

TT463 Series Integrated Sensor/Transmitters

One-piece temperature sensor and transmitter for HVAC applications

Overview

Minco's TT463 Series temperature sensor/transmitters combine a platinum-curve RTD sensing element with transmitter capability in a single package. This integrated approach provides a cost-effective, easy-to-install solution for HVAC applications. Key features include:

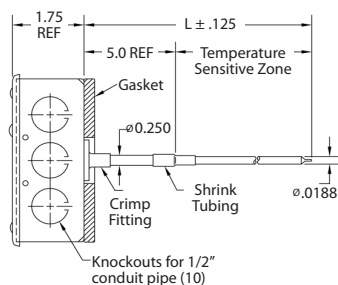
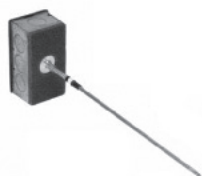
- One-piece design reduces cost by 20% and requires less wiring
- Power and signal provided through a 4–20 mA current loop connection
- Compact, rugged design houses the transmitter in a standard 0.250" (6.35 mm) OD stainless steel probe casing
- Standard junction box housing with gasket prevents air leakage and reduces vibration noise
- Available in point sensing, rigid averaging or bendable averaging configurations

Applications

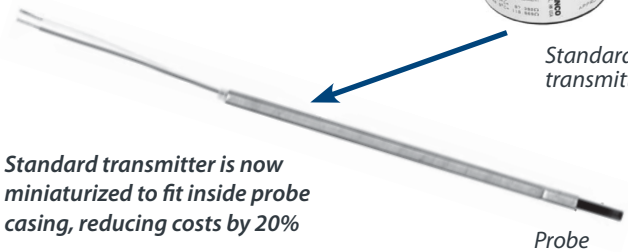
The TT463 Series is used to sense the temperature of air streams in ducts and plenums, and are available in three standard configurations to meet specific applications requirements. The integrated technology of the TT463 can also be combined with custom packaging and mounting to meet custom requirements.

Rigid Averaging

TT463 rigid averaging (element type R) configurations feature a brass case and a continuous element to sense true average temperature along their entire length. They provide accurate composite readings in locations where air may be stratified into hot and cold layers.



Standard transmitter

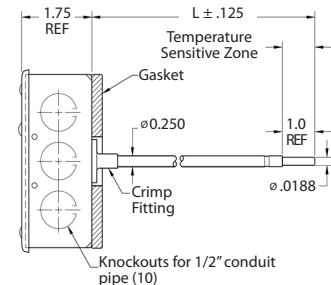


Standard transmitter is now miniaturized to fit inside probe casing, reducing costs by 20%

Probe

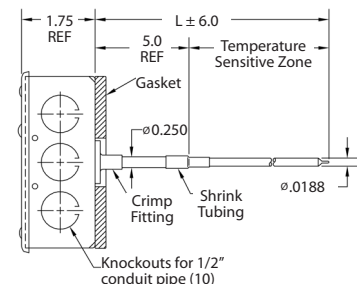
Point Sensing

TT463 point sensing (element type P) configurations feature a fast-response aluminum sensing tip with a platinum element.



Bendable Averaging

TT463 bendable averaging (element type A) configurations feature an aluminum sheath and a continuous element to sense true average temperature along their entire length. The sensing element is formable to a radius of 4", and can be used to crisscross ducts to average temperatures in two dimensions. They provide accurate composite readings in locations where air may be stratified into hot and cold layers.



Specifications

Output	4-20 mA over specified temperature range, linear with temperature
Leadwires	AWG 24, PTFE insulated, 8" (200 mm) long
Moisture resistance	Meets MIL-STD-202, Method 104, Test Condition B
Ambient/sensing temperature	Operation: -20 to 140°F (-29 to 60°C), non-condensing Storage: -67 to 212°F (-55 to 100°C), non-condensing
Supply voltage	8.5 to 27 VDC, reverse polarity protected
Loop resistance	$R_{loopmax} = (V_{supply} - 8.5) / 0.02$ Amps, (maximum allowable resistance of the signal-carrying loop, including wires and load resistors)
Warm-up drift	Less than +/- 0.05 mA, stable within 30 minutes
Ambient temperature error	Calibrated at 75°F (23.9°C); +/-0.01% of span/°F (+/-0.02% of span/°F for spans < 100°F)
Voltage stability	+/-0.001% of span/V from 8.5 to 27 VDC
Probe casing	<i>Element type P:</i> Black anodized aluminum, 0.188" (4.78 mm) OD <i>Element type R:</i> Brass, 0.188" (4.78 mm) OD <i>Element type A:</i> Aluminum, 0.188" (4.78 mm) OD
Transmitter housing	Stainless steel case, 0.250" (6.35 mm) OD casing
Junction box enclosure	Width: 2.12" (53.8 mm) Height: 4.00" (101.6 mm) Depth: 1.75" (44.4 mm)

Ordering Options

TT463	Model Number: TT463 (Transmitter housed in standard junction box)
P	Element Type: P = Point Sensing R = Rigid Averaging A = Bendable Averaging
6	Insertion Length: P Specify in 1" (2.54 cm) increments Min. = 7, Max. 12, Standard: 8 or 12 R Specify in 1" (2.54 cm) increments Min. = 12, Max. 72, Standard: 12, 18, 24 or 36 A Specify in 1' (30.5 cm) increments Min. = 4, Max. 100, Standard: 12, 24, 50 or 100
(0/100)F	Temperature Range: (-20/140)F = -20 to 140°F (-29 to 60°C) (0/100)F = 0 to 100°F (-18 to 37°C) (20/100)F = 20 to 100°F (-7 to 37°C) (20/120)F = 20 to 120°F (-7 to 48°C) (40/90)F = 40 to 90°F (5 to 32°C) Contact Minco for additional ranges
1	Calibration: 1 = Nominal Calibration
TT463P7(0/100)F1 = Sample Part Number	