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, 2 Analog Inputs, 8 Transistor Outputs**

JZ20-J-T20HS
- **6 Digital Inputs including 3 HSC/Shaft-encoder, 2 Analog/Digital Inputs, 2 Analog Inputs, 10 Transistor Outputs**

Technical Specifications

Power supply

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:

1. To If you do not use the LCD backlight, subtract 35mA 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 Inputs

Number of inputs	JZ20-T10/JZ20-J-T10	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	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-I5	I6-I7
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 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	JZ20-T10/JZ20-J-T10	JZ20-T18/JZ20-J-T18/JZ20-J-T20HS
	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
Maximum output current (resistive load)	100mA per output
HSO freq. range with resistive load	1Hz-32kHz (at maximum load resistance of 1kΩ)
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
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	
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

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