

# 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:

- 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.
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### 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'	
nnp (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**

	JZ20-T10/JZ20-J-T10	JZ20-T18/JZ20-J-T18/JZ20-J-T20HS
Number of outputs	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

<b>Analog Inputs</b>	
Number of inputs	JZ20-T18/JZ20-J-T18/JZ20-J-T20HS only 4, according to wiring as described above in Note 3
Input range	AN0 and AN1
	AN2 and AN3
Input impedance	0-20mA, 4-20mA   0-10VDC
Maximum input rating	154Ω   20KΩ
	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**

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**

GSM-support	Via a built-in USB port or - Add-On module. See Note 6-9 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).
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**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