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Orenco TCOM Remote Telemetry Board

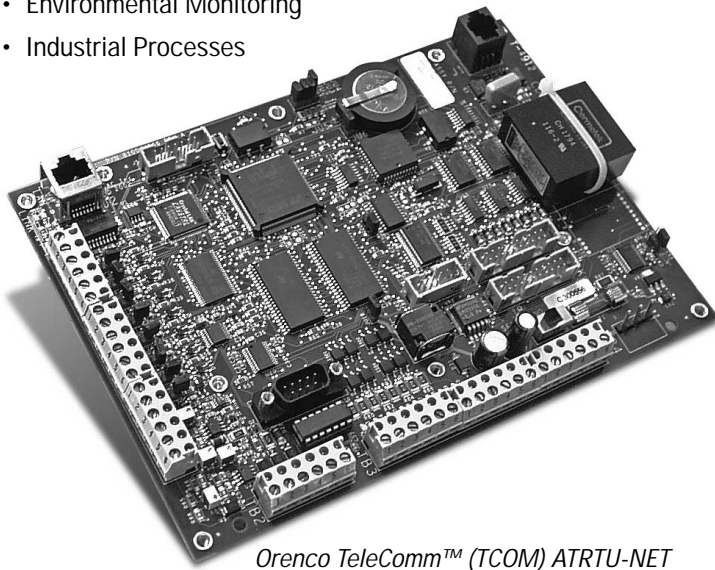
Technical
Data Sheet

Model: ATRTU-NET

Applications

Orenco's line of affordable remote telemetry units give water/wastewater system operators and maintenance organizations the ability to monitor and control each individual system's performance remotely, with real time efficiency. Ideal for:

- Wastewater Collection and Treatment
- Water Systems
- Environmental Monitoring
- Industrial Processes



Orenco TeleComm™ (TCOM) ATRTU-NET

Features/Unique Specifications

To specify this panel for your installation, require the following:

- Automatic call-out to pagers during alarm conditions or when panel detects trends that could lead to system failure
- Ability to maintain logs for system conditions and events, such as Pump Run Time, Pump Cycles, and Alarm Conditions
- Downloadable logs into a *.dif or ASCII format for simple conversion to common spreadsheet or word processor programs

- No proprietary computer software needed for remote monitoring and control. VT100 protocol allows remote access and control from any computer modem (Mac or PC) with a simple communications program (e.g. Windows® HyperTerminal)
- Multi-level password security to ensure that only qualified personnel can remotely access site
- Simple interface using status, reference, and control parameters (Points). Points are viewable/editable by the operator. The following "point" types are supported:
 - Digital: on or off condition
 - Analog: numeric range ($\pm 19,999,999.99$)
 - Date: mm/dd/yy format
 - Time: 24 hour clock
 - Label: Text (7 character max)
- Program logic (Rules) consists of simple conditional "If...Then" declarations. Rules can be written based on several operands, including the following:
 - Input / Output status
 - Point status
 - Date: mm/dd/yy format
 - Time of day: 24 hour clock
 - Timers
 - Historical data (allows for control optimization or detection of trends)
- Schedule Functions to control digital "Points" based on date or day of week / time
- Automatic daylight savings time adjustment
- Optional graphical interface software to view system status and permit interactive system control
- Optional Automated Data Collection software for gathering alarm conditions
- Ability to upload new programming remotely
- Ability to upload firmware updates remotely



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ATD-CP-TCOM-1
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Model: ATRTU-NET

Hardware Specifications

Physical Size

5.75" x 8.0"

Terminations

- Removable terminal blocks with screw compression terminals
- Accepts 12 to 22 AWG solid or stranded wires

Digital Input Features

- Number of inputs: 8
- Discrete or pulse (25 pulse/sec max.)
- Self powered: 24 VDC at 10 mA max.
- Yellow LED input indicators
- Optically isolated

Analog Input Features

- Number of inputs: 8
- Expandable to 16 inputs with expansion board
- Input Signal: 0-5 VDC, or 4-20 mA (jumper)
- Linear or 10k ohm thermistor scaling
- A/D resolution: 12 bits

Digital Output Features

- Number of outputs: 8
- Expandable to 16 outputs with expansion board

Analog Output Features

- Number of outputs: 2
- Output Signal: 4-20 mA
- D/A resolution: 8 bits

Communication Ports

- RS-232 port (9 pin)
- On-board modem: 9600 baud (RJ11 phone jack)
- Ethernet port (10 base T, RJ45 jack)
- Modbus port (R5422/485 terminals)

Sensor/External Relay Power Supply

- 5 VDC, 30 mA max.
- 24 VDC, 350 mA max.

Power Requirements

- 24 VDC, 1.2 A

Environment

- 32° F to 122° F (0° C to 50° C)
- 5% to 95% RH, non-condensing

Firmware Specifications

Safety Features

- Non-volatile memory backup of program
- Lithium battery backup of data and program settings (1-year storage without power)
- Hardware Watchdog Timer to restart system in the event of a program corruption
- Battery backup to allow continued monitoring and alarm functions during power outage (optional)

Logs

- Activity log (a min. of 2048 defined digital events)
- Alarm log (up to 240 board-level events)
- Custom designed user logs for recording flow, level, alarms, etc. (up to 32 individual logs, with a total of 65,472 logged data points)
- Maintenance log (up to 64 entries of 60 characters)

Control Parameters (Points)

- 480 points available

Program Logic (Rules)

- 800 rules available

Schedules

- 32 Time and/or Day of Week events
- 16 Date-based events

Alarm Callout Capability (Mailboxes)

- 8 mailboxes available
- Alarm Callouts for numeric paging
- Alarm Callout to computer monitoring system (requires software)

Networking Protocols

- Ethernet (permits peer-to-peer communications, up to 16 peers)
- Modbus (permits our controller to serve as master or slave)
 - a. When "master," permits connection to off-the-shelf non-proprietary devices that support modbus protocols. Can control and monitor up to 32 slaves.
 - b. When "slave," permits connection to and communication with modbus masters.