Monnit Industrial
Wireless Temperature Sensor

General Description

Monnit's industrial wireless temperature sensor uses a thermistor to accurately measure temperatures from -40°C to 85°C. Perfect for measuring ambient conditions in temperature critical applications such as facilities or server rooms.

Features

- Accurate to ± 1° C (± 1.8° F)
- Increased accuracy by user calibration to ± 0.25° C (± 0.45° 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 industrial wireless temperature sensor outputs the ambient temperature in degrees Fahrenheit or Celsius. It is programmed to sleep for a user-specified time interval (heartbeat) and then wakeup, send power to the NTC Thermistor, wait for the reading to stabilize, calculate the temperature and transmit the information to the wireless gateway. To stay within the abilities of the processor, the temperature is computed from a data table provided by the manufacturer. To reduce error, a variable resistor configuration is implemented over specified temperature ranges.

Solar Power Option

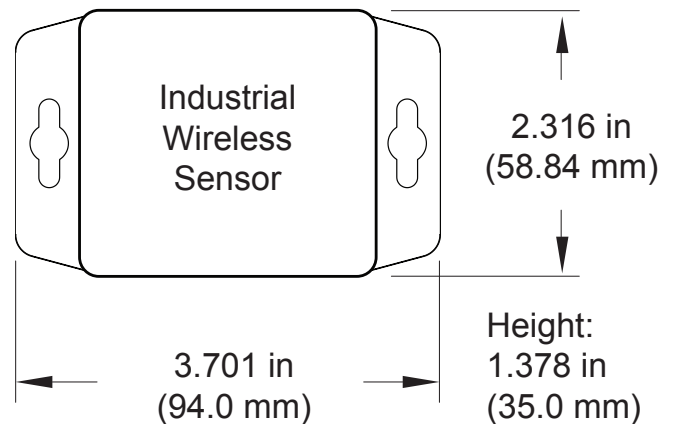Monnit Industrial Sensors are powered by a replaceable 3.6 V battery (included).

An optional solar powered version is also available. The solar powered sensor uses a Lithium Iron Phosphate rechargeable battery in conjunction with a solar power cell, extending the life of the battery.

Monnit Industrial Sensor Electronics Specifications

- Power: replaceable 3.6V battery (included)
- Communication: RF 900, 920, 868 and 433 MHz
- Dimensions: 3.7" x 2.23" x 1.38"
- Antenna: 3dBi RP SMA antenna
- Operating Temperature: -40° to 85°C (-40° to 185°F)
- Transmission Range: 300 - 350 ft. non-line-of-sight*
- Battery Life: at 1 hour heartbeat setting, battery will last ~ 4-5 years.**

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

Applications

- Ambient Temperature Monitoring
- Environmental Monitoring
- Smart Machines & Smart Structures
- HVAC Operation & Testing
- Data Center Monitoring

The Leader in Low Cost Wireless Sensors

Technical Specifications	
Supply Voltage	2.0 - 3.6 VDC *
Current Consumption	0.7 µA (sleep mode) 2 mA (radio idle/off mode) 2 mA (measurement mode) 25 mA (radio RX mode) 35 mA (radio TX mode)
Operating Temperature Range (Board Circuitry and Battery)	-40°C to +85°C (-40°F to +185°F) **
Optimal Battery Temperature Range (Battery)	+10°C to +60°C (+50°F to +140°F)
Thermistor Temperature Range (Thermistor Only)	-40°C to +125°C (-40°F to +257°F) (Limited to Main Unit Circuitry, -40°C to +85°C)
Accuracy @ 25°C	+/- 1% (1° C or 1.8° F)
User Calibrated Accuracy	+/- 0.25° C (± 0.45° F)
Time Constant @ 25°C	30 sec
Enclosure Rating	NEMA 1, 2, 4, 4x, 12 and 13 rated, sealed and weather proof
Certifications	FC CE ⬛ Industry Canada ⊕ 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).

 * 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.

Type 1, 2, 4, 4X, 12 and 13 NEMA Rated Enclosure:

Monnit's Industrial sensors are enclosed in reliable, weatherproof NEMA rated enclosures. Our NEMA rated enclosures are constructed for both indoor or outdoor use and protect the sensor circuitry against the ingress of solid foreign objects like dust as well as the damaging effects of water (rain, sleet, snow, splashing water, and hose directed water).

- Safe from falling dirt.
- Protects against wind blown dust.
- Protects against rain, sleet, snow, splashing water, and hose directed water
- Increased level of corrosion resistance
- Will remain undamaged by ice formation on the enclosure

MONNIT®

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

Visit us on the web at www.monnit.com.

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