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DATA SHEET
DDS-10002-13



Sensus T866 MicroRTU

Reliable Management of Distribution Sensors and Controllers

The Sensus T866 MicroRTU monitors, controls, and operates remote equipment and sensors to help utilities realize the benefits of automation. By reading both digital and analog inputs of connected equipment, the T866 turns a simple sensor into a robust intelligent monitoring solution. The only limitation is your imagination.

FEATURES

- Multiple communication options: FlexNet communication network or 4G/LTE cellular data networks
- Provides status monitoring of eight digital inputs and six analog inputs; six digital outputs are available for controlling equipment
- Operating parameters are locally and remotely configurable
- Battery backup for outage conditions
- Automatic battery test for reporting low

BENEFITS

- Monitoring, controlling, and remote configuration of distribution assets
- Line voltage monitoring provides visibility into under and over voltage conditions, as well as momentary and continuing power outages
- Enables automation routines for power restoration
- Native integration with utility SCADA systems
- Real-time analog reporting with remote configurable reporting logic

Applications

Event-driven actions are based on rules defined by the operator. Real world use-cases demonstrate improved customer service, safety, and positive environmental impacts. Examples include:

- Automating the on/off switch of a generator during power outages
- Detecting reverse power flow from DERs and operating upstream reclosers for isolation
- Closing a natural gas valve when methane is detected
- Turning on a water pump when a tank is empty

The T866 reports events based on user-defined trigger times and can be queried for status on demand. It easily integrates with third-party SCADA software giving you end-to-end interoperability.

Communication

There are two models available. Each features an integrated two-way radio that is suited for applications requiring critical asset interoperability.

- FlexNet®: Communicates using primary-use licensed spectrum over the Sensus FlexNet communication network
- Cellular: Communicates over the AT&T® 4G/LTE or Verizon™ 4G/LTE cellular data networks

Reporting methods

- Automatic report upon status or analog changes
- Interval based time-scheduled reports configurable to the minute
- On-demand updates through AutomationControl™ and/or a utility SCADA system

Remote Configuration, Control, and User Notification

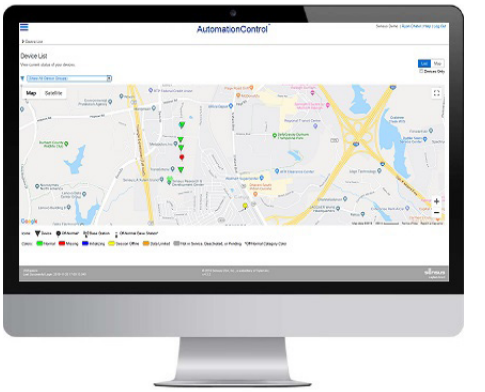
- Displays status and performs remotely configurable control operations
- Automates daily routines with easily configurable alarms, ranges, and reports
- Notifications based on user-specified conditions

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AutomationControl



AutomationControl is a browser-based Software as a Service solution for real-time management of distribution and SCADA system assets. Through this platform, utilities can easily control intelligent communication devices giving operators the insight needed to effectively manage critical infrastructure.

Distribution, operations, maintenance and management personnel all appreciate the intuitive AutomationControl interface. The dashboard provides a real-time snapshot of system performance—turning low-level insight into high-level consumption. The interface visualizes your system, devices and network to simplify what was once complex.

To leverage automation, users can program autonomous control actions and commands to occur in the field. Intelligent field devices are then able to take action without having to wait for a utility operator to issue a command. If an action fails for any reason, the system has been designed to send notifications to a set of users.

With AutomationControl, utilities are able to securely control any distribution asset and deploy a deeper level of intelligence down to the edge.

