

RTD1000



Features

- RTD1000 measures temperature with high accuracy
- Compatible with the °C Port family of data acquisition instruments
- Easy to use – just plug in and start measuring
- Multiple sensor head options
- Air and gas flow temperature measurement
- Surface temperature measurement
- Platinum RTD element for durability and reliability

Overview

The RTD1000 series (*RTD, Resistance Temperature Detector*) is a high-accuracy temperature sensor designed for use with multipoint airflow instrumentation and the °C Port family of data acquisition instruments. Users of the °C Port can obtain precise temperatures, as well as air velocity, humidity, and barometric pressure measurements in a single instrument. With plug and play operability, and the convenience of USB, RTD1000 temperature sensors can be added to multipoint test setups at any time, even in the middle of an ongoing experiment. RTD1000 is the first multipoint, temperature sensor to exceed the accuracy of Class A devices, answering the demand for highly accurate temperatures to augment high-accuracy air velocity measurement, in a single experimental setup.

With choice of sensor head styles, the RTD1000 platform offers air and gas stream measurement as well as surface temperature measurement. Core temperature sensing is done with platinum RTD elements, well suited for the design and construction of resistance thermometers, and unmatched in industrial applications. Sensing elements are connected to 5 meters (16.4 ft) of cable, terminating with a USB connector to plug directly into °C Port data acquisition hardware or a PC. The small, compact sensor heads allow RTD1000 temperature sensors to be installed in tight spaces such as electronic assemblies, power supplies, and production automation equipment.

Unlike other RTDs on the market, RTD1000 sensors from Degree Controls ship ready to take temperature measurements, precalibrated, and with a convenient USB connector. There is no need to terminate a sensor element or perform calibration. What's more, 36-channel and 12-channel versions of the °C Port data acquisition instrument are available so users may connect up to 36 and 12 RTD sensors respectively, or a mixture of temperature and airflow sensors, for real time multipoint measurement.

With excellent temperature sensing resolution, accuracy, and repeatability, the RTD1000 temperature sensor is an essential complement to airflow test and measurement systems. Applications include heat conduction engineering, vent design, and air mover redundancy work.

For air velocity measurement, please refer to UAS1000 airflow sensors. Humidity sensing is available with the UHS1000. To obtain temperature, air velocity, and humidity in one instrument, RTD1000, UAS1000, and UHS1000 sensors can be used simultaneously with the °C Port3600 and °C Port1200. In addition, the °C Port has built-in barometric pressure sensing for best accuracy.

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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°C Port3600 Data Acquisition
Instrument for USB Sensors



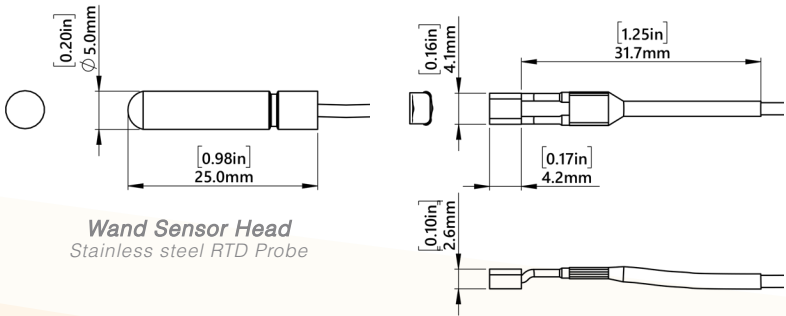
Velocity Sensor Head Options

Multiple sensor head styles are available with UAS1000 air velocity & temperature sensors. For humidity measurement, please see our UHS1000 humidity sensor.

Specifications

Sensor Head

	RTD1000W1 Probe Style	RTD1000PS Plastic Housing Surface Mount
RTD Application	Insert	Surface
Size	5 x 25 mm (Ø x L) (0.2 x 1.0 in)	4.2 x 4.1 x 2.6 mm (L x W x H) (0.17 x 0.16 x 0.10 in)
Housing Material	Stainless steel tube	Duroplastic
Element	Class B Platinum RTD Element	
Calibration Range	0 to 100°C (32 to 212°F)	
Operating Temperature	0 to 150°C (32 to 302°F)	-50 to 150°C (-58 to 302°F)



Wand Sensor Head
Stainless steel RTD Probe

Plastic Housing Sensor Head
Pt-RTD enclosed in a standard
TO92 housing

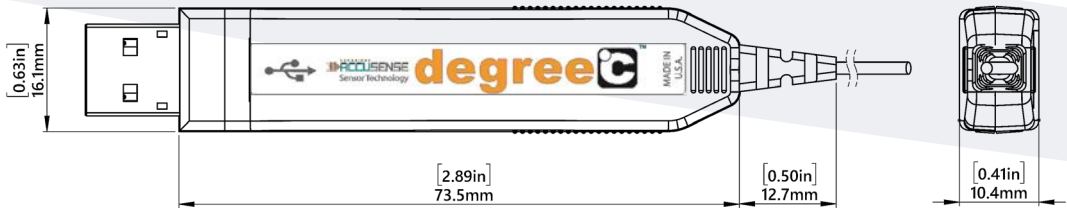
Sensor Body

Size	100 mm long x 16.1 mm wide x 10.4 mm (3.9 in x 0.6 in x 0.4 in)
Housing Material	Polybutylene Terephthalate (PBT) / 30% Glass Fibre Reinforced
Connector	USB Type A Plug
Cable OD x Length	2 mm x 5 m (Ø x L) nominal (0.073 in x 16.4 ft)
Cable Material	FEP jacket
Operating Temperature	0 to 70°C (32 to 158°F)

Performance Specifications

Accuracy	± 0.1°C
Repeatability	± 0.05°C
Resolution	0.01°C
Supply Power	Supplied by °C Port Instrument or USB
Warm Up Time	60 seconds
Response Time T63	5 seconds typical
Operating Humidity	5-95% (non-condensing)
Stability ¹	Typical drift at 0°C is 0.07°C after 1000 hours at +150°C
Storage Temperature	-20 to 85°C (-4 to 185°F)
Storage Humidity	20-80% (non-condensing)

¹Plastic Housing Surface Mount



USB Sensor Body

Part Number Format RTD1000XX

- W1 Probe Style
PS Plastic Housing Surface Mount



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