



Remote Monitoring for Business



ALTA® Wireless PSIG Pressure Meters

General Description

The [ALTA® Wireless PSIG Pressure Meter](#) measures gauge pressure in a gas, liquid, or vapor supply line.

Key Features

- ▶ Transducers available: 50, 300, 750, 3000 PSIG
- ▶ Resolution: 0.1 PSI
- ▶ Accuracy:
 - ▶ Uncalibrated: $\pm 2\%$ of reading + 1.05% FS
 - ▶ Calibrated: $\pm 0.5\%$ of reading + 0.5% FS
- ▶ Configurable thresholds for critical condition monitoring

Principles of Operation

The ALTA Wireless Pressure Meter uses an industrial-grade pressure transducer to measure pressure on a user-configurable time interval or Heartbeat. On every Heartbeat, the pressure transducer is energized and a proportional analog voltage is converted to a digital pressure measurement. This measurement is then sent to the gateway, making the data available in iMonnit or another approved data service.

The ALTA Pressure Meter can be calibrated for improved accuracy. Also, remember to remove the pressure from the sensor when performing maintenance on this device.

Example Applications

- ▶ Compressors/compressed air lines
- ▶ Water supply lines
- ▶ Pumping systems
- ▶ Irrigation system pressure
- ▶ Industrial process monitoring
- ▶ Trash compaction equipment
- ▶ Hydraulic systems
- ▶ [Additional applications](#)

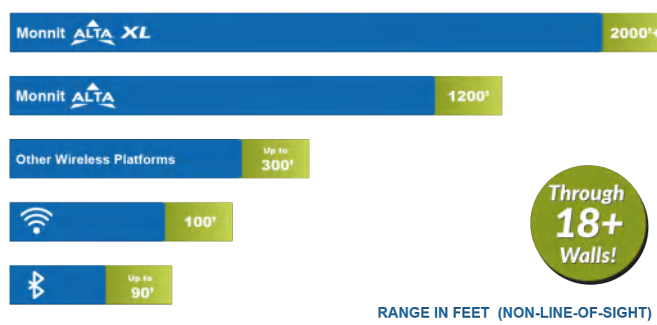
Features of Monnit ALTA Sensors

- 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 set alerts to be sent via SMS text and email

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.

