

Sensus Remote Telemetry Module™ Plus (RTM II+)

Smart Communication Gateway and Control

Description

The Sensus Remote Telemetry Module™ Plus (RTM II+) is a powerful communication solution for enabling remote monitoring and control of intelligent SCADA field devices by leveraging the Sensus FlexNet™ IP-enabled secure wireless network system. The RTM II+ acts as a smart communication gateway that easily interconnects with SCADA and automation field devices that incorporate industry standard Modbus and DNP3/IEEE 1815 SCADA communication protocols via serial or Ethernet interfaces. End-to-end interoperability is then achieved with the companion AutomationControl™ software suite. This allows for easy integration with third-party SCADA software platforms via our SCADA-Xchange™ interface.



Features

APPLICATIONS

- The units are ideally suited for smart grid distribution automation applications requiring interoperability with critical assets such as reclosers, capacitor banks, distribution switches, faulted circuit indicators, voltage regulators, distributed generation, load control, and distribution substations. Similarly, the RTM II+ can also integrate other intelligent SCADA controls to support water and gas automation applications.
- The RTM II+ incorporates all of the standard FlexNet security features.
- The RTM II+ continuously polls connected IEDs through a local serial or Ethernet connection. When a user-defined change is detected, the RTM II+ transmits an event report via the FlexNet network. This minimizes communication traffic while providing real-time information. Status of equipment is obtained through the Sensus

AutomationControl™ application with a standard PC browser or via the utility's SCADA system using Sensus SCADA-Xchange™.

FEATURES AND BENEFITS

- Monitors status of 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, T&B/Joslyn Hi-Voltage, ICMI, and many others.
- Communicates via standard RS-232 serial connection, RS-485 isolated serial connection (future feature), or Ethernet connection with IEDs. The RTM II+ functions as the master, in the master-slave relationship, polling the IED for information.
- Multi-Address (MA) that supports

multiple DNP3 or Modbus device addresses.

- Supports intelligent reporting and control via:
 - Unsolicited Report by Exception on user-defined analog or digital points
 - Time scheduled reports on user-selected points and defined time intervals
 - Updates are available on demand via SCADA or AutomationControl
- Information is sent to AutomationControl at the Sensus Data 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 point maps/profiles, are available for most popular IEDs to facilitate simple and easy installation.

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- The ability to create unique configuration profiles for all points that are monitored and reported. For each point, the user can specify criteria such as:
 - Limit crossing set points and static or percentage deadbands with configurable trigger times for analog inputs
 - Binary input report-on-change with configurable trigger time
 - Options to pass through any IED event data per point
 - Time scheduled reports with configurable reporting interval from 1 minute up to 14 days

AutomationControl™ Applications

The AutomationControl application is a powerful and flexible suite of tools for managing communications and distribution system equipment.

- Access equipment status from any PC using a standard browser.
- Each customer has a secure account that provides access to their equipment.
- Data is secure and password protected.
- No master software is required.
- Manage equipment, communications and users.
- Monitor and control field equipment.
- Automated user notifications (by email or text message) provide immediate information on events such as a recloser lockout or low voltage/outage conditions (future feature).
- Device history logs all communications with equipment.
- Request equipment status and analog values at any time (future feature).
- Tools for communications diagnostics and data volume monitoring.

- Encryption and key rotation. Sensus uses industry-standard Advanced Encryption Standard (AES) 256-bit key encryption to secure data in transit over the FlexNet™ system.
- Sensus offers AutomationControl as a flexible and secure cloud-based Software as a Service (SaaS) solution.

SCADA Interface

All Sensus Automation devices can be monitored and controlled through an existing SCADA or DMS system via DNP3/IEEE 1815 protocols.

Specifications

HARDWARE

- 32 bit microcontroller running at 72 MHz
- 8 MB non-volatile Flash memory
- 32 MB SDRAM

COMMUNICATIONS

Serial Ports

- USB 2.0 compliant, full speed, local configuration port; supports MS Windows based local configuration and test program
- RS-232 SCADA communications port, DB-9 female or terminal block; supports DNP or Modbus depending on firmware
- RS-232 Pass Through for IED maintenance port connection, DB-9 female
- RS-485 isolated serial connection (future feature)

Ethernet Port

- Ethernet port, RJ-45 female; supports DNP or Modbus SCADA communications depending on firmware

FlexNet Network

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

OPERATING POWER

- 12-29VDC, 170mA typical, 0.6A max (< 0.5 sec.)

