degreeC™

DEGREE CONTROLS,INC.

Your Partner for Airflow Sensing & Controls

UAS1000 EF

Features

- UAS1000 measures air velocity & airflow temperature simultaneously
- Sensors connect to the °C Port data acquisition instruments
- Easy to use – just plug in & start measuring
- Validate thermal and airflow models quickly & accurately
- Maintain stable and reliable electronic systems operation with real time airflow feedback
- Identify airflow changes before critical electronic components overheat
- Small sensor with right-angle cable exit for printed circuit board applications
- Extremely flexible flat cable bends easily, adapting to mounting area
- Thin cross section cable saves space
- Sensors are fully interchangeable with one another

Degree Controls, Inc.

is an ISO-9001 certified, world-class designer and manufacturer of airflow sensing, monitoring, and control solutions. With over 25 years of proven experience, we pride ourselves on delivering solutions which provide the value, differentiation, and service required by our customers, to meet the rapidly changing competitive landscape that they face.

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Overview

The UAS1000 *Electronics Focused* (EF) sensor, is part of Degree Controls' UAS1000 line of precise, easy-placement USB airflow sensors, used with the °C Port3600/ °C Port1200 Multipoint Measuring Instruments. The compact EF sensor head uses an ultra-flexible, flat cable which exits the sensor body at a right-angle in order to provide maximum flexibility for mounting in printed circuit board applications, without the need to bend the cable junction. Air velocity and air temperature are measured simultaneously, and the UAS1000 EF provides real time feedback, identifying changes in airflow as they occur.

With sensor ranges of 0.5 m/s to 10 m/s (100-2000 fpm) and 0.15 m/s to 20 m/s (30-4000 fpm), the UAS1000 EF is capable of measuring with ± 3% accuracy, and offers such features as unimpaired access to tight and previously inaccessible locations, ease of installation, multipoint measurement, rugged construction, and probe interchangeability.

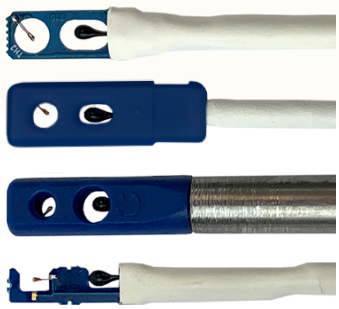
The small, right-angle electronics focused sensor head causes minimal distortion of the true airflow profile and is remotely located on a thin, high flex, 3 meter flat cable to provide access to distant and compact locations such as between semiconductor devices, heat sinks, and inside ducts and plenums. The sensor head is easily secured in place with a cable tie or adhesive, and the flexible flat cable bends readily, adapting to the mounting area.

UAS1000 Series EF sensors are also fully interchangeable with one another, since each sensor has its own onboard circuitry normalizing the performance of each sensor. Should your application require a different sensor head outline, other styles are available from Degree Controls. Please refer to the datasheets:

- UAS1000 Low Profile (LP), Plastic Cap (PC), Wand,
- UAS1000 XS (Extra Small) Blade, and
- UAS1000 Series, Board Mount.

Simultaneous use of up to 36 UAS sensors with the °C Port3600/ °C Port1200 data acquisition systems allows the user to have a snapshot of the airflow environment at any given time. Multiple °C Port3600s/ °C Port1200s can be connected together to obtain up to 180 data points.

Please refer to the UTS1000 Thermocouple for surface temperature measurement, and humidity sensing is available with the UHS1000. UAS1000, UTS1000, and UHS1000 sensors can all be used simultaneously with the °C Port3600/ °C Port1200 to obtain airflow, air and surface temperature, and humidity in one instrument.



