



PRODUCT HIGHLIGHTS

- High Performance Wireless Connectivity
- Ideal for Wirelessly Monitoring Air, Gas, Water, or Liquid Temperatures
- Measures Temperature Range From -65 °F to 752 °F (-54 °C to 400 °C)
- Direct or Pipe-Mount Versions for Integration Flexibility
- Supports All Standard Platinum 100 Ohm (PT-100) RTD Sensors
- 22-Bit ADC with $\pm 0.1^{\circ}\text{C}$ Accuracy
- No Calibration Required for Direct-Mount (Short Loop)
- 2" to 18" Probe Length Option for Direct-Mount Version
- Easy Access Wiring Connection for Pipe-Mount Version
- License-Free 900 MHz/2.4 GHz Band, Secure Data Transmission
- Intrinsically Safe for Use in Hazardous Locations
- Self-Contained Battery Operation
- Easy-to-Install, Configure and Use
- Connects to Wireless Gateways



SM5000-RTD
SM5000-RTM



Direct Mount
(SM5000-RTD)

Pipe Mount
Multi-vendor
Compatible
(SM5000-RTM)

APPLICATIONS

- Oil & Gas, Pipeline, Petro-Chem, Water/Wastewater, Utilities, Irrigation Systems, Mining SCADA Systems, 3A Sanitary, Pharmaceuticals, Biotechnology, and Much More



WIRELESS SENSOR NETWORK

- Reliable, Robust Wireless Performance
- Eliminates Costly Conduits and Wiring
- Monitor / Control Process Conditions 24/7
- License-Free ISM Band, FSK & FHSS Technologies
- Reduces Labor, Installation and Maintenance Costs
- Helps Meet Regulatory Requirements
- Industrial Strength Performance & Durability

-65 °F to 752 °F
Temp Measurement

Measures Air, Gas,
Water, Liquid Temp.

22-Bit ADC with
0.1 °C Accuracy

Direct or Pipe-
Mount Version

Supports Platinum
100 Ohm Sensors

902-928 MHz ISM
License-Free Band

Self-Contained
Battery Operation

Up to 10-Year
Battery Life

Class I; Division 1

Technical Specifications

HARDWARE FEATURES

| | |
|-----------------------|---|
| Device Functionality | · Temperature Sensing Wireless Transmitter Using RTD Sensor |
| Embedded Controller | · Ultra-Low Power RISC Microcontroller with Internal FLASH (Field Upgradeable) |
| Device Interface | · Standard RS232 Serial |
| I/O Interface | · 22-bit High-Resolution Delta-Sigma ADC |
| Power Source | · Self-Contained, Internal 3.6 V Lithium Battery |
| Internal Battery Life | · Up to 10 Years, Based on Usage |
| Self-Diagnostics | · Contains Comprehensive Self-Checking Software and Hardware for Continuous Monitoring of Operation |



RTD TEMPERATURE SENSOR

| | |
|-------------------------|--|
| RTD Coefficient | · Platinum 100 Ohm, Class A |
| Temperature Coefficient | · 0.00385 |
| Probe Lengths | · 2" to 18" in 1" Increments Available |
| Temperature Range | · -65 °F to 752 °F (-54 °C to 400 °C) |
| Power Source | · Self-Contained, Internal 3.6 V Lithium Battery |
| Accuracy | · Less than 1 °C Over Full Range |
| Materials | · Probe Cover - Silver Coated Copper / Probe Insulation - PTFE |

WIRELESS COMMUNICATIONS

| | |
|-----------------------|--|
| Type: 900 MHz | · ISM Band, FSK (Frequency-Shift Keying), FHSS (Frequency Hopping Spread Spectrum) |
| Frequency | · 902 to 928 MHz (North America); 915-928 MHz (Aus, Int'l) |
| Data Rate | · 9600 bps / 115.2 kbps |
| Output Power | · 1 mW or 10 mW |
| Receiving Sensitivity | · -110 dBm @ 9600 bps or -100 dBm @ 115.2 kbps |
| Range | · Up to 7500 Feet (2.3 km) with Clear Line of Sight |

CERTIFICATIONS & COMPLIANCE

| | | |
|----------------------|---|---|
| FCC |  | · FCC Part 15 |
| Industry Canada (IC) | | · ICES-003 |
| Safety |  | · Class I Division 1, Groups A, B, C, D T3C |
| | | · Class 1 Zone 0 AEx ia IIC T3 Ga; Class 1 Zone 0 Ex ia IIC T3 Ga |
| | | · ATEX: Sira 13ATEX2142X; Ex ia IIC T3 Ga; II 1 G · IECEx: SIR 13.0054X; Ex ia IIC T3 Ga |

