

# Monnit Industrial

## Wireless 500 VAC/VDC Voltage Meter

### Technical Overview



### General Description

Monnit's industrial wireless 500 VAC/VDC Voltage Meter is an analog measuring device that reports the measured voltage on user specified intervals. The sensor has three operating modes, in which you can obtain the voltage measurement in VACrms (root mean squared), the peak voltage, or the DC voltage. The modes can be set by the user; the default mode measures VACrms.

### Features

- Wireless interface for measuring voltage.
- Measures voltage up to 500 VAC/VDC.
- Free iMonnit basic online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email.

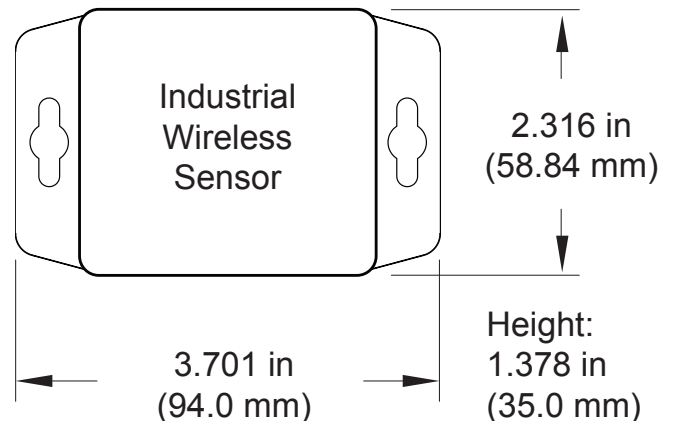
### Principle of Operation:

By connecting the leads on the wireless sensor to the positive and ground terminals of another device, battery or sensor, it can measure the voltage 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.

### 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

- Power Lines
- Machinery
- Electrical Motors
- Generators
- 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)<br>2 mA (radio idle/off mode)<br>2 mA (measurement mode)<br>25 mA (radio RX mode)<br>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   | 11 bit (single ended)  |
| Conversion Time   | 228 $\mu$ s  |
| Supported Operation Modes ***                             | VACrms (root mean squared)<br>Peak Voltage<br>DC Voltage   |
| Full Scale Voltage  | 0 - 500 VAC/VDC ****   |
| Maximum Input Voltage                                     | 600 VAC/VDC ****   |
| Enclosure Rating  | NEMA 1, 2, 4, 4x, 12 and 13 rated, sealed and weather proof  |
| Certifications  | <br>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.

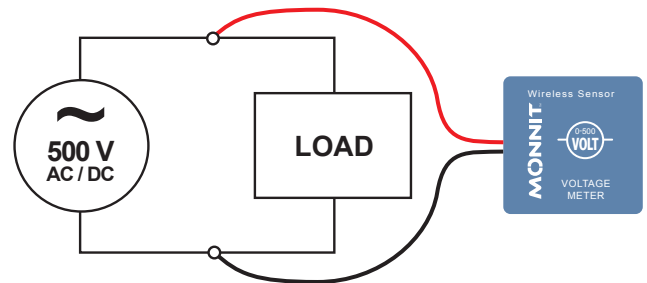
\*\* At temperatures above 100°C, it is possible for the board circuitry to lose programmed memory.

\*\*\* Operation mode must be specified at time of purchase.

\*\*\*\* If application exceeds 500 VAC/VDC the sensor will return a maximum reading of 500 V.

## Proper Installation:

If the sensor is not connected to the power source properly, it will appear that the sensor is broken. Please follow this wiring diagram to ensure proper performance and detection.



## 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).

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