OEM SENSORS.COM™

Wireless Grains Per Pound Sensor

Technical Overview

General Description

The OEM wireless grains per pound sensor measures the mass in grains of H2O 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.

Principle of Operation

The OEM wireless grains per pound sensor uses a highly accurate RH sensor to measure the weight of water in air.

OEM Sensor Core Specifications

- Power: 3.0 V coin cell battery
- Communication: RF 900, 868 and 433 MHz
- Antenna: 4” wire antenna
- Operating Temperature: -40° to 85°C (-40° to 185°F)
- Device Range: 250 - 300 ft. non-line-of-sight*
- Only 1 inch by 1 inch

* Actual range may vary depending on environment.

Applications

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

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)
Electronics Operating Temperature Range	-40°C to +85°C (-40°F to +185°F) **
Available Operating Frequencies	900 MHz (25 Channels), 868 MHz (5 Channels) and 433 MHz (15 Channels)
Accuracy	± 2% under normal conditions (10% - 90% RH)
RH Operating Range	0 – 100% RH
RH Response Time	8 sec (tau 63%)
Certifications	FC CE Industry Canada 900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 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 can not withstand negative voltage. Please take care when connecting a power device.
** At temperatures above 100°C, it is possible to lose programmed memory.

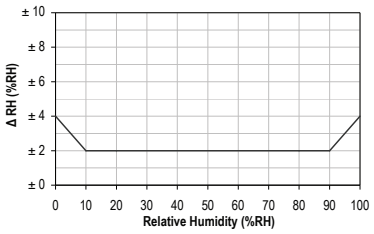

Figure 1: Maximal RH-tolerance at 25°C per sensor type.

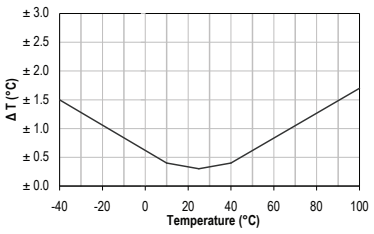

Figure 2: Maximal T-tolerance per sensor type.

For more product information, to get a quote, or to place an order, please contact our sales department at 801-561-5555.

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

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