Monnit Industrial

Wireless Accelerometer - Vibration Meter

Technical Overview

General Description

Monnit's Industrial Wireless Vibration Meter uses an accelerometer to measure vibration speed and frequency and report on three axes.

Features

- Reports data as speed (mm/s) and frequency (Hz) on all three axes, and how long the sensor was measuring during the interval.
- Adjustable measurement methods: Peak acceleration RMS, peak velocity RMS, and true RMS.
- 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 Vibration Meter uses an accelerometer to measure g-force on all axes and then determines speed and frequency. It can be set to only capture when a vibration occurs and sleep when no vibrations are present, or it can be set to measure at a given assessment interval regardless of whether a vibration has occurred. If it is set to always measure, the sensitivity can be further adjusted to filter out noise. The Vibration Meter will also report the duty cycle, or how long the sensor was measuring vibrations throughout the heartbeat.

Solar Power Option

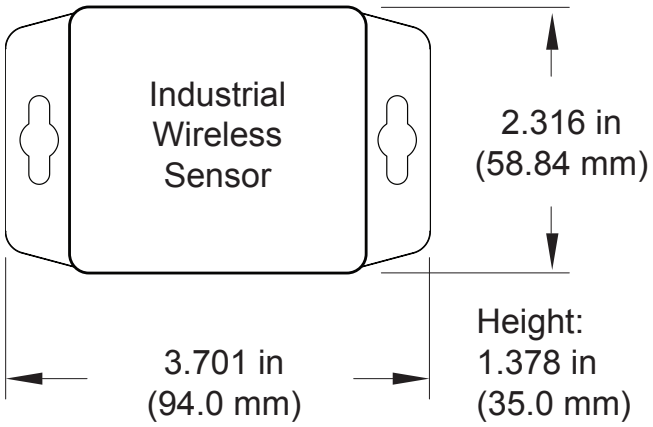
Monnit Industrial Sensors are powered by a replaceable 3.6 V battery (included).

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: up to 2 years. Configurations can be altered to get more or less battery life.**

* Actual range may vary depending on environment.
** Battery life is determined by sensor reporting frequency, sampling settings and other variables. Other power options are also available.



Applications

- Vibration Monitoring
- Smart Machines, Smart Structures & Smart Materials
- Assembly Line Monitoring

The Leader in Low Cost Wireless Sensors

Technical Specifications		
Supply Voltage		2.0 - 3.6 VDC *
Current Consumption		6 µA (accelerometer listening for vibrations) 0.7 µA (sleep mode after measurement) 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° to +85°C (-40° to +185°F) **
Included Battery	Max Temperature Range:	-40° to +85°C (-40° to +185°F)
	Capacity:	1800 mAh
Optional Solar Battery	Solar Panel:	5VDC / 30mA (53mm x 30mm)
	Charging Temperature Range:	0° to 45°C (32° to 113°F)
	Max Temperature Range:	-20° to 60°C (-4° to 140°F)
	Included Rechargeable Battery:	600 mAh / >2000 Charge Cycles (80% of initial capacity)
Speed Measurement Range		0 to 25.5 mm/s
Speed Measurement Resolution		0.1 mm/s
Frequency Measurement Range		0 to 200 Hz
Frequency Measurement Resolution		3.125 Hz rounded down to nearest 1 Hz
Weight		4.7 Ounces
Enclosure Rating		NEMA 1, 2, 4, 4x, 12 and 13 rated, sealed and weather proof
UL Rating		UL Listed to UL508-4x specifications (File E194432)
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

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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