



TEMPERATURE

DUCT THERMISTOR SENSOR

MODEL ST-D

DESCRIPTION

The PreCon Model ST-D Duct Thermistor Sensor provides precision remote temperature sensing for building automation systems and mechanical equipment room instrumentation. The active sensing element is highly stable precision thermistor material accurate to within $\pm 0.36^{\circ}\text{F}$ (0.2°C).

The sensing element is sealed with a thermally conductive compound in a 9" (22.8 cm) long 304 stainless steel tube attached to a 4" (10 cm) electrical strap. The slots in the mounting bracket form mounting ears for direct duct mounting and standard electrical boxes. The grommet on the tube fitting seals a 9/16" (1.43 cm) insertion hole.

FEATURES

- *Five-year warranty*
- *$\pm 0.36^{\circ}\text{F}$ (0.2°C) accuracy*
- *Wide selection of thermistor curves*
- *Tip sensitive for precise temperature response*
- *Adaptable with many options*
- *304 stainless steel probe*
- *Easy to mount to duct or back box*
- *Waterproof probe*

OPTIONS

- *Custom lengths up to 9' (2.74m)*
- *Matched sensor pair*
- *Many mounting options: handibox, greenfield fitting, non-metallic box, weather proof box*
- *Dual sensor probes*
- *NIST traceable*



APPLICATION

The Duct Thermistor Sensor is designed for direct mounting on sheet metal duct systems. Where conduit is required, the duct sensor has a universal nylon mounting connector which adapts to a 1/2" knockout in a standard handibox. The nylon fitting has a 1/2" NPT female conduit fitting.

The Duct Temperature Sensor is waterproof and can be used at temperatures ranging from -30° to 160°F (-34° to 71°C). The sensor is point-sensitive and comes standard with 9" (22.8 cm) insertion depth, and the XL option provides custom lengths.

SPECIFICATIONS			
Sensing element	Thermistor (thermal resistor)	Stability	0.24°F (0.13°C) over five years
Accuracy	$\pm 0.36^{\circ}\text{F}$ (0.2°C) (NIST traceable option)	Heat dissipation constant	2.7 mW/°C (power needed to raise the temperature by 1°C)
Sensor types available	2.252K, 3K, 10K, 20K, 100K (ref. in ohms @ 77°F/25°C)	Connection	8' (2.4m) of 24 AWG pigtails prestripped ends
Temp range	-30° to 160°F (-34° to 71°C)	Mounting	Directly to duct, wall, or customer-supplied back box, no adapters needed for standard boxes
Temp response	Negative temperature coefficient		
Sensitivity	See <i>Sensor Resistance Charts</i> in the Technical Reference section		

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MODEL ST-D◇

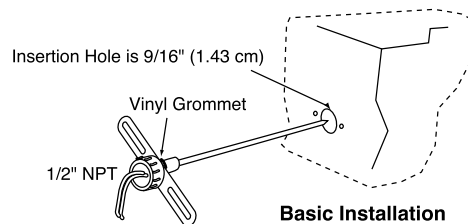
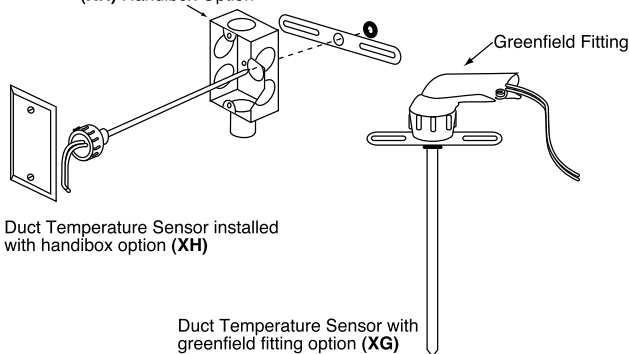


MOUNTING

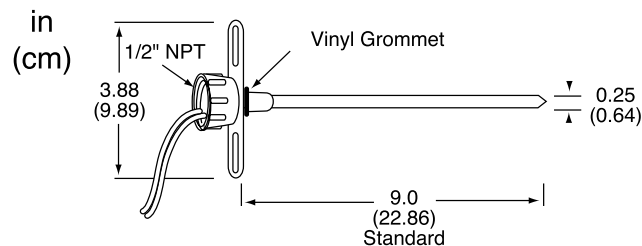
Direct duct-mount screws can be used where conduit is not required. Adapters are not required when mounting directly to outlet boxes. Install grommet in the 9/16" (1.43 cm) insertion hole. Use full 8' (2.4m) lead length provided to avoid moisture migration at the field connection.

Basic model comes with 8' (2.4m) of 24 AWG, 9" (22.86 cm) probe with T-bar, grommet, and #6 x 1 screws for direct duct mounting.

(XH) Handibox Option



DIMENSIONS



ORDERING INFORMATION

MODEL	DESCRIPTION
ST-D3	10,000Ω Duct Thermistor @ 77°F (25°C) Type III Material (gray leads)
ST-D21	2252Ω Duct Thermistor @ 77°F (25°C) Type II Material (green leads)
ST-D22	3000Ω Duct Thermistor @ 77°F (25°C) Type II Material (blue leads)
ST-D24	10,000Ω Duct Thermistor @ 77°F (25°C) Type II Material (yellow leads)
ST-D27	100,000Ω Duct Thermistor @ 77°F (25°C) Type II Material (gray leads)
ST-D42	20,000Ω Duct Thermistor @ 77°F (25°C) Type IV Material (green leads)
OPTIONS (see page 45 for option details)	
XCO	1/2" LB conduit fitting
XD	Dual sensors in one probe
XG	Greenfield fitting (factory installed)
XH	Handibox housing (factory installed)
XHP	Non-metallic handibox housing (factory installed)
XL	Custom length insertion probe, available 2" to 9' (5.08 cm to 2.74m)
XL2	Custom length insertion probe, 4-7/8" (12.38 cm)
XN1	NIST certificate, 1 reference point 32°F (0°C)
XN2	NIST certificate, 2 reference point 32°F/160°F (0°/77°C)
XP	Matched sensor pair matched to ±0.1°F/0.055°C (shipped in pairs)
XW	Weatherproof housing (factory installed)
X25	25' (7.62m) lead length

ST-D3 - XG

Example: ST-D3-XG 10 kΩ Type III duct temperature sensor with greenfield fitting

Related Products

UR
KT1

Moisture resistant three-wire butt splice
Mounting screwdriver 1/16 allen key