
## Technical Specifications

### Power supply

- **Input voltage**: 24VDC
- **Permissible range**: 20.4VDC to 28.8VDC with less than 10% ripple
- **Current Consumption**
  - 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.

<table>
<thead>
<tr>
<th>Max. current per element</th>
<th>Per relay output</th>
<th>LCD backlight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.5mA@24VDC</td>
<td>35mA@24VDC</td>
</tr>
</tbody>
</table>

### 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’

<table>
<thead>
<tr>
<th></th>
<th>I0-I15</th>
<th>I16-I17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input current</td>
<td>3.7mA@24VDC</td>
<td>1.2mA@24VDC</td>
</tr>
<tr>
<td>Response time</td>
<td>10mSec typical</td>
<td>20mSec typical</td>
</tr>
</tbody>
</table>

- **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

<table>
<thead>
<tr>
<th>Input Range</th>
<th>AN0 and AN1</th>
<th>AN2 and AN3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20mA, 4-20mA</td>
<td>0-10VDC</td>
<td></td>
</tr>
</tbody>
</table>

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: 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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladder code memory</td>
<td>48K (virtual)</td>
</tr>
<tr>
<td>Execution time</td>
<td>1.5 µSec for bit operations (typical)</td>
</tr>
<tr>
<td>Memory bits (coils)</td>
<td>256</td>
</tr>
<tr>
<td>Memory integers (registers), 16 bit</td>
<td>256</td>
</tr>
<tr>
<td>Timers</td>
<td>64</td>
</tr>
<tr>
<td>HMI displays</td>
<td>60 user-designed displays available</td>
</tr>
<tr>
<td>HMI variables</td>
<td>64 HMI variables are available to conditionally display text and data. List variables add up to 1.5K’s worth of HMI capacity.</td>
</tr>
</tbody>
</table>

### Communication

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Via a built-in USB port or - Add-On module</td>
<td>See Note 6-9</td>
</tr>
<tr>
<td>GSM-support</td>
<td>SMS messages to/from 6 phone GSM numbers, up to 1K of user-designed messages. Supports Remote Access.</td>
</tr>
<tr>
<td>MODBUS</td>
<td>Supports MODBUS protocol, Master-Slave</td>
</tr>
<tr>
<td>Baud rate</td>
<td>According to add-on port module</td>
</tr>
<tr>
<td>USB</td>
<td>Port type: Mini-B</td>
</tr>
<tr>
<td></td>
<td>Galvanic isolation: No</td>
</tr>
<tr>
<td></td>
<td>Specification: USB 2.0 compliant; full speed</td>
</tr>
<tr>
<td></td>
<td>Baud rate range: 300 to 115200 bps</td>
</tr>
<tr>
<td></td>
<td>Cable: USB 2.0 compliant; up to 3m</td>
</tr>
</tbody>
</table>

### 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 |

The information in this document reflects products at the date of printing. Unitronics reserves the right, subject to all applicable laws, at any time, at its sole discretion, and without notice, to discontinue or change the features, designs, materials and other specifications of its products, and to either permanently or temporarily withdraw any of the foregoing from the market.

All information in this document is provided "as is" without warranty of any kind, either expressed or implied, including but not limited to any implied warranties of merchantability, fitness for a particular purpose, or non-infringement. Unitronics assumes no responsibility for errors or omissions in the information presented in this document. In no event shall Unitronics be liable for any special, incidental, indirect or consequential damages of any kind, or any damages whatsoever arising out of or in connection with the use or performance of this information.

The tradenames, trademarks, logos and service marks presented in this document, including their design, are the property of Unitronics (1989) (R) Ltd. or other third parties and you are not permitted to use them without the prior written consent of Unitronics or such third party as may own them.