

# Remote Telemetry Module™ (RTM II)

## Datasheet

### Wireless Communications for IEDs

The 2<sup>nd</sup> generation Telemetric Remote Telemetry Module™ (RTM II) is a cost-effective communication solution for remote monitoring and control of Intelligent Electronic Devices (IEDs) that control electric distribution system assets such as reclosers, switches, capacitor banks, breakers, voltage regulators and meters. Building on the capabilities of the original RTM, the RTM II enables remote firmware updates, includes a USB port, and communicates using GSM cellular networks or Sensus FlexNet® private networks.

The RTM II communicates with any IED that supports DNP 3.0, Modbus or ANSI C12.18/19 protocol. Available models include:

Model	Radio	Protocol
DNP-RTMII-FLX	FlexNet	DNP
MOD-RTMII-FLX	FlexNet	Modbus
C12-RTMII-FLX	FlexNet	C12.18/19

- 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.

The units are ideally suited for Smart Grid distribution automation applications such as reclosers, capacitor banks, distribution switches, faulted circuit indicators, voltage regulators, distributed generation, load control and small substations.

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.

Telemetric provides the end-to-end communication link via secure, private connections to leading cellular carriers in North America – so the product works ‘out of the box’

anywhere within the extensive North America coverage area. No license or local cellular account is required. FlexNet enabled models also work “out of the box” on FlexNet systems.

The RTM II continuously polls the connected IED through a local serial connection. When a reportable change is detected, the RTM II transmits an event report via the cellular or Flexnet network. This minimizes communication traffic while providing real-time information. Status of equipment is obtained via the utility’s SCADA system using Telemetric SCADA-Xchange™ or through the Telemetric PowerVista™ application with a standard web browser.



### Features and Benefits

- Monitors status of the IED and reports only user configured data, events and alarms.
- Designed specifically to communicate with IEDs from leading manufacturers such as Cooper Power Systems, ABB, Schweitzer Engineering Laboratories, S&C Electric Company, GE, Joslyn Hi-Voltage, ICMI and many others.
- Communicates via standard RS-232 serial connection with the IED. The RTM II functions as the master, in the master-slave relationship, polling the IED for information.
- **Supports intelligent reporting & control via:**
  - Unsolicited Report by Exception on user-defined analog or digital points
  - Time scheduled reports – customized reports on user-defined time intervals
  - Updates on demand via SCADA or the PowerVista application



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The Measure of the Future

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- Information is sent to the Telemetric PowerVista application at the Network Operations Center, and optionally to the utility SCADA system.
- Secure two-way communications allow direct status queries and control of the IED.
- Integration kits, including specific device profiles, are available for most popular IEDs to facilitate simple and easy installation.
- PowerVista creates unique configuration profiles for all SCADA points that are monitored and reported. For each SCADA point, the user can specify criteria such as:
  - Three reporting set points and a configurable trigger time per analog input
  - Binary input report-on-change with configurable trigger time
  - Time scheduled reports with configurable reporting interval from 1 minute up to 41 days
- No master software or local cellular account is required.
- Manage equipment, communications and users.
- Monitor and control field equipment.
- Automated user notifications (by email, text message or pager) can provide immediate information on events such as a recloser lockout or low voltage/outage conditions.
- Device history logs all communications with equipment.
- Request equipment status and analog values at any time.
- Tools for communications diagnostics and data volume monitoring.
- Accessible from SCADA or DMS systems using Telemetric's SCADA-Xchange.
- Telemetric PowerVista application and SCADA-Xchange operate simultaneously.

## 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

## Processor

- 32 bit microcontroller, 12 MHz
- 384K non-volatile Flash memory
- 256K RAM

## Communications

### *Three Serial Ports*

- USB 2.0 compliant, full speed local configuration port; Supports MS Windows based local configuration and test program included with units.
- RS232 pass through serial port, DB-9 female; Supports serial connections to IED configuration port.
- RS232 SCADA communications port, DB-9 female or terminal block; Supports DNP, Modbus or C12.18/19 depending on model

### *Cellular Data Network*

- Two-way – all commands are acknowledged
- Transmit power: 1 mW to 1.2 W
- Frequency: 850/1900 MHz
- 50 Ohm SMA antenna connector

### *FlexNet Network*

- Two-way – all commands are acknowledged
- Transmit power: 2 W
- Frequency: 900 MHz band, Primary licensed
- 50 Ohm SMA antenna connector

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## Operating Power

- 12-24VDC, 70mA typical, 0.6A max (< 0.5 sec.)

## Environmental Data

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

## Enclosures

The standard enclosure is painted steel. Features include:

- NEMA 1 rating
- Integrated mounting flanges
- Gray steel construction
- Dimensions: 5.6”H x 4”W x 1.7”D
- Optional NEMA 4X enclosure with 120VAC – 12VDC power supply; 11”H x 8.3”W x 3.3”D; 3 lbs

## IEDs Supported

See <http://www.telemetric.net/ied> for a current list of supported IEDs.

The product is available directly from Telemetric or in many cases, as a factory option from the IED manufacturer.

**See device drawings on back page.**



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