

TEMPERATURE

DUCT THERMISTOR AND RTD SENSORS ST-D* SERIES



DESCRIPTION

The **PreCon Model ST-D* Duct Thermistor and RTD Sensor** provides precision remote temperature sensing for building automation systems and mechanical equipment room instrumentation. The active sensing element is a highly stable precision thermistor material or platinum RTD. 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

- **Lifetime warranty**
- **Wide selection of thermistor and RTD curves**
- **Tip sensitive for precise temperature response**
- **Adaptable with many options**
- **304 stainless steel probe**
- **Greenfield fitting standard**
- **Ultra high accuracy optional**

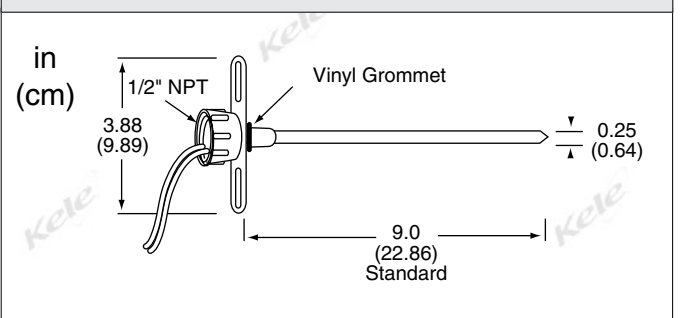
APPLICATION

The **ST-D* Series** sensors are designed for direct mounting on sheet metal duct systems. Where conduit is required, the duct sensors have a universal nylon mounting connector that adapts to a 1/2" knockout in a standard handy box. The nylon fitting has a 1/2" NPT female conduit fitting.

The duct temperature sensors are waterproof and can be used in high humidity and condensing air. The sensors are point-sensitive and come standard with 9" (22.8 cm) insertion depth. The XL option provides custom lengths.



DIMENSIONS



SPECIFICATIONS

Accuracy		Temperature Coefficient	
Thermistor	±0.36°F (0.2°C)	Thermistor	Negative temperature coefficient
RTD		RTD	Positive temperature coefficient
Type 63	±0.72°F (0.40°C)	Temperature Stability	
Type 71	+/-0.0774°F (0.043°C)	Thermistor	0.24°F (0.13°C) over five years
Type 81, 85	±0.27°F (0.15°C)	Heat Dissipation	2.7 mW/°C (power needed to raise the temperature by 1°C)
Type 91	±0.54°F (0.30°C)	Mounting	Directly to duct, wall, or single gang box
Sensor Type		Wiring Terminations	8' (2.4m) of 24 AWG pigtails with prestripped ends, type 71 & 81 sensors have 18" leads
Thermistor	2.252 kΩ, 3 kΩ, 10 kΩ Type II, III, & III w/11K shunt, 20 kΩ, 100 kΩ	Weight	0.25 lb (0.1 kg) with no options
RTD		Approvals	CE
Type 63	1000Ω Nickel @ 70°F (21°C)	Warranty	Lifetime
Type 71, 81	100Ω Pt 385 Curve		
Type 85	1000Ω Pt 385 Curve		
Type 91	1000Ω Pt 375 Curve		
Temperature Range			
Thermistor/RTD	-40° to 221°F (-40° to 105°C)		



