

Monnit Wireless Sensors Multi-Product Fact Sheet



Features of Monnit ALTA Sensors

*Wireless range of 1,200+ feet through 12+ walls**

Frequency-Hopping Spread Spectrum

Improved interference immunity

*Improved power management for longer battery life** (up to 12+ years on AA batteries)*

Encrypt-RF® Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)

Integration with the Niagara Framework when used in conjunction with a JENEsys Edge 534 with Monnit

*Actual range may vary depending on environment.

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

Wireless Ultrasonic Sensors



ALTA Commercial
Ultrasonic Sensor



ALTA Industrial Wireless
Ultrasonic Sensors

General Description

ALTA Ultrasonic Sensors can be used in a variety of applications for measuring distances between the sensor and objects in its path. ALTA ultrasonic sensors are impervious to target surface and color, and feature autocalibration algorithms which allow them to adapt to variable environmental conditions and compensate for temperature and humidity effects. The ultrasonic sensors can also be calibrated through the Niagara Framework for greater accuracy in distance measurements.

Principle of Operation

The Ultrasonic Sensor sends out a high-frequency sound pulse and then times how long it takes for the echo of the sound to reflect back. The sensor has 2 openings on its front. One opening transmits ultrasonic waves (like a tiny speaker), the other receives them (like a tiny microphone). The ultrasonic sensor uses the speed of sound and the time difference between sending and receiving the sound pulse to determine the distance to an object. It will take readings at set intervals and report the data back to the Niagara Framework.

Example Applications

Liquid Level Detection

Object/Vehicle Detection

Inventory Status (based on distance measurement)

Many Additional Applications

Wireless Button Press Sensors



ALTA Commercial AA
Button Press Sensor

ALTA Commercial
Coin Cell Button
Press Sensor



General Description

The ALTA Wireless Button Sensor detects when the button has been pressed.

Principle of Operation

Upon button press the ALTA Wireless Button Sensor sends a signal to the Edge 534 with Monnit and the Niagara Framework.

Example Applications

Hotel/Motel Front Desk Call Button
Restroom Service/Clean-Up Request Button
Service Request Button
Many Additional Applications

Wireless Dry Contact Sensors



ALTA Commercial AA
Dry Contact Sensor

ALTA Commercial Coin
Cell Dry Contact Sensor



ALTA Industrial Dry
Contact Sensor

General Description

ALTA wireless dry contact sensors can be used to detect contact between two wired contact points, an external mechanical switch or a contact plate.

Principle of Operation

The ALTA wireless 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, it will immediately turn on the RF radio and transmit the data to the Edge 534 with Monnit and the Niagara Framework. The sensor can be configured to detect both closed and open loops alerting if contact is made or broken.

Example Applications

Barn Door Monitoring
Freezer/Cooler Door Monitoring
Forklift Seat Switches
Button Or Switch Integration
Production Line Tracking

Wireless Humidity Sensors



ALTA Commercial AA
Humidity Sensor

General Description

The ALTA Wireless Humidity (RH) Sensor allows you to accurately monitor the relative humidity of the air within a room or enclosure.

ALTA Commercial Coin Cell Humidity Sensor



ALTA Industrial Humidity Sensor

Principle of Operation

The ALTA Wireless Humidity (RH) Sensor measures the relative humidity at the device. The sensor returns RH and temperature values to the Edge 534 with Monnit and the Niagara Framework.

Example Applications

- Greenhouse Humidity Monitoring*
- Agriculture Environmental Monitoring*
- Art Gallery And Museum Environmental Monitoring*
- Humidor Monitoring*
- General Weather And Environmental Monitoring*
- Many Additional Applications*

Wireless Water Detection Sensors



ALTA Commercial AA Water Detection Sensor

ALTA Commercial Coin Cell Water Detection Sensor



ALTA Industrial Water Detection Sensor



General Description

The ALTA Wireless Water Detection Sensor detects the presence or non-presence of water.

Principle of Operation

The ALTA Wireless Water Detection Sensor detects when water is present by completing the circuit between the two lead wires. When water is present the sensor will immediately turn on the RF radio and transmit the data to the Edge 534 with Monnit and the Niagara Framework. The sensor can be configured to detect both the presence and non-presence of water.

Example Applications

- Water Heater Monitoring*
- Plumbing Leak Detection*
- Sump Monitoring*
- Boat Bilge Monitoring*
- Reservoir Level Monitoring*

Wireless Pulse Counter *Single Input*



ALTA Commercial AA Pulse Counter

General Description

The ALTA wireless pulse counter can be connected to the pulse output of a system (water meter, power meter, etc.) to count the number of actuations within a given time frame.

Principle of Operation

The ALTA wireless pulse counter is an electronic counter capable of counting passive (open/closed switch) or active (Up to +15 VDC) pulses. The counter includes 3 software configurable low pass filter

ALTA Commercial Coin Cell Pulse Counter



settings (No filter, 40 Hz filter, or 4 Hz filter). The pulse counter filters pulses with pulse widths greater than those designated in the technical specifications. For example, if the 4 Hz filter is set, the pulse counter will count a pulse if the pulse width is longer than 250 ms. If the pulse width is shorter than 250 ms, it will be completely or partially filtered.

