Next™ Wi-Fi Dry Contact Sensor

The Next™ Wi-Fi Dry Contact Sensor detects contact between two wired contact points, an external mechanical switch, or a contact plate.

Principles of Operation

The Next Dry Contact Sensor detects when there is contact between the two wired endpoints. It can easily be integrated into existing switches or contact plates. When the sensor detects contact between the two endpoints a communication is immediately sent to iMonnit Software through Wi-Fi.
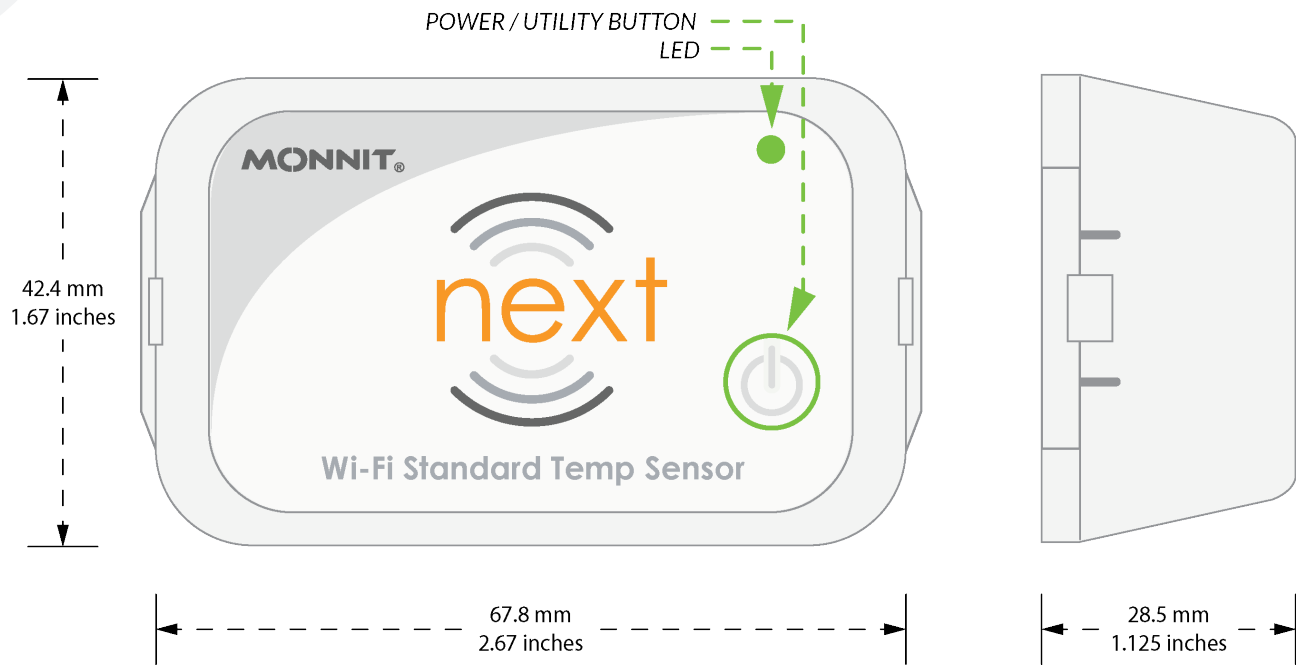
The sensor can be configured to detect both closed and open loops, alerting if contact is made or broken and on state changes.

Example Applications

▸ Door monitoring
▸ Freezer/cooler door monitoring
▸ Forklift seat switches
▸ Button or switch integration
▸ Production line tracking
▸ Additional applications

Key Sensor Features

▸ Lead Cable Length:
  ▸ 0.3 m (1') Standard
▸ Lead Cable Terminations: Bare wire
▸ Integrate with switches

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.

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Warning: Use caution when interfacing the Next Dry Contact Sensors. Any external AC or DC voltages will damage the electronics of the sensor. Monnit isn't responsible for troubleshooting, replacing, or reimbursing damages incurred by disregarding this warning.
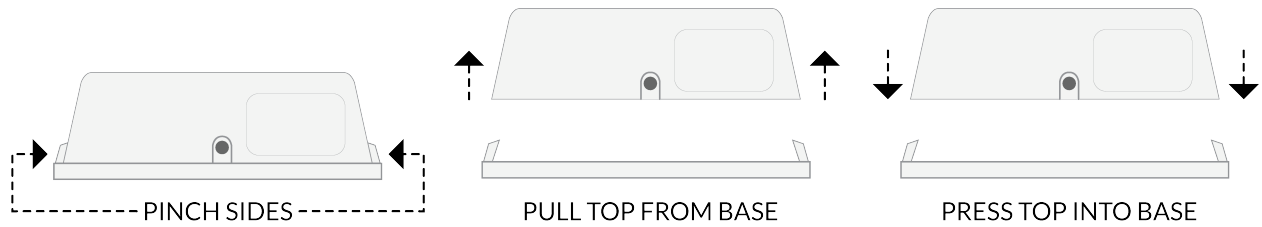
NEXT DRY CONTACT SENSOR | TECHNICAL SPECIFICATIONS		
Detection Requirements	Input Impedance	2.5 MΩ
	Maximum Medium Impedance	900.0 kΩ[1]
Lead	Cable Length	Standard: 0.3 m (1 ft)
	Wire Count	2-conductor (red/black)
	Wire Gauge	24 AWG
	Conductor Material	Tinned Copper Strands (11x strands x 0.16mm diameter each)
	Insulation	PVC, 1.2 mm (0.047")
	Shield	No
	Jacket	PVC (white)
	Overall Diameter	4 mm (0.157")
	Ratings/Approvals	UL AWM STYLE 2464, cUL AWM I/II A 80°C 300V FT1 LF
	Temperature Rating	-25°C to 80°C (-13°F to 176°F)
	Voltage Rating	300 V Max[2]
	Bend Radius	24 mm (0.94")
Wi-Fi	Wireless Protocol	802.11b/g/n
	Wireless Range	125 ft through five walls, 500 ft 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)[3]
	Power/Utility Button	Tactile (Powers device on/off, triggers data transmission, changes operating mode, etc.)[3]
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)[4]
	Storage Altitude (non-pressurized environments)	-15.2 to 3,048 m (-50 to 10,000 ft)[4]
	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	70 g (2.48 oz)
	Certifications	FCC ID: 2AC7Z-ESPC3MINII IC: 21098-ESPC3MINI1

1. *The resistance between the conductive probe ends must be less than this to ensure detection.*
2. *The input of this sensor is passive. Never apply any voltage to the detection lead.*
3. *For full description of Button/LED behaviors see the Next Sensor General Information Guide.*
4. *Operating and storage altitude without DC power supply is -30.48 to 9144 m (-100 to 30000 ft).*

Next Enclosures

PINCH SIDES   PULL TOP FROM BASE   PRESS TOP INTO BASE

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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