Next™ Wi-Fi Open-Closed Sensor

The Next™ Wi-Fi Open-Closed Sensor is used to detect when a door or window is opened or closed using a magnetic switch.

Principles of Operation

The Next Open-Closed Sensor uses an external magnetic switch to detect the presence or removal of a trigger magnet. When the detection state of the sensor changes, wireless communication is immediately sent to iMonnit through Wi-Fi. The communications can be configured to be sent urgently or as an awareness notification when:

- ‣ Magnet is Present
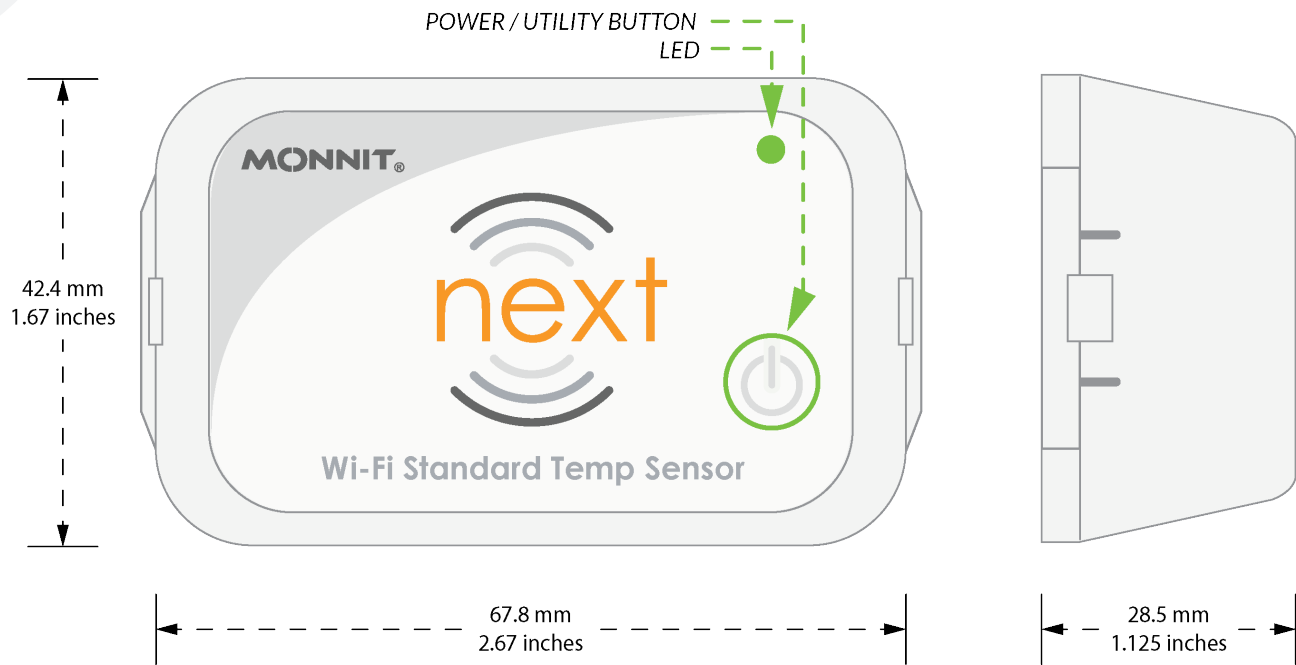- ‣ Magnet is Absent
- ‣ State Change

If the communication is not marked urgent, the data will be sent through Wi-Fi at a user-defined time interval or Heartbeat.

Example Applications

- ‣ Doors and windows
- ‣ Cabinets and lockers
- ‣ Containers with lids
- ‣ IT server closets
- ‣ Freezer and cooler doors
- ‣ Additional applications

Key Sensor Features

- ‣ Detects when a door or window is accessed.
- ‣ Uses a magnetic detection switch.
    - ‣ Operation gap up to 19 mm (0.75")
- ‣ Cable length: 482 mm (19")
- ‣ Cable terminations: Magnetic switch
- ‣ Logs data if Wi-Fi network is disrupted.