MECHANICAL SPECIFICATIONS

| | |
|---------------------------|--|
| Dimensions | · 5" (W) x 8" (H) x 4.25" (D) / 127 mm (W) x 203 mm (H) x 108 mm (D) |
| Dim. with Junction Box | · 5" (W) x 12.8" (H) x 4.25" (D) / 127 mm (W) x 325 mm (H) x 108 mm (D) |
| Package Dimensions | · 10.25" (W) x 14" (H) x 6.5" (D) / 260 mm (W) x 356 mm (H) x 165 mm (D) |
| Weight | · Net: 2.75 lbs / 1.4 kg; Packaging: 4.75 lbs / 2.2 kg |
| Weight with Junction Box | · Net: 4.75 lbs / 2.1 kg; Packaging: 6.5 lbs / 2.9 kg |
| Mounting Hardware | · Direct or Pipe Mount (Multi-Vendor) |
| Hardware Connection | · Direct Mount: 1/2" NPT Male; Multi-Vendor: 3/4" NPT Female |
| Enclosure Casing Material | · Type 4X Aluminum; IP66 |

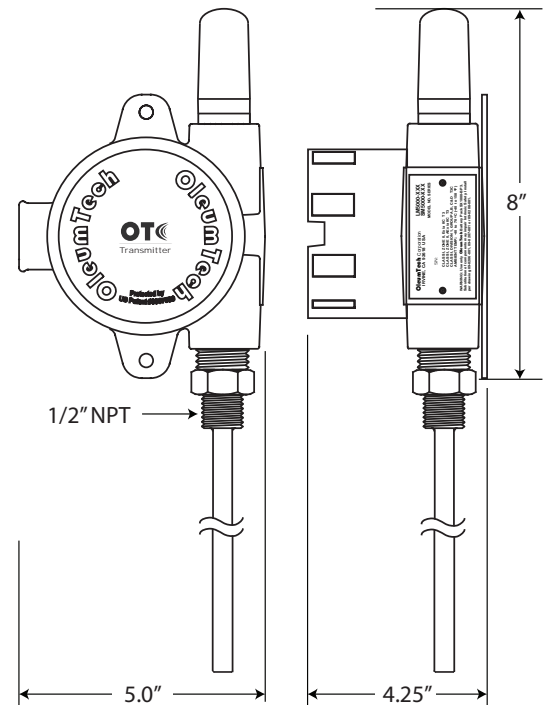
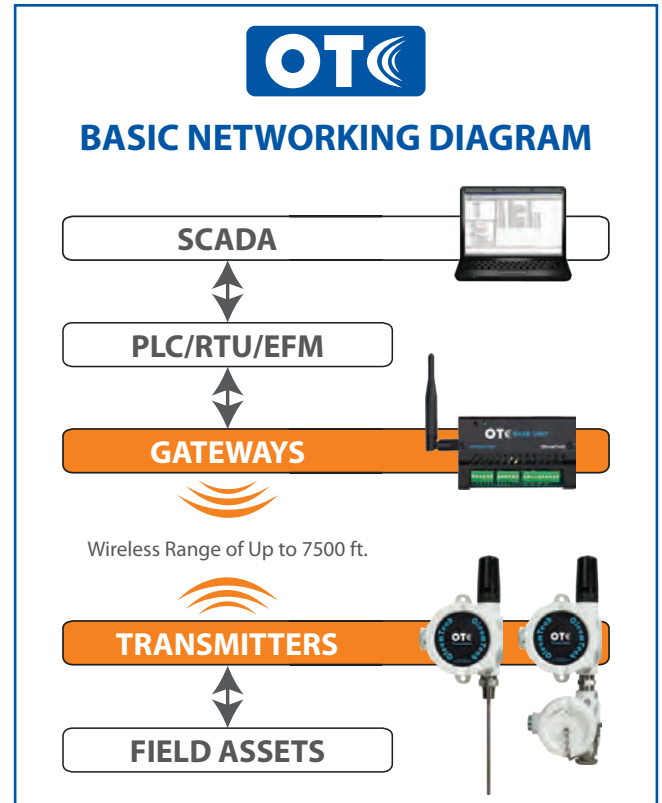
GENERAL SPECIFICATIONS

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|----------------------|--|
| Operating Conditions | · Ambient Temperature (Class I; Division 1): -40 °F to 158 °F (-40 °C to 70 °C) |
| | · Ambient Temperature (ATEX, IECEx): -4 °F to 158 °F (-20 °C to 70 °C) |
| | · Ambient Temperature (Non-Hazardous Applications): -40 °F to 185 °F (-40 °C to 85 °C) |
| | · Humidity: 0 to 99 %, Non-Condensing |
| Warranty | · 2-Year Parts and Labor |
| Country of Origin | · Made in USA |

ORDERING INFORMATION

| | |
|------------------------|--|
| Model Number(s) | · 900 MHz: SM5000-RTD (Direct-Mount) / SM5000-RTM (Multi-Vendor) |
| Wirelessly Connects To | · Gateways: Base Unit (WM2000-002) or DH2 (SR5000-DH2) |

RTD TEMPERATURE TRANSMITTER



OleumTech Corporation



SM5000-RTD / RTM

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