DESCRIPTION

The **PreCon Model ST-S* Stainless Steel Flush-Mount Thermistor and RTD Sensor** provides precision room temperature sensing for building automation systems. The active sensing element is made of a highly stable precision thermistor material or Platinum RTD. This material is ruggedized to provide moisture/vapor resistance and is bonded to a 430 stainless steel plate. The back is insulated to reduce interior wall temperature influence. This sensor is intended for interior use only.

FEATURES

- **Lifetime warranty**
- **±0.36°F (0.2°C) thermistor accuracy**
- **±0.27°F (0.15°C) or 0.54°F (0.30 RTD°C) RTD accuracy**
- **Wide selection of thermistor and RTD curves**
- **Insulated backing for room temperature response**
- **Vandal-resistant flush mounting**
- **Adaptable with many options**
- **430 Stainless steel finish**
- **Easy to mount to wall or back box**
- **Standard size plate to cover mounting holes**

ST-S*

APPLICATION

The **Model ST-S*** is designed to be wall mounted indoors. It is ideal for use in schools or cold storage lockers, where vandalism or fork lifts can damage ordinary wall sensors. The sensor has an insulated back which reduces conductive influences of wall temperatures, yet allows significant convective influences to be sensed. Security screws, **XS** option, are available where tamper proofing is required.

OPERATION

- **Setpoint adjustment**
- **Momentary switch override**
- **Security screws**

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	±0.054°F (0.03°C)	Thermistor	0.24°F (0.13°C) over five years
Type 81, 85	±0.27°F (0.15°C)	RTD	Max 0.04% after 1k hours @ 500 °C
Type 91	±0.54°F (0.30°C)	**Heat Dissipation**	2.7 mW/°C (power needed to raise the temperature by 1°C)
Sensor Type			
Thermistor	2.252 kΩ, 3 kΩ, 10 kΩType II, III & III w/11K shunt, 20 kΩ, 100 kΩ	**Enclosure Rating**	NEMA 1, Brushed stainless steel
		Mounting	Directly to wall or single gang box
RTD		**Wiring Terminations**	8' of 24 AWG pigtails prestripped ends, Type 71 & 81 sensors have 18" leads
Type 63	1000Ω Nickel		
Type 71, 81	100Ω Pt 385 Curve		
Type 85	1000Ω Pt 385 Curve	**Weight**	0.2 lb (0.1 Kg)
Type 91	1000Ω Pt 375 Curve	**Approvals**	CE
Temperature Range		**Warranty**	Lifetime
Thermistor/RTD	-40° to 221°F (-40° to 105°C)		

MOUNTING

Toggle bolts or other direct wall-mount screws can be used where conduit is not required. Adapters are not required when mounting directly to electrical outlet boxes. Tighten mounting screws, crushing foam gasketing until plate edges lightly touch the wall. Insulate or seal all interior holes to prevent drafts from affecting the temperature readings. Terminate with butt splices or soldering. Twist on wire connectors are not recommended.

Basic model comes with screws for stainless steel faceplate, two #6-32 screws for handy-box mounting, and 8' (2.4m) of 24 AWG wire. Security screws (**XS** Option) are #6-32 with a spanner head.

Optional Customer-Supplied Handy Box
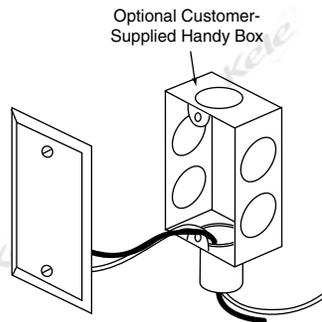
The sensor should be mounted approximately five feet above the floor, on an interior wall, away from any heating or cooling generating devices.

