

# Monnit

## Wireless AC Voltage Detection Sensor (AA)



### Technical Overview

#### General Description

The wireless AC voltage detection sensor can interface with other devices to detect voltage from 24 VAC to 500 VAC. The sensor notifies of the presence or absence of voltage. It is intended for use on power sources or power supplies up to 500 VAC. Not intended for voltages higher than 600 VAC and also not intended for use with DC sources without permission. Perfect for monitoring electrical appliances.

#### Features

- Wireless interface for detecting voltage.
- Detects voltage from 24 to 500 VAC.
- 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:

The Monnit wireless AC voltage detection sensor can be connected to the positive and ground terminals of an electrical device or power supply line, triggering on the state change from voltage presence to absence and vice versa. The information is sent to the iMonnit Online Sensor Monitoring and Notification System where the data is displayed as either "No Voltage" or "Voltage Detected". The data is stored in the online system and can be reviewed and exported as a spread sheet or graph. Notifications can also be set up through the online system to alert the user when certain criteria have been met.

#### Power Options

The standard version of this sensor is powered by two replaceable 1.5V AA sized batteries (included with purchase). This sensor is also available in a line power version with battery backup, allowing it to be powered by a standard 3.0 - 3.6V power supply and use the internal batteries if there is a power interruption.

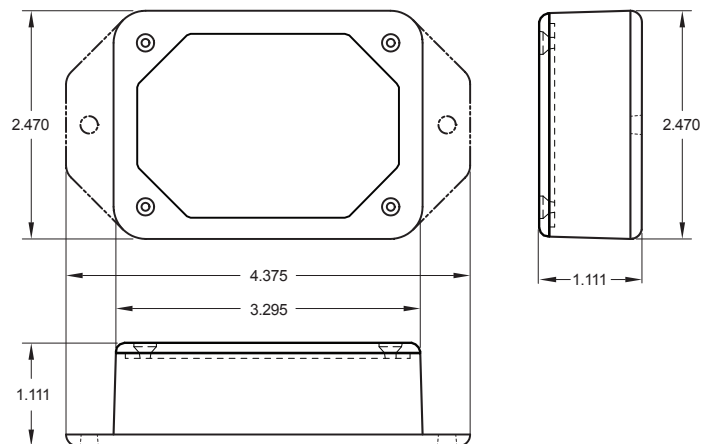
Power options must be selected at time of purchase as the internal hardware of the sensor must be changed to support the selected power requirements.

#### 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 Interfacing

- Sprinkler Systems
- HVAC Systems
- Appliances
- Electrical Sources
- Power Couplings
- Line Power
- Power Supplies
- Sump Pumps
- And many more...

**The Leader in Low Cost Wireless Sensors**

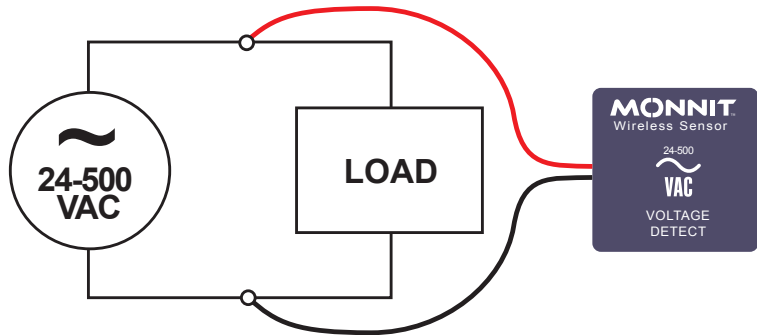
| Technical Specifications                                    |  |
|---|--|
| Supply Voltage  | 2.0 - 3.6 VDC (3.0 - 3.6 VDC Using Power Supply) *   |
| Current Consumption   | 0.7 $\mu$ A (sleep mode)<br>2 mA (radio idle/off mode)<br>2 mA (measurement mode)<br>25 mA (radio RX mode)<br>35 mA (radio TX mode)  |
| Operating Temperature Range (Board Circuitry and Batteries) | -18°C to 55°C (0°F to 130°F) using alkaline<br>-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 )   |
| Sensor Resolution   | 11 bit (single ended)  |
| Conversion Time   | 228 $\mu$ s  |
| Full Scale Voltage  | 24 - 500 VAC   |
| Maximum Input Voltage                                       | 600 VAC  |
| 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.

### 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.



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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