

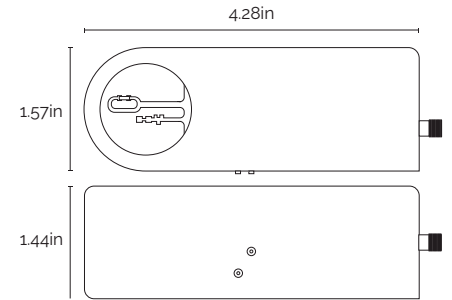
# packetAIRFLOW

The **packetAIRFLOW** is an IoT device that is used to monitor wind speed of indoor ventilation systems. The device will be calibrated depending on the application it will be used.

The device uses a Hot Wire Anemometer where wind speed is correlated to the power requirement to maintain the temperature of a controlled heating element.

It also has a Differential Pressure Sensor which monitors interference in the measuring area, such as dust clogs, which will affect the wind speed. The measured wind speed and the notification indicating the presence of an interference will be sent to a central location via LoRaWAN®, allowing for seamless monitoring of various indoor ventilation systems.

With this information, users can adjust ventilation settings to achieve a desired environment.



## Features

- Long battery life
- Wireless
- Compact size allows it to be placed close to air ducts, aircon vents and filters
- LoRaWAN® compatible
- Optimized as IoT end-node
- Static Components

## Applications

- Indoor Wind Speed Sensor
  - Low to Medium Wind Speed
- Air Filter Monitor
- Air Movement Control
- Differential Air Pressure Gauge
- Pressure Switching
- Industrial Filter Monitoring

## Technical Specification

### LoRa

Device	S76S
Integrated MCU	STM32L073xZ
Integrated RF IC	SX1276
Frequency	868Mhz
Antenna	Internal
Range	Up to 15k
RF Power	+25dBm
Data Gathering Frequency	Weekly
Heartbeat Frequency	6 hours

### Electrical Characteristics

Power Source	Battery or Adaptor
Operational Voltage	3.6V to 5.5V
Battery Capacity	1800mah
Battery Life <sup>[1]</sup>	12 Months
Heater Temperature Range	-55 °C to +150 °C

### Hot Wire Anemometer

Model	MD0550
Velocity Range	0-150 MPH
Heater Temperature Range	-55 °C to +150 °C

### Differential Pressure Sensor

Model	MPXV7002DP
Pressure Range	-2 to 2 kPa
Voltage Output	0.5 to 4.5 V
Maximum Error	5%
Sensitivity	1V/kPa
Response Time	1 ms
Warm Up Time	10 ms

### Physical

Operating Temperature	-20°C to +70°C
Storage Temperature	-40°C to +105°C
Protection Grade	None
Dimension	Refer to drawing
Setup	Adhesive

<sup>[1]</sup> This value is based on theoretical values and will be updated upon further testing.