

This guide provides specifications for Unitronics' Micro-OPLC™ JZ20-R10 & JZ20-R16. You can find additional documentation on the Unitronics' Setup CD and in the Technical Library at [www.unitronics.com](http://www.unitronics.com).

## Technical Specifications

### Power supply

Input voltage	24VDC	
Permissible range	20.4-28.8VDC with less than 10% ripple	
Current Consumption	See Note 1	
	JZ20-R10	JZ20-R16
Max. current consumption	120mA@24VDC	136mA@24VDC
Typical power consumption	2.4W	2.6W

### Notes:

- To calculate the actual power consumption, subtract the current for each unused relay output and LCD backlight (if unused) from the maximum current consumption value.

	Per relay output	LCD backlight
Max. current per element	8.3mA@24VDC	35mA@24VDC

### Battery

Back-up	7 years typical at 25°C, battery back-up for RTC and system data, including variable data.
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### Digital Inputs

Number of inputs	JZ20-R10	JZ20-R16
	6 (one group) – see Note 2	8 (two groups) – see Notes 2 & 3
Input type	pnp (source) or npn (sink)	
Galvanic isolation	None	
Nominal input voltage	24VDC	
Input voltage		
pnp (source)	0-5VDC for Logic '0' 17-28.8VDC for Logic '1'	
npn (sink)	17-28.8VDC for Logic '0' 0-5VDC for Logic '1'	
	I0-I5	I6-I7
Input current	3.7mA@24VDC	1.2mA@24VDC
Response time	10mSec typical	20mSec typical
Input cable length	Up to 100 meters, unshielded	
High speed inputs	Specifications below apply when wired as H.S.C. See Note 4.	
Resolution	16-bit	
Frequency	10kHz maximum	
Minimum pulse width	40µs	

**Notes:**

2. Both JZ20-R10 and JZ20-R16 comprise I0-I5; these inputs are arranged in a single group. Via wiring, the entire group may be set to either pnp or npn.
3. Only JZ20-R16 comprises I6 & I7. These may be wired as either digital or analog inputs, as shown in the JZ20-R16 Micro PLC Installation guide. I6 & I7 may be wired as npn, pnp, or 0-10V analog inputs. 1 input may be wired as pnp, while the other is wired as analog. If 1 input is wired as npn, the other may **not** be wired as analog.
4. I0 and I1 can each function as either a high-speed counter or as a normal digital input. When used as a normal digital input, normal input specifications apply.

**Digital Outputs**

	JZ20-R10	JZ20-R16
Number of outputs	4 relay	6 relay
Output type	SPST-NO (Form A)	
Isolation	By relay	
Type of relay	Panasonic JQ1AP-24V or compatible	
Output current	5A maximum (resistive load)	
Rated voltage	250VAC / 24VDC	
Minimum load	1mA@5VDC	
Life expectancy	50k operations at maximum load	
Response time	10mS (typical)	
Contact protection	External precautions required (see Increasing Contact Life Span in the product's Installation Guide)	

**Analog Inputs**

	JZ20-R16 only	
Number of inputs	4, according to wiring as described above in Note 3	
	AN0 and AN1	AN2 and AN3
Input range	0-20mA, 4-20mA	0-10VDC
Input impedance	154Ω	20KΩ
Maximum input rating	30mA	28.8V
Galvanic isolation	None	
Conversion method	Successive approximation	
Resolution	10 or 12-bit (0 to 4095) (Via Software)	
Conversion time	20mSec, Synchronized to cycle time	
Precision	± 2%	
Status indication	Yes – if an analog input deviates above the permissible range, its value will be 4096.	
Input cable length	Up to 30 meters, shielded twisted pair	

**Display**

Type	STN LCD
Illumination backlight	LED, yellow-green, software controlled (LCD backlight; enables the display to be viewed in the dark)
Display size	2 lines, 16 characters long
Character size	5x8 matrix, 2.95x5.55mm

**Keyboard**

Number of keys	16 keys, including 10 user-labeled keys
Key type	Metal dome, sealed membrane switch
Slides	Slides may be installed in the operating panel faceplate to custom-label the keys and logo picture. An extra logo slide is included. A complete set of blank slides is available by separate order.

**Program**

	See Note 5
Ladder code memory	48K (virtual)
Execution time	1.5 $\mu$ Sec for bit operations (typical)
Memory bits (coils)	256
Memory integers (registers), 16 bit	256
Timers	64
HMI displays	60 user-designed displays available
HMI variables	64 HMI variables are available to conditionally display text and data. List variables add up to 1.5K's worth of HMI capacity.

**Communication**

GSM-support	Via a built in USB port or an Add-On module. See Note 5&6 SMS messages to/from 6 phone GSM numbers, up to 1K of user-designed messages. Supports Remote Access.
MODBUS	Supports MODBUS protocol, Master-Slave
Baud rate	According to add-on port module
USB	
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

**Notes:**

- The JZ20 features a built in USB port that can be used for programming; alternatively, different Add-On modules (not supplied with the JZ20) can be used for communication, unit cloning or programming. the controller must be installed with an add-on programming port module. Note that both kinds cannot be connected simultaneously.
- Adds on module JZ-PRG complete with 6-wires communication cable (supplied in PRG kit – see the JZ-PRG Installation Guide) can be used as alternative to USB port for programming. It can be used also for connecting to modem/GSM.  
Adds On module JZ-RS4 (RS232/485) can be used for programming (standard 4 wires cable) as alternative to USB port, as well as for communicating with 3rd party devices (including modems/GSM) and RS485 networking.

**Miscellaneous**

Clock (RTC)	Real-time clock functions (date and time).
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**Environmental**

Operating temperature	0° to 50°C (32° to 122°F)
Storage temperature	-20° to 60° C (-4° to 140°F)
Relative humidity (RH)	10% to 95% (non-condensing)
Mounting method	Panel mounted (IP65/NEMA4X) DIN-rail mounted (IP20/NEMA1)

**Dimensions**

Size	197X146.6X68.5mm (7.75" X 5.77" X2.7"). See Note 7
Weight	300 g (10.6 oz)

**Notes:**

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

**Mounting**

Panel mounting	Insert into cut-out: 117 x 89mm (WxH) 4.606"x 3.504"
DIN-rail mounting	Snap unit onto the DIN rail

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