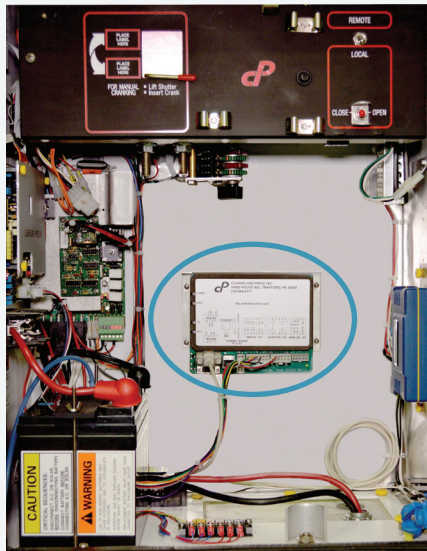


Reliatronics RTU3220

Product Data Sheet



RTU3220 installed in a Cleaveland/Price BT-T motor operator.

The RTU3220 is a compact, power-efficient Remote Terminal Unit/Intelligent End Device (RTU/IED) designed for the electric industry. RTU3220s monitor both AC and DC analog inputs as well as discrete digital inputs, while calculating comprehensive power-quality values and waveforms.

To enhance performance and reliability, the RTU's single PC-board construction features a System-on-Chip integrated circuit that decreases board complexity and reduces the number of exposed interconnections. All computing components and high-speed bus are contained within a sealed housing. The unboxed portion of the PC board is conformal-coated to protect RTU components from harsh environments.

In addition to reporting eight digital statuses and six analog values, the RTU will calculate RMS voltage, RMS current, watts, VAR, phase angle, THD, and power factor. The RTU3220 will create and transfer COMTRADE files given user-defined parameters.

The RTU3220 employs a configurable fault detection algorithm capable of detecting over-currents, instantaneous changes in current magnitude and direction, and open breakers and lockout conditions. These events can be reported on an unsolicited basis, or built into a

'sequence of events' readable by the DNP host system. Combined with COMTRADE waveform capture, the RTU3220 provides a complete picture of any fault condition it witnesses.

DNP 3.0 protocol is enabled on the RTU3220 at all times. Modbus or PG&E protocol may be elected as an alternate protocol. The alternate protocol is enabled concurrently with DNP, allowing the RTU to respond to incoming messages in either DNP or the alternate protocol.

The RTU3220 features:

- A powerful, yet low power consumption processor
- 9-30VDC power supply
- DNP 3.0, Modbus, and PG&E protocol support
- 10/100 Base-T Ethernet port with RJ-45 connector
- Two RS-232 ports
- One RS-485 connection
- State logic programming

RTU3220 I/O Configuration

- 4 relay outputs
- 8 status inputs
- 6 AC analog inputs
- 2 DC analog inputs



RTU3220 Technical Data

Physical

Dimensions	
RTU assembly	7.5" x 5.5" x 0.92"
Mounting centers	7" x 3"
Operating temp range	-40°C to 85°C
Operating humidity	100%

Processor

Input voltage	9-30VDC
Power requirement	< 1W
Communication ports	1 x RS-232—Male DCE 1 x RS-232—Female DTE 1 x RS-485 connection 1 x RJ-45 Ethernet 10/100 Base-T
Communication protocols	DNP 3.0, Modbus, PG&E
Serial port BAUD rate	Configurable, 300-115,200 bps
Ethernet protocol support	TCP/IP, UDP
Visual indicators	RX/TX and Ethernet active LEDs

Digital Outputs

Number of digital outputs	4
Relay type	SPDT Form C
Visual indicators	Flashing LED for all relay statuses
Contact ratings	2A/60W/220VDC Maximum 2A/60VA/120VAC Maximum
Operation type	Pulse on, latch on, latch off

Digital Inputs

Number of status inputs	8
Status input voltage	10-30VDC
Power requirement	6mW max.
Isolation	Optical isolation with surge protection
Visual indicators	One flashing LED/8 status points
Configurable parameters	
Debounce time	(0-255 millisecond)
Chatter filter	(default—10 state changes in 6 sec.)

AC Analog Inputs

Number of analog inputs	6
Input range	to 160VAC
Power requirement	5mW max.
Configuration	6 voltage inputs*
Resolution	16 bits
Accuracy	1%
Voltage input impedance	1MΩ
Analog input scan rate	128 samples/cycle

* If the analog signal is current rather than voltage, an IV2000 current-to-voltage converter board can be supplied.

DC Analog Inputs

Number of analog inputs	One RTU power and one analog input
Input range	0-30VDC
Power requirement	Consult the factory
Resolution	16 bits
Accuracy	1%
Analog input scan rate	1,000Hz

RTU3220 Power Quality Calculations

- A/B/C RMS voltage
- A/B/C current
- Neutral RMS current
- Watts
- VAR
- Phase angle
- THD to the 11th harmonic
- Power factor
- Current flow direction
- Fault detection



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