ALTA by MONNIT

Remote Monitoring for Business

# ALTA® Wireless Vehicle Detect/Counter Sensor

## General Description

The ALTA® Wireless Vehicle Detect/Counter Sensor detects the presence of a vehicle or counts oncoming traffic using a 9-ft. pneumatic tube.

## Key Features

- Detects the presence of vehicles.
- Can detect and count moving vehicles.
- Signal hose anchor and mounting spikes are included with purchase.
- Offers adjustable sensitivity.
- Configure thresholds for critical condition monitoring.

## Principles of Operation

The ALTA Wireless Vehicle Detect/Counter Sensor uses a pressure-activated switch to detect or count vehicles that drive over the 9-ft. rubber tube. The sensor has three modes, One Axle Trigger, Two Axle Trigger, and Two Axle Count. When in either trigger state, the sensor will report to the gateway each time a car is detected.

If the sensor is in Two Axle Count mode, the sensor will count the number of vehicles that cross the tube over a user-configurable time interval or Heartbeat. On every Heartbeat, the count is sent to the gateway, making the data available in iMonnit or another approved data service.

This device ignores normal human or animal traffic across the tube to prevent miscounts (Stomping on the tube can produce a count/detect). The sensor sensitivity is factory calibrated for accuracy, but it can be adjusted if needed (see the user guide for adjustment procedure).

## Example Applications

- Parking garages
- Traffic monitoring (volume of flow)
- Automotive service notifications
- Fleet management
- Additional applications

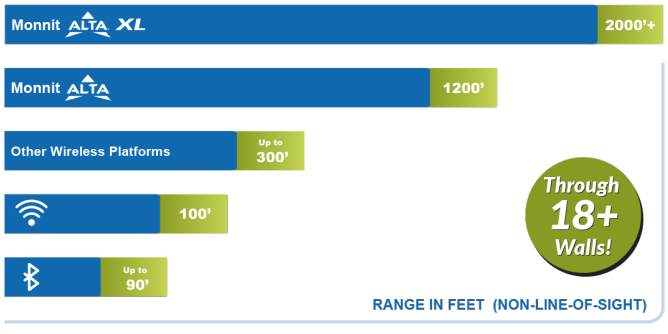
## Features of Monnit ALTA Sensors

- Wireless range of 2,000+ feet through 18+ walls[1]
- Frequency-Hopping Spread Spectrum (FHSS)
- Best-in-class interference immunity
- Best-in-class power management for longer battery life[2]
- Encrypt-RF® Security (Diffie-Hellman Key Exchange + Advanced Encryption Standard (AES)-128 Cipher Block Chaining (CBC) for sensor data messages)
- Sensor logs 2000 to 4000 readings if the gateway connection is lost (non-volatile flash, persists through power cycling):
  - 10-minute Heartbeats = ~ 22 days
  - 2-hour Heartbeats = ~ 266 days
- Automatic over-the-air updates to sensor firmware (future-proof)
- Free iMonnit Basic Online Wireless Sensor Monitoring and Notification System to configure sensors, view data, and send alerts via SMS text, email, and voice call

1 Actual range may vary depending on the environment and gateway.

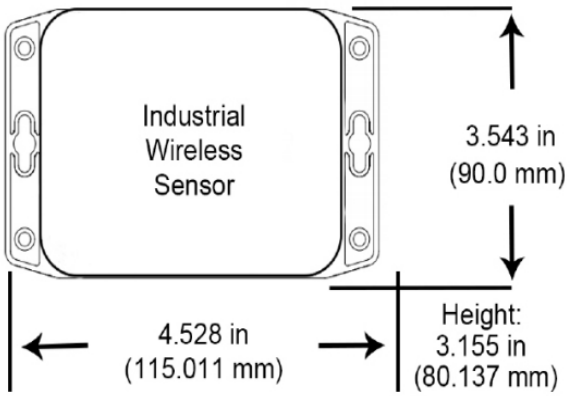
2 Battery life is determined by the sensor reporting frequency and other variables. Other power options are also available.

### *Wireless Range Comparison*



## This sensor reports the following for each mode:

- One Axle Trigger: Car Detected or Car Not Detected
- Two Axle Trigger: Car Detected or Car Not Detected
- Two Axle Count: Count of cars detected over Heartbeat


| Technical Specification \| ALTA® Wireless Vehicle Detection/Count Sensor | | |
|---|---|---|
| Vehicle Detect | Power On/Off | Magnet included with accessories |
| | Vehicle Sensing | Pneumatic hose coupled to internal pressure switch |
| | Sensitivity | Adjustable sensitivity (see user guide for adjustment procedure) |
| | Configurable Operating Modes | Single Axle Detection, Double Axle Detection, Double Axle |
| | Hose Diameter | 0.650 inches (16.5 mm) |
| | Battery | 1x 3.6V AA Lithium Thionyl Chloride, 1500mAh, pre-installed |
| | Battery Life | 10+ years expected |
| | Operating temperature range[1] | -25°C to 80°C (-13°F to 176°F) |
| | Weight (with hose and accessories) | 6 lbs. |
| | Enclosure rating | NEMA 1, 2, 4, 4x, 12, and 13 rated, sealed, and weatherproof |
| | UL rating | UL Listed to UL508-4x specifications (File E194432) |
| ALTA Wireless | Data logging | Sensor logs 2000 to 4000 readings if gateway connection is lost (non-volatile flash, persists through power cycling): 10-minute Heartbeats = ~22 days - 2-hour Heartbeats = ~266 days |
| | Wireless protocol | ALTA Proprietary Frequency-Hopping Spread Spectrum (FHSS) |
| | Wireless transmission power (EIRP) | 50 mW (900MHz), 25 mW (868 MHz), 10 mW (433 MHz) |
| | Wireless range | 2,000+ ft. through 18+ walls with the ALTA XL® Gateway |
| | Security | Encrypt-RF® (256-bit key exchange and AES-128 CTR) |
| General | Battery voltage range | 2.0 to 3.8 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) |
| | Certifications | 900 MHz sensors: **FCC ID: ZTL-G2SC1** and **IC: 9794A-G2SC1**. 868 and 433 MHz sensors tested and comply with: **EN 55032**: 2015/A11:2020; **EN 55035**:2017/A11:2020; **ETSI EN 300 220** V3.2.1 (2018-06); **ETSI EN 301 489-3** V2.2.0. (2021-11); and **ETSI EN 303 645**. All sensors tested and comply with: **EN 61010-1** and **EN 60950** and meet **RoHS 2015/863** and **REACH 224** (June 2022), according to **IEC 63000**:2016/AMD1:2022. |

1. Operating below 0°C (32°F) degrees will reduce battery life.
2. Operating and storage altitude without DC power supply is -30.48 to 9144 m (-100 to 30000 ft).

## 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.

## 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 indoor and outdoor use and protect the sensor circuitry against the ingress of solid foreign objects like dust and the damaging effects of 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

MONNIT

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