degreeC™

DEGREE CONTROLS,INC.

Your Partner for Airflow Sensing & Controls

UAS1000 LP, PC, Wand

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
- Small sensors to reach distant & compact locations
- Fully interchangeable with one another
- Multiple sensor head options

Overview

The UAS1000 Series is an air velocity and air temperature sensor used with the °C Port3600/ °C Port1200 Multipoint Measuring Instruments. The advanced, high accuracy, UAS1000 Low Profile (LP), Plastic Cap (PC) and Wand sensor heads are capable of measuring with ± 3% accuracy, in accordance with the ANSI/ASHRAE 110 and NSF 49 standards for laboratory fume hood and biosafety cabinet testing. These are the first, multi-point air velocity sensors to meet the stringent 3% requirement, to answer the demand of measuring face velocity and downflow velocity points in one experimental setup.

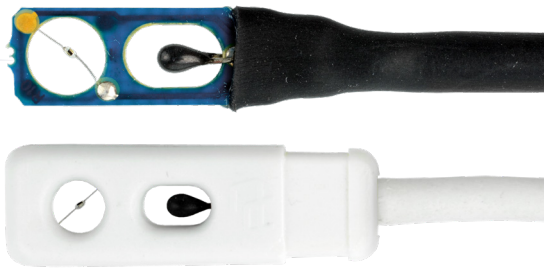
With a variety of sensor ranges from 0.15 m/s to 20 m/s (30-4000 fpm), the UAS1000 Series offers such features as unimpaired access to tight locations, improved measurement accuracy, ease of installation, multipoint measurement, rugged construction, and probe interchangeability. Clients use the advanced high accuracy UAS1000 Low Profile (LP), Plastic Cap (PC) and Wand sensor heads as an integral part of the compliance (ANSI/ASHRAE 110, NSF 49 & OSHA), performance, and research testing they do.

The UAS1000 LP, PC and Wand sensor head styles are remotely located on a 5 meter shielded cable to provide access to distant and compact locations such as between semiconductor devices, heat sinks, and inside ducts and plenums. These small heads cause minimal distortion of the true airflow profile, and air velocity and airflow temperature measurements are obtained at the same time. The UAS1000 Series LP, PC and Wand 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 UAS1000 XS (Extra Small) Blade and UAS1000 Series, Board Mount datasheets.

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 100 data points.

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

°C Port3600 Data Acquisition Instrument for USB Sensors



Additional Sensor Head Options for UAS1000

Order from top to bottom:
Low Profile (LP) & Plastic Cap (PC)

Please also refer to the UAS1000 XS (Extra Small) Blade datasheet and the UAS1000 Series, Board Mount datasheet for other sensor head options.

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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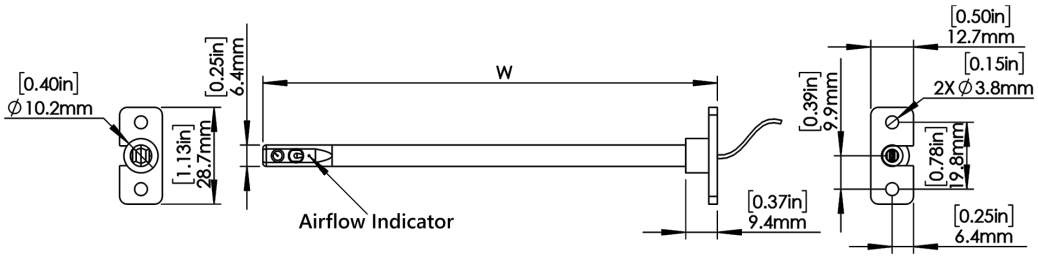
NOVA INSTRUMENTS

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

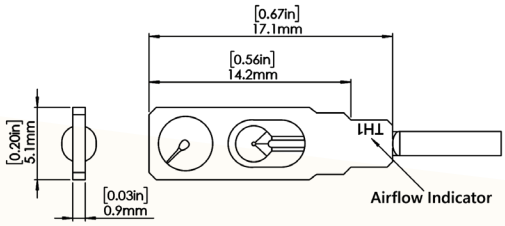
Sensor Wand



Wand Sensor Head

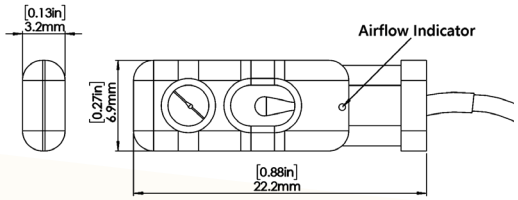
Airflow should approach the raised dot on the plastic sensor head housing.

Sensor Head Options



Low Profile (LP) Sensor Head

Airflow should approach TH1 on the white silkscreen side of the sensor head PCBA.



Plastic Cap (PC) Sensor Head

Airflow should approach the raised dot on the plastic sensor head housing.

USB Sensor Connector

Standard cable length is 5m (16') from sensor to connector, shielded. Nominal cable diameter is 2mm (0.08").

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

UASXXXXXX

1100	0.15 – 1.0 m/s (30 – 200 fpm)	W1	1.25" Wand Head	LP	Low Profile
1200	0.5 – 5.0 m/s (100 – 1000 fpm)	W3	3" Wand Head	PC	Plastic Cap
1300	4.5 – 20.0 m/s (900 - 4000 fpm)	W5	5" Wand Head		
1500	0.15 – 20.0 m/s (30 - 4000 fpm)	W7	7" Wand Head		

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