



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](#)

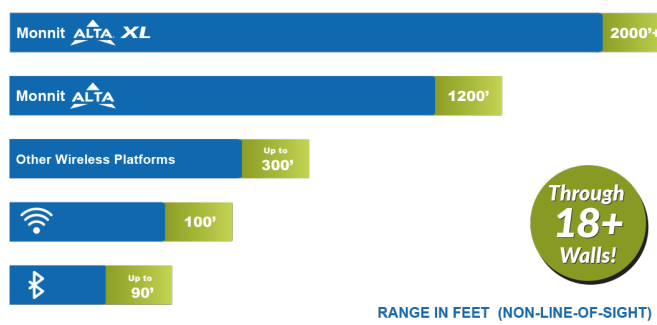
Features of Monnit ALTA Sensors

- Wireless range of 2,000+ feet through 18+ walls¹
- Frequency-Hopping Spread Spectrum (FHSS)
- Best-in-class interference immunity
- Best-in-class power management for longer battery life²
- 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.

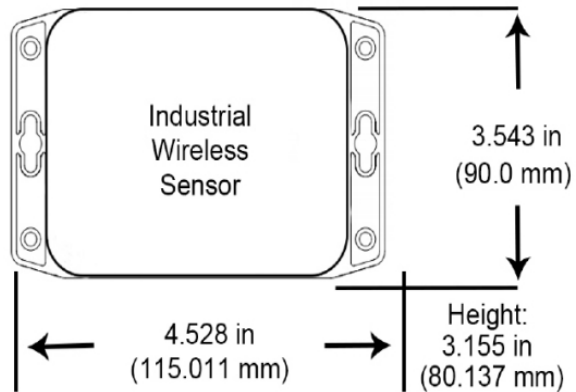
2 Battery life is determined by the sensor reporting frequency and other variables. Other power options are also available.

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