Example Applications

- Water, Gas And Air Flow Meters*
- Door Access Counter*
- Turn Style Counting*
- Forklift Seat Switches*
- Button Or Switch Integration*
- Production Line Tracking*
- Many Additional Applications*

ALTA Industrial Pulse Counter



Wireless Accelerometer *Tilt Sensors*

ALTA Commercial AA Accelerometer Tilt Sensor



General Description

The ALTA Wireless Accelerometer – Tilt Sensor is a digital, low-profile, capacitive sensor that is able to measure acceleration on three axes to provide a measure of pitch and roll.

Principle of Operation

The ALTA Wireless Accelerometer – Tilt Sensor activates at a set time interval (defined by user) and converts accelerometer measurements to pitch and roll (0° to 180° -> -180° to 0°). The data is displayed in degrees with 0.01° of resolution.

Example Applications

- Inclination Monitoring*
- Pitch & Roll*
- Many Additional Applications*

ALTA Commercial Coin Cell Accelerometer Tilt Sensor



ALTA Industrial Accelerometer Tilt Sensor



Wireless Temperature Sensors

General Description

The ALTA Wireless Temperature Sensor uses a type NTC thermistor to measure temperature.

Principle of Operation

The ALTA Wireless Temperature Sensor measures the ambient thermal conditions of your environment. These sensors accurately monitor temperature changes in your physical location. The temperature sensor is built to be out of the box and running in minutes.

ALTA Commercial AA Temperature Sensor



ALTA Commercial Coin Cell Temperature Sensor



Industry leading 25 month NIST certified product included on leaded temperature sensors.

⚠ *The ALTA Temperature Sensor is not meant for wet, damp, high humidity environments. This sensor should only be operated in dry, low humidity environments.*

Example Applications

- Ambient Temperature Monitoring*
- Environmental Monitoring*
- Smart Machines & Smart Structures*
- HVAC Operation & Testing*
- Data Center Monitoring*
- Many Additional Applications*

ALTA Industrial Temperature Sensor



Wireless Low Temperature Sensors

ALTA Commercial AA Low Temperature Sensor



General Description

The ALTA Wireless Temperature Sensor uses a type NTC thermistor to measure temperature.

Principle of Operation

The ALTA Wireless Temperature Sensor measures the ambient thermal conditions of your environment. These sensors accurately monitor temperature changes in your physical location. The temperature sensor is built to be out of the box and running in minutes.

Industry leading 25 month NIST certified product included on leaded temperature sensors.

⚠ *The ALTA Temperature Sensor is not meant for wet, damp, high humidity environments. This sensor should only be operated in dry, low humidity environments. The Low Temperature Sensor operates at extremely low temperatures and can withstand external condensation.*

Example Applications

- Freezers and Coolers*
- Environmental Monitoring*
- Smart Machines and Structures*
- HVAC Operation and Testing*
- Many Additional Applications*

ALTA Industrial Low Temperature Sensor



Wireless Motion Detection Sensors

ALTA Commercial Coin Cell Motion Detector



General Description

The ALTA wireless motion detection sensor uses an infrared sensor to accurately detect movements made by people/animals within 15 ft range.



ALTA Commercial AA
Wireless Motion Detector

Principle of Operation

The Wireless Motion Detection Sensor detects motion and movement using infrared technology. When the sensor detects movement it communicates with the Edge 534 with Monnit and the Niagara Framework.

Example Applications

- Monitor area access*
- Detect when people enter a room*
- Many additional applications*

Wireless Thermocouple Sensors



ALTA Commercial Coin
Cell Thermocouple

General Description

The ALTA Wireless Thermocouple Sensor is available with a hardwired thermocouple or K-type connector to support various thermocouple types and ranges.

- Hardwired version measures temperatures up to 400°C (752°F)
- Pigtail version supports standard K-type thermocouples

Principle of Operation

The The ALTA Wireless Thermocouple Sensor measures high-temperature applications. It's programmed to:

1. Sleep for a user-given time interval (heartbeat) and then wake up
2. Send power to the thermocouple
3. Pause to stabilize
4. Convert the analog data
5. Mathematically compute the temperature
6. Transmit the data to the gateway

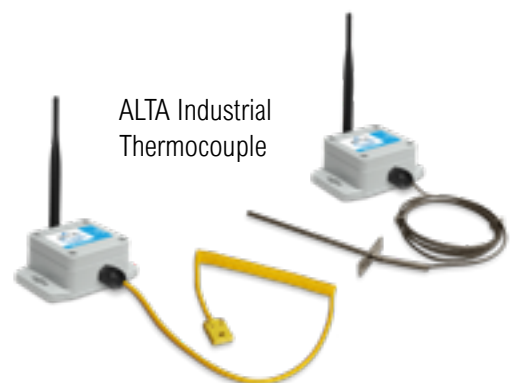
To stay within the abilities of the processor, the temperature is computed from a data table provided by the manufacturer.

Example Applications

- Ovens and Cooking Device Monitoring*
- Furnace and HVAC Monitoring*
- Exhaust Hood Monitoring*
- Boiler Monitoring*
- Turbine Exhaust Monitoring*
- Chimney/Flue Temperature Monitoring*
- Kiln Temperature Monitoring*
- High Temperature Food Monitoring*
- Many Additional Applications*



ALTA Commercial AA
Thermocouple



ALTA Industrial
Thermocouple