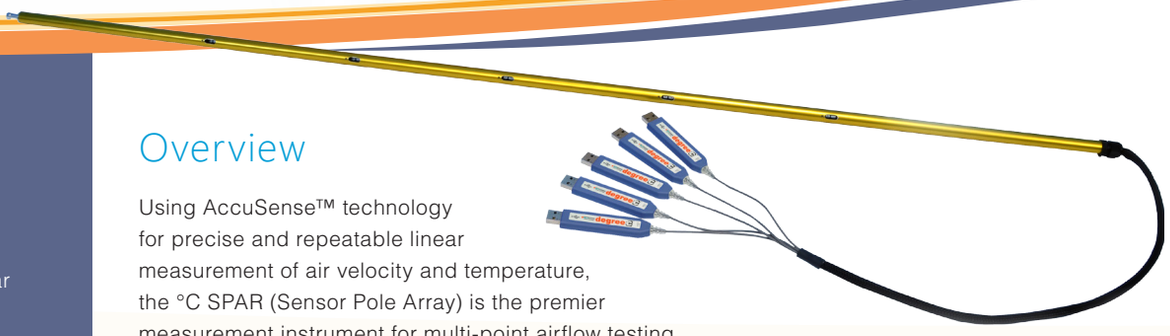
degreeC™

DEGREE CONTROLS,INC.

Your Partner for Airflow Sensing & Controls

°C SPAR



Applications

- Multi-point Measurement of Airflow
- Uniformity Testing Across Planar Areas
- Laboratory Testing
  - Cleanroom (HEPA) Downflow Testing
  - Cabinet Downflow Testing
  - Face Velocity Profiling
- Building Management
  - Duct Performance Testing
  - Duct-Coil Impedance Testing
  - Ventilation Testing
  - HVAC Energy Calculations
- Automotive Testing
  - Engine Cooling Profiling
  - Window Defrost Testing
  - Comfort Testing
- Computing
  - Datarack Profiling
  - Raised Floor Testing
  - Chassis Inflow/Exhaust
  - Verification of CFD Models

Degree Controls, Inc.

is an ISO-9001 certified, world-class designer and manufacturer of airflow sensing, monitoring, and control solutions. With over 20 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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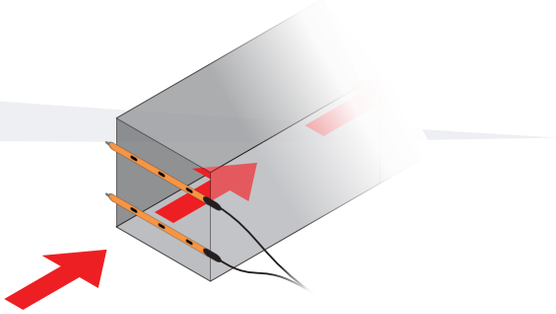
Overview

Using AccuSense™ technology for precise and repeatable linear measurement of air velocity and temperature, the °C SPAR (Sensor Pole Array) is the premier measurement instrument for multi-point airflow testing applications. The °C SPAR is built to client specified dimensions, including tube length, sensor quantity, pitch, and calibration ranges. Through the use of multiple USB outputs, the °C SPAR is designed to be used with the AccuTrac™ Software toolset, enabling real-time analytics, data logging, and reporting for Windows® OS users.

The °C SPAR housing can be built at lengths ranging from 6" to 42" [15 to 105cm] (and two tube diameters depending on the number of sensors) with up to 12 internal laboratory-grade sensors installed for measurement of flow velocity and temperature ranging from 30-4000 fpm [0.15-20 m/s].

Calibrated flow ranges available are:
CSPAR1100: 30-200 fpm [0.15-1.00 m/s]
CSPAR1200: 100-1000 fpm [0.50-5.0 m/s]
CSPAR1300: 900-4000 fpm [4.5-20.0 m/s]
CSPAR1500: 30-4000 fpm [0.15-20.0 m/s]



The ˚C SPAR is used for measuring multiple airflow points within a flow field, to analyze air volume, velocity uniformity, and heat energy through the planar space. The ˚C SPAR imparts very little impedance to the air-flow profile, and achieves better accuracy than bulky instruments, such as hand-held & vane anemometers and flow hoods (balometers), which average the flow across a single sensor.

