Monnit Industrial
Wireless Digital Compass

General Description

The industrial wireless compass sensor uses a highly sensitive 3 axis digital compass to return the orientation of the device in regards to magnetic north. Great for tracking directional behavior and positioning.

Features

- 3-Axis Magnetoresistive Sensors.
- North and East Calibration
- Heading Offset (for true north)
- Free iMonnit basic online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email.

Principles of Operation

The Monnit industrial wireless digital compass uses a 3-Axis magnetoresistive sensor to accurately measure both the direction and the magnitude of Earth's magnetic fields. The sensor converts any incident magnetic field in the sensitive axis directions to a differential voltage output which the device then converts to directional information which is reported to the software. A heading offset can be applied via software to achieve true north readings. The software includes a North and East calibration option to improve heading accuracy.

Note: Because of variations in Earth's magnetic field, onsite calibration is required for optimal results.

Solar Power Option

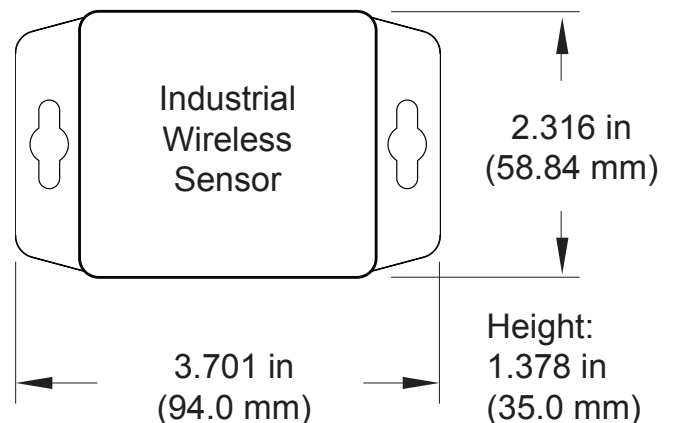Monnit Industrial Sensors are powered by a replaceable 3.6 V battery (included).

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.

Industrial Wireless Sensor

2.316 in (58.84 mm)

3.701 in (94.0 mm)

Height: 1.378 in (35.0 mm)

Applications

- Digital Compass
- Device Orientation
- Device Directional Movement
- And many more...

The Leader in Low Cost Wireless Sensors

Technical Specifications

Magnetic Dynamic Range	±1.3 Gauss
Measurement Period	106 msec typ.
Calibrated Accuracy	± 4° for calibrated North and East Headings (both North and East headings must be calibrated for specified accuracy)**
Gain Tolerance (Ambient, unbiased)	-40 to +125°C
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)
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).

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

** For optimal results calibrate in the immediate area in which the sensor will be used and based on magnetic North. Be aware that other magnetic/ferrous sources in the area can adversely affect readings. As the sensor rotates away from calibrated North and East headings the accuracy may drift.

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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