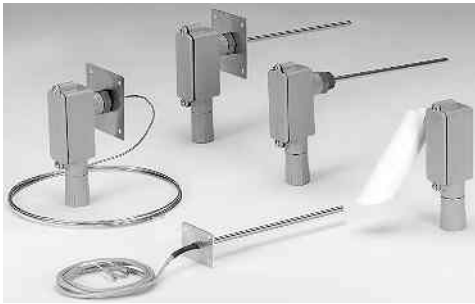


TE-6300 Series

Temperature Sensors



TE-6300 Series Temperature Sensors

Description

The TE-6300 Temperature Sensor line offers an economical solution for a wide variety of temperature sensing needs, including wall mount, outdoor air, duct, well, duct averaging, or Variable Air Volume (VAV) applications. Sensors are available in the following types:

- 1k ohm thin-film nickel
- 1k ohm nickel averaging
- 1k ohm thin-film platinum
- 100 ohm platinum equivalent averaging
- 1k ohm platinum equivalent averaging
- 2.2k ohm thermistor
- 10k ohm thermistor

Each sensor is packaged with the necessary mounting accessories to maximize ordering and installation ease and reduce both commissioning time and cost.

Features

- full line of versatile sensors—supports all your temperature sensing needs from a single supplier: wall mount, outdoor air, duct probe, duct averaging, well insertion and VAV duct probe
- single assembly ordering—simplifies ordering, provides a complete assembly in one box
- integral NPT Adaptor—increases sensor connection strength, eliminates the need for a special adaptor
- noncorrosive thermoplastic enclosure—resists environmental effects with a durable, easy-to-use, standard conduit enclosure

To Order

To order a TE-6300 Series temperature sensor, contact the nearest Johnson Controls representative. Specify the code number from the Selection Chart.

To meet plenum rating where UL 1995 rating is accepted, replace existing plastic cover with a TE-6001-13 Metal Cover. Use all-metal components To meet International Mechanical Code.

Selection Chart

| Code Number | Description | Application | Application Notes |
|--|--|-------------------------------|---|
| TE-6314P-1 TE-6324P-1 TE-6344P-1 | Nickel sensor Platinum sensor 2.2k ohm thermistor | Wall Mount | - Two-screw wall plate provided for surface mounting. - White cover provided. |
| TE-6313P-1 TE-6323P-1 TE-6343P-1 | Nickel, 3 in. probe Platinum, 3 in. probe 2.2k ohm thermistor, 3 in. probe | Outdoor Air | - Used to sense outside ambient temperature to determine efficient heating and cooling strategies. |
| TE-6311P-1 TE-6321P-1 TE-6341P-1 | Nickel, 8 in. probe Platinum, 8 in. probe 2.2k ohm thermistor, 8 in. probe | Duct Probe | - Four-screw mounting plate provided for duct mounting. - Can also be used for plenums. - Ideal in freezer lockers or where sensor mounting should be located outside of the sensed area. - 12 in. probe is available for use in larger ducts. |
| TE-6315P-1 TE-6316P-1 TE-6327P-1 TE-6328P-1 TE-6337P-1 TE-6338P-1 | Nickel, 8 ft averaging element Nickel, 17 ft averaging element Platinum, 1k ohm, 10 ft avg. element Platinum, 1k ohm, 20 ft avg. element Platinum, 100 ohm, 10 ft avg. element Platinum, 100 ohm, 20 ft avg. element | Duct Averaging | - Four-screw mounting plate provided for duct mounting. - Used in duct where average temperature is needed. - Approximately 1 ft of sensor is recommended for each sq ft of duct cross section. - TE-6001-8 element holder is recommended when installing an averaging sensor in a duct. |
| TE-6312P-1 TE-6322P-1 TE-6342P-1 TE-631AP-1 TE-632AP-1 | Nickel, 8 in. probe, threaded holder ^(a) Platinum, 8 in. probe, threaded holder ^(a) 2.2k ohm thermistor, 8 in. probe, threaded holder ^(a) Nickel, 6 in. probe, threadless holder ^(b) Platinum, 6 in. probe, threadless holder ^(b) | Well Insertion ^(c) | - Threaded sensor holder has 1/2 in. NPT threads; threadless holder accommodates set screws. - Thermal well should be mounted at an angle so condensation will run out of the well. If not possible, seal the sensor holder and the wiring end of the sensor probe with RTV silicone rubber. - 12 in. probe is available for use in longer wells. - Compatible Johnson Controls thermal wells are listed in the Accessories Chart. |
| TE-6311V-1 TE-6321V-1 TE-6341V-1 TE-6361V-1 TE-631GV-1 TE-632GV-1 TE-634GV-1 TE-636GV-1 | Nickel, 8 in. probe Platinum, 8 in. probe 2.2k ohm thermistor, 8 in. probe 10 k ohm thermistor, 8 in. probe Nickel, 4 in. probe Platinum, 4 in. probe 2.2k ohm thermistor, 4 in. probe 10 k ohm thermistor, 4 in. probe | VAV Duct Probe | - Includes a four-screw mounting plate for duct mounting. - Comes with 1/4-in. female quick-connect terminations on leads. - Equipped with a five-foot plenum-rated cable. |

