

# Remote Telemetry Module™ (RTM) Datasheet

## Wireless Communications for IEDs

The Telemetric Remote Telemetry Module™ (RTM) 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. The RTM communicates with any IED that supports DNP 3.0, Cooper 2179/PG&E or ANSI C12.18/19 protocol.

The RTM includes an integrated two-way radio that communicates using the cellular data network, with excellent coverage throughout North America. The RTM is available in several models:

- **DNP-RTM-GSM** for IED's using DNP 3.0 protocol
- **2179-RTM-GSM** for IED's using Cooper 2179 or PG&E protocol
- **C12-RTM-GSM** for IED's using ANSI C12.18/19 metering protocol

These models communicate using General Packet Radio Service (GPRS) over the GSM cellular data network. The units can be installed anywhere Cingular/AT&T GPRS or EDGE service is available including their roaming partners. The units are ideally suited for applications requiring high data volume or minimum latency. Standard GPRS authentication and encryption is augmented with additional security features at Telemetric.

Telemetric provides the end-to-end communication link via secure direct connections to all 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.

The RTM continuously polls the connected IED through a local serial connection. When a reportable change is detected, the RTM transmits an event report via the cellular network. This minimizes communication costs while providing real-time information. Access to the data can be gained from the utility's SCADA system using Telemetric SCADA-Xchange™ or through Telemetric's PowerVista™.

## 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 and many others.
- Communicates via standard RS-232 serial connection with the IED. The RTM 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
- 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 call/data volume monitoring
- Accessible from SCADA or DMS systems using Telemetric's SCADA-Xchange
- Telemetric PowerVista application and SCADA-Xchange operate simultaneously

## PowerVista™ Hosted 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

## 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

### Two Serial Ports

- RS-232 local configuration port, DB-9 female
- Supports MS Windows based local configuration and test program included
- One RS232 communications port supports DNP, Cooper 2179, or C12.18/19 depending on model
- RS-232 with DB-9, RJ-45 and terminal block connectors

### 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

## Operating Power

- 12VDC, 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.