

Wireless AC Voltage Detection Sensors (4 – 500 VAC)

General Description

The wireless AC voltage detection sensor can interface with other devices to detect voltage from 4 VAC to 500 VAC. The sensor reports presence or absence of voltage when the 4 volt threshold is breached. It is intended for use on power sources or power supplies up to 500 VAC. Not intended for voltages higher than 600 VAC. Perfect for monitoring electrical appliances.

- Wireless interface for detecting voltage
- Detects voltage from 4 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 wireless AC voltage detection sensor can be connected to the hot(black) and neutral(white) 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.

Example Applications

- Sprinkler Systems
- HVAC Systems
- Appliances
- Electrical Sources
- Power Couplings
- Line Power

And many more...

Monnit Sensor Core Specifications

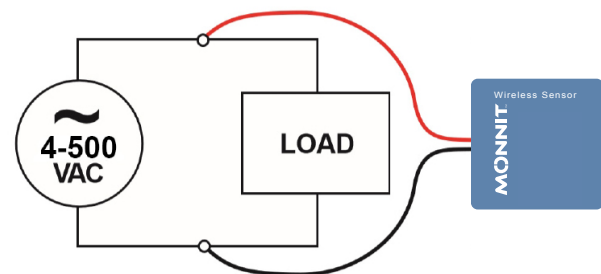
- Wireless Range: 250 - 300 ft. (non-line-of-sight / indoors / through walls, ceilings & floors) *
- RF Communication: 900, 920, 868 and 433 MHz
- Power: Replaceable batteries (optimized for long battery life) Line-power options available
- Battery Life (at 1 hour heartbeat setting): **
 - AA battery > 4-8 years
 - Coin Cell > 2-3 years.

* Actual range may vary depending on environment.

** Battery life is determined by sensor reporting frequency and other variables.

Proper Installation

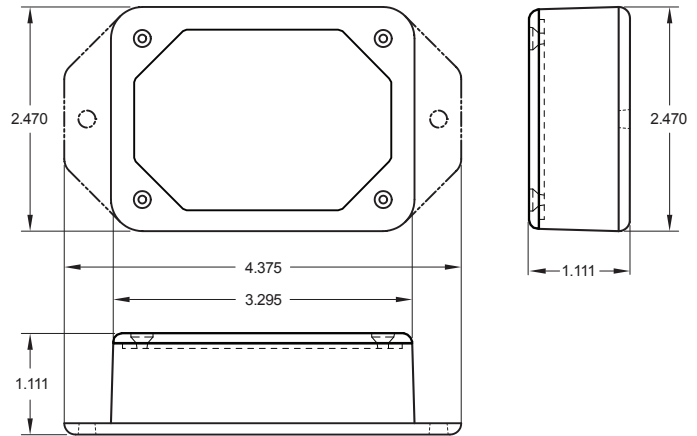
If the sensor is not connected to the power source properly, it will appear that the sensor is broken. Please follow this wiring diagram to ensure proper performance and detection.



Sensor Types & Options

Wireless 500 VAC/VDC Voltage Meter (AA)	2
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Wireless AC Voltage Detection Sensor (4 – 500) (AA)



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)
Absolute Maximum Voltage	600 VACrms
Response Time	~1 Second
Minimum Detection Voltage	4 VACrms
Indeterminant Detection Region	3 - 4 VAC rms ***
Leaded Wire Specification	2 Wires, 1 ft (12 in), Black (Line), White (Common), 18 AWG (Custom lengths available upon request)
Integrated Memory	Up to 512 sensor messages
Wireless Range	250 - 300 ft. (Indoors / Through walls, ceilings & floors) Range may vary according to environmental variables.
Resolution	.25 VACrms
Weight	4.0 oz.
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.

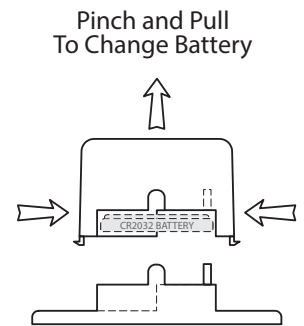
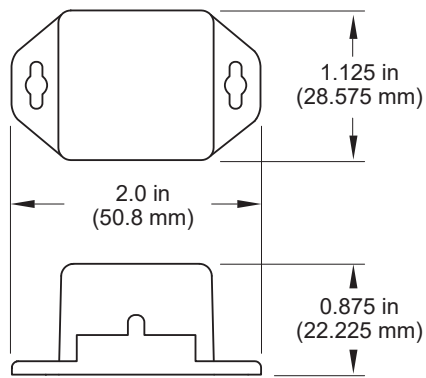
*** The sensor may indicate present or absent in this voltage range.

