

**JZ10-11-UA24****9 Digital, 2 Analog/Digital, 2 Analog, 2 PT100/TC Inputs,  
5 Relay, 2 pnp, 2 Analog Outputs****JZ10-11-UN20****9 Digital, 2 Analog/Digital, 1 Analog, 1 PT100/TC Inputs,  
5 Relay, 2 pnp Outputs****Micro-OPLC Technical Specifications****Power supply**

|                          |  |              |
|--------------------------|--|--------------|
| Input voltage            | 24VDC  |              |
| Permissible range        | 20.4VDC to 28.8VDC with less than 10% ripple |              |
| Current Consumption      | See Note 1                                   |              |
|                          | JZ10-11-UA24                                 | JZ10-11-UN20 |
| Max. current consumption | 230mA@24VDC                                  | 185mA@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:

|                          | Per relay output | LCD backlight | Per Analog Output,<br>(JZ10-11-UA24 only) |
|--------------------------|------------------|---------------|---|
| Max. current per element | 5.5mA@24VDC      | 35mA@24VDC    | 23mA                                      |

**Digital Inputs**

|                       |   |                |
|-----------------------|---|----------------|
| Number of inputs      | 11 (Two groups) – see Note 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'<br>17-28.8VDC for Logic '1'            |                |
| npn (sink)            | 17-28.8VDC for Logic '0'<br>0-5VDC for Logic '1'            |                |
|                       | I0-I8   | I9-I10         |
| 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             | 5kHz maximum  |                |
| Minimum pulse width   | 80µs  |                |

**Notes:**

2. Both JZ10-11- UA24 and JZ10-11-UN20 comprise I0-I8; these inputs are arranged in a single group. Via wiring, the entire group may be set to either pnp or npn.
3. Both JZ10-11-UA24 and JZ10-11-UN20 comprises I9 & I10. These may be wired as either digital or analog inputs, as shown in the JZ10-11- UA24 and JZ10-11-UN20 Micro PLC Installation guides. I9 & I10 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 can 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**

Relay

|                    |  |
|--------------------|--|
| Number of Outputs  | 5  |
| Output type        | SPST-NO (Form A)   |
| Galvanic isolation | By relay   |
| Type of relay      | Tyco pcn-124D3MHZ or compatible  |
| Output current     | 3A maximum per output (resistive load)<br>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) |

Transistor

|                                 |  |
|---------------------------------|--|
| Number of Outputs               | 2 pnp (source) – see Note 5                            |
| Output type                     | P-MOSFET (open drain)                                  |
| Galvanic isolation              | None   |
| Output current (resistive load) | 0.5A maximum per output<br>1A maximum total for common |
| Maximum frequency               | 50Hz (resistive load)<br>2Hz (inductive load)          |
| PWM frequency                   | 1.57Hz, 8 bit duty cycle resolution                    |
| Short circuit protection        | Yes  |
| Short circuit indication        | Via software   |
| On voltage drop                 | 0.5VDC maximum   |

Power supply for outputs

|                   |                 |
|-------------------|-----------------|
| Operating voltage | 20.4 to 28.8VDC |
| Nominal voltage   | 24VDC           |

**Notes:**

5. Outputs 05-06 can function as a PWM output, or as a normal digital output.

**Analog Inputs**

|                            | JZ10-11- UA24  |             | JZ10-11- UN20     |             |
|----------------------------|--|-------------|-------------------|-------------|
|                            | 4<br>AN2 and AN3   | AN4 and AN5 | 3<br>AN1          | AN2 and AN3 |
| Number of inputs           |  |             |                   |             |
| Input range                | 0-20mA,<br>4-20mA  | 0-10VDC     | 0-20mA,<br>4-20mA | 0-10VDC     |
| Input impedance            | 154Ω   | 20KΩ        | 154Ω              | 20KΩ        |
| Maximum input rating       | 30mA   | 28.8V       | 30mA              | 28.8V       |
| Galvanic isolation         | None   |             |                   |             |
| Conversion method          | Successive approximation   |             |                   |             |
| Resolution (except 4-20mA) | 10-bit (0 to 1023)   |             |                   |             |
| Resolution (at 4-20mA)     | 204 to 1023 (820 units)  |             |                   |             |
| Conversion time            | 20mSec per channel, Synchronized to cycle time   |             |                   |             |
| Precision                  | ± 3%   |             |                   |             |
| Status indication          | Yes – if an analog input deviates above the permissible range, its value will be 1024. |             |                   |             |
| Input cable length         | Up to 30 meters, shielded twisted pair   |             |                   |             |

