

Sensus T866 MicroRTU™

Remote Input/Output Control

Description

The Sensus Automation T866 MicroRTU™ is a cost effective solution for monitoring, control, and automation of remote equipment such as switches, reclosers, generators, voltage regulators, substations, pumps, lift stations, environmental remediation equipment, tower lights, or any application requiring discrete inputs, outputs, and analogs. The T866 includes an integrated two-way radio. Models are available using the Sensus FlexNet™ private radio networks. 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 Sensus Automation T866 MicroRTU monitors both digital and analog inputs of the equipment to which it is connected. It reports events as they occur based on user-defined trigger times and can be queried for status on demand. Output relays perform control actions which can be event driven from rules defined in Sensus AutomationControl™ applications. Easily and quickly installed, the MicroRTU provides immediate access to the status of your equipment along with the ability to control it.

FlexNet enabled models incorporate all of the standard system security features. Data is available to the utility SCADA systems through Sensus SCADA-Xchange™ or from AutomationControl™ applications.

FEATURES AND BENEFITS

- Provides status monitoring of eight digital inputs and six analog inputs; six digital outputs are available for controlling equipment
- Includes a control power 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 AutomationControl applications or through an existing SCADA system using SCADA-Xchange
- Operating parameters are locally and remotely configurable
- 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 one minute increments
- Users may request reports through AutomationControl applications or utility SCADA system

Remote Control and User Notification

AutomationControl applications display the T866 digital and analog input status, perform control operations, and configure rule-based actions. Examples include:

- Notify a designated person of a status change by email or text messaging (future feature)
- Send pre-determined control commands to the same or a different MicroRTU unit in response to a change in status
- Define a group of MicroRTUs for sending group commands

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

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FEATURES AND BENEFITS

Continued

- 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

Point Count

- 8 Digital inputs
 - 6 contact inputs
 - 2 AC voltage detects (present/absent)
- 6 Analog inputs
 - 4 transducer inputs
 - 1 dedicated temperature input (future feature)
 - 1 AC Voltage monitor
- 6 Digital outputs
- 1 Battery monitor

Digital Inputs/Outputs

Digital Inputs

- 6 Dry contact (12VDC wetting voltage provided by MicroRTU)
- 2 - 120 VAC detects (present/absent)
- 4000 VDC Optical isolation
- Contact 'de-bounce' timer setpoint and trigger timers
- Reports the number of state changes per event
- Individually configurable as 5-digit counters and/or timers

Digital Outputs

- 6 Mechanical relays
 - Two Form "C" 30 A, 240 VAC; 20 A, 30 VDC
 - Four Form "A" 8 A, 240 VAC; 8 A, 30 VDC
- Momentary or continuous operation
- Local/remote switches enable/disable remote control and provide a local test mode

Analog Inputs

- 4 Configurable Analog Inputs
- +12VDC, 200mA output is provided for powering analog sensors
- Software selectable input ranges
 - 0 – 5 VDC
 - 1 – 10 VDC
 - 0 – 1 mA DC
 - 4 – 20 mA DC
 - 0 – 10 VAC, true RMS
 - 0 – 2 VAC, true RMS

- Four set points with a trigger time for each input
- 12-bit A/D conversion
- 120 VAC control 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

Communications

Local Serial Port

- USB 2.0 compliant, full speed
- Includes Sensus Automation local configuration and test program

FlexNet Network

- Two-way communications – all commands are acknowledged
- Transmit power: 2W
- Frequency: 900MHz band Primary licensed
- 50 Ohm SMA antenna connector
- Phantom 3.0dBi antenna included

Operating Power

- AC Power: 120 VAC: 100-135 VAC 60 Hz (power usage)
 - Fuse: 500mA
 - Battery: 12volt @ 5 amp hour. Nonspillable, sealed, lead-acid; 5 year expected life with automatic charger
 - Battery Fuse: 2.5A
- AC Power: 240 VAC: 215-260 VAC, 50 Hz (power usage)
 - Fuse: 300mA
 - Battery: 12volt @ 5 amp hour. Nonspillable, sealed, lead-acid; 5 year expected life with automatic charger
 - Battery Fuse: 2.5A