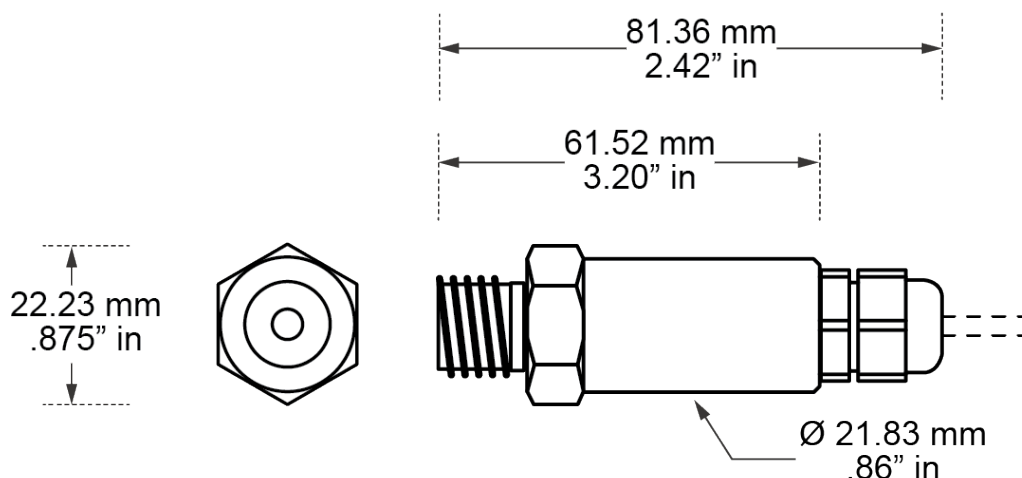
Wireless Range Comparison



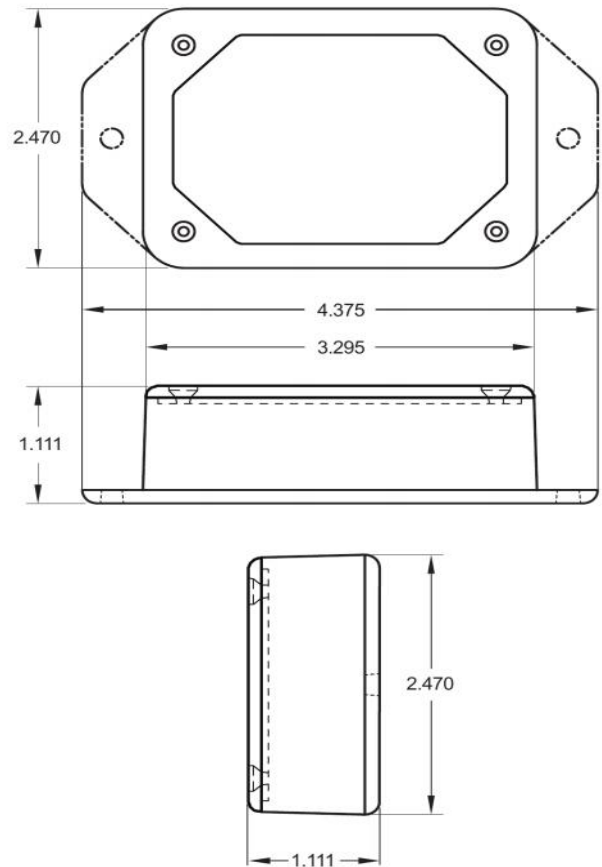
Technical Specification | ALTA® Wireless PSIG Pressure Meters

Pressure Transducer	Measurement range	50, 300, 750, or 3000 PSIG (Others available upon request)
	Operating temperature	-18°C to 79°C (0°F to 175°F)
	Thermal effect on reading	±0.02% FS/°F. (includes zero and span)
	Media	Gas, Liquid, or Vapor
	Response time	300 msec.
	Stability	1.0% FS/year (Typ.)
	Wire length	0.91 m (3 ft)
	Resolution	0.1 PSI
	Pressure measurement accuracy	± (2% of reading + 1.05% FS)
	User-calibrated pressure accuracy	± (0.5% of reading + 0.5% FS) ¹
	Process connection	¼" NPT-Male standard
	Process connection material	Wetted type 316 stainless steel
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 .
		

- For best results, first zero the sensor then calibrate at greater than at 20% of the maximum pressure of the transducer.
- Operating and storage altitude without DC power supply is -30.48 to 9144 m (-100 to 30000 ft).