TYPICAL COVER WITH MULTIPLE OPTIONS

OVERRIDE

DN   UP
0
-1   1
-2   2
-3   3

XS
Security Screws

XM
Momentary Push Button

XA
Setpoint Adjust provides a 0Ω to 10 kΩ ± 3% resistance input

DIMENSIONS

in (cm)

2.75 (6.99)

4.5 (11.43)

3.25 (8.25)
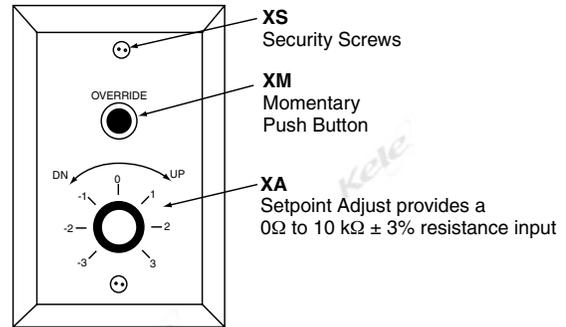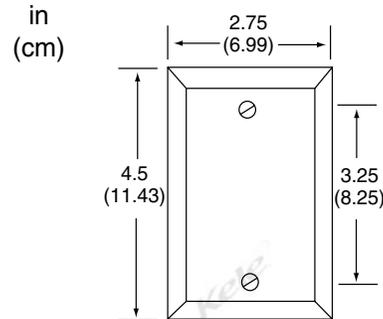
ORDERING INFORMATION

MODEL	DESCRIPTION
ST-S3	10,000Ω flush-mount thermistor @ 77°F (25°C), Type III (gray leads)
ST-S11K	10,000Ω flush-mount thermistor @ 77°F (25°C), Type III with 11K shunt (gray leads)
ST-S21	2252Ω flush-mount thermistor @ 77°F (25°C), Type II (green leads)
ST-S22	3000Ω flush-mount thermistor @ 77°F (25°C), Type II (blue leads)
ST-S24	10,000Ω flush-mount thermistor @ 77°F (25°C), Type II (yellow leads)
ST-S27	100,000Ω flush-mount thermistor @ 77°F (25°C), Type II (gray leads)
ST-S42	20,000Ω flush-mount thermistor @ 77°F (25°C), Type IV (green leads)
ST-S63	1000Ω flush-mount RTD @ 32°F (0°C), nickel curve (yellow leads)
ST-S71	100Ω flush-mount RTD @ 32°F (0°C), 385 platinum curve (yellow leads)
ST-S81	100Ω flush-mount RTD @ 32°F (0°C), 385 platinum curve (yellow leads)
ST-S85	1000Ω flush-mount RTD @ 32°F (0°C), 385 platinum curve (blue leads)
ST-S91	1000Ω flush-mount RTD @ 32°F (0°C), 375 platinum curve (green leads)

OPTIONS	
X25	25' (7.6m) lead length 24 AWG
XA	Setpoint adjustment (0 to 10kΩ)
XA1K	Setpoint adjustment (0 t0 1,000Ω resitance input)
XA1500	Setpoint adjustment (0Ω to 1,500Ω, resistance input)
XD	Dual sensors
XK	Custom logo
XM	Momentary switch wired N.O. to terminal block
XN	Certificate of conformance
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)
XS	Security screws (SD-6 spanner screwdriver required)
XZ	Three wire RTD connections (Optional only on Type 81, standard on Type 71)

| ST-S27 | - | XM |

Example: **ST-S27-XM** 100,000Ω Type II stainless steel flush-mount sensor with momentary switch

RELATED PRODUCTS

KT1	Mounting screwdriver 1/16" allen key
SD-6	Security spanner screwdriver (required for XS option)
T81U-XR	100 ohm, Type 81 4-20 mA temperature transmitter, custom rangeable
T85U-XR	1000 ohm, Type 85 4-20 mA temperature transmitter, custom rangeable
T91U-XR	1000 ohm, Type 91 4-20 mA temperature transmitter, custom rangeable
UR	Moisture-resistant three-wire butt splice

TEMPERATURE

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