



TEMPERATURE

EXECUTIVE STYLE THERMISTOR AND RTD SENSORS ST-S*E, ST-S*EW SERIES

DESCRIPTION

The **Precon Model ST-S*E and ST-S*EW Executive Thermistor and RTD Sensor** provides precision room temperature sensing for building automation systems in beige or white respectively. The active sensing element is made of a highly stable, precision thermistor material or platinum RTD.

FEATURES

- **Lifetime warranty**
- **$\pm 0.36^{\circ}\text{F}$ ($\pm 0.2^{\circ}\text{C}$) thermistor accuracy**
- **$\pm 0.27^{\circ}\text{F}$ ($\pm 0.15^{\circ}\text{C}$) or $\pm 0.54^{\circ}\text{F}$ ($\pm 0.30^{\circ}\text{C}$) RTD accuracy**
- **Ultra high accuracy optional**
- **Wide selection of thermistor or RTD curves**
- **Vented housing for quick temperature response**
- **Adaptable with many options**
- **Traditional beige or white covers**
- **Durable plastic housing and base plate**
- **Easy to mount to wall or electrical box**



ST-S*EW



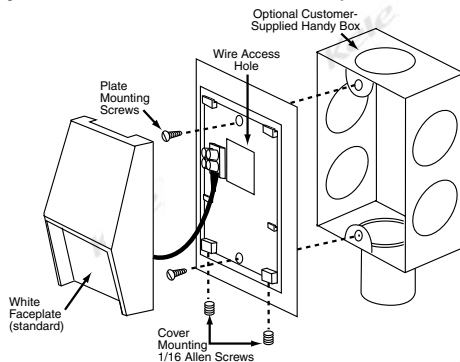
ST-S*E-XA-XME-XTA



TYPICAL MOUNTING

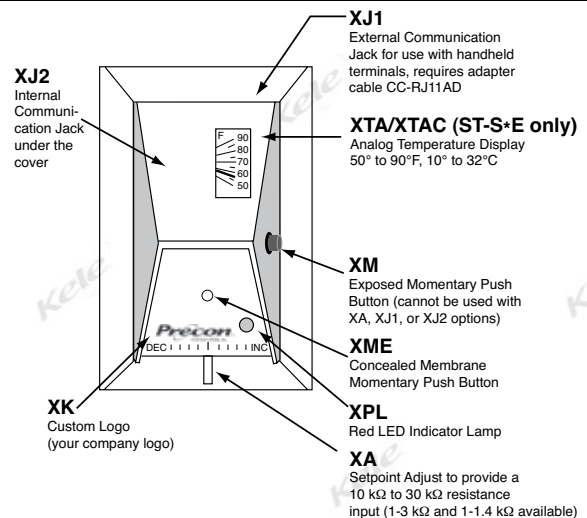
Toggle bolts or other direct wall-mount screws can be used where conduit is not required. Adapters are not required when mounting directly to electrical outlet boxes.

Basic model comes with screw terminal block, white decorator faceplate, two #6-32 screws for handybox mounting, and two #6 x 1" screws for direct wall mounting. Cover screws are #6-32 with a 1/16" allen key head.



The sensor should be mounted approximately 5' (12.7 cm) above the floor, on an interior wall, away from any heating or cooling generating devices.

TYPICAL COVER WITH MULTIPLE OPTIONS



SPECIFICATIONS

Accuracy

| | |
|-------------------|--|
| Thermistor | $\pm 0.36^{\circ}\text{F}$ (0.2 $^{\circ}\text{C}$) |
| RTD | |
| Type 63 | $\pm 0.72^{\circ}\text{F}$ (0.40 $^{\circ}\text{C}$) |
| Type 71 | $\pm 0.0774^{\circ}\text{F}$ (0.043 $^{\circ}\text{C}$) |
| Type 81, 85 | $\pm 0.27^{\circ}\text{F}$ (0.15 $^{\circ}\text{C}$) |
| Type 91 | $\pm 0.54^{\circ}\text{F}$ (0.30 $^{\circ}\text{C}$) |

Sensor Type

| | |
|-------------------|--|
| Thermistor | 2.252 k Ω , 3 k Ω , 10 k Ω Type II, III & III w/11K shunt, 20 k Ω , 100 k Ω |
|-------------------|--|

RTD

| | |
|-------------|----------------------------|
| Type 63 | 1000 Ω Nickel |
| Type 71, 81 | 100 Ω PT 385 Curve |
| Type 85 | 1000 Ω Pt 385 Curve |
| Type 91 | 1000 Ω Pt 375 Curve |

Temperature Range

| | |
|-----------------------|-------------------------------|
| Thermistor/RTD | -40° to 221°F (-40° to 105°C) |
|-----------------------|-------------------------------|

Temperature Coefficient

| | |
|------------------------------|--|
| Thermistor | Negative temperature coefficient |
| RTD | Positive temperature coefficient |
| Temperature Stability | |
| Thermistor | 0.24°F (0.13°C) over five years |
| RTD | Max 0.04% after 1k hours @ 500 °C |
| Heat Dissipation | 2.7 mW/°C (power needed to raise the temperature by 1°C) |

