MOWI™

Monnit Wi-Fi Voltage Meter (0-1.2 VDC)

Technical Overview

General Description

The Monnit Wi-Fi Voltage Meter can interface with other devices to measure voltage up to 1.2 VDC. An integrated 802.11 b/g radio allows the sensor to work with any existing Wi-Fi network. Monnit Wi-Fi sensors can be easily programmed with your Wi-Fi network's WEP or WPA(2) security via the free MoWi Setup Utility (PC application) and a MoWi USB programming cable (available in the Monnit web store).

Features

- Wireless interface for measuring voltage.
- Measures voltage up to 1.2 VDC.
- User calibration, allows for higher accuracy.
- Logs data if Wi-Fi network is disrupted.
- 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 Wi-Fi Voltage Meter 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.

High Gain Antenna Option

Monnit Wi-Fi sensors are also available with a detachable high gain antenna to provide a 20-30% increase in range over the standard Wi-Fi sensor. Option uses a different hardware configuration and must be choosen at time of purchase.

Monnit Wi-Fi Sensor Electronics Specifications

- Power: 2 replaceable 1.5V "AA" batteries (included)
- Communication: 802.11 b/g
                (2.412 - 2.484 GHz)
- Wi-Fi Security: Open, WEP, WPA, WPA2
- Dimensions: 3.02" x 2.1" x 1.27"
- Transmission Range: Up to 100 ft. *
- Battery Life: Up to 5 years.**

* Actual range may vary depending on environment.
** Battery life is affected by sensor type, Wi-Fi security type, distance from Wi-Fi router, reporting frequency and other variables.

Height: 1.270 in (32.258 mm)

2.100 in
(53.340 mm)

3.020 in
(76.708 mm)
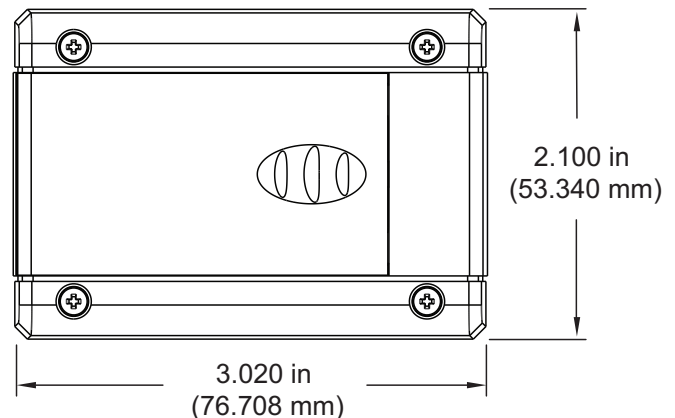
Example Interfacing

- Strain gauges.
- Pressure transducers.
- Thermocouples.
- Piezoelectric sensors.
- Photo resistors.
- And many more...

*The Leader in Low Cost Wireless Sensors*

Technical Specifications

Networking Standards	IEEE 802.11 b/g
Frequency Band	2.412 - 2.484 GHz
Wi-Fi Security Standards	Open, WEP, WPA, WPA2
Wi-Fi Security Programming	Via PC software using USB cable. (Can be changed through iMonnit online software.)
Network Settings	Auto DHCP/DNS or Static
Network Connectivity	Connects to hidden and visible Wi-Fi networks
Data Logging	Standard - On Wi-Fi disruption, unit will log the first 50 readings and transmit when Wi-Fi connection is re-established. Premiere - Unit can record up to 50,000 readings and transmit when Wi-Fi is available.
Power consumption	4uA sleep, 35mA active RX, 180mA TX (at +12dBm)
Battery Life	Up to 5 years depending on sensor type, Wi-Fi security, distance from Wi-Fi router, reporting frequency and other variables. (Testing surpassed 90,000 transmissions until battery depletion.)
Wi-Fi Data Rate	Auto configures to best rate for maximum range.
Wireless Range	Up to 100 ft. device range (typical to standard Wi-Fi devices).
Electronics Operating Temperature *	Using Alkaline Batteries: -18°C to +55°C (0°F to +130°F) Using Lithium Batteries: -40°C to +85°C (-40°F to +185°F)
LED Light	Status / activity
Sensor Resolution	~ 0.6 mV (11-bit single ended)
Sensor Accuracy	+/- 1.5% FS
Conversion Time	228 µs
Full Scale Voltage	0 - 1.2 VDC **
Lead Wire Length	1 ft. (12 in.)
Certifications	FC CE ◆ Industry Canada FCC ID: T9J-RN171. IC: RSS-210 low-power communication device. CE ID: 0681.

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

** Capable of measuring up to 1.98 volts but voltages above 1.2 volts may not meet accuracy specifications.

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.
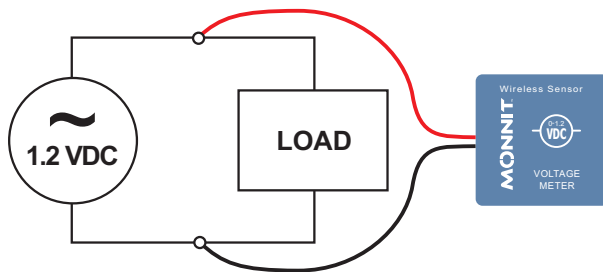
Caution/Notice:

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.

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