

The Leader in Low-Cost, Remote Monitoring Solutions



Wireless Open / Closed Sensor

General Description

The Wireless Open / Closed Sensor can be used to detect when a door or window is opened and closed using a magnetic switch.

Features

- Detects when a door or window is accessed.
- Magnet is included.



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 Open / Closed Sensor uses an external magnetic switch to detect the presence or removal of a trigger magnet. When the sensor detects that the magnet is removed or returned it sends the information 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 a magnetic source is present or not with the ability to only notify within time of day parameters.

Example Applications

- · Doors and windows.
- Cabinets and lockers.
- IT server closets.
- Freezer and cooler doors.

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 and solar (Industrial only)
- options are available).Output power ERP is 5,7 mW
 Battery Life (at 1 hour heartbeat setting): **

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Coin Cell >	2-3 years.
AA battery >	4-8 years
Industrial >	4-8 years
Wifi >	Up to 5 years

- * Actual range may vary depending on environment. (Wi-Fi sensor typical range up to 100 ft.)
- ** Battery life is determined by sensor reporting frequency and other variables.

Sensor Types & Options

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Wireless Open / Closed Sensor (AA)







Technical Specifications	
Supply Voltage	2.0 - 3.6 VDC (3.0 - 3.6 VDC Using Power Supply) *
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 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)
Weight	3.8 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).
Magnetic Switch Specifications	

magnetic Switch Specifications	
Contact Type	SPST, gold under -plating with Deactivated Rhodium outer-plating
Switch Cycles	50 million
Operation Gap	Up to 3/4 inch
Wire Leads	22 gauge / 13.5 in length (± 1.5 in)
Magnet	Alnico
Magnet Case Construction	Weatherproof, high-impact ABS plastic with self-adhesive backing
Magnet Temperature Range	-15°F to 160°F (-25°C to 70°C)
Magnet Magnet Case Construction Magnet Temperature Range	Alnico Weatherproof, high-impact ABS plastic with self-adhesive backing -15°F to 160°F (-25°C to 70°C)

* 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.

Power Options

Two replaceable 1.5V AA sized batteries are included with the stanadard 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 Open / Closed Sensor (Coin Cell)









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 C	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)	
Thermistor Temperature Range (Thermistor Only)	-40°C to +125°C (-40°F to +257°F) (Limited to Main Unit Circuitry, -7°C to +60°C unless wire leads are being used.)	
Accuracy @ 25°C	+/- 1% (1° C or 1.8° F)	
User Calibrated Accuracy	+/- 0.25° C (± 0.45° F)	
Time Constant @ 25°C	30 sec	
Weight	0.9 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).	
Magnetic Switch Specifications		

· ·	
Contact Type	SPST, gold under -plating with Deactivated Rhodium outer-plating
Switch Cycles	50 million
Operation Gap	Up to 3/4 inch
Wire Leads	22 gauge / 13.5 in length (± 1.5 in)
Magnet	Alnico
Magnet Case Construction	Weatherproof, high-impact ABS plastic with self-adhesive backing
Magnet Temperature Range	-15°F to 160°F (-25°C to 70°C)

* 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.

PinchPower™ Enclosure



Pinch (press in on the sides)



Pull (sensor away from base)

Press (sensor back into base)

Wireless Open / Closed Sensor (Industrial)





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 R	ange (Board Circu	itry and Battery))
Included Battery	Max Temperature	Range:	-40°C to +85°C (-40°F to +185°F) **
	Capacity:		1800 mAh
Optional Solar Feature	Solar Panel:		5VDC / 30mA (53mm x 30mm)
	Charging Tempera	ature 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)
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			4.8 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).
Magnetic Switch Specifications			
Contact Type		SPST, gold und	ler -plating with Deactivated Rhodium outer-plating
Switch Cycles 50 million		50 million	

Switch Cycles	
Operation Gap	Up to 3/4 inch
Wire Leads	22 gauge / 13.5 in length (± 1.5 in)
Magnet	Alnico
Magnet Case Construction	Weatherproof, high-impact ABS plastic with self-adhesive backing
Magnet Temperature Range	-15°F to 160°F (-25°C to 70°C)

* 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.



Solar Power Option

Monnit Industrial Sensors are powered by a replaceable 3.6V Lithium battery (included). An optional solar powered version is also available. The solar powered sensor uses a Lithium Iron Phosphate rechargeable battery in conjunction with a solar power cell to extend battery life.

MOWI Wireless Open / Closed Sensor (Wi-Fi)





Technical Specifications	5
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
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 +12dRm)
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
Weight	3.8 oz.
Wireless Range	250 - 300 ft. (Through walls, ceilings and floors) Range may vary according to environmental variables.
Certifications	FC CC ID: T9J-RN171. IC: RSS-210 low-power communication device. Canada CE ID: 0681.

Hardware cannot withstand negative voltage. Please take care when connecting a power device.
 At temperatures above 100°C, it is possible for the based singuity to lease programmed memory.

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Magnetic Switch Specifications	
Contact Type	SPST, gold under -plating with De- activated Rhodium outer-plating
Switch Cycles	50 million
Operation Gap	Up to 3/4 inch
Wire Leads	22 gauge / 13.5 in length (± 1.5 in)
Magnet	Alnico
Magnet Case Construction	Weatherproof, high-impact ABS plastic with self-adhesive backing
Magnet Temperature Range	-15°F to 160°F (-25°C to 70°C)

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.



Notes

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



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Visit us on the web at <u>www.monnit.com</u>.

our sales department at 801-561-5555.

For more information about our products or to place an order, please contact