# JAZZ™PLC+HMI Technical Specifications

JZ20-T10/JZ20-J-T10

• 6 Digital Inputs including 2 HSC, 4 Transistor Outputs

JZ20-T18/JZ20-J-T18

• 6 Digital Inputs including 2 HSC, 2 Analog/Digital Inputs,

JZ20-J-T20HS

2 Analog Inputs, 8 Transistor Outputs

6 Digital Inputs including 3 HSC/Shaft-encoder,
 2 Analog/Digital Inputs, 2 Analog Inputs, 10 Transistor Outputs

## **Technical Specifications**

Input voltage 24VDC

Permissible range 20.4-28.8VDC with less than 10% ripple

Current Consumption See Note 1

JZ20-T10/JZ20-J-T10 JZ20-T18/JZ20-J-T18/JZ20-J-T20HS

Max. current consumption 96mA@24VDC 100mA@24VDC

Typical power consumption 1.8W 1.8W

#### Notes:

To If you do not use the LCD backlight, subtract 35 nA from the maximum current consumption value.

## **Battery**

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

including variable data...

Digital Insura		
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Number of inputs <u>JZ20-T10/JZ20-J-T10</u> \_\_JZ20-T18/JZ20-J-T18/JZ20-J-T20HS

6 (one group) - see Note 2. 8 (two groups) - see Notes 2 & 3

Input type pnp (source) or npn (sink)

Galvanic isolation

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'

10-15 16-17

Input current 3.7mA@24VDC 1.2mA@24VDC

None

Response time 10mSec typical 20mSec typical

Input cable length Up to 100 meters, unshielded

High speed inputs Specifications below apply when wired as HSC/Shaft-encoder. See

Note 4 & 5.

Resolution 16-bit

Frequency 10kHz maximum

Minimum pulse width 40µs

#### Notes:

- 2. All products 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-T18/JZ20-J-T18 and JZ20-J-T20HS comprises I6 & I7. These may be wired as either digital or analog inputs, as shown in the JZ20-T18/JZ20-J-T18 and JZ20-J-T20HS 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. Only in JZ20-T10/JZ20-J-T10 and JZ20-T18/JZ20-J-T18:
  - 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.
- 5. Only in JZ20-J-T20HS:
  - I0, I1, and I4 can function as high-speed counters, as part of a shaft-encoder, or as normal digital inputs.
  - I2, I3, and I5 can function as either counter reset, as part of a shaft-encoder, or as normal digital inputs.
  - If I0, I1, I4 are set as high-speed counters (without reset), I2, I3, I5 can function as normal digital inputs.
  - When used as a normal digital input, normal input specifications apply.

Source	Digital	Outputs

Number of outputs <u>JZ20-T10/JZ20-J-T10</u> <u>JZ20-T18/JZ20-J-T18/JZ20-J-T20HS</u>

4 pnp (source) 8 pnp (source)

Output type P-MOSFET (open drain)

Isolation None

Output current 0.5A maximum

Maximum frequency 50Hz (resistive load)

0.5Hz (inductive load)

3kHz (with resistance load< 4kΩ) only O0-O2 in JZ20-J-T20HS

Short circuit protection Yes
Short circuit indication Yes

On voltage drop 0.5VDC maximum

Power supply for outputs

Operating voltage 20.4 to 28.8VDC

Nominal voltage 24VDC

## Sink Digital Outputs (JZ20-J-T20HS only)

Number of outputs 2 npn (sink)

Output type N-MOSFET (open drain)

Galvanic Isolation None

Calvanic isolation None

Maximum output current

(resistive load)

100mA per output

HSO freq. range with 1Hz-32kHz (at maximum load resistance of 1k $\Omega$ )

resistive load

On voltage drop 1VDC maximum

Short-circuit protection None

Voltage range 3.5V to 28.8VDC

Analog Inputs JZ20-T18/JZ20-J-T18/JZ20-J-T20HS only

Number of inputs 4, according to wiring as described above in Note 3

 AN0 and AN1
 AN2 and AN3

 0-20mA, 4-20mA
 0-10VDC

 154Ω
 20KΩ

 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**

Input range

Input impedance

Maximum input rating

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

Ladder code memory 48K (virtual)

Execution time 1.5 µSec for bit operations (typical)

Memory bits (coils) 256 Memory integers (registers), 256

16 bit

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

Unitronics 3

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
- 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.
- Add-on module MJ20-ET1 enables communication over 100 Mbit/s TCP/IP network: 9.
  - Programming/data exchange with Unitronics software;
  - Data exchange via MODBUS TCP as Master or Slave.

## **Miscellane**ous

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"

Snap unit onto the DIN rail DIN-rail mounting