch display 4.3''

You can find additional information, such as wiring diagrams, in the product's installation guide located in the Technical Library at www.unitronics.com.

Power Supply

Item	V130-B1 V130J-B1	V350-B1 V350J-B1	V430J-B1
Input voltage	12VDC or 24VDC		
Permissible range	10.2VDC to 28.8VDC with less than 10% ripple		
Max. current consumption	See Note 1		
	200mA@12VDC	220mA@12VDC	220mA@12VDC
	100mA@24VDC	110mA@24VDC	110mA@24VDC

Notes:

1. To calculate the actual power consumption, subtract the current for each unused element from the maximum current consumption value according to the values below:

	Input voltage	Backlight	Ethernet card
V130/J	12V	20mA	70mA
V350/J/V430J		40mA	70mA
V130/J	24V	10mA	35mA
V350/J/V430J		20mA	35mA

Graphic Display Screen

Item	V130-B1 V130J-B1	V350-B1 V350J-B1	V430J-B1
LCD Type	STN, LCD display	TFT, LCD display	TFT, LCD display
Illumination backlight	White LED	White LED	White LED
Display resolution	128x64 pixels	320x240 pixels	480x272 pixels
Viewing area	2.4"	3.5"	4.3"
Colors	Monochrome	65,536 (16-bit)	65,536 (16-bit)
Screen Contrast	Via software (Store value to SI 7, values range: 0 to 100%)	Fixed	Fixed
Touchscreen	None	Resistive, analog	Resistive, analog
'Touch' indication	None	Via buzzer	Via buzzer
Screen brightness control	Via software (Store value to SI 9, 0 = Off, 1 = On)	Via software (Store value to SI 9, values range: 0 to 100%)	
Virtual Keypad	None	Displays virtual keyboard when the application requires data entry.	

Keypad

Item	V130-B1 V130J-B1	V350-B1 V350J-B1	V430J-B1
Number of keys	20 keys, including 10 user-labeled keys	5 programmable function keys	
Key type	Metal dome, sealed membrane switch		
Slides	Slides may be installed in the operating panel faceplate to custom-label the keys. Refer to *V130 Keypad Slides.pdf*. A complete set of blank slides is available by separate order	Slides may be installed in the operating panel faceplate to custom-label the keys. Refer to *V350 Keypad Slides.pdf*. Two sets of slides are supplied with the controller: one set of arrow keys, and one blank set.	None

Program

Item	V130-B1 V130J-B1	V350-B1 V350J-B1	V430J-B1
Memory size			
Application Logic	512KB	1MB	1MB
Images	128KB	6MB	12MB
Fonts	128KB	512KB	512KB

Operand type	Quantity		Symbol	Value
Item	V130-B1 V130J-B1	V350-B1 V350J-B1 V430J-B1		
Memory Bits	4096	8192	MB	Bit (coil)
Memory Integers	2048	4096	MI	16-bit signed/unsigned
Long Integers	256	512	ML	32-bit signed/unsigned
Double Word	64	256	DW	32-bit unsigned
Memory Floats	24	64	MF	32-bit signed/unsigned
Fast Bits	1024	1024	XB	Fast Bits (coil) – not retained
Fast Integers	512	512	XI	16 bit signed/unsigned (fast, not retained)
Fast Long Integers	256	256	XL	32 bit signed/unsigned (fast, not retained)
Fast Double Word	64	64	XDW	32 bit unsigned (fast, not retained)
Timers	192	384	T	Res. 10 ms; max 99h, 59 min, 59.99s
Counters	24	32	C	32-bit
Data Tables	120K dynamic data (recipe parameters, datalogs, etc.) 192K fixed data (read-only data, ingredient names, etc) Expandable via SD card. See Removable Memory below			
HMI displays	Up to 1024			
Program scan time	20µs per 1kb of typical application	15µs per 1kb of typical application		

Removable Memory

Micro SD card	Compatible with standard SD and SDHC; up to 32GB 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 Ports

Port 1	1 channel, RS232/RS485 and USB device (V430/V350/V350J only). See Note 3
Galvanic isolation	No
Baud rate	300 to 115200 bps
RS232	
Input voltage	±20VDC absolute maximum
Cable length	15m maximum (50')
RS485	
Input voltage	-7 to +12VDC differential maximum
Cable type	Shielded twisted pair, in compliance with EIA 485
Cable length	1200m maximum (4000')
Nodes	Up to 32
USB device **(V430/V350/V350J only)**	
Port type	Mini-B, See Note 5
Specification	USB 2.0 complaint; full speed
Cable	USB 2.0 complaint; up to 3m
Port 2 (optional)	See Note 4
CANbus (optional)	See Note 4

Notes:

3. This model is supplied with a serial port: RS232/RS485 (Port 1). The standard is set to either RS232 or RS485 according to jumper settings. Refer to the product's Installation Guide.
4. The user may order and install one or both of the following modules:
   - An additional port (Port 2). Available port types: RS232/RS485 isolated/non-isolated, Ethernet
   - A CANbus port
   Port module documentation is available on the Unitronics website.
5. Note that physically connecting a PC to the controller via USB suspends RS232/RS485 communications via Port 1. When the PC is disconnected, RS232/RS485 resumes.

I/O Expansion

	Additional I/Os may be added. Configurations vary according to module. Supports digital, high-speed, analog, weight and temperature measurement I/Os.
Local	Via I/O Expansion Port. Integrate up to 8 I/O Expansion Modules comprising up to 128 additional I/Os. Adapter required (P.N. EX-A2X).
Remote	Via CANbus port. Connect up to 60 adapters to a distance of 1000 meters from controller; and up to 8 I/O expansion modules to each adapter (up to a total of 512 I/Os). Adapter required (P.N. EX-RC1).

Miscellaneous

Clock (RTC)	Real-time clock functions (date and time)
Battery back-up	7 years typical at 25°C, battery back-up for RTC and system data, including variable data
Battery replacement	Yes. Coin-type 3V, lithium battery, CR2450

Dimensions

Item		V130-B1 V130J-B1	V350-B1 V350J-B1	V430J-B1
Size	Vxxx	109 x 114.1 x 68mm (4.29 x 4.49 x 2.67"). See Note 6	109 x 114.1 x 68mm (4.29 x 4.49 x 2.67"). See Note 6	
	Vxxx-J	109 x 114.1 x 66mm (4.92 x 4.49 x 2.59"). See Note 6	109 x 114.1 x 66mm (4.92 x 4.49 x 2.59"). See Note 6	136 x 105.1 x 61.3mm (5.35 x 4.13 x 2.41"). See Note 6
Weight		255g (9 oz)	270g (9.5 oz)	300g (10.5 oz)

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

Environment

Operational temperature	0 to 50ºC (32 to 122ºF)
Storage temperature	-20 to 60ºC (-4 to 140ºF)
Relative Humidity (RH)	10% to 95% (non-condensing)
Mounting method	Panel mounted (IP65/66/NEMA4X)
	DIN-rail mounted (IP20/NEMA1)
Operating Altitude	2000m (6562 ft)
Shock	IEC 60068-2-27, 15G, 11ms duration
Vibration	IEC 60068-2-6, 5Hz to 8.4Hz, 3.5mm constant amplitude, 8.4Hz to 150Hz, 1G acceleration.