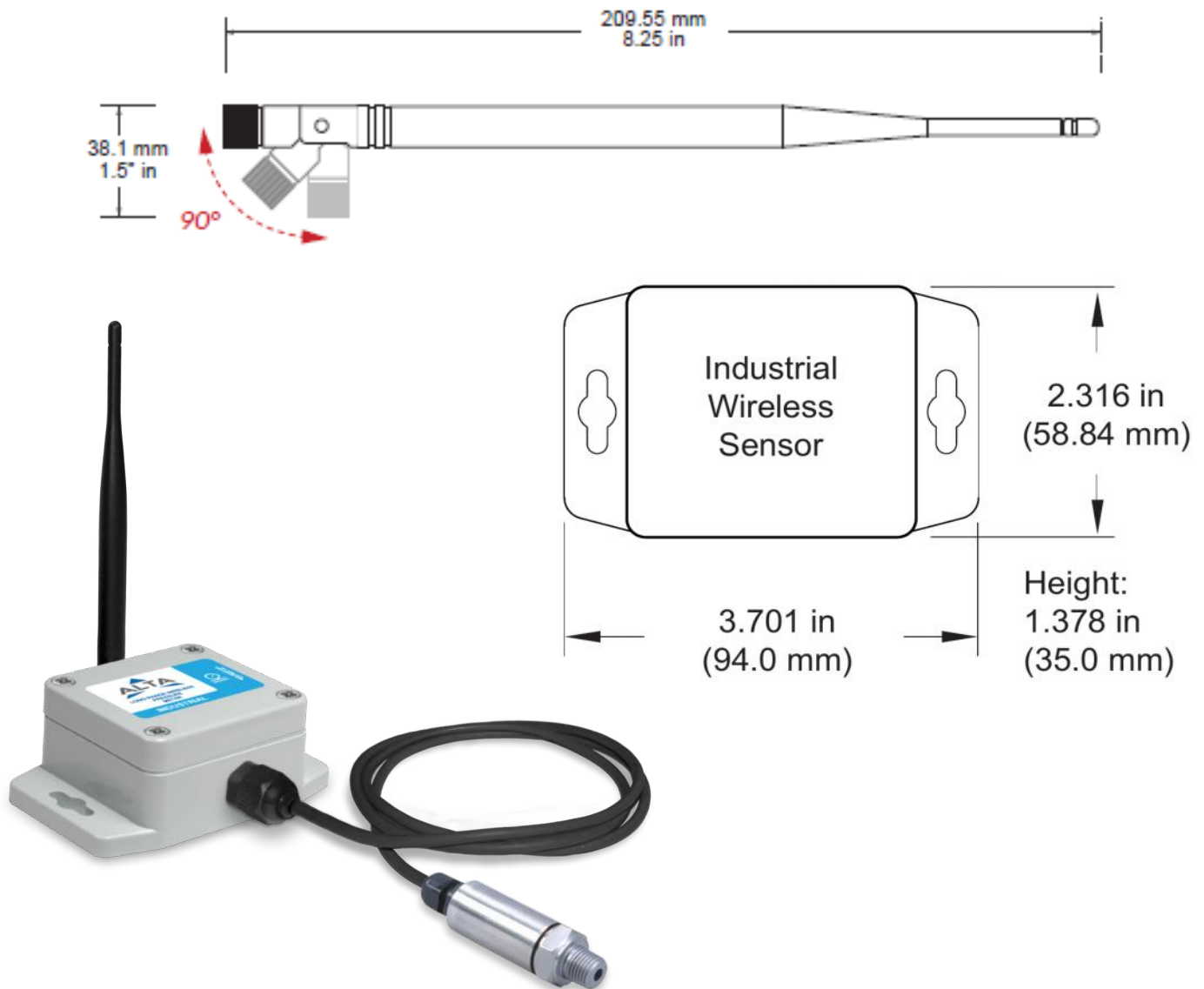
The sensor reports the pressure per square inch gauge (PSIG).



Technical Specifications | ALTA® Enterprise Wireless Pressure Meter

Battery ¹	2x 1.5V AA Alkaline, 1500 mAh, (standard) 2x 1.5V AA Lithium, 3000 mAh, (optional)
Battery Life	5+ years expected
External line-power option ²	Input voltage: 5.0-12.0 V, greater than 0.1A, less than 100mVp-p noise Power jack: 2.1 x 5.5 mm barrel, center positive
Operating temperature range with given power sources ³	-18°C to 55°C (0°F to 130°F) - AA Alkaline Batteries -25°C to 60°C (-13°F to 140°F) - AA Lithium L91 Batteries 0°C to 40°C (32°F to 104°F) - US 5V Power Supply 10°C to 40°C (50°F to 104°F) - International 5V Power Supply
Operating humidity	5 to 85% RH (non-condensing)
Wireless antenna type	1/4-wave, 20 gauge wire whip, 3.5" (900/868MHz), 7" (433MHz)
Weight	8 ounces (226.7 g)

