

# RMS100



The RMS100, Class 1 Division 2 is ideal for monitoring assets in hazardous locations around the world.

The RMS100 combines local sensor, actuator and serial interfaces with a cost-effective satellite modem.

Software controllable events, RS485 and discrete input/output lines make the RMS100 a highly flexible hardware component of M2M's remote monitoring services.

Whether using standalone or with RTU/PLC, native Modbus support on the RMS100 provides a direct connection to common industrial automation equipment, for quick and easy installation.

**RMS100 is compatible with the following M2M RMS service products:**

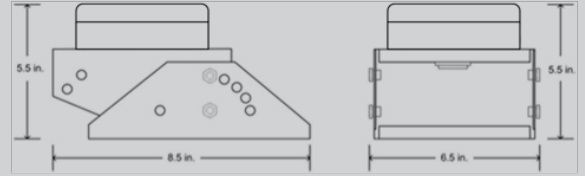
SERVICE CODE	DESCRIPTION
S1001	RMS narrowband domestic USA service. 4 data points reported once per day plus 30 RBE messages.
S1002	RMS narrowband domestic USA service. 8 data points reported once per day plus 30 RBE messages.
S1005	RMS narrowband domestic USA service. 8 data points reported twice per day with no RBE.
S1003	RMS narrowband international service. 4 data points reported once per day plus 30 RBE messages.
S1004	RMS narrowband international service. 8 data points reported once per day plus 30 RBE messages.
S1006	RMS narrowband international service. 8 data points reported twice per day with no RBE

## FEATURES & BENEFITS

- Class 1 Division 2, Groups A, B, C, D certified terminal meets industry standards for electronic equipment in Oil and Gas markets.
- Modbus protocol interfaces directly with common SCADA devices such as RTU, PLC and flow meters to quickly and easily implement reporting and telemetry capabilities for remote equipment.
- RS485 serial interface allows connection to SCADA devices over large distances to enable flexible deployment in a wide range of operating conditions.
- Seamless global coverage based on the Inmarsat satellite constellation enables operational benefits in remote regions.
- Expanded operating temperature range allows reliable deployment in some of the world's most demanding environments.
- Immediate reporting of digital status change (all data sent with report).
- Discrete inputs enable monitoring of local devices not using Modbus.
- Over-the-air programming enables M2M to remotely reconfiguration of parameters such as threshold levels or report frequency.

RMS100	PART NO	POWER	RS485	DIGITAL INPUTS	MODBUS REGISTERS	COMMS
<b>RMS100</b>	<b>300-01061</b>	<b>12 or 24 Vdc</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>IsatM2M</b>

## RMS100



### PHYSICAL

Size: 160mm (diameter) x 47 mm (height). Mounting kit adds 70mm to height  
 Mass: ~ 535 g  
 ENVIRONMENTAL  
 Operating Temperature: -40°C to +85°C  
 Storage Temperature: -40°C to +85°C  
 Humidity: 95% Relative Humidity at +30°C non-condensing  
 Dust & Water Ingress: IP67/NEMA-4X  
 Vibration: 5-20 Hz; 1.92 m2/s3 random noise. 20-500 Hz: -3dB octave random noise  
 Shock (survival): Half sine 6ms, 300 m/s2

### ELECTRICAL

Input Voltage: 9 VDC to 32 VDC  
 Power Consumption (Typical @ 12VDC)  
 Transmit mode: 10.5 W  
 Tracking mode (GPS on): 1.1W  
 Hibernate mode: 0.24mW  
 RS485 ESD: ± 15kV HBM  
 Mating Connector: Conxall Mini-Con-X® 6282-8SG-3DC

### SATELLITE COMMUNICATIONS (D+ /ISATM2M)

Frequency: Rx: 1525.0 to 1559.0 MHz & Tx: 1626.5 to 1660.5 MHz  
 EIRP: 9 dBW max  
 Elevation Angle: 0 to +90 degrees  
 GPS  
 Channels: 16 channels; 1575.42 MHz  
 Acquisition:  
 Cold-start: 34s  
 SuperSense®: -148 dBm  
 Accuracy: 3 m CEP; 5 m SEP

### CERTIFICATIONS / COMPLIANCE

Satellite: Inmarsat D+ /IsatM2M Type Approval  
 Regulatory:  
 ANSI/ISA-12.12.01-2007 (supersedes UL1604); CAN/CSA C22.2 No.142,213; UL916; UL50  
 FCC, RoHS, Anatel, IC pending  
 CE0 Mark (R&TTE)  
 MEMORY  
 Data Log: 320kB: Up to 17,200 positions

### EXTERNAL INTERFACES

Serial:  
 RS485: MODBUS RTU interface (8 Modbus RTU read coil/input status channels)  
 I/O:  
 Qty (1) Digital input (reserved for run status)  
 Qty (1) Digital (selectable as input or output; max sink 250mA)

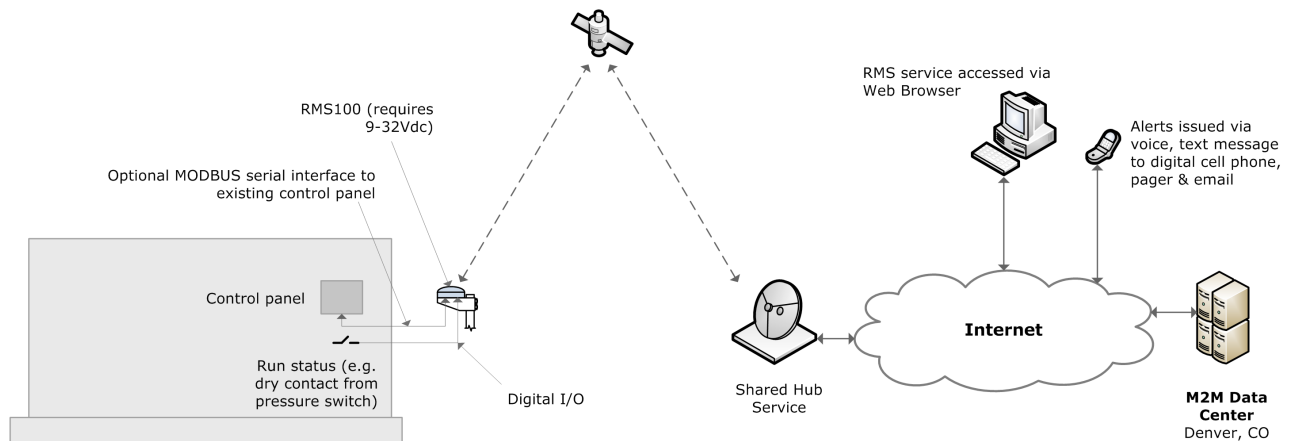
### PROGRAMMING CAPABILITIES

Script Logic  
 128 Actions; 64 Alarms; 64 Timers; 32 Data transformers  
 2 programmable I/O lines – digital or analog  
 128 Geofences (circular, rectangular, polygons)  
 Low Power modes  
 Modbus  
 Read/write up to 64 registers

### SATELLITE MESSAGING

From-Terminal: Up to 192 bytes  
 To-Terminal: 4 alert codes + up to 100 bytes

## Typical RMS100 System Schematic



### Typical Functionality

- RMS100 scans digital input and on change of state pushes all data points to M2M Data Center.
- RMS100 scans all I/O & 3<sup>rd</sup> party hardware once per day and pushes all data points to M2M Data Center.
- RMS100 reports GPS location on power up.
- User may demand poll for GPS coordinates or data.