Enclosure Rating

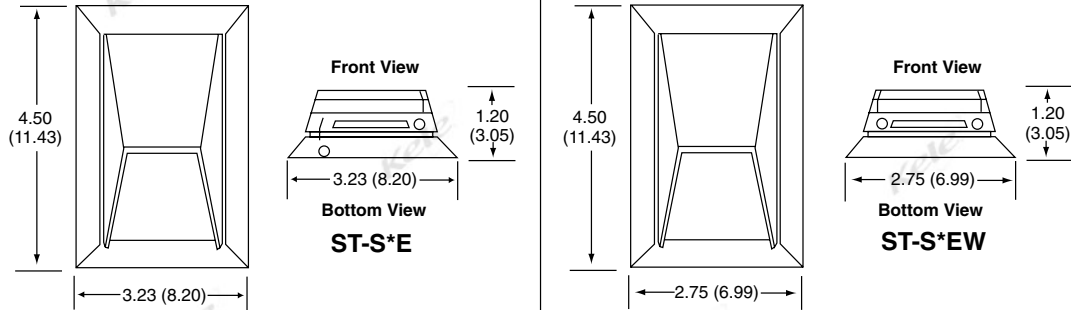
| | |
|----------------------------|---|
| ST-S*E | NEMA 1, Beige plastic with tan metal face plate |
| ST-S*EW | |
| Mounting | Directly to wall or single gang box |
| Wiring Terminations | Terminals |
| Weight | 0.15 lb (0.07 Kg) |
| Approvals | CE |
| Warranty | Lifetime |

TEMPERATURE

EXECUTIVE STYLE THERMISTOR AND RTD SENSORS ST-S*E, ST-S*EW SERIES



DIMENSIONS



ORDERING INFORMATION

| MODEL | DESCRIPTION |
|---|--|
| ST-S3 | 10,000Ω executive thermistor @ 77°F (25°C), Type III (gray leads) |
| ST-S11K | 10,000Ω executive thermistor @ 77°F (25°C), Type III with 11K shunt (gray leads) |
| ST-S21 | 2252Ω executive thermistor @ 77°F (25°C), Type II (green leads) |
| ST-S22 | 3000Ω executive thermistor @ 77°F (25°C), Type II (blue leads) |
| ST-S24 | 10,000Ω executive thermistor @ 77°F (25°C), Type II (yellow leads) |
| ST-S27 | 100,000Ω executive thermistor @ 77°F (25°C), Type II (gray leads) |
| ST-S42 | 20,000Ω executive thermistor @ 77°F (25°C), Type IV (green leads) |
| ST-S63 | 1000Ω nickel executive RTD @ 32°F (0°C), (yellow leads) |
| ST-S71 | 100Ω ultra high accurate executive RTD @ 32°F (0°C), 385 platinum curve (blue leads) |
| ST-S81 | 100Ω executive RTD @ 32°F (0°C), 385 platinum curve (yellow leads) |
| ST-S85 | 1000Ω executive RTD @ 32°F (0°C), 385 platinum curve (blue leads) |
| ST-S91 | 1000Ω executive RTD @ 32°F (0°C), 375 platinum curve (green leads) |
| E | Executive beige enclosure with wide back plate |
| EW | Executive white enclosure with narrow back plate |
| OPTIONS (List options in alphabetical order with dashes) | |
| XA * | Setpoint adjustment (10,000Ω to 35,000Ω, resistance input) |
| XA10K * | Setpoint adjustment (1,000Ω to 3,000Ω, resistance input) |
| XA2K * | Setpoint adjustment (920Ω to 1,278Ω, resistance input) |
| XD | Dual sensors |
| XGR | Gray decorator faceplate (tan is standard) |
| XJ1 * | RJ11 externally-accessible communication jack (CCRJ11AD required) |
| XJ2 * | Internal RJ11 communication jack |
| XK | Custom Logo |
| XM ** | Momentary switch wired N.O. to terminal block |
| XME | Membrane momentary switch wired only N.O. to terminal block, tan faceplate only |
| XMP | Membrane push button switch (XME) with terminals for separate button termination |
| 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) |
| XPA | Ultra high accuracy, thermistors only, ±0.135°F (0.075°C) (not available w/ EW models) |
| XPL * | Red LED lamp externally powered 24VAC/VDC (not available w/ EW models) |
| XTA ▲ | Analog temperature display, 50 to 90°F ± 1°F |
| XZ ▲ | Three wire RTD connections (Optional only on Type 81, standard on Type 71) |

ST-S3 - E - XA - XTA **Example:** ST-S3-E-XA-XTA 10,000Ω Type III executive sensor zone with setpoint adjustment and analog display
 * Circuit board option | ** Cannot be mounted in conjunction with *options | ▲ Not available on EW housing

RELATED PRODUCTS

- 10-531 White adaptor plate 7" x 5.25" (KTR,KHR)
- CC-RJ11AD Adapter cable for XJ1 option with female RJ11 8-pin connector
- KT1 Mounting screwdriver 1/16" allen key
- 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

TEMPERATURE