

T866 MicroRTU™ (T866)

Datasheet

Wireless Monitoring and Control

The T866 Telemetric MicroRTU is a cost effective solution for monitoring, control and automation of remote equipment such as switches, reclosers, generators, voltage regulators, substations, pumps, environmental remediation equipment, tower lights or any application requiring discrete inputs, outputs and analogs. The T866 includes an integrated two-way radio module for communications with several network options. Models are available that communicate using GSM cellular networks or Sensus FlexNet® private radio networks.

The Telemetric T866 MicroRTU with the GSM cellular module transmits data using General Packet Radio Service (GPRS) technology over the AT&T cellular data network. The units can be installed anywhere AT&T GPRS service is available, including their roaming partners. No license or local cellular account is required. The T866 is available in the following models:

Model	Radio	Enclosure
T866-GSM-NEMA3R	GSM/GPRS 850/1900MHz	Non-metallic
T866-FLX-NEMA3R	FlexNet	Non-metallic
T866-GSM-MTL	GSM/GPRS 850/1900 MHz	Metal
T866-FLX-MTL	FlexNet	Metal

- Models with GSM/GPRS radios communicate using General Packet Radio Service (GPRS) over the AT&T GSM cellular data network. The units can be installed anywhere AT&T GPRS service is available, including their roaming partners.
- Models with FlexNet radios communicate using packet data over Sensus FlexNet private networks. The units can be installed on any FlexNet system using RNI software version 2.0.1 or higher.

FlexNet models incorporate all of the standard FlexNet system security features. Cellular models use standard cellular authentication and encryption which is augmented with additional security features at Telemetric.

Data is available to utility SCADA systems through Telemetric's SCADA Xchange™ or from Telemetric's PowerVista™ applications.

The T866 monitors both digital and analog inputs. It reports events for real-time information and can be queried for status on demand. Output relays perform control actions and they can be event driven from rules defined in Telemetric's hosted PowerVista™ applications. Easily and quickly installed, the MicroRTU provides immediate access to your equipment.

Features and Benefits

- Provides status monitoring of eight digital inputs and six analog inputs; six digital outputs are available for controlling equipment.
- Includes an AC Line Voltage Monitor to report under and over voltage conditions, as well as momentary and continuing power outages.
- Monitoring, control, and remote configuration options are accessible from the secure Telemetric PowerVista applications or through an existing SCADA system using Telemetric's SCADA-Xchange™.



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The Measure of the Future.

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- Operating parameters are locally programmable and remotely selectable.
- Automatic battery test for reporting low battery conditions

Communication is initiated three ways:

- Automatic report upon status change
- Time-scheduled reports from once every minute to once every 1000 hours in 1 minute increments
- User requests reports through Telemetric PowerVista applications or utility SCADA system

Remote Control and User Notification

PowerVista applications display the T866 data, perform control operations and configure rule-based actions.

Examples include:

- Notify a designated person of a reported event by email, pager or text messaging
- Send pre-determined control commands to the same or a different MicroRTU in response to a change in status
- Define a group of MicroRTUs for sending group commands

PowerVista™ Applications

- Each customer has a secure account that provides access to their equipment
- Data is secure and password protected
- Server authentication using 128-bit encryption key validated by VeriSign Trust Certificate
- E-mail, text messages and pager notifications are included at no extra cost
- PowerVista is available as a hosted application at the Telemetric data center or can be placed in a customer data center

SCADA Interface

All Telemetric devices can be monitored and controlled through an existing SCADA or OMS system via DNP3. See the SCADA-Xchange datasheet for more details.

Specifications

Point Count

- 8 Digital inputs
 - 6 contact inputs
 - 2 AC voltage detects (present/absent)
- 6 Analog inputs
 - 4 Transducer inputs
 - 1 Dedicated temperature input
 - 1 AC Voltage monitor (AC powered units only)
- 6 Digital outputs
- 1 Battery monitor

Digital Inputs

- Dry contact and 120 VAC sensing
- Default configuration reports on change of state
- Reports the number of state changes per event
- Individually configurable as 5-digit counters and/or timers

Digital Outputs

- 6 Form “A” mechanical relays
 - Two 30 A, 240 VAC / 20 A, 30 VDC
 - Four 8 A, 240 VAC / 8 A, 30 VDC
- Momentary or continuous operation
- Local/remote switches enables/disables remote control and provide a local test mode

Analog Inputs

- 12-bit A/D conversion
- Jumper selectable input ranges
 - 0 – 5 VDC
 - 0 – 1 mA
 - 4 – 20 mA
 - 0 – 10 VAC, true RMS
 - Four set points with a trigger time for each input
- +12VDC, 100mA is provided for powering analog sensors

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- 120 VAC power monitoring input is standard on all AC powered models
 - Over and under voltage monitoring
 - Outage and power-on reporting
 - Configurable over and under voltage thresholds and trigger times
- Analog and AC line voltage measurements can be reported as present values or average values

Communications

Local Serial Port

- USB 2.0 compliant, full speed
- Includes a Windows based local configuration and test program

Cellular Data Network

- Transmit power: 1mW to 1.2W
- Dual-band, supporting GSM/GPRS 850/1900 MHz
- 50 Ohm SMA antenna connector
- Flexible, 1/2 Wave, 3.0dBi antenna included

FlexNet Network

- Transmit power: 2W
- Frequency: 900 MHz band, Primary licensed
- 50 Ohm SMA antenna connector
- Flexible, 1/2 Wave, 3.0dBi antenna included

Operating Power

- 100 – 135 VAC, 60 Hz (Standard)
- 12, 24, 48 & 125 VDC (Optional)
- 4.5 A-Hr battery backup included for outage reporting; 24 hours run-time with ambient temperature > 0°C

Environmental Data

- Operating Temperature Range: -30° to +70°C
- Electrical Transient Immunity per ANSI/IEEE C37.90.1-2002

Enclosures

The standard enclosure is fiberglass reinforced polyester. Features include:

- NEMA 3R enclosure rating
- Integrated mounting flanges
- Hinged door with padlocking provisions
- Two conduit compatible cable entry holes
- Dimensions: 10.5" x 8.5" x 4.5"
- Weight: 12 lbs

Additional Product Configurations

- Reduced input/output configurations
- AC Detection on digital inputs 3 through 6
- Painted steel enclosure, NEMA 3R
- Variety of antenna options

See device drawings on back page.



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