1

POWER / UTILITY BUTTON

LED

next

Wi-Fi Standard Temp Sensor

42.4 mm
1.67 inches

67.8 mm
2.67 inches

28.5 mm
1.125 inches

**The sensor reports the data points:
Open or Closed.**

Features of Monnit Next Wi-Fi Sensors

- Wireless Range: 125 feet through five walls or 500-ft line of sight[1]
- Power: Two replaceable 1.5V AA batteries (included)
- Communications: 802.11b/g/n (2.412-2.484 GHz)
- Wi-Fi Security: OPEN, WPA, WPA2, WPA3
- Wi-Fi Provisioning: Bluetooth® via app
- Sensor data available in iMonnit after Wi-Fi is successfully provisioned
- Best-in-class power management for longer battery life[2]
- Data logs up to 4096 readings if the Wi-Fi connection is lost (non-volatile flash, persists through the power cycle):
    - 10-minute Heartbeats = ~ 22 days
    - 2-hour Heartbeats = ~ 266 days
- Over-the-air updates (future-proof)
- Power/Utility Button: Powers the sensor on/off, triggers data transmission, change operating mode, etc.[3]
- LED Indicator: Shows status and activity.[3]
- Free iMonnit Basic Online Wireless Sensor Monitoring and Notification System to configure sensors, view data, and set alerts to be sent via text and email

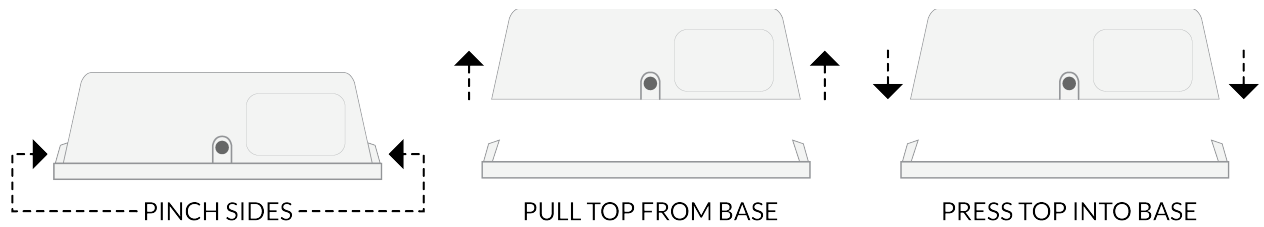1. *Actual range may vary depending on the environment.*
2. *Battery life is determined by the sensor reporting frequency and other variables. Other power options are also available.*
3. *For a full description of Button/LED behaviors see the Next Sensor General Information Guide.*

