

Remote Telemetry Module™ (RTM)

Multiple Device Addresses Datasheet

Wireless Communications for IEDs

The Telemetric Remote Telemetry Module™ (RTM) is a cost-effective wireless communication solution for remote monitoring and control of up to five Intelligent Electronic Devices (IEDs) that control electric distribution system assets such as voltage regulators, reclosers, switches, capacitor banks and breakers. The RTM-MA acts as a mini-DNP master for monitoring and control of up to five different IEDs using DNP 3.0, Cooper 2179/PG&E, Modbus or ANSI C12.18/19 protocols.

The **DNP-RTM-MA-GSM** model includes a single two-way radio to communicate and control all devices – providing a very powerful and cost effective solution for remote communications using the GSM cellular data networks. The 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.

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. Cellular models use standard cellular authentication and encryption which is augmented with additional security features at Telemetric. The standard RTM is suitable for mounting inside IEDs with provisions for mounting communication devices. An optional outdoor enclosure and power supply is also available.

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.

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 the Telemetric PowerVista™ application with a standard web browser.

Features and Benefits

- Supports up to five DNP 3.0 device addresses:
 - Up to 100 digital/analog points per IED
 - Supports a different DNP point profile for each IED
- Monitors status of the IEDs 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
- Optional fiber and RS-485 interfaces. For a list of supported multi-drop configurations, contact Telemetric.

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

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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.