MODELS

Model	Radio	Frequency
539.65.537.00046	FlexNet	900 MHz
539.65.537.00052	AT&T cellular 4G (LTE)	700/850/1700/1900 MHz
539.65.537.00059	Verizon cellular 4G (LTE)	700/850/1700/1900 MHz

COMMUNICATIONS

General	Two-way communication	All communications are acknowledged for reliability
FlexNet network	Transmit power	2W
	Frequency	900 MHz, primary licensed
	Antenna	Phantom 3.0 dBi
Cellular network	AT&T	4G/LTE
	Verizon	4G/LTE
	Transmit power	4G: 0.2W (LTE)
	Frequency	4G: 700/850/1700/1900 MHz
	Antennas	• 4G Multi-Band 3.0 dBi (transmitter and receiver) • Ultra Wide Band 5.0 dBi internal diversity (receiver only)
Local configuration port		USB 2.0 compliant

OPERATING POWER

General	120 VAC: 100-135 VAC 60 Hz
Fuse	250 V, 500 mA, Slow-Blow
Battery	12volt @ 5 amp hour non-spillable, sealed, lead-acid 5 year expected life with automatic charger
Battery fuse	250 V, 2.5 A, Slow-Blow

ENCLOSURE

Intrusion rating	NEMA 6R, IP 67 (International)
Construction	Fiberglass reinforced polyester
Mounting	Integrated mounting plate. An optional external mounting plate is available for purchase from Sensus.
Security	Hinged door with padlocking capability
Access	2 Conduit compatible cable entry holes
Weight	10.3 lb
Dimensions	See drawings on final page

ENVIRONMENTAL DATA

Operating temperature	FlexNet: -40° to 185°F (-40° to 85°C) Cellular: -40° to 158°F (-40° to 70°C)
Radiated emissions	FCC 47 CFR Part 15B and ICES-003

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POINT COUNT

Digital Inputs	8, including 6 contact points and 2 AC voltage detects (present/absent)
Analog Inputs	6, including 4 transducer inputs and 1 dedicated temperature input
AC voltage monitor	1
Digital Outputs	6
Battery Monitor	1

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
- 12-bit A/D conversion
- 20 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

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
- AC voltage monitor
- Reports the number of state changes per event
- Individually configurable as 5-digit counters and/or timers

DIGITAL OUTPUTS

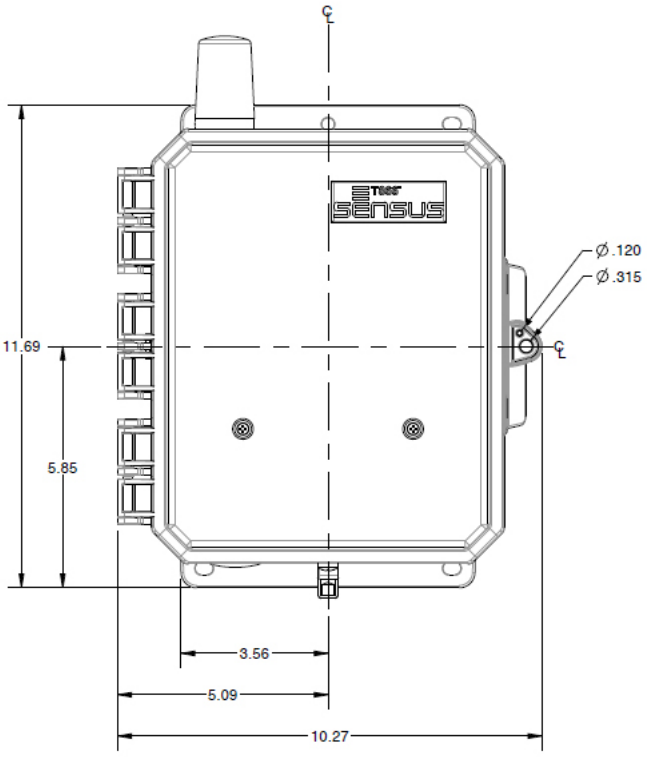
- 6 Mechanical relays:
  - Two Form “C” 30A @ 240VAC; 20A @ 30VDC
  - Four Form “A” 8A @ 240 VAC; 8A @ 30VDC
- Momentary or continuous operation
- Local/remote switches enable/disable remote control and provide a local test mode

