



Wireless Pressure Meters

General Description

The [ALTA Wireless Pressure Meters](#) measure pressure in gas, liquid, or vapor supply lines. The meters combine a standard pressure transducer interfaced to a Monnit ALTA wireless radio. The meters:

- Measure pressure up to [50](#), [300](#), and [750](#) PSIG with transducers (others available upon request)
- Monitors non-caustic liquid or vapor pressures
- Pressure transducer is NEMA 4X (IP66), CE-rated

Principle of Operation

By connecting an ALTA Wireless Pressure Meter to a pressurized gas, liquid, or vapor supply line, you can measure the pressure within the line and review the data in the iMonnit Online Sensor Monitoring and Notification System. The data is stored in the online system and can be reviewed on dashboards and charts, and exported as a data sheet or graph. You can customize settings to your use case and set notifications and alerts in the cloud-based software to know immediately via text, email, or call if the pressure is above or below an optimal range.

Example Interfacing

- Compressors/compressed air lines
- Water supply lines
- Gas supply lines
- Pumping systems
- Irrigation system pressure
- Industrial process monitoring
- Trash compaction equipment
- HVAC/R
- Chemical processing
- [Additional applications](#)

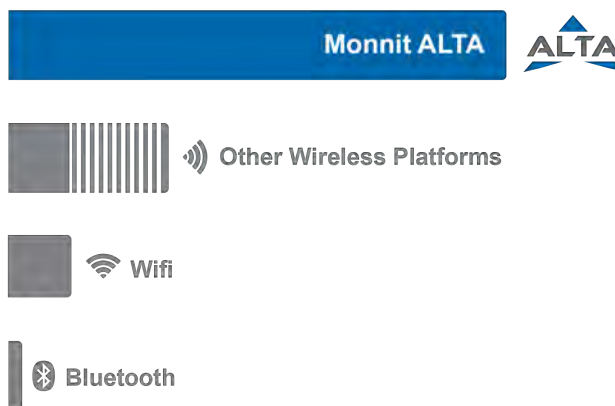
Features of Monnit ALTA Sensors

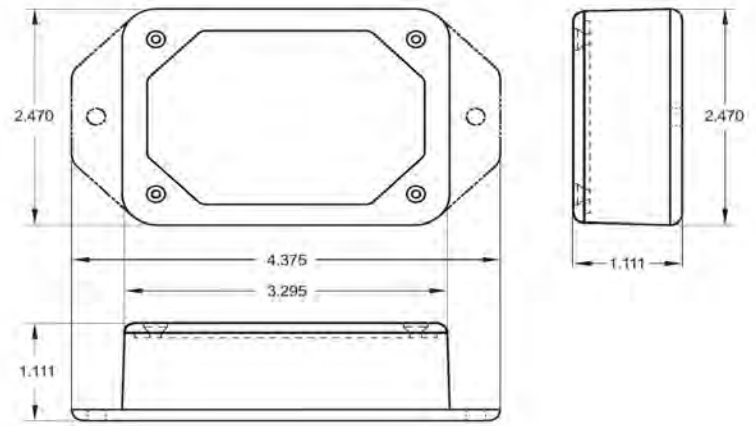
- Wireless range of 1,200+ feet through 12+ walls¹
- Frequency-Hopping Spread Spectrum (FHSS)
- Best-in-class interference immunity
- Best-in-class power management for longer battery life²
- Encrypt-RF® Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Data logs 2000 to 4000 readings if the gateway 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)
- 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.

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

Wireless Range Comparison





ALTA Commercial AA Wireless Pressure Meter | Technical Specifications

Supply voltage	2.0–3.8 VDC (5.0–12 VDC using power supply)
Current consumption	0.2 μ A (sleep mode), 0.7 μ A (RTC sleep), 570 μ A (MCU idle), 2.5 mA (MCU active), 5.5 mA (radio RX mode), 22.6 mA (radio TX mode)
Operating temperature range (board circuitry and batteries)	-18°C to 55°C (0°F to 130°F) using alkaline -40°C to 85°C (-40°F to 185°F) using lithium
Optimal battery temperature range (AA)	+10°C to +50°C (+50°F to +122°F)
Operating humidity	5 to 85% RH (non-condensing)
Operating altitude	-15.2 to 1,982 m (-50 to 6,500 ft)
Storage altitude	-15.2 to 3,048 m (-50 to 10,000 ft)
Data logging	Sensor logs 2000 to 4000 readings if gateway connection is lost (non-volatile flash, persists through power cycling): 10-minute Heartbeats = ~ 22days, 2-hour Heartbeats = ~266 days
Wireless protocol	ALTA Proprietary Frequency-Hopping Spread Spectrum (FHSS)
Wireless transmission power	50 mW (900MHz), 25 mW (868 MHz), 10 mW (433 MHz)
Wireless antenna type	1/4-wave, 20 gauge wire whip, 3.5" (900/868MHz), 7" (433MHz)
Wireless range	1,200+ ft non-line-of-sight
Resolution	0.1 PSI
Security	Encrypt-RF® (256-bit key exchange and AES-128 CTR)
Weight	8 ounces (226.7 g)
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.

