

AVS Series

Air Velocity Sensors

1000 Series

Features

- Measures airflow directly
- Ultra-sensitive to low velocity
- All solid-state
- Cost-effective
- Easy to use
- Choice of outputs, including 0-10V, 4-20mA
- Access to tight locations
- Temperature readings available



Plastic Case with Panel Mount

Metal Case with DB9 Connector

Direct Linear Airflow Measurement

The Cambridge AccuSense AVS-1000 Series are embedded, thermistor-based sensors, developed to provide direct, continuous measurements of ultra low air velocity. The AVS-1000 Series feature velocity ranges as low as 0-0.5 m/s (0-100 fpm); the highest velocity range is 0-5 m/s (0-1000 fpm). Users can also specify custom ranges, to fit the particular needs of their own applications. The specially designed, small sensors allow easy access to obtain measurements even in remote and tight locations.

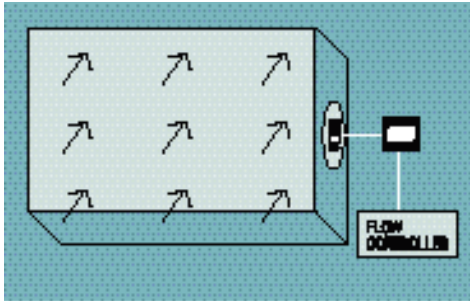
Directly obtaining airflow measurements greatly increases monitoring accuracy and efficiency. Traditional methods using differential pressure result in extremely low readings which are difficult to measure economically and accurately.

AVS-1000 Series sensors are available in two versions, bi-directional or non-directional. The non-directional sensor measures the maximum velocity passing the sensor. The bi-directional sensor gives a positive or negative reading to indicate the direction of the airflow.

An all solid-state construction ensures durability and stable operation, while the processing electronics inside the AVS Series perform temperature compensation and linearization of output. Applications for this new technology include airflow monitoring in sensitive environments such as isolation rooms, cleanrooms, fume hoods and biological safety cabinets, as well as leak detection and gas metering for duct work, HVAC and process control.

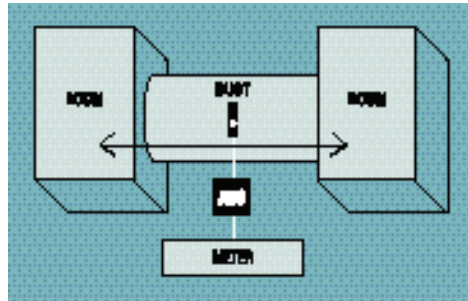
Supply voltage options include 12V or 24 VDC, with outputs of 0-10V or 4-20mA. Packaging options include plastic or metal case with pins or DB9 connections. A new metal case

Typical Applications



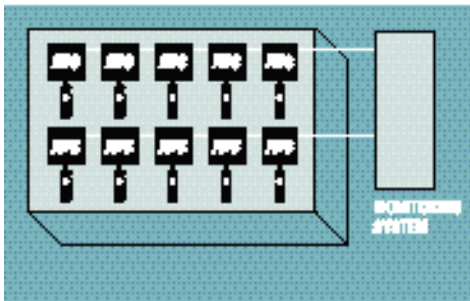
Application: Fume Hoods

The AVS can be mounted into the side wall or incoming duct to measure and control face velocities of fume hoods.



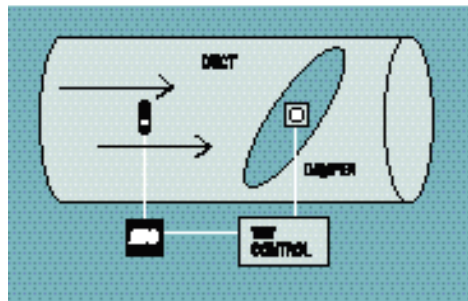
Application: Isolation Rooms

A bi-directional AVS is optimal for monitoring isolation rooms and operating rooms where air velocity and direction are critical.



Application: Cleanrooms

Mount several AVS sensors by inlets, outlets, filters and other critical areas. Transmit the data over long distances for continuous monitoring of airflow.

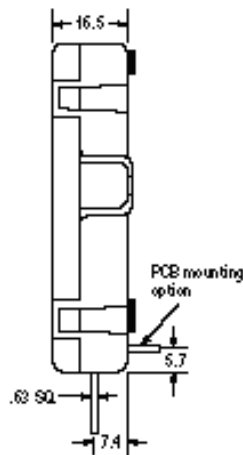
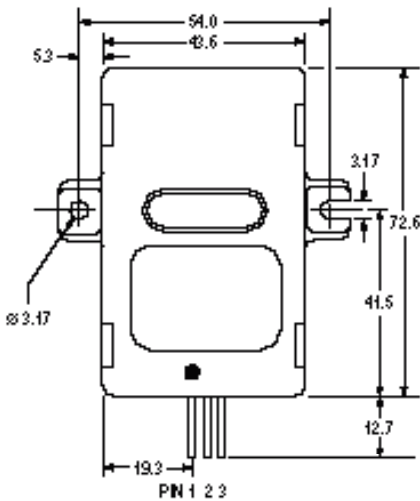


