



Wio® RTD Transmitter

PRODUCT DATA SHEET

The WIO® RTD Transmitter is designed for precise and repeatable temperature measurement applications. Our wireless temperature transmitters have high accuracy and resolution over a wide temperature range (-50 to 750°F) for industrial and process applications.

WIO RTD Transmitters are offered in either a direct or pipe mounting package design which is multi-vendor compatible and supports all standard platinum 100 (PT-100) ohm RTD sensors. The two highly versatile designs are ideal for applications that require temperature measurement directly on the process. The multi-vendor compatible version enables quick installation and field replacements with easy access to the sensor wiring connections.

The RTD Transmitter is integrated with a RF radio operating in the 902-928 MHz ISM license-free band. This battery powered transmitter pushes the measured temperature value at configurable intervals. This operation greatly reduces power consumption and results in long battery life. The RTD Transmitters are Intrinsically Safe and housed in an explosion-proof enclosure for operation in hazardous environments.

Options: Custom Temperature Ranges and Sensor Lengths



SM5000-RTD
(Direct Mount)

SM5000-RTM
(Multi-vendor
Compatible)

FEATURES & BENEFITS

- PT100 RTD Sensor, Class A
- 22 Bit ADC with 0.1 °C Accuracy
- No Calibration Required for Direct-mount (Short-loop)
- License Free (ISM) Band, FHSS, FSK Technology
- Battery Operated (up to 5 years)
- Class I, Division 1 Intrinsically-Safe

TYPICAL APPLICATIONS

- Oil & Gas
- Industrial Process Control
- Petro-Chemical Processing
- Air, Gas & Liquid Temperature Measurement
- Flare Stack Temperature Measurement



RTD Transmitter

Technical Specifications


SYSTEM HARDWARE

- Embedded Controller: Ultra low power RISC microcontroller with internal FLASH (field upgradeable)
- User's Interface: Standard RS232 serial interface
- I/O Interface: 22-bit High resolution Delta-Sigma ADC

RTD TEMPERATURE SENSOR

- RTD Coefficient: Platinum 100 ohm, Class A
- Temperature Coefficient: 0.00385
- Probe Lengths: 2" to 18" (available in 1" increments)
- Temperature Range: -45 to +400 °C (-50 to +750 °F)
- Accuracy: Less than 1 °C over full range
- Material: Probe Cover - Silver Coated Copper
Probe Insulation - PTFE

WIRELESS COMMUNICATIONS

- Type (Standard): 900 MHz: ISM, FSK, FHSS
(Optional): 2.4 GHz: DSSS
- Frequency: 902 - 928 MHz
- Data Rate: 115.2 Kbps/9600 bps
- Output Power: 1mW (default) up to 10 mW
- Receiving Sensitivity: -100 dBm
- Range: Up to 3,000 feet based on terrain and clear line of sight
- Compliance:  Complies with FCC Part 15
Complies with Canada IC requirements of CISPR 22

MECHANICAL SPECIFICATIONS

- Monitor Dimensions: 5" x 8.5" x 4.25" (W x H x D)
- Mounting Hardware: Direct Mount
- Connection: 1/2" NPT

ELECTRICAL SPECIFICATIONS

- Power: Self-contained 3.6 volt lithium battery pack
- Battery Life: Up to 5 years with typical usage

CERTIFICATIONS

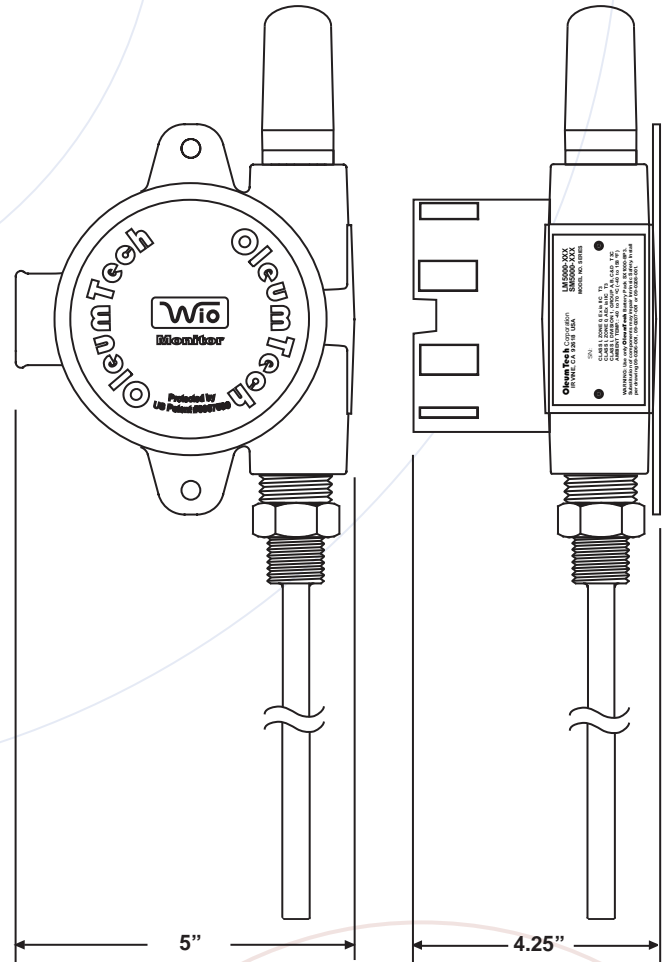
- Safety: Intrinsically safe for use in hazardous environments.



- Class I, Zone 0, Ex ia IIC T3
- Class I, Zone 0, AEx ia IIC T3
- Class I, Div. 1, Group A, B, C & D T3C

GENERAL SPECIFICATIONS

- Operating Conditions:
 - Ambient Temperature (Class I Division 1): -40 to 70 °C (-40 to 158 °F)
 - Ambient Temperature (Non-hazardous Applications): -40 to 85 °C (-40 to 185 °F)
 - Humidity: 0 to 99%, non-condensing



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