MONNIT®

The Leader in Low-Cost, Remote Monitoring Solutions

AIR FLOW
DETECTION

Wireless Airflow Detection Sensor

General Description

The Wireless Airflow Detection Sensor detects air force applied to the flexible ribbon sensor to determine if airflow is moving or not.

- Uses a bend sensor / potentiometer to detect airflow

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

The wireless airflow detection sensor use a flexible, stress sensitive ribbon to detect air flow within heating and air conditioning duct work. 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 the frequency of readings and the ability to set thresholds for notifications or alerts from the iMonnit online sensor monitoring system.

Example Applications

- Heating and AC System Monitoring
- HVAC Testing
- Blower Motor Monitoring
- Environmental Monitoring

And many more...

Monnit Sensor Core Specifications

- Wireless Range: 250 - 300 ft. (non line-of-sight / indoors through walls, ceilings & floors) *
- Communication: RF 900, 920, 868 and 433 MHz
- Power: Replaceable batteries (optimized for long battery life) - Line-power (AA version) options available
- Battery Life (at 1 hour heartbeat setting) **
   AA battery >   4-8 years
   Coin Cell >   2-3 years.

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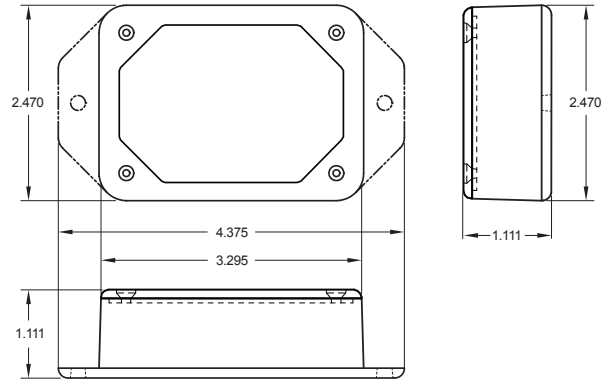** Battery life is determined by sensor reporting frequency and other variables.

Wireless Airflow Detection Sensor (AA)

Technical Specifications	
Supply Voltage	2.0 - 3.6 VDC (3.0 - 3.6 VDC Using Power Supply) *
Current Consumption	0.7 µA (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 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)
Base Resistance	100 Ω - 500 KΩ
Weight	3.7 oz.
Wireless Range	250 - 300 ft. (Indoors / Through walls, ceilings & floors) Range may vary according to environmental variables
Certifications	900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 920 MHz product; ARIB STD-T108 R210-103733. 868 and 433 MHz product tested and found to comply with: CISPR 22:2008-09 / EN 55022:2010 - Class B and ETSI EN 300 220-2 V2.4.1 (2012-05).

*   Hardware cannot 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.

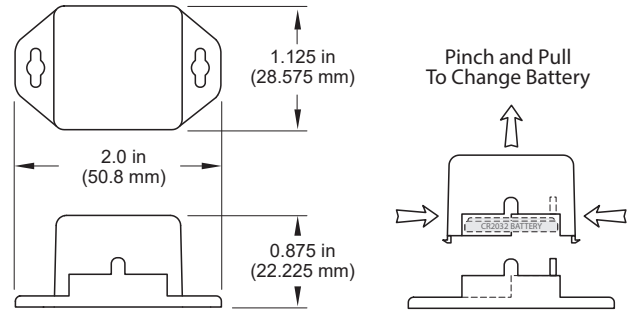| Airflow Indicator Ribbon Specifications	
Life Cycle	More than 1,000,000 Cycles (Tested to 10,000,000+ Cycles)
Temperature Range	-35°C to +85°C (-31°F to +185°F)
Hysteresis	7%

⚠ **Warning: Do not kink or damage the flexible ribbon!**

Power Options

Two replaceable 1.5V AA sized batteries are included with the standard model. A line-power version with battery backup is also available - allowing it to be powered by a standard 3.0 - 3.6V power supply and use the internal batteries if there is a power interruption.

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

Wireless Airflow Detection Sensor (Coin Cell)

1.125 in (28.575 mm)
2.0 in (50.8 mm)
0.875 in (22.225 mm)

Pinch and Pull To Change Battery

Technical Specifications	
Supply Voltage	2.0 - 3.6 VDC *
Current Consumption	0.7 µA (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 Coin Cell)	-7°C to +60°C (20°F to +140°F)**
Optimal Battery Temperature Range (Coin Cell)	+10°C to +50°C (+50°F to +122°F)
Base Resistance	100 Ω - 500 KΩ
Weight	0.7 oz.
Wireless Range	250 - 300 ft. (Indoors / Through walls, ceilings & floors) Range may vary according to environmental variables.
Certifications	900 MHz product; FCC ID: ZTL- RFSC1 and IC: 9794A-RFSC1. 920 MHz product; ARIB STD-T108 R210-103733. 868 and 433 MHz product tested and found to comply with: CISPR 22:2008-09 / EN 55022:2010 - Class B and ETSI EN 300 220-2 V2.4.1 (2012-05).

*   Hardware cannot 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.

| Airflow Indicator Ribbon Specifications	
Life Cycle	More than 1,000,000 Cycles (Tested to 10,000,000+ Cycles)
Temperature Range	-35°C to +85°C (-31°F to +185°F)
Hysteresis	7%

⚠ **Warning: Do not kink or damage the flexible ribbon!**

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.

PinchPower™ Enclosure

Pinch
(press in on the sides)

Pull
(sensor away from base)

Press
(sensor back into base)
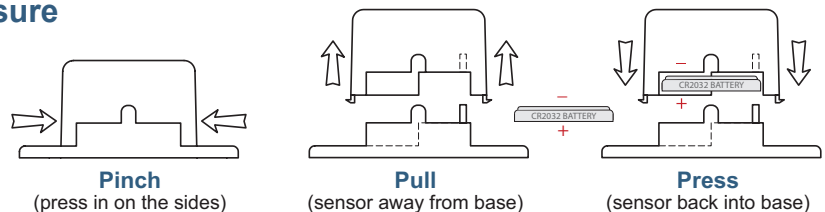
Notes

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 burn-out.

- Corrosive gas or deoxidizing gas - chlorine gas, hydrogen sulfide gas, ammonia gas, sulfuric acid gas, nitric oxides gas, etc.).
- Volatile or flammable gas.
- Dusty conditions.
- Under low or high pressure.
- 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 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 as well as the damaging effects of water (rain, sleet, snow, splashing water, and hose directed 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®

For more information about our products or to place an order, please contact our sales department at 801-561-5555.

Visit us on the web at www.monnit.com.

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