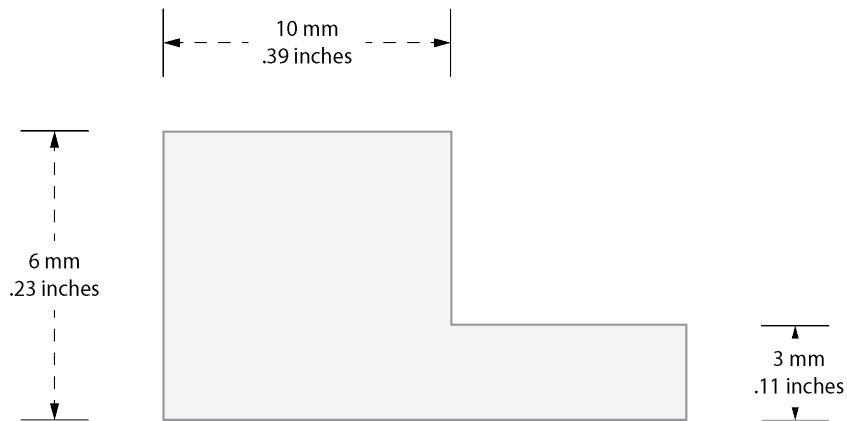## NEXT OPEN / CLOSED SENSOR | TECHNICAL SPECIFICATIONS

Detect Lead	Magnet Switch	SPST-N/O, ABS (white)
	Magnet	Strong, sensitive within 20mm, with self-adhesive backing
	Magnet Dimensions	See below
	Operation Gap	Up to 20 mm (0.78")
	Cable Length	Standard: 482 mm (19")
	Wire Count	2-conductor
	Wire Gauge	24 AWG
	Conductor Material	Stranded Copper 7/32
	Insulation	PVC, 0.016 in. (White)
	Shield	No
	Wire Diameter	1.33 x 2.9 mm (0.053 x 0.114")
	Temperature Rating	-20°C to 80°C (-4°F to 176°F)
	Voltage Rating	300 V Max[3]
Wi-Fi	Wireless Protocol	802.11b/g/n
	Wireless Range	125 feet through five walls or 500 feet line of sight
	Frequency Band	2.412 - 2.484 GHz
	Security	Wi-Fi: Open, WPA, WPA2, WPA3
	Provisioning	Over Bluetooth® via Monnit provided application
	Network Settings	Auto DHCP/DNS or Static
	Data Rate	Auto configures to best rate for maximum range
Next	Data Logging	Data logs 4000 to 4096 readings if the Wi-Fi connection is lost
	Additional Data Security	Advanced Encryption Standard (AES)-128 Cipher Block Chaining
	LED	RGB (Indicates status and activity)[1]
	Power/Utility Button	Tactile (Powers device on/off, triggers data transmission, changes operating mode, etc.)[1]
General	Battery Voltage Range	2.0 to 3.3 VDC
	Operating Altitude (non-pressurized environments)	-15.2 to 1,982 m (-50 to 6,500 ft)[2]
	Storage Altitude (non-pressurized environments)	-15.2 to 3,048 m (-50 to 10,000 ft)[2]
	Operating Humidity	5 to 85% RH (non-condensing)
	Operating Temperature Range (board circuitry)	-18°C to +55°C (-0.4°F to +131°F)
	Optimal Battery Temperature Range (AA)	+10°C to +50°C (+50°F to +122°F)
	Weight	77 g (2.73 oz)
	Certifications	FCC ID: 2AC7Z-ESPC3MINII CE ID: 0370-RED-5082 IC: 21098-ESPC3MINI1

1. *For full description of Button/LED behaviors see the Next Sensor General Information Guide.*
2. *Operating and storage altitude without DC power supply is -30.48 to 9144 m (-100 to 30000 ft).*
3. *General lead rating only, never energize cable with any voltage or current.*

Next Enclosures

PINCH SIDES

PULL TOP FROM BASE

PRESS TOP INTO BASE

Magnet Dimensions

10 mm
.39 inches

6 mm
.23 inches

3 mm
.11 inches

MECHANICAL TECHNICAL SPECIFICATIONS		
Enclosure Material	Housing	Acrylonitrile Butadience Styrene (ABS)
	Grommet/Plug	Thermoplastic Elastomer (TPE)
	Enclosure Screws x 2	Flat head, #4 screw size, 0.5" length, Phillips, blunt tip, high-low dual-spaced threads, zinc-plated steel
Mounting	Screws x 2	#7 x 7/16, Phillips, pan head, black phosphate-plated steel
	Magnets (optional) x 4	1/2" diameter x 1/16" thick, poles on the flat surface, super strong neodymium (NDFeB) rare earth magnets, approximate pull force: 3 lbs (grade N42), nickel-copper-nickel triple layer coating for corrosion protection **Note: Combined pull force is 12 lbs**
	Recommendations for Custom Mounting Screws	Max head diameter: 8mm (5/16")
		Min head diameter: 6.5mm (1/4")
		Max head height: 2.54mm (0.1")
		Max shaft diameter: 4.75mm (3/16")

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 burnout.

- Corrosive gas or deoxidizing gas: chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, nitric oxide gas, etc.
- Volatile or flammable gas
- Dusty conditions
- Low-pressure or high-pressure environments
- 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 temperatures may cause deterioration of the characteristics or the material quality.

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