

Averaging Temperature Sensors

Continuous element senses a true average temperature

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 Instruments section 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 (30m)
- Weatherproof connection box
- Sensor only, no box
- Thermistor averaging sensors

Standard model options

RTDs	TCR Ω/Ω/ 0°C	Rigid averaging sensors	Bendable averaging sensors
*Platinum 100Ω at 0°C	0.00391	S423PB	S447PB
*Platinum 100Ω at 0°C	0.00385	S456PE	S457PE
*Platinum 1000Ω at 0°C	0.00385	S493PF	S475PF
*Platinum 1000Ω at 0°C	0.00375	S492PW	S488PW
Nickel-iron 1000Ω at 70°F	0.00527	S421FB	S445FB
Nickel-iron 2000Ω at 70°F	0.00527	S422FC	S446FC
*HW 3000Ω 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.



Rigid averaging sensors

S456PE	Model number from table
Y	Number of leads: Y = 2 leads Z = 3 leads
	Insertion depth in inches: 12, 24, 48 are standard
12	
S456PEY12 = Sample part number	

Bendable averaging sensors

S457PE	Model number from table
Z	Number of leads: Y = 2 leads Z = 3 leads
	Insertion length in feet: 12, 24, 50, 100 are standard
24	
S457PEZ24 = Sample part number	

To order with transmitter, add

TT111	Transmitter Models: TT111: Fixed Range (2 leads) TT211: Fixed Range (2 leads) TT321: Fixed Range (3 leads) <i>Other transmitter options available.</i>
	Temperature Range Code: A = 20F to 120F (-6.7C to 48.9C)
A	
	Calibration: 1 = Nominal Calibration 2 = Match Calibrated, 0.75% Total System Accuracy 3 = Match Calibrated, 0.5% Total System Accuracy
1	
TT111A1 = Sample part number addition	