ENVIRONMENTAL DATA

- Operating temperature Range: -30° to +70°C
- Humidity: 0% to 95% noncondensing
- Radiated emissions: FCC Part 15 Class B, EN 55022

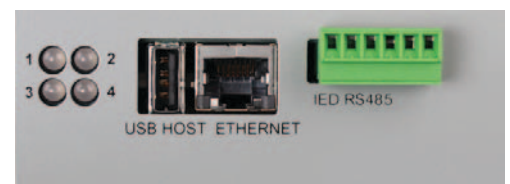
ENCLOSURES

Standard enclosure features include:

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



RTM II+ Bottom View



RTM II+ Side View

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Smart Communication Gateway and Control

Models

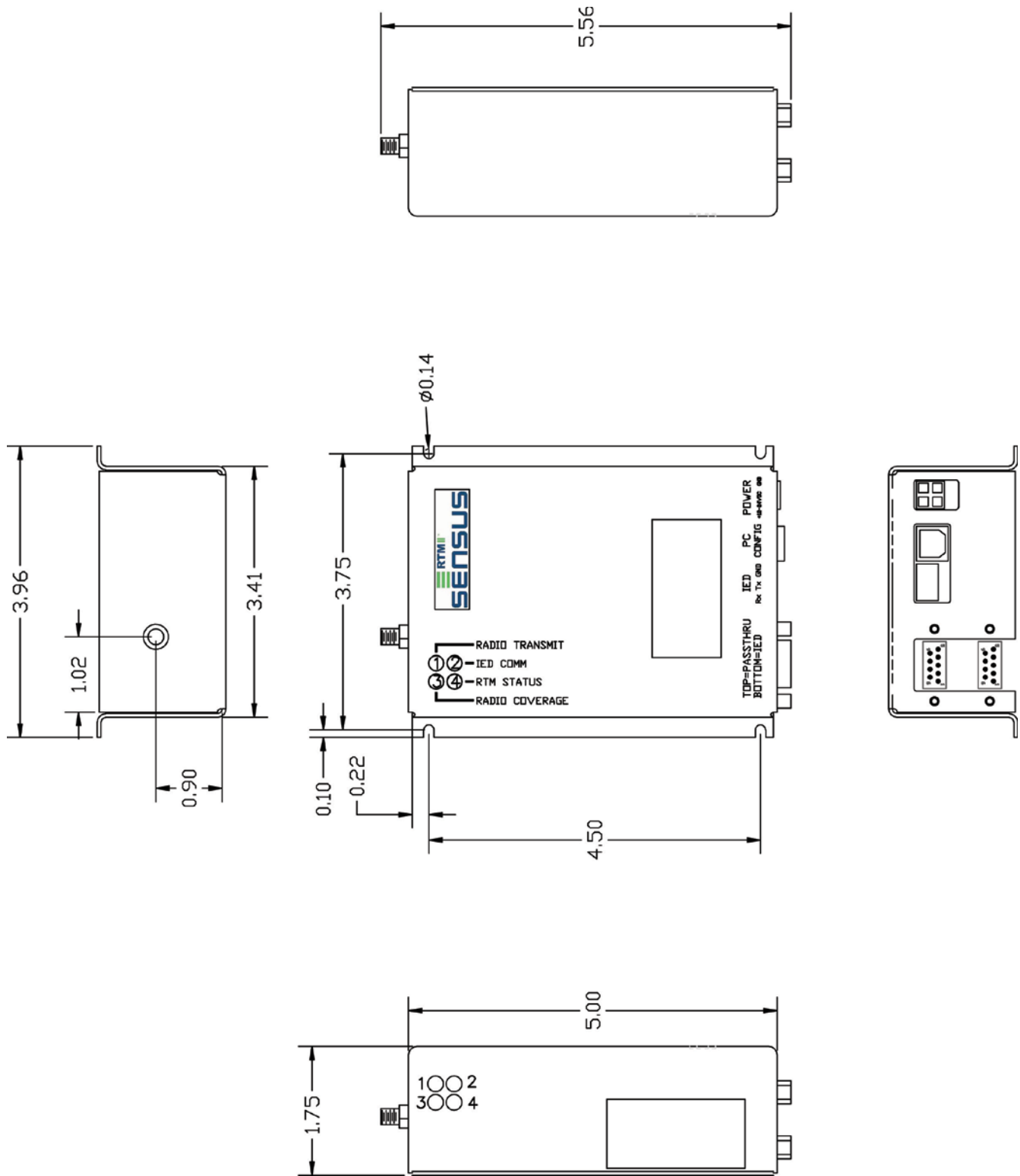
Model	Radio	Frequency	Protocol
RTM II+FLX9	FlexNet	900 MHz	DNP and Modbus

Models with FlexNet radios communicate using packet data over Sensus FlexNet private networks. The units can be installed on any FlexNet system that is configured to support the AutomationControl™ application platform.

See device drawing on back page.

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For more information, visit us at www.sensus.com.

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