



## Next Water Detection Sensors



The Next Wi-Fi Water Detection and Water Detect Plus Sensors report the presence or absence of water and are available with various lead options.



### Principles of Operation

The Next Water Detection and Water Detect Plus Sensors identify when water is present by completing a circuit between the two contacts at the end of the lead. When the detection state of the sensor changes, wireless communication is immediately sent to iMonnit or other approved data services, through Wi-Fi. The communications can be configured to be sent urgently or as an awareness notification when:

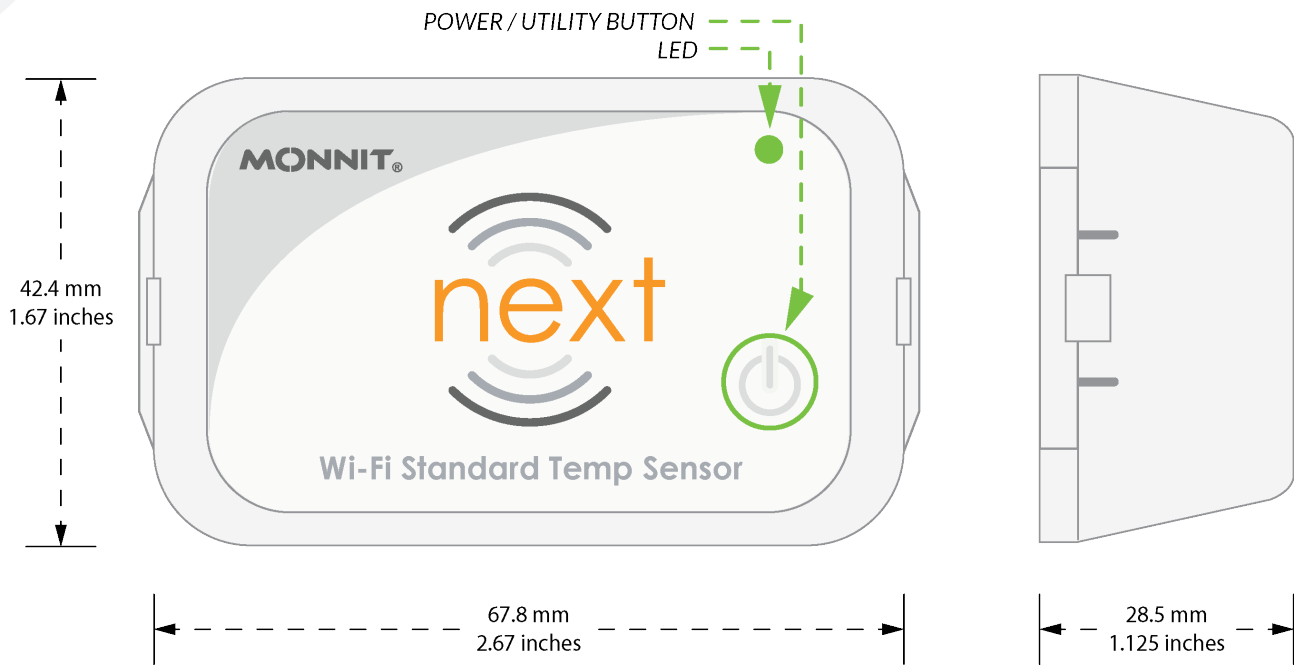
- ▶ Water is Present
- ▶ Water is Absent
- ▶ State Changes

### Example Applications

- ▶ Water Heater Monitoring
- ▶ Plumbing Leak Detection
- ▶ Sump Pump Monitoring
- ▶ Boat Bilge Monitoring
- ▶ Reservoir Level Monitoring
- ▶ [Additional applications](#)

### Key Sensor Features

- ▶ Immediately detects water
- ▶ Lead length options:
  - ▶ 0.9 m (3') Standard, 3 m (10'), 7.5 m (25'), 15 m (50'), 30 m (100')
- ▶ Lead or probe options:
  - ▶ Detection: bare-wire lead
  - ▶ Detect Plus: stainless steel probe