Power Options

Two replaceable 1.5V AA sized batteries are included with the standard model. A line-power version with battery backup is also available - 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.

Wireless AC Voltage Detection Sensor (4 – 500) (Coin Cell)



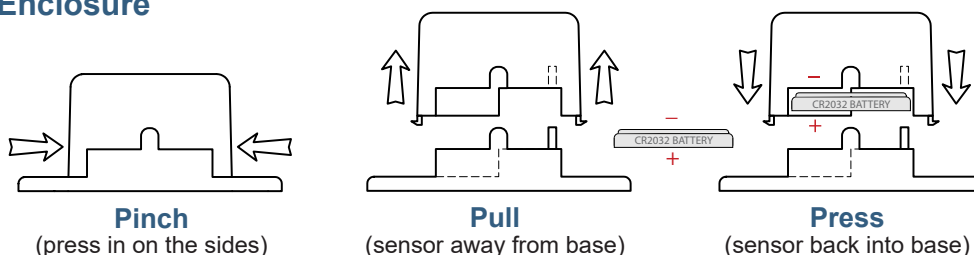
Technical Specifications

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)
Absolute Maximum Voltage	600 VACrms
Response Time	~1 Second
Minimum Detection Voltage	4 VACrms
Indeterminant Detection Region	3 - 4 VAC rms ***
Leaded Wire Specification	2 Wires, 1 ft (12 in), Black (Line), White (Common), 18 AWG (Custom lengths available upon request)
Integrated Memory	Up to 512 sensor messages
Wireless Range	250 - 300 ft. (Indoors / Through walls, ceilings & floors) Range may vary according to environmental variables.
Resolution	.25 VACrms
Weight	4.0 oz.
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).

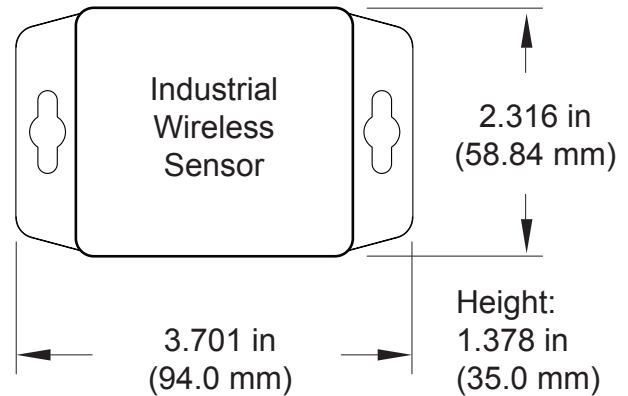


- * Hardware cannot withstand negative voltage. Please take care when connecting a power device.
- ** At temperatures above 100°C, it is possible for the board circuitry to lose programmed memory.
- *** The sensor may indicate present or absent in this voltage range.

PinchPower™ Enclosure



Wireless AC Voltage Detection Sensor (4 – 500) (Industrial)



Technical Specifications

Supply Voltage	2.0 - 3.6 VDC *	
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 Battery)		
Included Battery	Max Temperature Range:	-40°C to +85°C (-40°F to +185°F) **
	Capacity:	1500 mAh
Optional Solar Feature	Solar Panel:	5VDC / 30mA (53mm x 30mm)
	Charging Temperature Range:	0° to 45°C (32° to 113°F)
	Max Temperature Range:	-20° to 60°C (-4° to 140°F)
	Included Rechargeable Battery:	600 mAh / >2000 Charge Cycles (80% of initial capacity)
Absolute Maximum Voltage	600 VACrms	
Response Time	~1 Second	
Minimum Detection Voltage	0 to 500 VACrms	
Indeterminate Detection Region	600 VAC ***	
Leaded wire specification	2 Wires, 1 ft (12 in), Black (Line), White (Common), 18 AWG (Custom lengths available upon request)	
Integrated memory	Up to 512 sensor messages	
Wireless range	250 - 300 ft. (Through walls, ceilings and floors) Range may vary according to environmental variables.	
Enclosure Rating	NEMA 1, 2, 4, 4x, 12 and 13 rated, sealed and weather proof	
UL Rating	UL Listed to UL508-4x specifications (File E194432)	
Weight	4.7 oz	
Wireless Range	250 - 300 ft. (Through walls, ceilings and floors) Range may vary according to environmental variables.	
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 may indicate present or absent in this voltage range.

Commercial Grade Sensors

Monnit commercial grade sensors are designed for applications in ordinary environments (normal room temperature, humidity and atmospheric pressure). Do not use these sensors 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 these products within the specified temperature range. Higher temperature may cause deterioration of the characteristics or the material quality.

Industrial Grade Sensors - 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



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.

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