

# Averaging Temperature Sensors

## Overview

Sense temperature of air streams in ducts and plenums. Sensors include a junction box with gasket to prevent leakage and vibration noise.

These sensors have a continuous element to sense true average temperature along their entire length. They provide accurate composite readings in locations where air may be stratified into hot and cold layers.

Rigid averaging sensors have a brass case. Bendable models have aluminum sheaths (copper on special order), formable to a radius of 4". Bendable sensors can criss-cross ducts to average temperatures in two dimensions.

See page 5-2 for optional 4 to 20 mA temperature transmitters.

## Specifications

### Temperature range:

Probe: -45.5 to 135°C (-50 to 275°F).

Gasket: 100°C (212°F) max.

**Leadwires:** AWG 22, PTFE insulated, 8" (200 mm) long.

**Moisture resistance:** Meet MIL-STD-202, Method 104, Test Condition B.

### Special options:

- Lengths to 100 feet(30 m)
- Weatherproof connection box
- Sensor only, no box
- Thermistor averaging sensors

## Model numbers

RTDs (Tolerance: ±0.25% at 70°F)	TCR Ω/Ω/°C	Rigid averaging sensors	Bendable averaging sensors
*Platinum 100 Ω at 0°C	0.00391	S423PB	S447PB
*Platinum 100 Ω at 0°C	0.00385	S456PE	S457PE
*Platinum 1000 Ω at 0°C	0.00385	S493PF	S475PF
*Platinum 1000 Ω at 0°C	0.00375	S492PW	S488PW
Nickel-iron 1000 Ω at 70°F	0.00527	S421FB	S445FB
Nickel-iron 2000 Ω at 70°F	0.00527	S422FC	S446FC
*HW 3000 Ω at -30.2°C	0.00262	S20080PX	S15215PX

\* These averaging sensors use a proprietary sensing element that closely matches the platinum curve over the specified range.

Specify and order products at:  
[www.minco.com/sensors\\_config](http://www.minco.com/sensors_config)

### Bendable Averaging Sensor

Enclosure:  
W 2.12" (54 mm)  
H 4.00" (102 mm)  
D 1.75" (44 mm)

Sheath Diameter:  
0.188" (4.8 mm)



### Rigid Averaging Sensor

Enclosure:  
W 2.12" (54 mm)  
H 4.00" (102 mm)  
D 1.75" (44 mm)

Sheath  
Diameter:  
0.188" (4.8 mm)

## Specification and order options:

### Rigid averaging sensors

S456PE	Model number from table
Y	Number of leads: Y = 2 leads Z = 3 leads
12	Insertion depth in inches: 1 inch = 25.4 mm Standard lengths: 12, 18, 24, 36, 48, 60, 72"
S456PEY12 = Sample part number	

### Bendable averaging sensors

S457PE	Model number from table
Z	Number of leads: Y = 2 leads Z = 3 leads
24	Insertion length in feet: 1 foot = 0.3 m Standard lengths: 6, 12, 24 feet
S457PEZ24 = Sample part number	

## STOCKED PARTS

Case Diam.	Sensing Element	Case Material	# of Leadwires	Case Length	Stock Part #
0.188" (4.8mm)	PE	Aluminum Sheath	2	12.0ft	S457PEY12
			3	12.0ft	S457PEZ12
			2	24.0ft	S457PEY24
			3	24.0ft	S457PEZ24
	PF	Brass	2	12.0"	S456PEY12
				18.0"	S456PEY18
			2	12.0"	S493PFY12
				18.0"	S493PFY18



Specifications subject to change

Note: Available up to 10 pieces or contact Minco Customer Service