Monnit

Wireless Voltage Meter (0-50 VDC)

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.
- 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

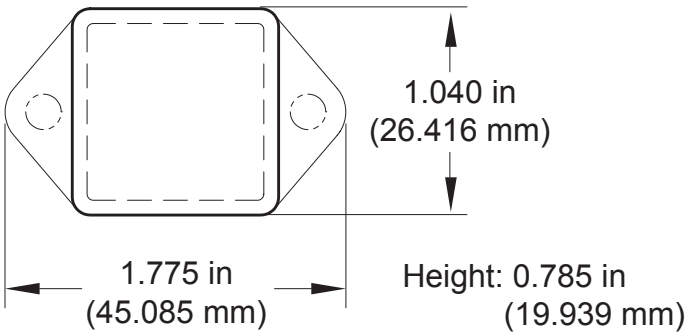
Sensors are powered by a replaceable 3.0 V coin cell battery. Optional AA battery powered sensors are available. The AA version of these sensors are larger in size (3” [L] x 2.1” [W] x 1.2” [H]) and include two long-life AA batteries.

It is recommended that unless you are using the AA battery solution, you set heartbeat to no faster than one hour to preserve battery life.

Monnit Sensor Core Specifications

- Power: Replaceable 3.0 V coin cell battery
- Communication: RF 900, 920, 868 and 433 MHz
- Dimensions: 1.775” x 1.040” x 0.785”
- Antenna: 4” wire antenna
- Operating Temperature: -7° to 60°C (20° to 140°F)
- Device Range: 250 - 300 ft. non-line-of-sight*
- Battery Life: At 1 hour heartbeat setting, coin cell battery will last ~ 1-2 years.**

* Actual range may vary depending on environment.
** Battery life is determined by sensor reporting frequency and other variables.



Example Usage

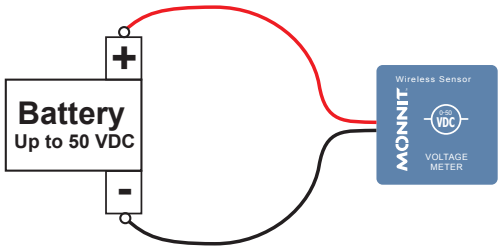
- Car Battery Monitoring
- Boat and Marine Battery Monitoring
- RV Battery Monitoring
- ATV / Motorcycle Battery Monitoring
- Lawn Mowers and Utility Vehicle Battery Monitoring
- And many more...

Technical Specifications	
Supply Voltage	2.0 - 3.6 VDC *
Current Consumption	0.7 µA (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 Coin Cell)	-7°C to +60°C (20°F to +140°F)**
Optimal Battery Temperature Range (Coin Cell)	+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 µs
Accuracy	+/- 3% FS****
User Calibrated Accuracy	+/- 1% FS *****
Certifications	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 can not 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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