**The sensors report the data points: Water Present or No Water Present.**

## Features of Monnit Next Wi-Fi Sensors

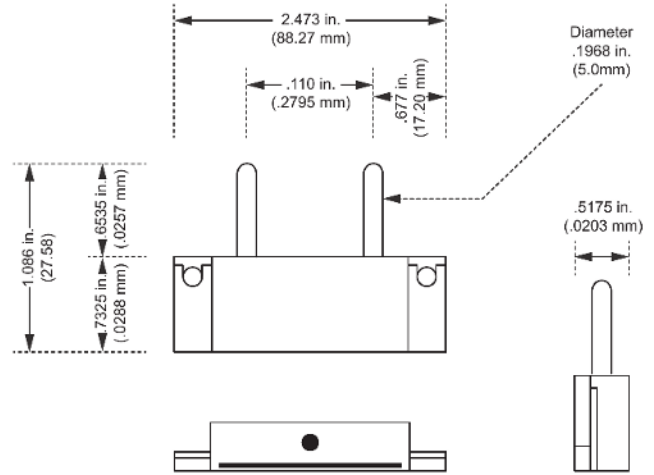
- Wireless range: 125 feet through five walls or 500-ft line of sight<sup>1</sup>
- Power: Two replaceable 1.5V AA batteries (included)
- Communications: 802.11 b (2.412-2.484 GHz)
- Wi-Fi Security: OPEN, WPA, WPA2
- Wi-Fi Provisioning: Bluetooth via app
- Sensor data available in iMonnit after Wi-Fi is successfully provisioned
- Best-in-class power management for longer battery life<sup>2</sup>
- 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.<sup>3</sup>
- LED Indicator: Shows status and activity.<sup>3</sup>
- 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.





Water Detect Plus Probe



### NEXT WATER DETECTION SENSORS | TECHNICAL SPECIFICATIONS



Detection Requirements	Input impedance	2.5 MΩ
	Maximum medium impedance	900.0 kΩ (Clean water has a typical impedance of 50 to 200 kΩ) <sup>1</sup>
Standard Wire Lead	Lead wire length	Standard: 0.9 m (3 ft)
	# Wires	2-conductor (red/black)
	Gauge	22 AWG
	Conductor Material	Stranded Copper 7/30
	Insulation	PVC, 0.010"
	Tinning	Tips Silver(Ag) Solder
	Shield	No
	Jacket	PVC (black)
	Overall Diameter	4.2 mm (0.164")
	Ratings / Approvals	NEC (UL) Type CM, UL AWM Style 2464, CSA AWM FT4, RoHS Compliant
	Temperature Rating	-20°C to 60°C (-4°F to 140°F)
	Voltage Rating	300 V Max <sup>2</sup>
Dielectric Strength	1500 V RMS <sup>2</sup>	
Water Detect Plus Lead	Electrode Composition	Stainless Steel
	Probe Casing	ABS Plastic
	Operating Temperature	-10° to 50°C
	Operating Humidity	5% to 90%
	Lead Composition	Same as the Standard Wire Lead above

<sup>1</sup> The input of this sensor is passive. Never apply any voltage to the water detection lead.

<sup>2</sup> The resistance between the conductive probe ends must be less than this to ensure water detection.



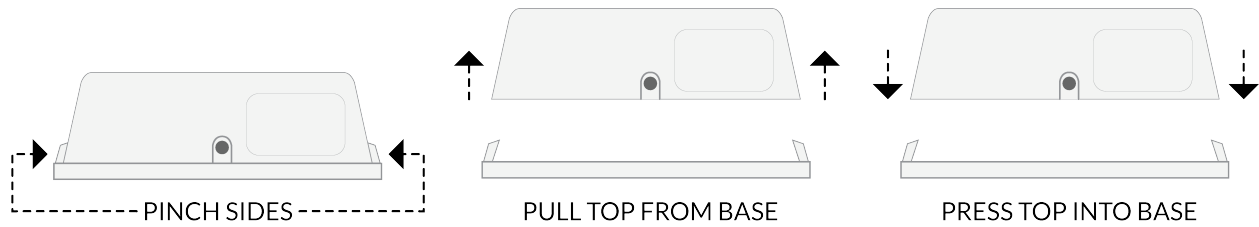
## NEXT | TECHNICAL SPECIFICATIONS

Wi-Fi	Wireless Protocol	802.11 b
	Wireless Range	125 feet through five walls or a 500-ft line of sight
	Frequency Band	2.412 - 2.484 GHz
	Security	Wi-Fi: Open, WPA, WPA2
	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) <sup>3</sup>
	Power/Utility Button	Tactile (Powers the sensor on/off, triggers data transmission, changes operating mode, etc.) <sup>3</sup>
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) <sup>4</sup>
	Storage Altitude (non-pressurized environments)	-15.2 to 3,048 m (-50 to 10,000 ft) <sup>4</sup>
	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	81 g (2.85 oz)
	Certifications	  FCC ID: 2AC7Z-ESPC3MINII IC: 21098-ESPC3MINI1

1. The resistance between the conductive probe ends must be less than this to ensure water detection.
2. The input of this sensor is passive. Never apply any voltage to the water 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



MECHANICAL TECHNICAL SPECIFICATIONS		
Enclosure Material	Housing	Acrylonitrile Butadiene 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 <b>Note: Combined pull force is 12 lbs</b>
	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.



**Monnit Corporation**  
3400 South West Temple,  
Salt Lake City, UT 84115  
801-561-5555  
[www.monnit.com](http://www.monnit.com)

Monnit, iMonnit, ALTA, PinchPower, Encrypt-RF and all other trademarks are property of Monnit, Corp.  
© Monnit Corp. All Rights Reserved.