



RTD TEMPERATURE TRANSMITTER SM5010-RTD / SM5010-RTM



PRODUCT HIGHLIGHTS

- High Performance WIO® Wireless Connectivity
- Ideal for Wirelessly Monitoring Air, Gas, Water, or Liquid Temperatures
- Measures Temperature Range From -70°C to 500°C
- Direct or Pipe-Mounting 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)
- 50.8mm to 457.2mm Sensor Length Option for Direct-Mount Version
- Easy Access Wiring Connection for Pipe-Mount Version
- License-Free 900 MHz Band, Secure Data Transmission (2.4 GHz Optional)
- Intrinsically Safe for Use in Hazardous Locations
- Self-Contained Battery Operation
- Easy-to-Install, Configure and Use
- Connects to WIO Wireless Gateways
- User-Friendly BreeZ® Configuration Software

-70°C to 500°C Temp. Measurement	Measure Air, Gas Water, Liquid Temp.	22-Bit ADC with 0.1C Accuracy
51mm-457mm Sensor Length for Direct Mount	Supports Platinum 100 Ohm Sensors	915-928 MHz ISM License-Free Band
Self-Contained Battery Operation	Up to 10-year Battery Life	Class I; Division 1

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 Labour, Installation and Maintenance Costs
- Meet Regulatory Requirements
- Industrial Strength Performance & Durability

APPLICATIONS

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



TECHNICAL SPECIFICATIONS

HARDWARE FEATURES

Device Functionality	RTD Temperature Monitor w/ Built-In Wireless Transmitter
Embedded Controller	Ultra-low Power RISC Microcontroller with Internal FLASH (Field Upgradeable)
User 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	50.8mm to 457.2mm in 25.4mm Increments Available
Temperature Range	-70°C to 550°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:	900MHz ISM Band, FSK (Frequency-Shift Keying), FHSS (Frequency Hopping Spread Spectrum)
Frequency	915 MHz to 928 MHz
Data Rate	115.2 kbps / 9600 bps
Output Power	1 mW to 10 mW
Receiving Sensitivity	-100 dBm @ 115.2 bps or -110 dBm @ 9600 bps
Range	Up to 2.3km with Clear Line of Sight
Type: 2.4GHz	Optional Version Available, ISM Band, DSSS

CERTIFICATIONS

FCC	FCC Part 15
Australia	
Industry Canada (IC)	ICES-003
Safety	Intrinsically Safe for Use in Hazardous Environments Class I; Division 1, Group A, B, C & D T3C Class I; Zone 0 Ex ia IIC T3 / Class I; Zone 0, AEx ia IIC T3

MECHANICAL SPECIFICATIONS

Transmitter Dimensions	127 mm (W) x 216 mm (H) x 108 mm (D)
Mounting Hardware	Direct or Pipe Mount
Hardware Connection	W/O Junction Box: 12.7mm NPT Male; W/ Junction Box: 19.05mm NPT Female
Enclosure Casing Material	Type 4X Aluminum; IP66

GENERAL SPECIFICATIONS

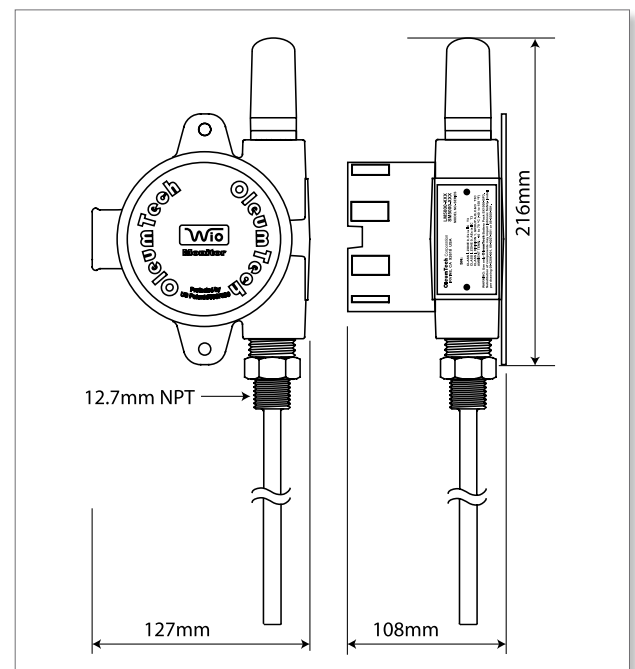
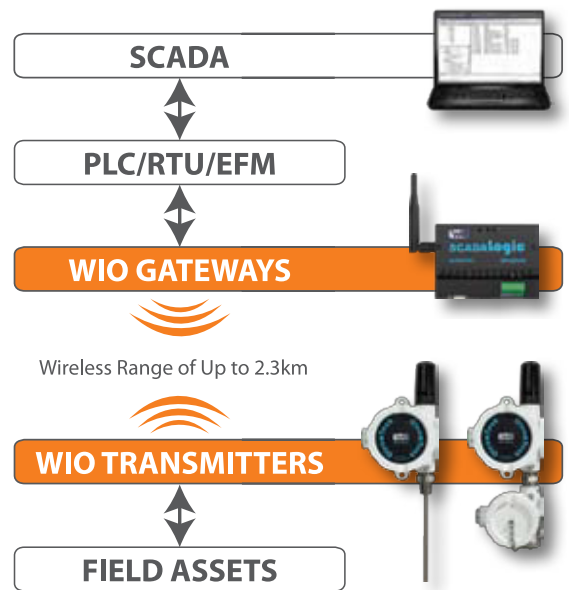
Operating Conditions	Ambient Temperature (Class I; Division 1): -40°C to 70°C
Humidity:	0 to 99%, Non-Condensing
Warranty	2-Year Parts and Labour

ORDERING INFORMATION

This Device is	RTD Temperature Transmitter SM5010-RTD / SM5010-RTM
Wirelessly Connects to	WIO® Gateways: SCADALogic, Base Unit or DH2



BASIC NETWORKING DIAGRAM



Automation Group

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