(a) The 8 in. well insertion probes are to be used only with the WZ-1000-2 and WZ-1000-4.

(b) The 6 in. well insertion probes are to be used only with the WZ-1000-5.

(c) Well sensor probe lengths are longer than accessory well lengths because part of the probe is in the conduit box and sensor holder.

TE-6300 Series Temperature Sensors (Continued)

Accessories Chart

| Code Number | Description |
|--------------------------|---|
| TE-6001-8 | Element Holder for mounting an averaging sensor (10 per package) |
| TE-6001-13 | Metal Cover and Gasket Kit (Duct, Well, Outdoor Air) |
| TE-1800-9600 | Mounting Hardware for mounting the wall mount unit to a handy box |
| TE-6300-101 | 12 in. nickel probe that can be cut to an appropriate length |
| TE-6300-102 | 12 in. (1k ohm) Platinum Probe that can be cut to an appropriate length |
| TE-6300-104 | 12 in. (2.2k) Thermistor Probe that can be cut to an appropriate length |
| TQ-6000-1 | 4-20 mA Output Transmitter for use with the 100 ohm platinum sensor |
| WZ-1000-2 | 6-1/2 in. Stainless Steel Well, thermal compound included |
| WZ-1000-4 | 6-1/2 in. Stainless Steel Well |
| WZ-1000-5 ^(a) | 4-11/16 in. Brass Well |
| F-1000-182 | Thermal Conductive Grease for element wells, (8 oz) |

(a) Use the TE-631AP-1 or TE-632AP-1 with this well.

Note: To order a different cover for the wall mount sensor, refer to the T-4000 Covers for the TE-6300 Series table below.

T-4000 Covers for the TE-6300 Series (Wall-Mount Models Only)

| Code Number | Horizontal Johnson Controls Logo | Vertical Johnson Controls Logo | Thermometer | Material (Plastic Cover/Faceplate) |
|----------------------------|----------------------------------|--------------------------------|-------------|------------------------------------|
| T-4000-2138 ^(a) | | | | Beige/Brushed Aluminum |
| T-4000-2139 | X | | | |
| T-4000-2140 | X | | X | |
| T-4000-2144 | | X | | Beige/Brown and Gold |
| T-4000-2639 | X | | | |
| T-4000-2640 | X | | X | |
| T-4000-2644 | | X | | White/Brushed Aluminum |
| T-4000-3139 | X | | | |
| T-4000-3140 | X | | X | |
| T-4000-3144 | | X | | |

(a) Without logo

Repair Parts

The TE-6300 series of products allows for easy replacement of the temperature element. Refer to the table below and contact the nearest Johnson Controls representative. No replacement elements exist for the TE-63xxV-1 VAV Box Duct Probe models.

