

Monnit

Wireless 0-50 VDC Voltage Meters (AA)



Technical Overview

General Description

The Monnit Wireless Voltage Meter measures the voltage between two electrical points. It can be connected to the power and ground of any voltage source and measure within stated accuracy up to 50 VDC. Perfect for measuring battery voltage at specified intervals where sensor data will be wirelessly sent to iMonnit, the online sensor monitoring system.

Features

- Wireless interface for measuring voltage.
- Available in multiple voltage ranges. Measures voltage up to 50 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 Monnit Wireless Voltage Meter to the positive and ground terminals of a battery, users can measure battery voltage through the iMonnit Online Sensor Monitoring and Notification System. Notifications can be set up through the online system to alert the user when battery levels reach a certain point. The data is also stored in the online system and can be reviewed and exported as a data sheet or graph.

Power Options

The standard version of this sensor is powered by two replaceable 1.5 V AA sized batteries (included with purchase).

This sensor is also available with a line power option. The line powered version of this sensor has a barrel power connector allowing it to be powered by a standard 3.0 - 3.6 V power supply. The line powered version also uses two standard 1.5 V AA batteries as backup for uninterrupted operation in the event of line power outage.

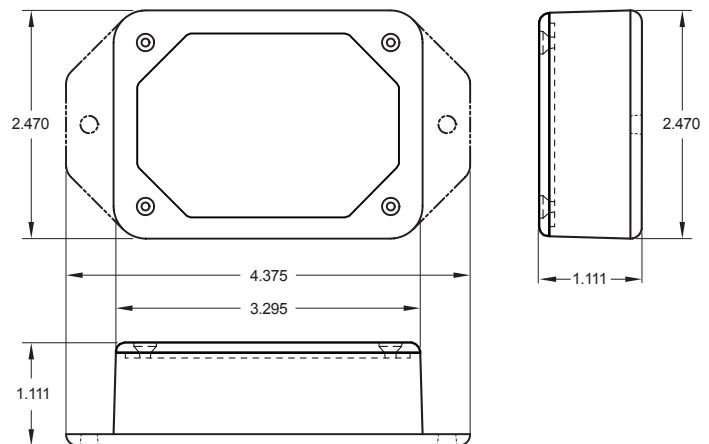
Power options must be selected at time of purchase, as the internal hardware of the sensor must be changed to support the selected power requirements.

Monnit Sensor Core Specifications

- Power: Two replaceable 1.5 V AA batteries (Option for line power with battery backup)
- Communication: RF 900, 920, 868 and 433 MHz
- Dimensions: 4.375" x 2.470" x 1.111"
- Antenna: 4" wire antenna
- Operating Temperature: -40° to 85°C (-40° to 185°F)
Device Range: 250 - 300 ft. non-line-of-sight*
- Battery Life: At 1 hour heartbeat setting, standard AA batteries will last up to 4 years.**

* Actual range may vary depending on environment.


** Battery life is determined by sensor reporting frequency and other variables. Other power options are also available.



Example Usage

- Car Battery Monitoring
- Boat and Marine Battery Monitoring
- RV Battery Monitoring
- ATV / Motorcycle Battery Monitoring
- Lawn Mowers and Utility Vehicle Battery Monitoring
- And many more...

The Leader in Low Cost Wireless Sensors

| Technical Specifications | |
|---|--|
| Supply Voltage | 2.0 - 3.6 VDC (3.0 - 3.6 VDC Using Power Supply) * |
| Current Consumption | 0.7 μ 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 Batteries) | -18°C to 55°C (0°F to 130°F) using alkaline -40°C to 85°C (-40°F to 185°F) using lithium ** |
| Optimal Battery Temperature Range (AA) | +10°C to +50°C (+50°F to +122°F) |
| Full Scale Voltage | 0 - 50 VDC *** |
| Absolute Maximum Voltage | 75 VDC *** |
| Sensor Resolution | 0.025 VDC |
| Conversion Time | 228 μ s |
| Accuracy | +/- 3% FS**** |
| User Calibrated Accuracy | +/- 1% FS ***** |
| 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.

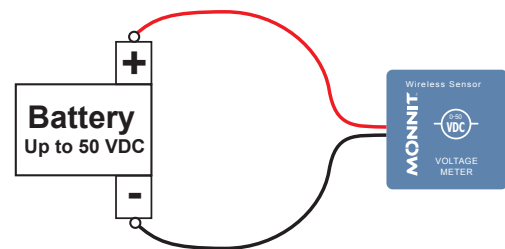
*** The sensor is capable of measuring above 50 volts but may not meet the specified accuracy above this value.

**** Due to diode reverse voltage protection the sensor typically has a -.3 volt offset between 0 and 5 volts.

***** For best results calibrate at a voltage between 50% and 90 % of the voltage range. If the max application voltage is below 50% of the voltage range (25V) calibrate to the max application voltage instead. It is not recommended to calibrate the sensor below 6 volts.

Proper Installation:

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



Caution/Notice:

This product is designed for application in an ordinary environment (normal room temperature, humidity and atmospheric pressure). Do not use this sensor under the following conditions as these factors can deteriorate the product characteristics and cause failures and burn-out.; corrosive gas or deoxidizing gas - chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, nitric oxides gas, etc.), volatile or flammable gas, dusty conditions, under low or high pressure, wet or excessively humid locations, places with salt water, oils chemical liquids or organic solvents, where there are excessively strong vibrations, other places where similar hazardous conditions exist.

Use this product within the specified temperature range. Higher temperature may cause deterioration of the characteristics or the material quality of this product.

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.

MONNIT[®]

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