

# Monnit Industrial

## Wireless 0-20 mA Current Meter

### Technical Overview

#### General Description

Monnit's industrial wireless 0-20mA current meter is capable of measuring the current off another device or sensor, up to 20mA (DC), by connecting the leads on the sensor to the positive and ground terminals of the device being measured.

#### Features

- Measures current up to 20 mA.
- 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

By connecting the leads on the Monnit industrial wireless 0-20 mA current meter to the positive and ground terminals of another device, the sensor can measure the current and send data to the iMonnit Online Sensor Monitoring and Notification System. The data is stored in the online system and can be reviewed and exported as a data sheet or graph. Notifications can be set up through the online system to alert the user when certain thresholds have been met or exceeded.

#### Solar Power Option

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

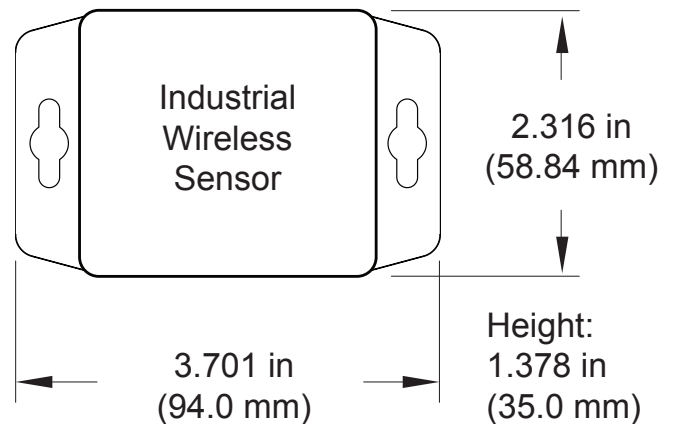
An optional solar powered version is also available. The solar powered sensor uses a Lithium Iron Phosphate rechargeable battery in conjunction with a solar power cell, extending the life of the battery.



#### 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.



#### Example Interfacing

- Current transducers.
- pH sensors.
- Dissolved oxygen sensors
- Pressure sensors.
- Magnetic flow sensors.
- And many more...

**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 )
Sensor Resolution	~ 0.01 mA (11-bit single ended)
Accuracy	Uncalibrated: 0.7mA, 0.35mA typical Caibrated: 0.05mA
Conversion Time	228 $\mu$ s
Full Scale Current	0 - 20 mA ***
Input Resistance	51 ohms
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.

\*\*\* If application exceeds 20 mA the sensor will return a maximum reading of 20 mA.

If current applied to measurement port exceeds 30mA, circuit protection and conditioning is required.

### 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**<sup>®</sup>

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](http://www.monnit.com).

Monnit Corporation  
4403 South 500 West  
Murray, UT 84123  
801-561-5555  
[www.monnit.com](http://www.monnit.com)