SPECIFICATIONS

Continued

Environmental Data

- Operating Temperature Range: -40° to +70° C
- Electrical Transient Immunity: ANSI/IEEE C37.90.1; ANSI/IEEE 62.41, 6kV
- Surge Suppression: EN61000-4-4 & EN61000-4-5
- Radiated Emissions: FCC Part 15 Class B, EN 55022

Enclosures

The standard enclosure is fiberglass reinforced polyester. Features include:

- NEMA 3R enclosure rating or IP 65 (International)
- Integrated mounting flanges
- Hinged door with padlocking provisions
- 2 Conduit compatible cable entry holes
- Dimensions: 10.5" x 8.5" x 4.5"
- Weight: 12 lbs

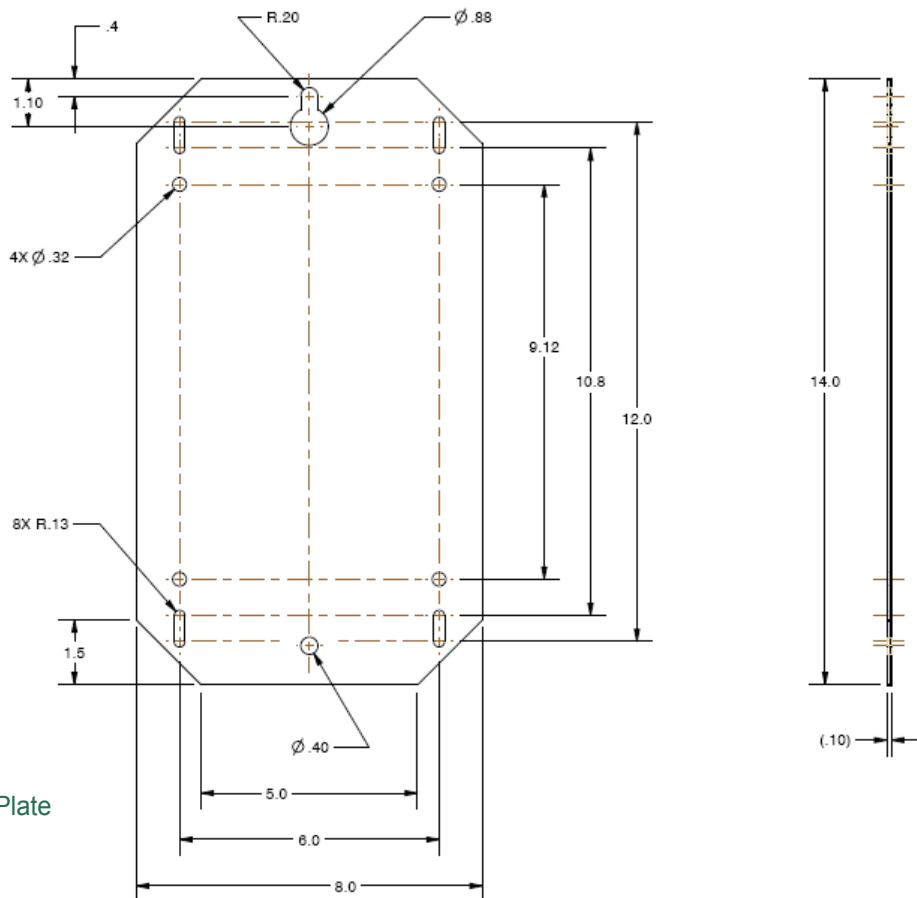
Additional Product Configurations

- Reduced input/output configurations

Models

Model	Radio	Frequency	Enclosure
T866-FLX9-FRP	FlexNet	900MHz	Non-metallic

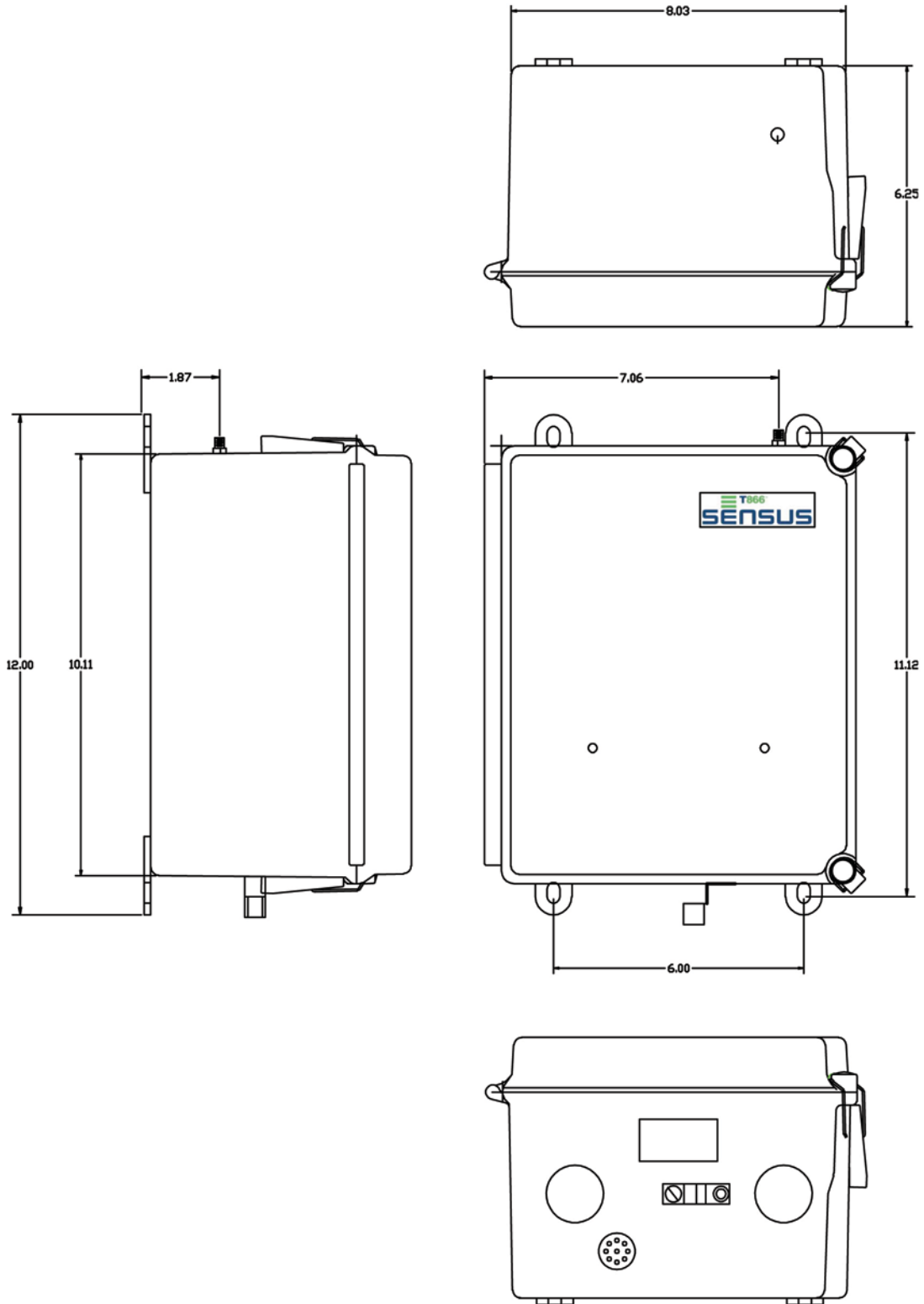
Models with FlexNet radios communicate using packet data over Sensus FlexNet private networks. The units can be installed on any FlexNet system that is configured to support the AutomationControl™ application platform.



Optional Mounting Plate

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

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