

Monnit WIT™

Wireless Pressure Sensor



Technical Overview

General Description

The Monnit WIT Wireless Pressure Sensor is capable of measuring gas, liquid or vapor pressures from 0-160 PSI. This sensor can be used anywhere a pressure gauge can be used. Requires 12 – 32 VDC input. This solution combines a standard pressure transducer interfaced to a Monnit Wit wireless radio.

Features

- Measure pressure from 0-160 PSI.
- Measure gas, liquid or vapor pressures.
- Pressure transducer is NEMA 4X, CE rated.
- Free iMonnit basic online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email.

Principle of Operation:

By connecting the Monnit WIT Wireless Pressure Sensor to a pressurized gas, liquid or vapor supply line, it can measure the pressure within the line and send data to the iMonnit Online Sensor Monitoring and Notification System. The data is stored in the online system and can be reviewed and exported as a data sheet or graph. User customization allows you to set notifications and alerts from the system so you can know immediately if pressure is above or below an optimal range.

Power Options

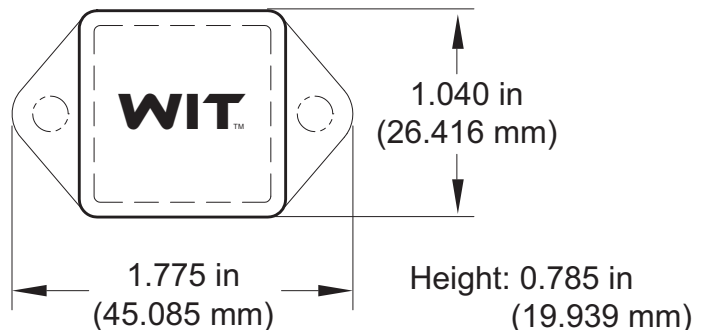
Sensors are powered by a replaceable 3.0 V coin cell battery. Optional AA battery powered sensors are available. The AA version of these sensors are larger in size (3" [L] x 2.1" [W] x 1.2" [H]) and include two long-life AA batteries.

It is recommended that unless you are using the AA battery solution, you set heartbeat to no faster than one hour to preserve battery life.

Monnit WIT Sensor Core Specifications

- Power: Replaceable 3.0 V coin cell battery
- Communication: RF 900, 868 and 433 MHz
- Dimensions: 1.775" x 1.040" x 0.785"
- Antenna: 4" wire antenna
- Operating Temperature: -20° to 60°C (-4° to 140°F)
- Device Range: 250 - 300 ft. non-line-of-sight*
- Battery Life: At 1 hour heartbeat setting, coin cell battery will last ~ 1-2 years.**

* Actual range may vary depending on environment.
** Battery life is determined by sensor reporting frequency and other variables.



Example Interfacing

- Compressed Air Lines
- Water Supply Lines
- And many more...

The Leader in Low Cost Wireless Sensors

Monnit WIT Technical Specifications

Supply Voltage	2.0 - 3.6 VDC *
Current Consumption	0.7 μ A (sleep mode) 2 mA (radio idle/off mode) 2 mA (measurement mode) 25 mA (radio RX mode) 35 mA (radio TX mode)
Operating Temperature Range (Board Circuitry and Battery)	-20°C to +60°C (-4°F to +140°F) **
Optimal Battery Temperature Range (Coin Cell)	+10°C to +50°C (+50°F to +122°F)

Pressure Transducer Technical Specifications

Performance	0.7% BFSL Accuracy
Storage Temperature	-40 to 221°F (-40 to 85°C)
Operating Temperature	-40 to 185°F (-40 to 85°C)
Thermal Effect on Reading	2% per 100 °F
Noise Immunity	20V/m (meets CE heavy industrial)
Media	Gas, Liquid or Vapor
Electrical Protection	Reverse polarity 75Vdc, Over-voltage 60 Vdc, and short-circuit protection
Vibration	5g's from 50 to 2000Hz.
Humidity	95% non-condensing
Response Time	Less than 2 ms (electronics)
Wake-up Time	Less than 2 ms
Insulation	1 Meg ohm at 200 Vdc
Wire Length	1 Meter shielded cable (between gauge and wireless unit)
Dial Size	2 1/2" (63 mm)
Gauge Accuracy	1.6% full-scale Grade A (63 mm)
Process Connection	1/4" NPT-Male Standard
Proof Pressure	0 to 160 psi = 120% of full scale
Burst Pressure	0 to 160 psi = 10x of full scale
Window	Polycarbonate or Safety Glass
Case	304 Series Stainless Steel
Socket and Tube	316 Series Stainless Steel
Gauge Movement	Suppressed Stop Movement for True Electrical Zero Reading

* Hardware can not withstand negative voltage. Please take care when connecting a power device.

** At temperatures above 100°C, it is possible for the board circuitry to lose programmed memory.



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