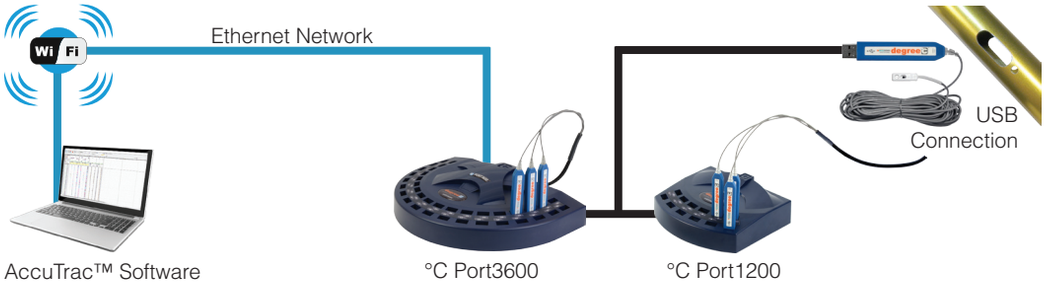
Degree Controls can assist you in developing a frame to assemble your ˚C SPARs into an application-specific testing solution. Using the ˚C SPAR with the ˚C Port family of data acquisition instruments, users can aggregate over 100 measurement points, for data-logging and web-enabled monitoring of experiments.

Features

- Best-in-class, miniature airflow sensors designed for measurement with minimal disruption to flow profile.
- User-specified housing length and sensor quantity, measurement range, and pitch.
- Laboratory grade sensors for studying airflow across a planar region.
- Each airflow measurement point output is a USB channel, allowing real time plug and play access.
- ˚C SPAR works cohesively with AccuTrac™, our data-logging and airflow analytical software for Windows PC's.
- Compatible with °C Port1200/3600 Multipoint sensing instrument system for remote monitoring via web application on the PC or mobile.
- Custom test fixtures with multiple sensor pole arrays are available for complex measurement scenarios.

NOVA INSTRUMENTS

Network Diagram



Specifications

Operating Temperature	0°C to 70°C (32°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Relative Humidity (non-condensing)	5-95%
Supply Voltage	USB-Based input, use PC or °C Port1200/3600 Instrument to supply power
Supported Software	AccuTrac™

Airflow & Temperature Measurement

Air Velocity

Temperature Compensation Range: 0-70°C (32-158°F):
Accuracy (the greater of): ±1% of FS or ±0.025m/s (5fpm) or ±5% of reading
Repeatability (the greater of): 1% or ±0.01m/s (2fpm)

Temperature

Measurement Range: 0-70°C (32-158°F)
Measurement Accuracy: ±2°C (3.6°F)
Resolution: ±0.1°C

Temperature Compensation Range: The °C SPAR is a series of thermal airflow sensors which 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 °C SPAR 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.

Part Number Format

UASXXXX

1100 30-200 fpm [0.15-1.00 m/s]
1200 100-1000 fpm [0.50-5.0 m/s]
1300 900-4000 fpm [4.50-20.0 m/s]
1500 30-4000 fpm [0.15-20.0 m/s]

Pole Array Configuration

Cable Length	16' [5m]
Housing Length	3" to 42" [15 - 105cm]
Sensor Quantity	1 to 7 Sensors: 0.49" [12.4mm] Tube Diameter 8 to 12 Sensors: 0.63" [15.9mm] Tube Diameter
Calibrated Flow Range	**CSPAR1100**: 30-200 fpm [0.15-1.00 m/s] **CSPAR1200**: 100-1000 fpm [0.50-5.0 m/s] **CSPAR1300**: 900-4000 fpm [4.5-20.0 m/s] **CSPAR1500**: 30-4000 fpm [0.15-20.0 m/s]
Minimum Sensor Spacing	2.5" apart

Minimum Software Requirements

Windows 7, 8, and 10 OS®
50 MB Free Disk Space
1.0 GHz Processor
2 GB RAM
Data Management on the Web with the °C Port1200 and °C Port3600 Data Acquisition Instruments.

RoHS