TEMPERATURE

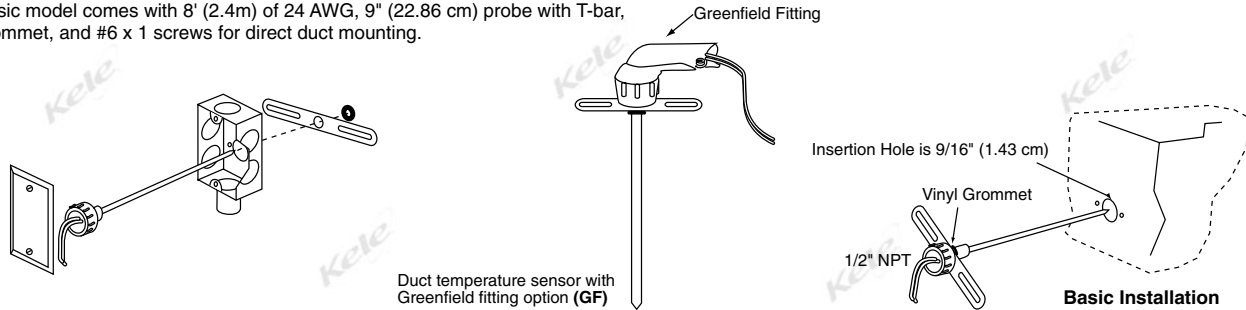
DUCT THERMISTOR AND RTD SENSORS

ST-D* SERIES

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.

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.



ORDERING INFORMATION

MODEL	DESCRIPTION
ST-D3	10,000Ω duct thermistor @ 77°F (25°C), Type III (gray leads)
ST-D11K	10,000Ω duct thermistor @ 77°F (25°C), Type III with 11K shunt (gray leads)
ST-D21	2252Ω duct thermistor @ 77°F (25°C), Type II (green leads)
ST-D22	3000Ω duct thermistor @ 77°F (25°C), Type II (blue leads)
ST-D24	10,000Ω duct thermistor @ 77°F (25°C), Type II (yellow leads)
ST-D27	100,000Ω duct thermistor @ 77°F (25°C), Type II (gray leads)
ST-D42	20,000Ω duct thermistor @ 77°F (25°C), Type IV (green leads)
ST-D63	1000Ω nickel duct RTD @ 70°F (21°C), (yellow leads)
ST-D71	100Ω ultra high accurate duct RTD @ 32°F (0°C), 385 platinum curve (blue leads)
ST-D81	100Ω duct RTD @ 32°F (0°C), 385 platinum curve (yellow leads)
ST-D85	1000Ω duct RTD @ 32°F (0°C), 385 platinum curve (blue leads)
ST-D91	1000Ω duct RTD @ 32°F (0°C), 375 platinum curve (green leads)
OPTIONS (List options in alphabetical order with dashes)	
QD ¹ / ₄	Nylon insulated Quick Disconnect 1/4"
X25	25' (7.6m) lead length 24 AWG
XC25	25' (7.6m) lead length jacketed cable
XCO	1/2" LB conduit fitting
XCP25	25' Non-shielded plenum cable
XD	Dual sensors in one probe
XG	Greenfield fitting (factory installed)
XH	Handy box housing (factory installed)
XHP	Non-metallic handy box housing (factory installed)
XL	Custom length insertion probes 1" to 108"
XL2	Custom length insertion probe, 4-7/8"(12.38 cm)
XL2 in	Custom length insertion probe, 2"(5.08 cm)
XLT	Liquid-tight fitting (factory installed)
XN	Certificate of conformance
XNB	1/2" MNPT brass close nipple
XNP	1/2" MNPT plastic close nipple
XN1	NIST certificate, one reference point 32°F(0°C)
XN2	NIST certificate, two reference points 32°F/158°F(0°C/70°C)
XN3	NIST certificate, three reference points 32°F/77°F/158°F(0°C/25°C/70°C)
XP	Matched sensor pair, matched to ±0.1°F, 0.05°C (must order two sensors)
XPA	Ultra high accuracy, thermistors only, ±0.135°F (0.075°C)
XW	Weather resistant housing (factory installed)
XZ	Three wire RTD connections (optional only on Type 81, standard on Type 71, not available with XC25 and XCP25)

ST-D3 - XG **Example: ST-D3-XG** 10,000Ω Type III duct temperature sensor with Greenfield fitting

RELATED PRODUCTS

KT1
T81U-XR
T85U-XR
T91U-XR
UR

Mounting screwdriver 1/16" allen key
100 ohm, Type 81 4-20 mA temperature transmitter, custom rangeable
1000 ohm, Type 85 4-20 mA temperature transmitter, custom rangeable
1000 ohm, Type 91 4-20 mA temperature transmitter, custom rangeable
Moisture-resistant three-wire butt splice