JZ10-11-UA24	**9 Digital, 2 Analog/Digital, 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, (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' 17-28.8VDC for Logic '1'
npn (sink)	17-28.8VDC for Logic '0' 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 (resisitve 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)
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 1A maximum total for common
Maximum frequency	50Hz (resistive load) 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	
Number of inputs	4		3	
	AN2 and AN3	AN4 and AN5	AN1	AN2 and AN3
Input range	0-20mA, 4-20mA	0-10VDC	0-20mA, 4-20mA	0-10VDC
Input impedance	154Ω	20KΩ	154Ω	20KΩ
Maximum input rating	30mA	28.8V	30mA	28.8V

Galvanic isolation	None
Conversion method	Succesive 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

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

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.

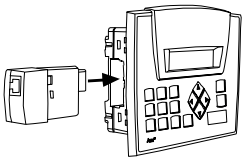
Program	See Note 12
Ladder code memory	24K (virtual)
Execution time	46µSec for bit operations (typical)
Memory bits (coils)	256
Memory integers (registers), 16 bit	256
Timers	64
HMI displays	60 user-designed displays available
HMI variables	64 HMI variables are available to conditionally display text and data. 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.

Communication	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.

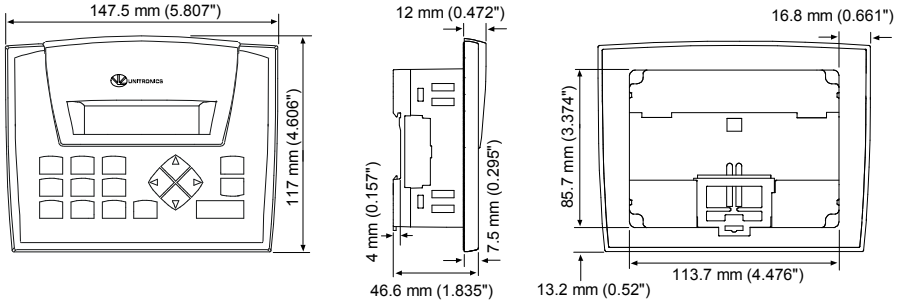
Miscellaneous

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)
	DIN-rail mounted (IP20/NEMA1)

Dimensions



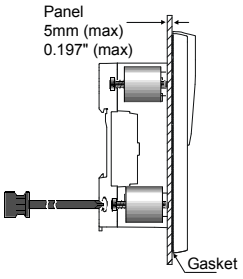
Weight

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

Mounting

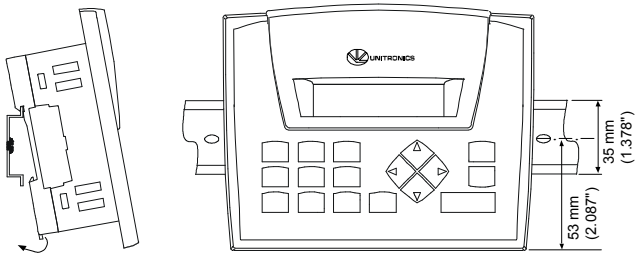
Panel mounting

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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