Monnit
Wireless High Temperature Sensor

General Description

The RF Wireless High Temperature Sensor uses a glass coated platinum RTD sensor to accurately measure temperatures from -50°C to +370°C (-58°F to 700°F).

Features

- Accurate to +/- 0.3°C.
- RTD temperature range: -50°C to +370°C (-58°F to 700°F)
- Free iMonnit basic online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email.

Principle of Operation

The Monnit Wireless High Temperature Sensor outputs the ambient temperature in degrees Celsius or Fahrenheit. It is programmed to sleep for a user-given time interval (heartbeat) and then wakeup, power up the RTD sensor and wait for it to stabilize then mathematically compute the temperature and transmit the data to the gateway.

Applications

- Heaters & Boilers
- Ovens & Cooking Devices
- Environmental Monitoring
- Smart Machines & Smart Structures
- HVAC Operation & Testing

Monnit Sensors Core Specifications

- Power: Replaceable AA batteries
- Communication: RF 900, 920, 868 and 433 MHz
- Dimensions: 3.02" x 2.1" x 1.27"
- Antenna: 4" wire antenna
- Device Range: 250 - 300 ft. non-line-of-sight*
- Battery Life: At 1 hour heartbeat setting, AA batteries will last more than 4 years.**

* Actual range may vary depending on environment.
** Battery life is determined by sensor reporting frequency and other variables.
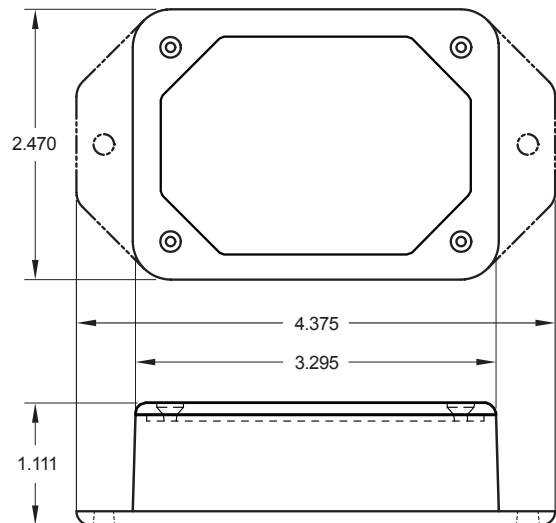
Certifications

900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 920 MHz product; ARIB STD-T108 R210-103733. 868 and 433 MHz product tested and found to comply with: CISPR 22:2008-09 / EN 55022:2010 - Class B and ETSI EN 300 220-2 V2.4.1 (2012-05).

The Leader in Low Cost Wireless Sensors

Technical Specifications

Technical Specifications	
Supply Voltage	2.0 - 3.6 VDC
Current Consumption	0.7 µA (sleep mode)
Electronics Operating Temperature *	Using Alkaline AA Batteries: -18°C to +55°C (0°F to +130°F)
	Using Lithium AA Batteries: -40°C to +85°C (-40°F to +185°F)

RTD Technical Specifications

RTD Technical Specifications	
RTD Temperature Range (RTD and Cable Only)	-50°C to +370°C (-58°F to +700F)
Accuracy @ 0°C	+/- 1.2% (0.3°C)
Dissipation Constant	2mW/°C
Thermal Time Constant	15 sec max.

 * At temperatures above 100°C, it is possible for the board circuitry to lose programmed memory.

RTD Tolerances

Temperature (°C)	Tolerance (±°C)	
	Uncalibrated	Calibrated
- 50°C	3.55	0.75
- 30°C	3.45	0.65
- 10°C	3.35	0.55
0°C	3.30	0.50
10°C	3.35	0.55
30°C	3.45	0.65
50°C	3.55	0.75
70°C	3.65	0.85
90°C	3.75	0.95
110°C	3.85	1.05
130°C	3.95	1.15
150°C	4.05	1.25
170°C	4.15	1.35
190°C	4.25	1.45
210°C	4.35	1.55
230°C	4.45	1.65
250°C	4.55	1.75
270°C	4.65	1.85
290°C	4.75	1.95
310°C	4.85	2.05
330°C	4.95	2.15
350°C	5.05	2.25
370°C	5.15	2.35

Caution/Notice:

This product is designed for application in an ordinary environment (normal room temperature, humidity and atmospheric pressure). Do not use this sensor under the following conditions as these factors can deteriorate the product characteristics and cause failures and burn-out.

- Corrosive gas or deoxidizing gas - chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, nitric oxides gas, etc.).
- Volatile or flammable gas.
- Dusty conditions.
- Under low or high pressure.
- Wet or excessively humid locations.
- Places with salt water, oils chemical liquids or organic solvents.
- Where their are excessively strong vibrations.
- Other places where similar hazardous conditions exist.

Use this product within the specified temperature range. Higher temperature may cause deterioration of the characteristics or the material quality of this product.

MONNIT™

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For more information about our products or to place an order, please contact our sales department at 801-561-5555.

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