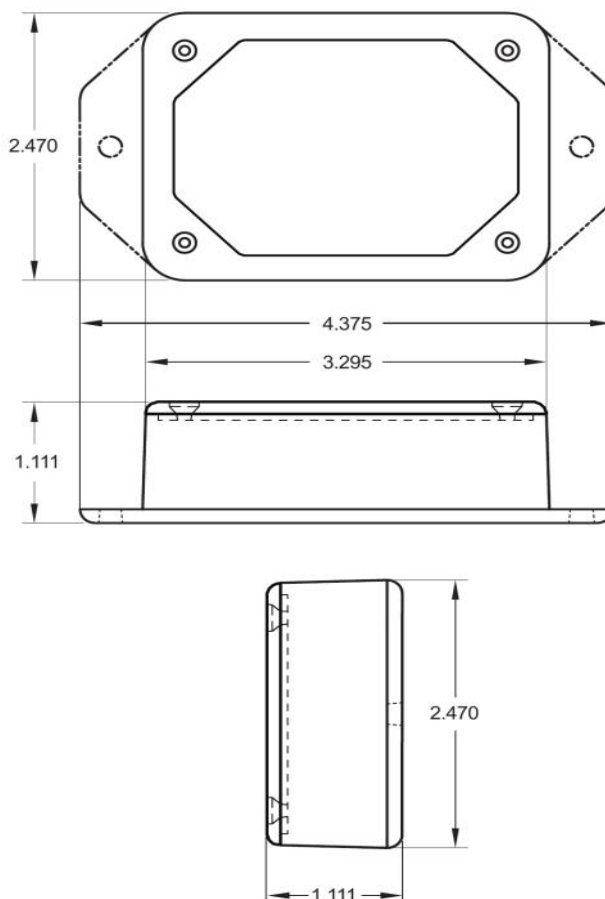
1. Hardware can't withstand negative voltage. Please take care when inserting and removing batteries.
2. Batteries will provide backup power when the external power is removed.
3. Operating below 0°C (-32°F) degrees will reduce battery life.



Technical Specifications | ALTA® Industrial Wireless Pressure Meter

Battery	1x 3.6V AA Lithium Thionyl Chloride, 1500mAh, pre-installed
Battery Life	5+ years expected
Operating temperature range ¹	-25°C to 80°C (-13°F to 176°F)
Operating humidity	5 to 95% RH (non-condensing)
Wireless antenna type	1/2-wave waterproof dipole with RP-SMA connector and swivel neck; dBi of 3.0 (900/868MHz) or 2.5 (433 MHz); length of 8.27" (210mm) (900/868MHz) or 7.68" (195mm) (433 MHz); diameter at thickest point of 0.55" (14mm)
Weight	13.3 ounces (377g)
Enclosure rating	NEMA 1, 2, 4, 4x, 12, and 13 rated, sealed, and weatherproof
UL rating	UL Listed to UL508-4x specifications (File E194432)

1. Operating below 0°C (-32°F) degrees will reduce battery life.



Technical Specifications ALTA-ISX® IECEx-Certified Wireless Pressure Meter	
Battery	1x 3.6V AA Lithium Thionyl Chloride, 1000mAh, pre-installed
Battery Life	3+ years expected
Operating temperature range	-40°C to 40°C (-40°F to 104°F)
Operating temperature range (sensor body)	0°C to 40°C (32°F to 104°F)
Wireless antenna type	1/4-wave, 20 gauge wire whip, 3.5" (900/868MHz), 7" (433MHz)
Weight	8 ounces (226.7 g)
Process connection (Certified)	¼" BPST-Male Standard
Additional certifications	 IECEx - Ex ib IIA T3 Gb - Cert # 21.0028X

WARNING: The sensor is supplied with a single **AA RAMWAY ER14505M battery** with a capacity of approximately 2,200 mAh. A single AA RAMWAY ER14505M lithium / thionyl chloride battery **MUST** be used and **ONLY** the RAMWAY ER14505 battery.

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 both indoor or 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



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