JAZZ OPLC™

Technical Specifications

Model JZ20-R31/JZ20-J-R31

This guide provides specifications for Unitronics' Jazz™ Micro-OPLC™ JZ20-R31/JZ20-J-R31. 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	24VDC
Permissible range	20.4VDC to 28.8VDC with less than 10% ripple
Current Consumption	See Note 1
Max. current consumption	160mA@24VDC
Typical power consumption	2.8W

Notes:

1. 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	5.5mA@24VDC	35mA@24VDC

Battery

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

Digital Inputs

Number of inputs	18 (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-I15	I16-I17
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. Inputs I0-I15 are arranged in a single group. Via wiring, the entire group may be set to either pnp or npn.
3. I16 & I17 may be wired as either digital or analog inputs, as shown in the product's installation guide. I16 & I17 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

Number of outputs	11 relay (in two groups) – See Note 5
Output type	SPST-NO (Form A)
Isolation	By relay
Type of relay	Tyco PCN-124D3MHZ or compatible
Output current	3A maximum per output (resistive load) 8A maximum total for common
Rated voltage	250VAC / 30VDC
Minimum load	1mA@5VDC
Life expectancy	100k operations at maximum load
Response time	10mS (typical)
Contact protection	External precautions required (see Increasing Contact Life Span in the product's Installation Guide)

Notes:

5. Outputs O0-O5 share a common signal.
   Outputs O6-O10 share a common signal.

Analog Inputs

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	Succesive approximation
Resolution	10 or 12-bit (0 to 4095) (Via Software)
Conversion time	All analog inputs are updated every 8 PLC scans, regardless of how many inputs are actually configured.
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 6
Ladder code memory	48K (virtual)
Execution time	1.5 µSec 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	Via a built-in USB port or - Add-On module.See Note 6-9
GSM-support	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:

6. The JZ20 built-in USB port may be used for programming. Add-on Modules are available by separate order for communication and cloning. Note that the USB port and an Add-on module cannot be physically connected at the same time
7. Add-on module JZ-PRG, with 6-wires communication cable (supplied in PRG kit – see the JZ-PRG Installation Guide) can be used:
   - for programming
   - to connect a modem
8. Add-on module JZ-RS4 (RS232/485), with a standard 4-wire communication cable can be used:
   - for programming
   - to communicate with other devices (including modems/GSM)
   - for RS485 networking.
9. Add-on module MJ20-ET1 enables communication over 100 Mbit/s TCP/IP network:
   - Programming/data exchange with Unitronics software;
   - Data exchange via MODBUS TCP as Master or Slave.

Miscellaneous	
Clock (RTC)	Real-time clock functions (date and time).
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	147.5X117X46.6mm (5.807" X 4.606" X 1.835"). See Note 10
Weight	300 g (10.6 oz)

Notes:

10. 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

DOC05006-B3 01/14