Additional UAS1000 Sensor Head Options

Order from top to bottom:
Low Profile (LP), Plastic Cap (PC), Wand & Extra Small (XS)

Please also refer to the datasheets:
- *UAS1000 LP, PC, Wand,*
- *UAS1000 XS (Extra Small) Blade, and*
- *UAS1000 Series, Board Mount*

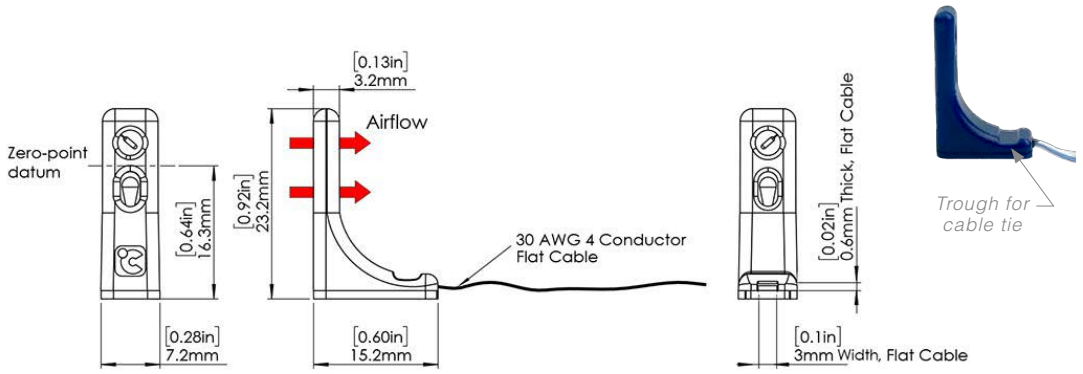
°C Port3600 Data Acquisition Instrument for USB Sensors

NOVA INSTRUMENTS

Specifications

Operating Temperature	0°C to 70°C
Storage Temperature	-40°C to 85°C
Relative Humidity (non-condensing)	5-95%
Warm Up Time After Power Up	Less than 5 seconds
Supply Voltage	Supplied by USB or °C Port Instrument

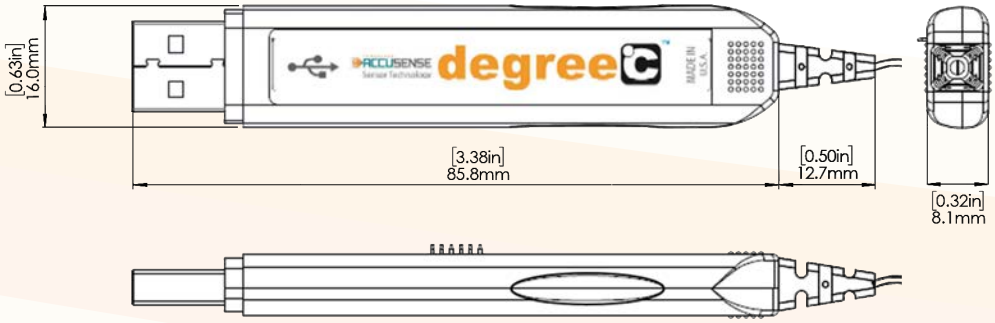
Sensor Head



Electronics Focused (EF) Sensor Head

Airflow should approach the DegreeC logo on the flat side of the electronics focused sensor head housing.

USB Sensor Connector



Standard cable length is 3m (9.8') from sensor to connector.
Nominal cable width is 3mm (0.1") x 0.6mm (0.02") thick.

Airflow & Temperature Measurement

Air Velocity

Temperature Compensation Range: 0-70°C (32-158°F)
Accuracy (the greater of): ±0.015m/s (3fpm) or ±3% of reading
Repeatability (the greater of): 1% or ±0.01m/s (2fpm)

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 UAS1000 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 UAS1000 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.

Accuracy: Valid between 15-35°C (60-95°F), increasing by ±0.25% per degree and ±0.005m/s (1fpm) over remaining temperature compensation range.

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

Part Number Format

UASXXXXEF

1250 0.5 – 10.0 m/s (100 – 2000 fpm)
1500 0.15 – 20.0 m/s (30 - 4000 fpm)

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