degreeC™

CAMBRIDGE ACCUSENSE

F900 Series Air Velocity and Air Temperature Sensors

applications

- HVAC
- Industrial Processes
- Automotive
- Air filtration Systems
- Electronics Enclosures, and
- Critical Containment Areas
- Biological Safety Cabinets
- Fume Hoods
- Clean Rooms

features

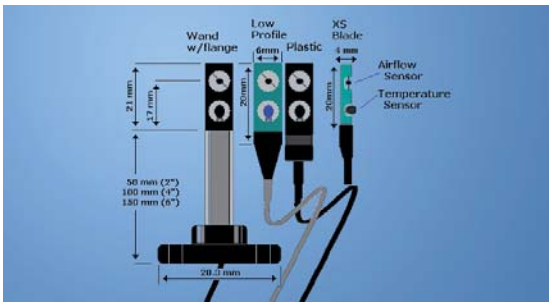
- Measures air & inert gas velocity and temperature
- Standard flow ranges between 0.15-10 m/s (approximately 30-2000 fpm)
- Temperature measurements from 0-70°C
- Digital UART Interface
- Linear 0-4 VDC airflow output from 0 to full-scale
- Wide voltage supply: 7-13VDC
- Temperature-compensated from 15-35°C
- Ideal for ducted or open airflow applications
- Available in multiple sensor heads
- Wide acceptance angle (±30°)

about

The F900 Airflow Sensor is designed to measure the velocity and temperature of airflows in applications such as HVAC, industrial processes, automotive, air filtration systems, electronics enclosures, and critical containment areas such as biological safety cabinets, fume hoods, and clean rooms.

With standard airflow sensing ranges from 0.15-2 m/s (30-400 fpm) to 0.15-10 m/s (30-2000 fpm), the Series F900 offers unparalleled price to performance, compact size, reliability with resistance to mechanical shock and vibration.

The F900 series has a linear 0-4V output and a digital 5v UART output depending on the model. The F900 is easy to install and operate. An adjustable mounting bracket is included with the sensor. In addition, the F900 can be ordered with any of the AccuSense remote sensing head options.



degreeC™
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F900 Series Air Velocity and Air Temperature Sensors

airflow measurement

Air Velocity_____

Temperature compensation range: 15-35°C (60-95°F):
Accuracy: ±5% of reading or ±0.05m/s (10fpm)
±10% of reading or ±0.05m/s (10fpm)
Repeatability: ±1% of reading

Airflow Temperature_____

Measurement range: 0-70°C (32-158°F)
Measurement Accuracy[1]: ±1°C (1.8°F)
Resolution: ±0.1°C

Temperature Compensation Range: The F900 is a thermal airflow sensor; it is sensitive to changes in air density and indicates velocity with reference to a set of standard conditions (25°C (77°F), 760mmHg (101.325kPa), and 0%RH). The F900 has been designed so that when used over the stated temperature compensation range, the sensor indicates very close to actual air velocity and minimal compensation is only required to account for changes in barometric pressure or altitude. Changes in relative humidity have a minimal impact and can usually be ignored.

[1] Above 0.5m/s (100fpm), ±1.5°C (2.7°F) below 0.5m/s (100fpm).

temperature measurement

Range 0-70°C (50-140°F)	Available on 5v UART output only
Accuracy ±1°C above 1 m/s (196 fpm) ±1.5°C below 1 m/s (196 fpm)	Resolution is ±0.1°C

electrical specifications

Supply Voltage 7-13 VDC	Warm-up Time <5 seconds
Supply Current 40-75 mA	Operating Temperature 0 – 70°C (32-158°F)
Response Time 1.5 seconds	Storage Temperature –10 to 100°C
Output is linearized 0-4.0 vdc, which equals 0 to full scale of calibrated range (airflow only).	

mechanical specifications

Dimensions	100 mm long X 12 mm diameter for standard unit, 91 mm X 12 mm for long tube with remote sensor heads
Vibration	Up to 25 G's
Acceptance Angles	Standard, rod w/flange, plastic heads are ±30°, low-profile is ±45°, XS blade is ±60° from perpendicular

connection specifications

Pin 1 Black	Supply Return
Pin 2 Red	Supply 7-13 VDC
Pin 3 White	Analog Airflow Output (0-4Vout) for calibrated range, up to 4.095V beyond calibrated range.
Pin 4 Orange	Digital serial output - 19200 BPS, 5v UART level, 8 bit, 1 stop bit
Pin 5 Yellow	Digital serial input – 19200 BPS, 5v UART levels, 8 bit, 1 stop bit -
Connector	Molex#22-01-2057 or equivalent

part number scheme

F900 - V - A - B - S - L

V =
Velocity Range
N = 0.15 - 2 m/s
O = 0.15 – 5 m/s
P = 0.15 - 10 m/s

A =
Accuracy Specification
5 = Greater of 5% of reading or ±0.05 m/s or 1% full-scale
10 = Greater of 10% of reading or ±0.05 m/s or 1% full-scale

B =
Body Type
0 = Standard (Default) – short tube
1 = Long tube (for remote sensor heads)

S =
Sensor Head Type
(for B =1 ONLY)
0 = Plastic
1 = Low Profile
2 = 50 mm (2") SS wand /w flange
4 = 100 mm (4") SS wand /w flange
6 = 150mm (6") SS wand /w flange
9 = XS Blade

L =
Sensor Cable Length
(for B =1 ONLY)
2 = 2 m

User Manual available at www.degreeC.com

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