Application: Air Ducts

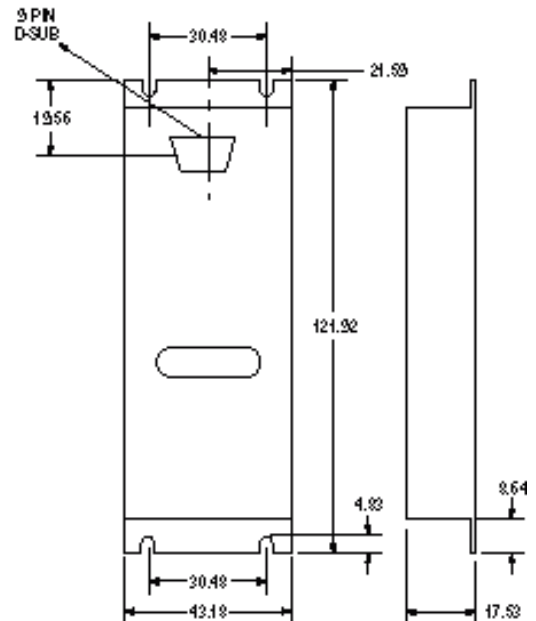
Use the AVS as a replacement for cumbersome conversion of pressure measurements to an airflow reading.

Dimensions

Plastic Case



Metal Case

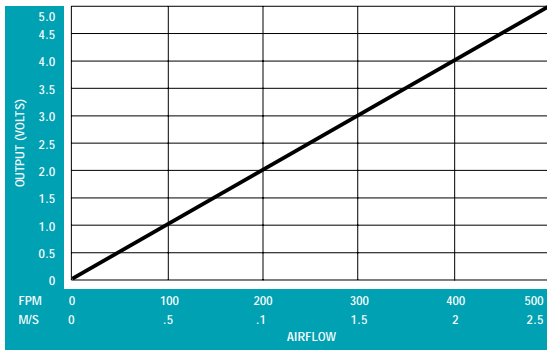


All dimensions are in millimeters

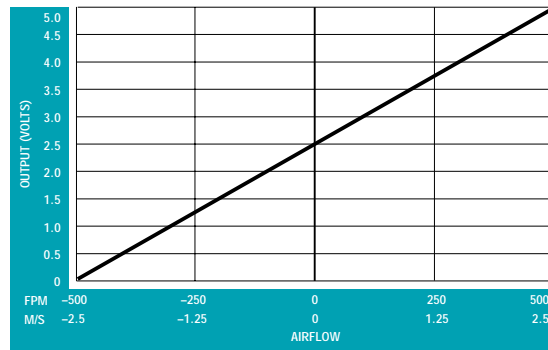
AVS Series

Air Velocity Sensors

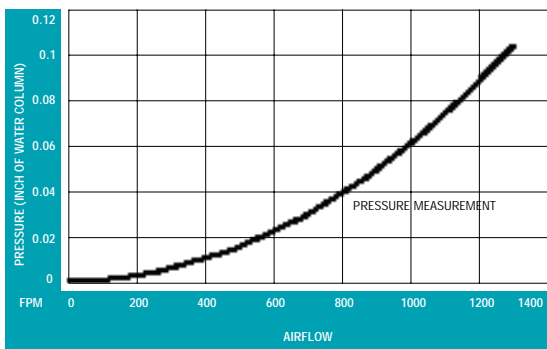
Sample Response, Non-Directional



Sample Response, Bi-Directional



Airflow vs. Pressure



At low velocities, the equivalent pressure measurements become very small and difficult to measure accurately and economically with traditional pressure sensors.

The AVS Series gives its strongest signals at the lowest velocities, thus eliminating the inaccuracies caused by converting minute differential pressures to an airflow reading.

Specifications

Supply	Minimum	Nominal	Maximum
05D	4.9	5	18 VDC
12D	10	12	18 VDC
24D	18	24	30 VDC
24A	20	24	28 VAC
24T	20	24	28 VAC w/ internal trans. coupled
Operating Temperature	-10° to 70° C		
Storage Temperature	-40° to 100° C		
Accuracy From 15° To 35° C	5% of full scale, 3% of full scale @ 25° C		
Repeatability At 25° C	±1% full scale		
Response Time	100 ms std., other response times avail.		
Output Resolution	256 steps		
Warm-up Time	10 minutes maximum		
Current Loop Load	0-200 ohms		
Humidity (Non-Condensing)	10% to 90% RH		
Cable	Shielded Teflon (diameter 1.78 mm)		
Connector Configuration	1= Supply (V _{CC}) 2= Return (GRD) 3= Output 4= Optional temperature output Remaining pins on DB9 connector reserved for future use		
Case Material	Plastic	ABS	
	Metal	Powder coated aluminum	
Weight	Plastic	36 grams	
	Metal	80 grams	

Sensor Flow Direction

Bi-Directional—Dot facing flow is positive direction.
Logo facing flow is negative direction.