| Code Number | Description |
|-------------|---|
| TE-6300-601 | 8 in. Nickel Probe |
| TE-6300-602 | 8 in. (1k ohm) Platinum Probe |
| TE-6300-606 | 8 in. Thermistor Probe (2.2k) |
| TE-6300-603 | 3 in. Nickel Probe |
| TE-6300-604 | 3 in. (1k ohm) Platinum Probe |
| TE-6300-607 | 3 in. Thermistor Probe (2.2k) |
| TE-6300-605 | Threaded Sensor Holder with Retainer (10 per package) |
| TE-6300-609 | Threadless Sensor Holder with Retainer (10 per package) |

Specifications

| TE-6300 Series Temperature Sensors | |
|------------------------------------|---|
| Thin-film Nickel Sensor | Temperature Coefficient: Approximately 3 ohms/F° (5.4 ohms/C°) Reference Resistance: 1k ohms at 70°F (21°C) Accuracy: ±0.34F° at 70°F (±0.19C° at 21°C) |
| Nickel Averaging Sensor | Temperature Coefficient: Approximately 3 ohms/F° (5.4 ohms/C°) Reference Resistance: 1k ohms at 70°F (21°C) Accuracy: ±3.4F° at 70°F (±1.9C° at 21°C) |
| Platinum Sensor | Temperature Coefficient: Approx. 2 ohms/F° (3.9 ohms/C°), meets DIN 43760 Reference Resistance: 1k ohms at 32°F (0°C) Accuracy: ±0.73F° at 70°F (±0.41C° at 21°C), DIN Class B |
| Platinum Equivalent Sensor | Temperature Coefficient, 1k ohms model: Approx. 2 ohms/F° (3.9 ohms/C°), meets DIN 43760 Reference Resistance, 1k ohms model: 1k ohms at 32°F (0°C) Temperature Coefficient, 100 ohms model: Approx. 0.2 ohms/F° (0.39 ohms/C°), meets DIN 43760 Reference Resistance, 100 ohms model: 100 ohms at 32°F (0°C) Accuracy: Approximately ±1.08F° at 70°F (±0.60C° at 21°C) |
| 2.2k ohm Thermistor Sensor | Temperature Coefficient: Nonlinear, negative temperature coefficient Reference Resistance: 2.25k ohms at 77°F (25°C) Accuracy: ±0.36F° (±0.2C°) in the range: 32 to 158°F (0 to 70°C) |
| 10k ohm Thermistor Sensor | Temperature Coefficient: Nonlinear, negative temperature coefficient Reference Resistance: 10.0k ohms at 77°F (25°C) Accuracy: ±0.9F° (±0.5C°) in the range: 32 to 158°F (0 to 70°C) |

Specifications (Continued)

| TE-6300 Series Temperature Sensors | |
|------------------------------------|---|
| Temperature Range | Probe Assembly: -50 to 220°F (-46 to 104°C) Conduit Box: -50 to 122°F (-46 to 50°C) |
| Sensor Construction | Sensor: 1/4 in. O.D. stainless steel probe (except averaging and wall mount sensors) Conduit Access Box: Rigid thermoplastic Mounting Plate: Stainless steel (TE-63xxV-1 models only) |
| Mounting Choices | Duct, Well, Outdoor Air, Wall Mount, VAV Box |
| Dimensions (H x W x D) | Wall Mount: 2.13 x 3.13 x 1.81 in. (53 x 79 x 46 mm) Duct Mount: 5.97 x 1.38 x 2.75 in. (152 x 35 x 70 mm) + adjustable probe depth Well Insertion: 5.97 x 1.38 x 2.75 in. (152 x 35 x 70 mm) + adjustable probe depth Outdoor Air: 5.97 x 3.47 x 4.46 in. (152 x 98 x 113 mm) Duct Averaging: 5.97 x 1.38 x 2.75 in. (152 (114 x 35 x 70 mm) + 8, 10, 17, or 20 ft element) VAV Box Duct Probe: 2.25 x 1.50 x 8.25 or 4.25 in. (57 x 38 x 210 or 108 mm)) |