degreeC™

DEGREE CONTROLS,INC.

Your Partner for Airflow Sensing & Controls

UAS1000 OD

Features

- UAS1000 measures air velocity & airflow temperature simultaneously
- Sensors are compatible with °C Port data acquisition instruments
- Easy to use – just plug in & start measuring
- Accepts airflow from all directions with no housing to disrupt velocity profile
- Ceiling and comfort fan testing
- Multipoint studies of downflow in critical containment cabinets
- Air speed measurements where the flow direction is unknown
- Micro profile sensor head to reach distant & compact locations where larger sensor heads will not fit
- Validate thermal and airflow models quickly & accurately
- Sensors are fully compatible with UHS & UTS for multi variable testing

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 *Omnidirectional* (OD) 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. Developed to measure air speed in open-air, with unknown or varying flow direction, or turbulent flow areas, the UAS1000 OD is capable of measuring with ± 3% accuracy. The UAS1000 OD offers ease of installation and multipoint measurement with a variety of sensor ranges from 0.15 m/s to 20 m/s (30-4000 fpm).

The UAS1000 OD offers a unique, open air sensor head, remotely located on a 5 meter cable, to provide access to distant and compact locations where the predominant air flow vector is poorly understood, and requires a sensing element which is completely unobstructed. Air velocity and airflow temperature measurements are obtained simultaneously, and the open air probe is highly responsive to changes in flow. The omnidirectional OD sensor provides a truer airflow picture, accepting airflow from all directions with no housing to disrupt the velocity profile. The UAS1000 OD is calibrated for a single airflow direction and temperature compensated across its entire velocity range.

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.

Should your application require a different sensor head outline, other styles are available from Degree Controls. Please refer to the datasheets:

- UAS1000 RF (Reference),
- UAS1000 EF (Electronics Focused),
- UAS1000 LP (Low Profile), PC (Plastic Cap), Wand, and
- UAS1000 XS (Extra Small) Blade.

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 left to right:
Reference (RF), Electronics Focused (EF), Low Profile (LP), Plastic Cap (PC), Wand & Extra Small (XS)

Please also refer to the datasheets:

- *UAS1000 RF,*
- *UAS1000 EF,*
- *UAS1000 LP, PC, Wand, and*
- *UAS1000 XS*

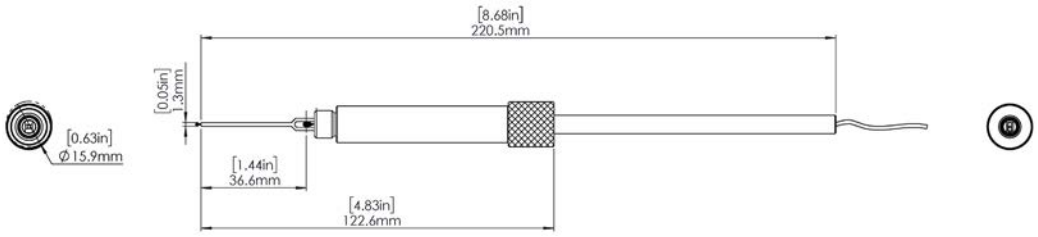
°C Port3600 Data Acquisition Instrument for USB Sensors

NOVA INSTRUMENTS

Specifications

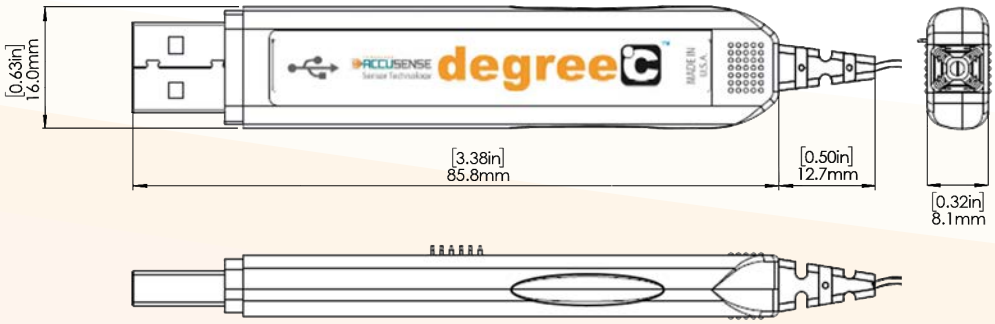
Operating Temperature	0°C to 70°C
Storage Temperature	-40°C to 85°C
Relative Humidity (non-condensing)	5-95%
Warm Up Time After Power Up	Less than 5 seconds
Supply Voltage	Supplied by USB or °C Port Instrument

Sensor Probe



UAS1000 Omnidirectional (OD) Sensor Probe
Ideal for high circuit densities and concentrated component arrangements.
Contact Degree Controls for a 3D STEP file of the UAS1000 OD sensor probe.

USB Sensor Connector



Standard cable length is 5m (16.4') from sensor to connector.
Nominal cable diameter is 1.9mm (0.1").

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

UASXXXXOD

1100 0.15 – 1.0 m/s (30 – 200 fpm)
1200 0.5 – 5.0 m/s (100 – 1000 fpm)
1300 4.5 – 20.0 m/s (900 - 4000 fpm)
1500 0.15 – 20.0 m/s (30 - 4000 fpm)

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