

CAMBRIDGE
ACCUSENSE F600 Series PCB Embedded
 Air Velocity and
 Temperature Sensor

features

- Cost effective air velocity sensor, at an airflow switch price point.
- Designed for board-mounted, applications where in-situ airflow sensing is required.
- Enables airflow data to be included in environmental sweeps of critical board components at risk of thermal fatigue or failure.
- Provides a rapid response to fan failure, or airflow blockage, prior to component temperature rise.
- 0.1" pitch design, allows for easy interface to existing fan connections.
- Assists with Fan Filter Clog Detection.
- Available in different air velocity ranges.
- RoHS Level 6 compliant to meet emerging "green" standard.

application

Designed for board-mounted, embedded applications where in-situ airflow sensing is required, the new F600 allows the PCB to communicate impending shutdowns due to a fan failure or airflow blockage. With mounting pressure from high level clients and organizations to have a more active failsafe, this anemometer gives you real time information to react to potentially critical and costly situations. With an overall velocity range of 0.5 m/s to 5.0 m/s (100-1000 fpm), the F600 sensor is accurate to $\pm 10\%$ of reading within the range of 200 to 1000 fpm at 25°C. The small sensor height of 0.5" and flush PC mounting are designed to keep the profile as low as possible on the PC board. The slim profile causes minimal distortion of the true airflow picture, and provides excellent measurement of air velocity

and airflow temperature measurements across the surface of the board.

The AccuSense F600 Series sensors are also fully interchangeable with one another, as each sensor has its own on-line circuitry to provide normalized performance.

In summary, AccuSense F600 offers real time air velocity and air temperature measurement, filter blockage detection, a small compact packaging design, and an easy interface to existing fan connections. It is designed to comply with NEBS requirements. The F600 Sensor line is a cost-effective and value added solution for all embedded and electronics cooling applications such as Telecom, HVAC, Facility Management, Environmental Monitoring Systems and more.

overview

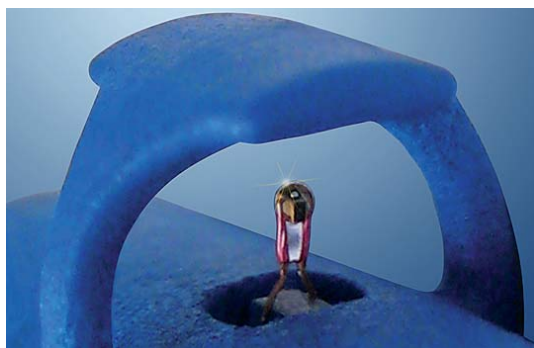
The F600 Series is part of the Embedded Air Flow Sensor product line, and addresses the needs of those customers demanding a small, cost effective airflow sensor with a user configurable PWM, TACH, or ALARM open drain output. I²C or UART communication.

For years, the AccuSense™ line of Air Velocity Sensors has been designed to meet the stringent accuracy and reliability requirements from a wide range of products and industries. The AccuSense™ brand comprises two principle groups of product; the Instrumentation line, for research and development, and the Embedded line, for insitu operation of air velocity and temperature sensing.

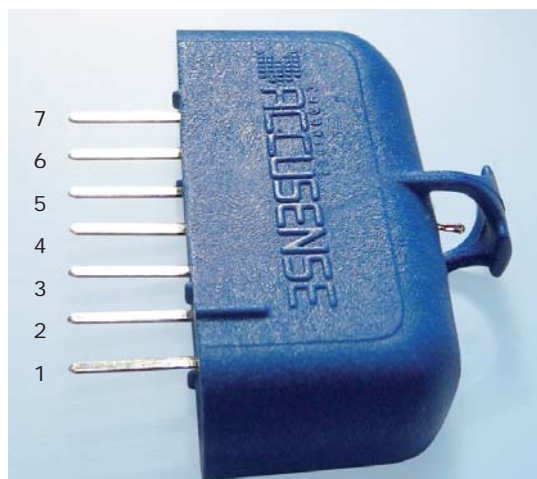
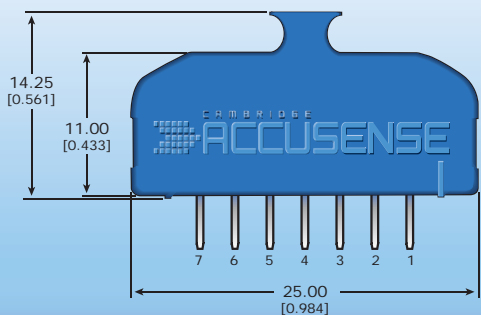
All of Degree Controls' AccuSense™ air velocity sensors can be integrated to work with our ProntoFlow™ thermal control systems, which are used for monitoring and controlling airflow in all kinds of electronic equipment, and working in tandem with product level, room level or building level management systems.

F600 Series Air Velocity and Air Temperature Sensors

connections & dimensions



Dimension .25"W X .5"H X 1"L



PIN NUMBER	UART 7 PINS	I2C 7 PINS
1		A0
2		A1
3	GND	GND
4	+12V	+12V
5	OUT	OUT
6	TXD	SDA
7	RXD	SCLK

specifications

Operating temperature	15°C to 60°C
Velocity range	0.5m/s – 5.0m/s (100fpm – 1000fpm)
Acceptance angle	± 45° to axis
Response time	3 seconds
Storage temperature	-40°C to 85°C
Relative humidity (non-condensing)	5-95%
Supply power	+12 VDC, 10ma nominal
Output (user configured)	PWM, TACH, ALARM open drain output
Communication	I ² C or UART (3.3v level)
Plastic Cap	UL94-V0

airflow & temperature measurement

Air Velocity _____

Temperature compensation range: 15-60°C (60-140°F):

Accuracy: ±10% of reading or ±0.1m/s (20fpm)

Repeatability: ±5% of reading (under identical conditions)

Airflow Temperature _____

Measurement range: 0-60°C (32-140°F)

Measurement Accuracy: ±3°C (5.4°F)

Resolution: ±0.1°C

Temperature Compensation Range: The F633 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 F633 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.

Accuracy: Valid between 20-30°C (68-86°F), increasing by ±0.25% per degree and ±0.005m/s (1fpm) over remaining temperature compensation range.

part number format

F633 - C

C =
Communication

0 = I²C

1 = RS232

Specifications subject to change without notice.