

# Monnit Industrial Grains Per Pound Sensor

## Technical Overview



## General Description

The Monnit industrial wireless grains per pound sensor measures the mass in grains of H<sub>2</sub>O in otherwise dry air. Put simplistically, the measurement is the weight of water in air. This sensor uses a calibrated humidity sensor to obtain the absolute humidity at the current temperature and converts that value into the Grains per Pound measurement displayed.

## Features

- Measures grains of moisture per pound of air.
- 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 industrial wireless grains per pound sensor uses a highly accurate RH sensor to measure the weight of water in air. The information is then sent to the iMonnit Online Sensor Monitoring and Notification System. The system calculates the information gathered then displays the data on-screen or it can be exported as a data sheet or graph. Notifications can be set up through the online system to alert the user when defined thresholds have been met or exceeded.

## Solar Power Option



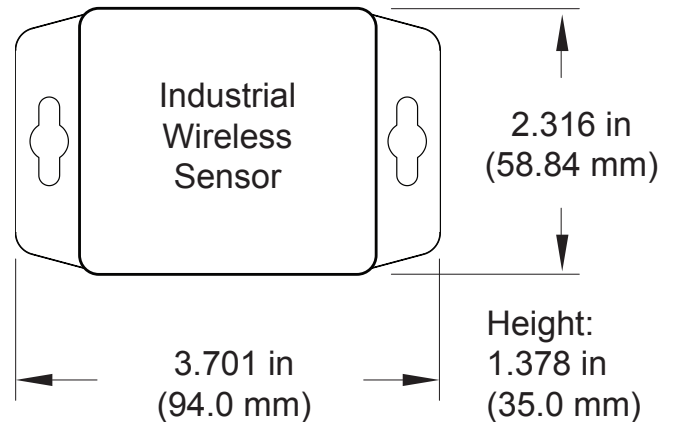
Monnit Industrial Sensors are powered by a replaceable 3.6 V battery (included).

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

- Greenhouse humidity monitoring.
- Agriculture environmental monitoring.
- Art gallery and museum environmental monitoring.
- Humidor monitoring.
- General weather and environmental monitoring.

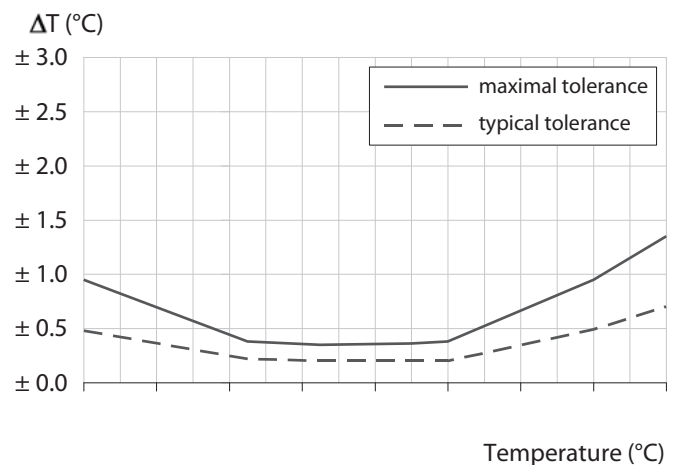
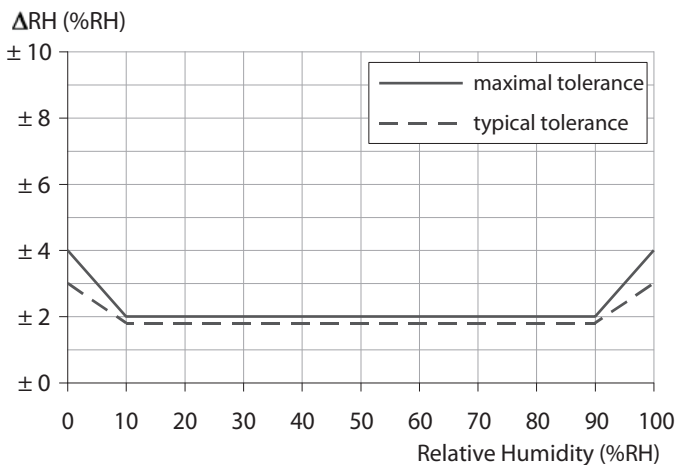
**The Leader in Low Cost Wireless Sensors**

## Technical Specifications

Supply Voltage	2.0 - 3.6 VDC *
Current Consumption	0.7 $\mu$ A (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 )
Accuracy	$\pm$ 1.8% under normal conditions ( 10% - 90% RH )
RH Operating Range	0 – 100% RH
RH Response Time	8 sec ( tau 63% )
Enclosure Rating	NEMA 1, 2, 4, 4x, 12 and 13 rated, sealed and weather proof
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).

\* 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.

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Visit us on the web at [www.monnit.com](http://www.monnit.com).