| RTD Inputs         |  |               |
|--------------------|--|---------------|
| Number of inputs   | JZ10-11- UA24  | JZ10-11- UN20 |
|                    | 2  | 1             |
| RTD Type           | PT100  |               |
| Input range        | -200 to 600°C/-328 to 1100°F. 1 to 320Ω. See Note 6          |               |
| Galvanic isolation | None   |               |
| Conversion method  | Voltage to frequency   |               |
| Resolution         | 0.1°C/0.1°F - See Note 7                                     |               |
| Conversion time    | 300mS minimum per channel, depending on software filter type |               |
| Input impedance    | >10MΩ  |               |
| Auxillary current  | 150μA typical  |               |
| Full-scale error   | ±0.4%  |               |
| Linearity error    | ±0.04%   |               |
| Status indication  | Yes. See Note 8  |               |

- Notes:
6.

The device can also measure resistance within the range of 1-320Ω at a resolution of 0.1Ω.
7.

The input analog value represents the temperature value as follows:  
Analog Value: 260                      Actual measured temperature: 26.0°C
8.

The analog value can indicate faults as shown below:

| Value  | Possible Cause   |
|--------|--|
| 32767  | Sensor is not connected to input, or value exceeds permissible range |
| -32767 | Sensor is short-circuited  |

| Thermocouple Inputs              |  |               |
|----------------------------------|--|---------------|
| Number of inputs                 | JZ10-11- UA24  | JZ10-11- UN20 |
|                                  | 2  | 1             |
| Input range                      | See Note 9   |               |
| Isolation                        | None   |               |
| Conversion method                | Voltage to frequency   |               |
| Resolution                       | 0.1°C/ 0.1°F maximum. See Note 10                            |               |
| Conversion time                  | 100mS minimum per channel, depending on software filter type |               |
| Input impedance                  | >10MΩ  |               |
| Cold junction compensation       | Local, automatic   |               |
| Cold junction compensation error | ±1.8°C / ±3.24°F maximum                                     |               |
| Absolute maximum rating          | ±0.6VDC  |               |
| Full-scale error                 | ±0.4%  |               |
| Linearity error                  | ±0.04%   |               |
| Warm-up time                     | ½ hour typically, ±1°C/±1.8°F repeatability                  |               |
| Status indication                | Yes. See Note 11   |               |

**Notes:**

9. The device can also measure voltage within the range of -5 to 56mV, at a resolution of 0.01mV. The device can also measure raw value frequency at a resolution of 14-bits (16384). Input ranges are shown in the following table:

| Type | Temp. Range                     | Type | Temp. Range                     |
|------|---------------------------------|------|---------------------------------|
| mV   | -5 to 56mV                      | N    | -200 to 1300°C (-328 to 3214°F) |
| B    | 200 to 1820°C (300 to 3276°F)   | R    | 0 to 1768°C (32 to 3214°F)      |
| E    | -200 to 750°C (-328 to 1382°F)  | S    | 0 to 1768°C (32 to 3214°F)      |
| J    | -200 to 760°C (-328 to 1400°F)  | T    | -200 to 400°C (-328 to 752°F)   |
| K    | -200 to 1250°C (-328 to 2282°F) |      |                                 |

