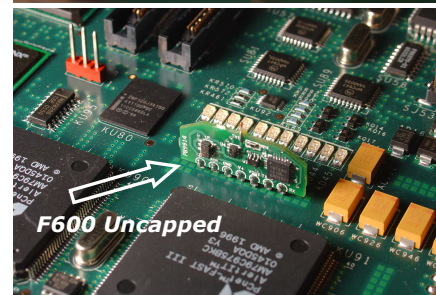
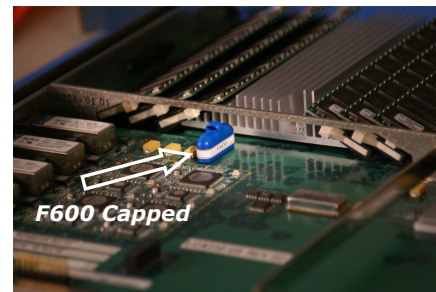


PCB Mounted Digital Airflow Sensor **PRELIMINARY DATASHEET**

Features

- *Designed to measure both air temperature and velocity across circuit boards*
- *Ideal for embedded applications where in-situ airflow sensing is required*
- *Available in addressable I2C and UART serial interfaces*
- *Provides a rapid indication of fan failure, or airflow blockage, prior to temperature rise of components to critical levels*
- *Usable on existing 3 or 4 wire fan connectors with tach interface on motherboards*
- *TTL signals for PWM or Low Airflow Alarm*
- *RoHS Level 6 compliant to meet emerging "green" standards*
- *Cost effective airflow sensor for PCB mounted application*



About the F600

Cooling of electronic devices is usually achieved using airflow. The ambient temperature inside a product depends on the airflow. However, even at the current high power density levels, only temperatures are monitored in most electronic systems. In addition to temperature, it is important to monitor airflow to achieve reliable cooling in high power/ high availability products. Inadequate airflow usually leads to thermal problems in products with forced convection cooling.

The F600 sensor is designed specifically for embedded applications that require *in-situ* airflow sensing at critical locations. It measures airflow over the circuit board and can communicate with the host processor over several types of digital interfaces such as, I2C, UART, PWM, Frequency or Switch output. This anemometer gives you real time information to react to potential thermal problems before they become critical.

With an overall velocity range of 0.5 - 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 sensor is designed to be minimally intrusive to airflow as possible on the PC board. The AccuSense F600 Series sensors are also fully interchangeable with one another. Each sensor is individually calibrated and provides normalized performance.

In high power applications a drop in airflow has a rapid and damaging effect on device temperatures. Monitoring airflow in high availability systems for industries, such as telecommunications, IT and military, is critical to maintaining the system availability and reliability.

The F600 Sensor line is developed with our decades of experience in airflow measurement to meet the challenging performance and price needs of today's market.

Airflow & Temperature Measurement

Medium

Standard Air: at standard pressure (101.3 kPa, 29.95" Hg). For use with other gases, please contact Degree Controls.

Air Velocity Accuracy

±10% of reading from 200–1000 fpm at 25 °C

Less than ±20% of reading over full velocity range (0.5-5.0 m/s) and temperature range (15-60°C)

Repeatability: ±5% under same conditions

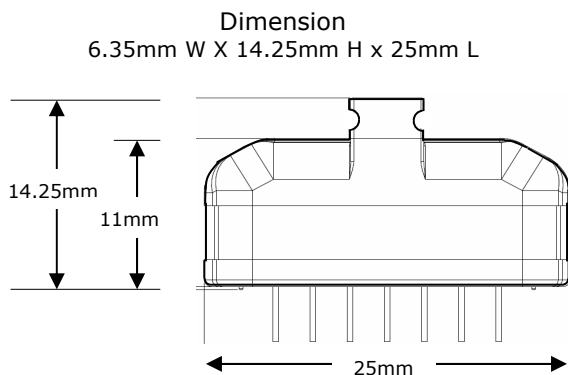
Air Temperature Accuracy

±3°C over a range of 15-60°C

General Specifications

| | |
|------------------------------------|---|
| Operating temperature | 15°C to 60°C |
| Acceptance Angle | ± 45° to axis (Along board plane) |
| Response time | 9 seconds |
| Storage temperature | -20°C to 80°C |
| Relative humidity (non-condensing) | 5-95% |
| Supply voltage | +12 VDC |
| Output | PWM, FREQUENCY, ALARM open drain output |
| Communication | I2C or RS232 |
| Velocity Range | 0.5 – 5.0 m/s |

Dimensions & Connection



CONNECTOR PIN ASSIGNMENT

| PIN# | 3 PINS | RS232 7 PINS (5 ACTIVE) | I2C 7 PINS |
|------|--------|-------------------------------|---------------|
| 1 | | N/C | A0 |
| 2 | | N/C | A1 |
| 3 | GND | GND | GND |
| 4 | +12V | +12V | +12V |
| 5 | OUT | OUT | OUT |
| 6 | | TXD | SDA |
| 7 | | RXD | SCLK |

Configurable Options

Configured to your specifications:

Signal Output

Frequency
Alarm
PWM

Communication

I2C
RS232
None (3 pin)

Package Options

Plastic Capped
Uncapped

Specifications

*subject to change
without notice*