



Wireless Low Temperature Sensor

General Description

The RF Wireless Low Temperature Sensor uses a glass coated platinum RTD sensor to accurately measure temperatures from -200°C to +162°C (-328°F to +325°F).

- Standard accuracy at 0°C: +/- 3.3°C
- Calibrated accuracy at 0°C: +/- 0.5°C
- Temperature range: -200°C to +162°C (-328°F to +325°F)



Free iSenseit 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 Senseit Wireless Low 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.

Example Applications

- Freezers & Coolers
- Environmental Monitoring
- Smart Machines & Smart Structures
- HVAC Operation & Testing

And many more...

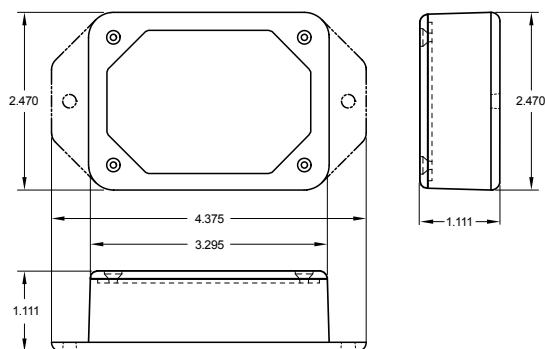
Senseit Sensor Core Specifications

- Wireless Range: 250 - 300 ft. (non line-of-sight / indoors / through walls, ceilings & floors) *
- Communication: RF 900 MHz
- Power: Replaceable batteries (optimized for long battery life) - Line-power (AA version) and solar (Industrial version) options available
- Battery Life (at 1 hour heartbeat setting) **
AA battery > 4-8 years

* Actual range may vary depending on environment. (Wi-Fi sensor typical range up to 100 ft.)

** Battery life is determined by sensor reporting frequency and other variables.

Wireless Low Temperature Sensor (AA)



Technical Specifications

Supply Voltage	2.0 - 3.6 VDC (3.0 - 3.6 VDC Using Power Supply) *
Current Consumption	0.7 μ A (sleep mode)
Operating Temperature Range (Board Circuitry and Batteries)	-18°C to 55°C (0°F to 130°F) using alkaline -40°C to 85°C (-40°F to 185°F) using lithium **
Weight	3.7 oz. (3.7 oz w/ 3' probe)
Wireless Range	250 - 300 ft. (Indoors / Through walls, ceilings & floors) Range may vary according to environmental variables

* Hardware cannot withstand negative voltage. Please take care when connecting a power device.

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

RTD Technical Specifications

RTD Temperature Range (RTD and Cable Only)	-200°C to +162°C (-328°F to +325°F)
Accuracy @ 0°C	+/- 3.3°C Standard (+/- 0.5°C Calibrated **)
Dissipation Constant	2mW/°C
Thermal Time Constant	15 sec max.

RTD Accuracy

Temperature (°C)	Accuracy (\pm °C)	
	Uncalibrated	Calibrated
-200°C	4.30	1.50
-180°C	4.20	1.40
-160°C	4.10	1.30
-140°C	4.00	1.20
-120°C	3.90	1.10
-100°C	3.80	1.00
-80°C	3.70	0.90
-60°C	3.60	0.80
-40°C	3.50	0.70
-20°C	3.40	0.60
0°C	3.30	0.50
20°C	3.40	0.60
40°C	3.50	0.70
60°C	3.60	0.80
80°C	3.70	0.90
100°C	3.80	1.00
120°C	3.90	1.10
140°C	4.00	1.20
160°C	4.10	1.30

Certifications



900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RF-SC1. 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).

Power Options

Two replaceable 1.5V AA sized batteries are included with the standard model. A line-power version with battery backup is also available - allowing it to be powered by a standard 3.0 - 3.6V power supply and use the internal batteries if there is a power interruption.

Power options must be selected at time of purchase as the internal hardware of the sensor must be changed to support the selected power requirements.

