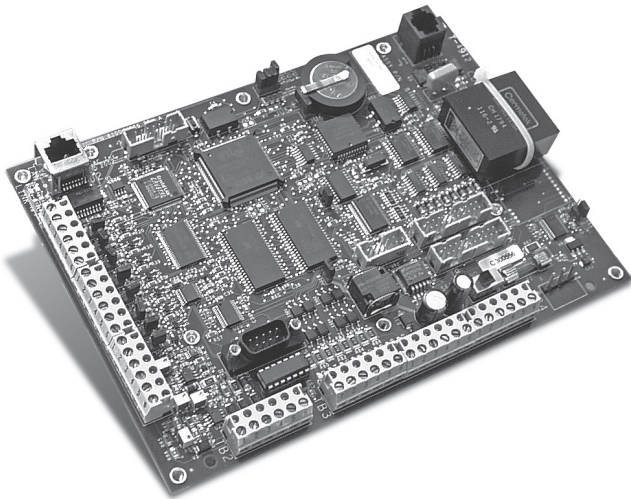# Orenco® TCOM Remote Telemetry Board

Applications

Orenco's line of affordable TCOM remote telemetry units give facility managers, operators, and maintenance providers the ability to remotely monitor and control the performance of mechanical equipment in real time. Ideal for:

• Wastewater Collection and Treatment

• Water Systems

• Environmental Monitoring

• Industrial Processes

Orenco® TeleComm™ (TCOM) ATRTU-NET remote telemetry board

Features/Unique Specifications

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

• Automatic call-out to e-mail capable devices 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 Motor Run Time, Motor 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).

• Bluetooth® adapter available.

• 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 (± 20,000,000)

  – 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

• Ability to upload new programming remotely

• Ability to upload firmware updates remotely

Model: ATRTU-NET
Hardware Specifications

Physical Size
- 5.75" x 8.0"

Terminations
- Removable terminal blocks with screw compression terminals
- Accepts 16 to 22 AWG solid or stranded wires

Digital Input Features
- Eight inputs
- Discrete or pulse (25 pulse/sec maximum)
- Self-powered: 24 VDC at 10 mA maximum
- Yellow LED input indicators
- Optically isolated
- Expandable to 16 inputs with expansion board

Analog Input Features
- Eight inputs
- Expandable to 16 inputs with expansion board
- 0-5 VDC input signal, or 4-20 mA input with jumper)
- Linear or 10k ohm thermistor scaling
- 12-bit analog-to-digital resolution

Digital Output Features
- Eight outputs
- Expandable to 16 outputs with expansion board

Analog Output Features
- Two outputs
- 4-20 mA output signal
- 10-bit digital-to-analog resolution

Communication Ports
- RS-232 port – 9 pin (Bluetooth adapter available)
- On-board modem: 33.6-k baud (RJ11 phone jack)
- Ethernet port (10 base T, RJ45 jack)
- Serial modbus port (RS422/485 terminals)

Sensor/External Relay Power Supply
- 5 VDC, 30 mA maximum
- 24 VDC, 350 mA maximum

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 minimum 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)
- 672 available control parameters

Program Logic (Rules)
- 800 available rules

Schedules
- 64 available events (time and day or date-based) events

Alarm Callout Capability (Mailboxes)
- 16 destinations (mailboxes) available for alarm event notifications
- E-mail capable (POP3/SMTP e-mail server required)

Networking Protocols
- Ethernet
  - a. Modbus TCP-capable (permits peer-to-peer communications, up to 16 peers)
  - b. HTTP Web server-capable
  - c. TELNET text terminal compatible
- Serial modbus (permits our controller to act as master or slave)
  - a. As "master," modbus permits connection to off-the-shelf, non-proprietary devices that support modbus protocols. Can control and monitor up to 32 clients.
  - b. As "slave," modbus permits connection to and communication with modbus servers.