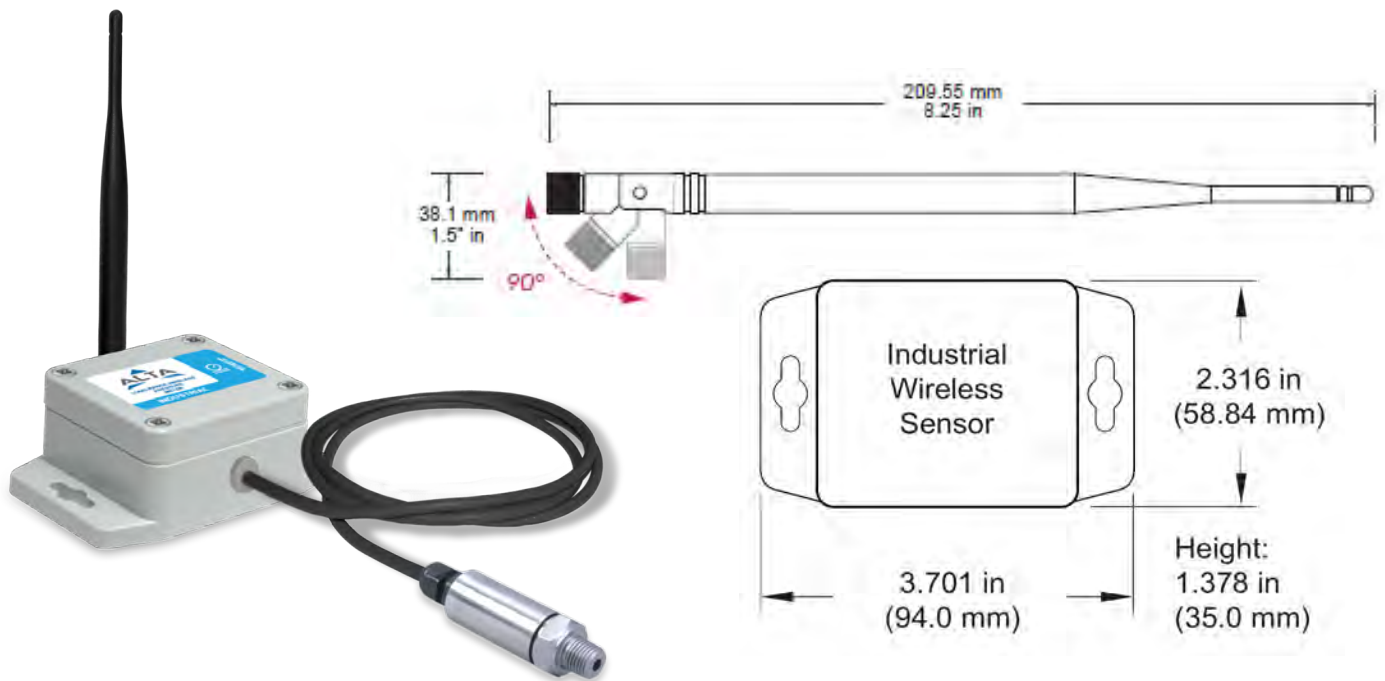


Power Options

The standard version of this sensor is powered by two replaceable 1.5V AA-sized batteries (included with purchase).

This sensor is also available with a line-power option. The line-powered version of this sensor has a barrel power connector allowing it to be powered by a standard 5.0–12V power supply. The line-powered version also uses two standard 1.5V AA batteries as backup for uninterrupted operation in the event of a line-power outage.

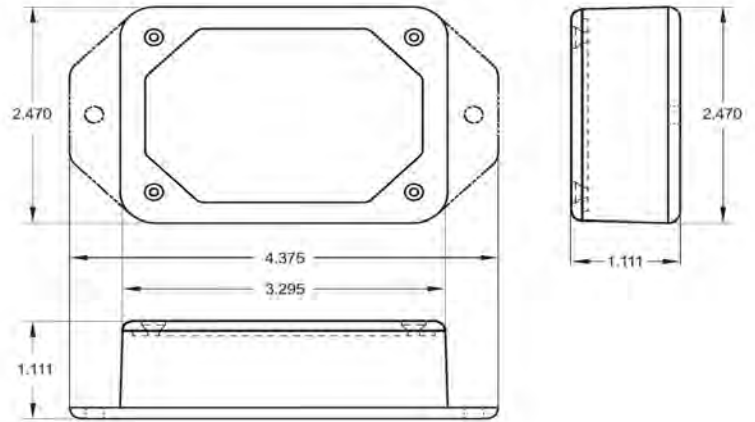
Power options must be selected at the time of purchase, as the internal hardware of the sensor must be changed to support the selected power requirements.