10. The input analog value represents the temperature value as follows:  
Analog Value: 260                      Actual measured temperature: 26.0°C
11. The analog value can indicate faults as shown below:

| Value  | Possible Cause   |
|--------|--|
| 32767  | Sensor is not connected to input, or value exceeds the maximum value |
| -32767 | Sensor value is under the minimum value                              |

|                          |  |
|--------------------------|--|
| <b>Analog Outputs</b>    | (JZ10-11-UA24 only)  |
| Number of Outputs        | 2  |
| Output range             | ±10V, 4-20mA   |
| Resolution               | 12-bit sign(8192 units) for ±10V<br>12-bit (4096 units) for 4-20mA |
| Conversion time          | Synchronized to scan time.   |
| Load impedance           | 1kΩ minimum—voltage<br>500Ω maximum—current                        |
| Galvanic isolation       | None   |
| Linearity error          | ±0.1%  |
| Operational error limits | ±0.2%  |

|                        |   |
|------------------------|---|
| <b>Display</b>         |   |
| Type                   | STN LCD   |
| Illumination backlight | LED, yellow-green, software controlled<br>(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   |

|                 |   |
|-----------------|---|
| <b>Keyboard</b> |   |
| 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. |

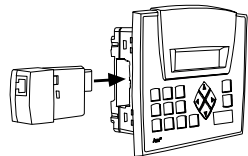
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|-------------------------------------|--|
| <b>Program</b>                      | See Note 12  |
| Ladder code memory                  | 24K (virtual)  |
| Execution time                      | 46µSec for bit operations (typical)  |
| Memory bits (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.<br>List variables add up to 1.5K's worth of HMI capacity. |

- Notes:**
12. The controller does not offer a communication port. In order to download applications, the controller must be installed with an add-on programming port module. Such a module is included in the JZ-PRG programming kit, which is available by separate purchase.

**Jazz Jack**

|                 |  |
|-----------------|--|
| Insertion point | Enables optional add-on modules. See Note 13 |
|-----------------|--|

- Notes:**
13. Add-on modules are available by separate order.



|                      |   |
|----------------------|---|
| <b>Communication</b> | Via add-on port module. See Note 14   |
| 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   |

- Notes:**
14. In order to enable communications, an add-on module containing a COM port must be plugged into the Jazz jack. The module included in the JZ-PRG programming kit may be used to communicate with external devices, if the device provides active RS232 voltage signals for purposes of power supply. For more details, see the JZ-PRG Installation Guide.

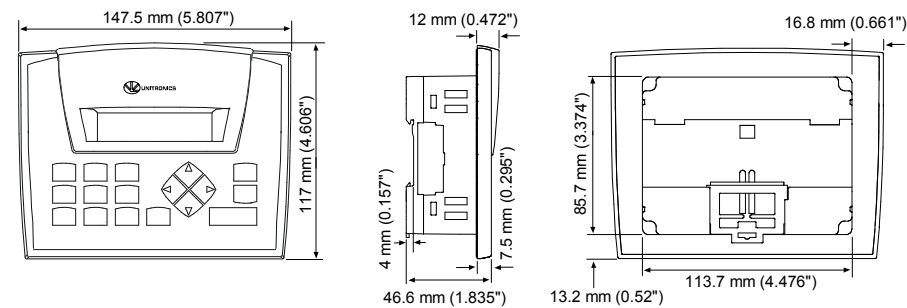
**Miscellaneous**

|                 |  |
|-----------------|--|
| Clock (RTC)     | Real-time clock functions (date and time).   |
| Battery back-up | 10 years typical at 25°C, battery back-up for RTC and system data, including variable data |

**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)<br>DIN-rail mounted (IP20/NEMA1) |

Dimensions

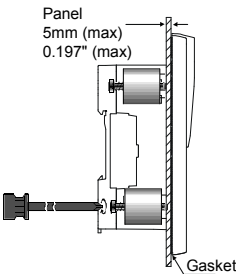


|        |                  |                  |
|--------|------------------|------------------|
| Weight | JZ10-11-UA24     | JZ10-11-UN20     |
|        | 456g (16.08 oz.) | 455g (16.04 oz.) |

Mounting

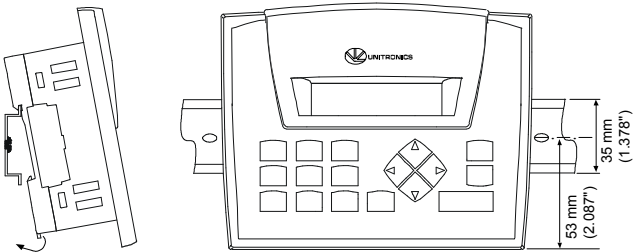
Panel mounting

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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