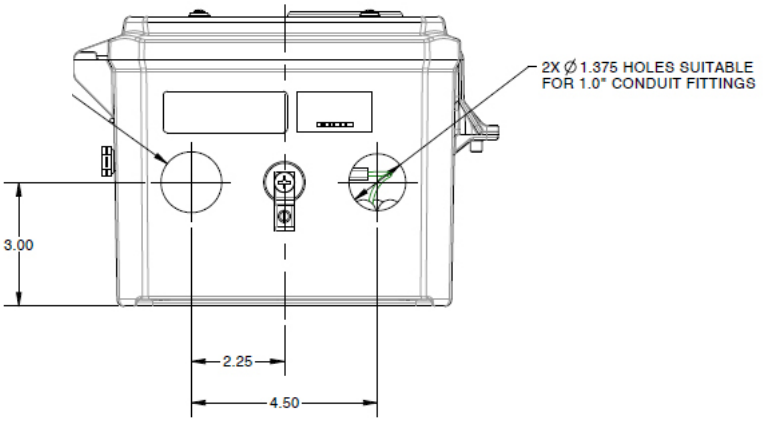
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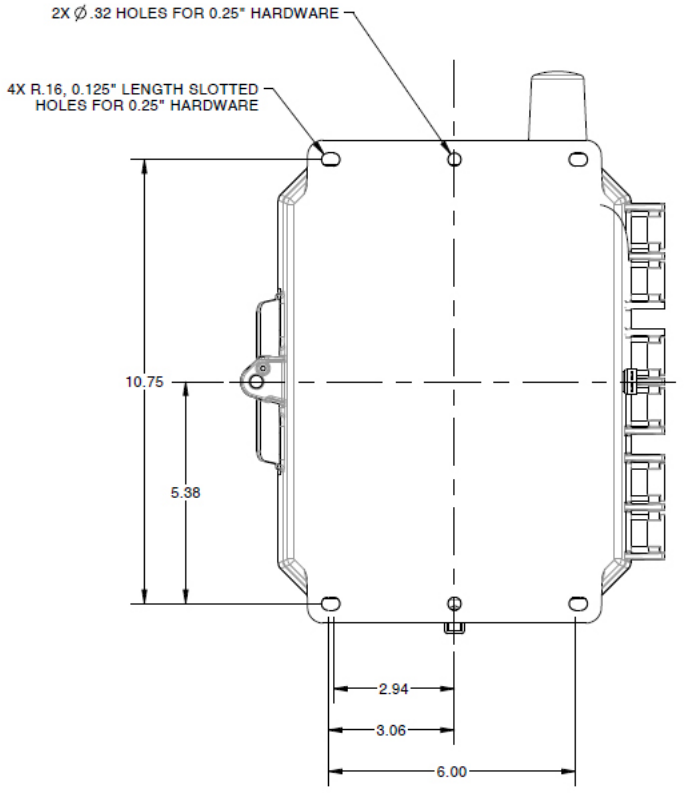
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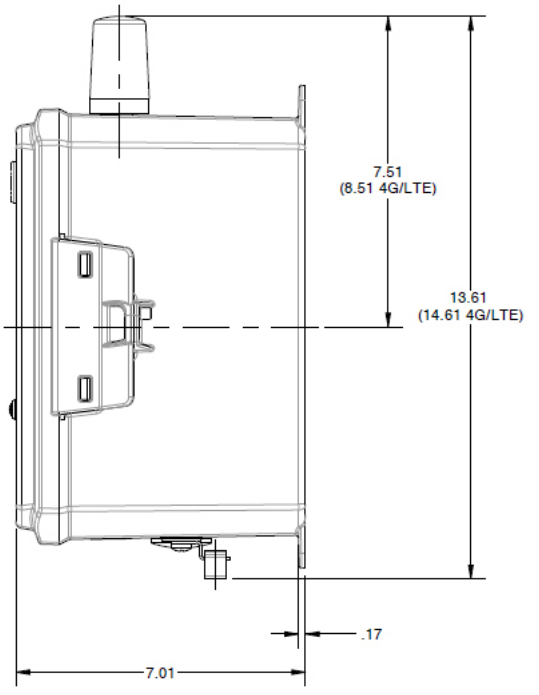
IP67 Enclosure Drawings

The T866 drawings show a FlexNet model.
All measurements are in inches with a +/- 0.01 inch tolerance.









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