ALTA Industrial Wireless Pressure Meter | Technical Specifications

Supply voltage		2.0–3.8 VDC
Current consumption		0.2 μ A (sleep mode), 0.7 μ A (RTC sleep), 570 μ A (MCU idle), 2.5 mA (MCU active), 5.5 mA (radio RX mode), 22.6 mA (radio TX mode)
Operating temperature range (board circuitry and battery)		-40°C to +85°C (-40°F to +185°F)
Included battery	Max temperature range	-40° to +85°C (-40° to +185°F)
	Capacity	1500 mAh Lithium Thionyl Chloride
Data logging		Data logs 2000 to 4000 readings if the gateway connection is lost (non-volatile flash, persists through the power cycle): 10-minute Heartbeats = ~ 22 days; 2-hour Heartbeats = ~ 266
Wireless protocol		ALTA Proprietary Frequency-Hopping Spread Spectrum (FHSS)
Wireless transmission power		50 mW (900MHz), 25 mW (868 MHz), 10 mW (433 MHz)
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)
Wireless range		1,200+ ft non-line-of-sight
Resolution		0.1 PSI
Security		Encrypt-RF® (256-bit key exchange and AES-128 CTR)
Weight		13.3 ounces
Enclosure rating		NEMA 1, 2, 4, 4x, 12, and 13 rated, sealed, and weatherproof
UL rating		UL Listed to UL508-4x specifications (File E194432)
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 .



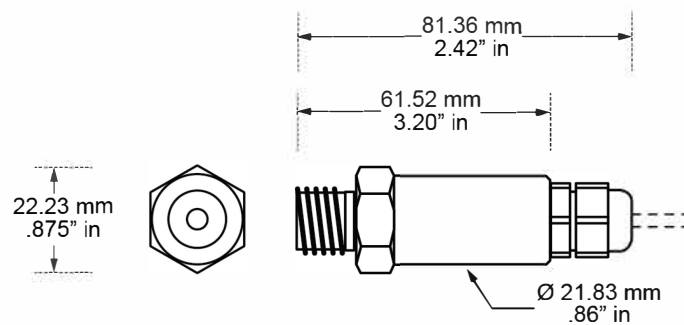


ALTA-ISX IECEX-Certified Wireless Pressure Meter | Technical Specifications

Supply voltage	2.0–3.8 VDC
Current consumption	0.2 μ A (sleep mode), 0.7 μ A (RTC sleep), 570 μ A (MCU idle), 2.5 mA (MCU active), 5.5 mA (radio RX mode), 22.6 mA (radio TX mode)
Operating temperature range (board circuitry and batteries)	-40°C to 40°C (-40°F to 104°F)
Data logging	Data logs 2000 to 4000 readings if the gateway connection is lost (non-volatile flash, persists through the power cycle): 10-minute Heartbeats = ~ 22 days; 2-hour Heartbeats = ~ 266 days
Wireless protocol	ALTA Proprietary Frequency-Hopping Spread Spectrum (FHSS)
Wireless transmission power	50 mW (900MHz), 25 mW (868 MHz), 10 mW (433 MHz)
Wireless antenna type	1/4-wave, 20 gauge wire whip, 3.5" (900/868MHz), 7" (433MHz)
Wireless range	1,200+ ft non-line-of-sight
Resolution	0.1 PSI
Security	Encrypt-RF® (256-bit key exchange and AES-128 CTR)
Weight	8 ounces (226.7 g)
Certifications	   900 MHz product; FCC ID: ZTL-G2SC1 and IC: 9794A-G2SC1. 868 and 433 MHz product tested and found to comply with: EN 300 220-2 V3.1.1 (2017-02), EN 300 220-2 V3.1.1 (2017-02), and EN 60950. All sensors: IECEX–Ex ib IIA T3 Gb–Cert # 21.0028X

Power Options

WARNING: The meter 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.



Pressure Transducer Specifications	
Operating temperature	0 to 175°F (-18 to 79°C)
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	3 Feet (1 M)
Accuracy	1.0% FS; 0.5% RSS; (Includes linearity, hysteresis, and repeatability)
Process connection	¼" NPT-Male Standard
Pressure transducer(s)	0-50, 0-300, or 0-750 PSIG (Others available upon request)
Combined Specifications	
Pressure measurement accuracy	± (2% of reading + 1.05% FS)
User-calibrated pressure accuracy	± (0.5% of reading + 0.5% FS) ¹

¹ For best results, first zero the sensor, then calibrate at greater than 20% of pressure range of the transducer.

Commercial-Grade Meters & Sensors

Monnit commercial-grade meters and 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 temperature may cause deterioration of the characteristics or the material quality.

Industrial-Grade Meters & Sensors | Type 1, 2, 4, 4X, 12, and 13 NEMA-Rated Enclosure

Monnit's industrial meters and 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