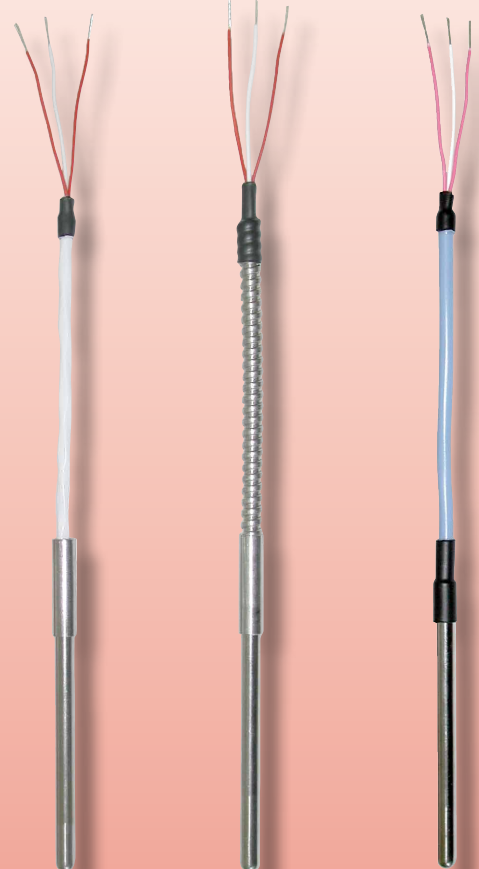
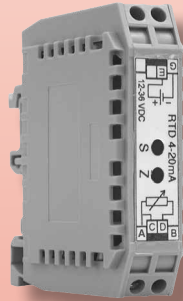
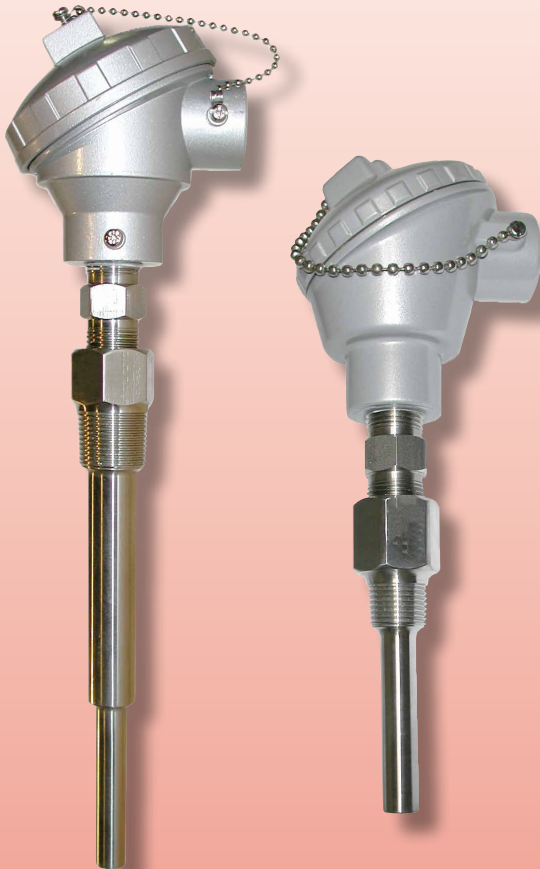


RTD Temperature Probes



measuring
•
monitoring
•
analyzing

TSR



- Low Cost
- Rugged Design
- Factory Calibrated
- Tri-Clamp® or NPT Threaded Connections
- 4-20 mA Transmitter Available



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Description

TSR temperature probes employ a resistive thermal device (RTD) to measure process temperature, providing a very stable and repeatable output. They are designed for industrial applications that require a high degree of accuracy over a wide range of temperatures. The probe utilizes a Pt-100 RTD element that is hermetically sealed in a 316 stainless steel probe. It is available in an RTD only version or an RTD version with a head-mounted 2-wire 4-20 mA transmitter. NPT or Tri-Clamp® connections are standard.

Technical Details

Temperature Range

Standard: -58...390 °F

Extended: -320...1100 °F

Max. Pressure: 1450 PSIG

Wetted Materials: 316 SS

RTD Type: Pt-100 Class B per DIN EN 60751
($\alpha = 0.00385$)

RTD Accuracy: ± 0.55 °F at 32 °F

Temperature Drift: 0.003 °F / °F

Connection Housing

Threaded Models: Aluminum (NEMA 4/IP65)

Tri-Clamp® Models: Polypropylene (NEMA 4X/IP65)



Transmitter

Output: 4-20 mA, 2-wire

Supply Voltage: 10-36 V_{DC}

Loop Resistance: $R_{max} = 50 (V_{supply} + 10)$

Accuracy: $\pm 0.1\%$ of Span

Zero Drift: $\pm 0.025\%$ / °F

Span Drift: $\pm 0.025\%$ / °F

Order Details: RTD Transmitters

Range	Model		Options
	Transmitter Only	Mounted in RTD Probe	
-58...120 °F	TSR-8101	TSR-8201	..E = Non-Standard Temp. Range (Specify Range)
32...120 °F	TSR-8102	TSR-8202	
32...212 °F	TSR-8103	TSR-8203	
32...400 °F	TSR-8104	TSR-8204	
32...600 °F	TSR-8105	TSR-8205	
32...750 °F	TSR-8106	TSR-8206	
32...1100 °F	TSR-8107	TSR-8207	
32...1500 °F	TSR-8108	TSR-8208	

Order Details: 1-1/2" Tri-Clamp® Models

Immersion Depth	Model
2-1/2"	TSR-32025
4"	TSR-32040
6"	TSR-32060

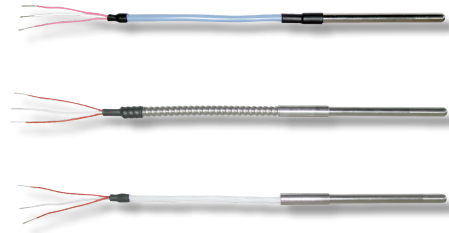
Order Details: Threaded RTD Probes

Immersion Depth	Model		Options
	1/2" NPT Fitting	3/4" NPT Fitting	
2-1/2"	TSR-12025	TSR-22025	..ET = Extended Temp. Range (-320...1100 °F)
4-1/2"	TSR-12045	TSR-22045	
6"	TSR-12060	TSR-22060	
7-1/2"	TSR-12075	TSR-22075	
10-1/2"	TSR-12105	TSR-22105	



Description

RTD thermoelements consist of a 1/4" diameter smooth bore measuring probe made of 316 stainless steel. An attached cable connects the thermoelement to the user's data acquisition system or to a signal conditioner to convert the RTD output to a linear analog signal. The cable is available in a variety of materials to match the environmental conditions and temperature measuring requirements. Both the thermoelement and the attached cable can be ordered in any length, based on the requirements of the application. In addition to the thermoelements, a DIN rail mounted analog temperature transmitter is available to provide a complete solution.



Technical Details: TSR-1000 Models

RTD Type:	Pt-100, 3-wire ($\alpha = 0.00385$)
Probe Diameter:	1/4"
Wire Material	
TSR-100K:	3 ft, PVC Jacketed, 3-wire, 22 AWG
TSR-100L:	3 ft, PTFE Jacketed, 3-wire, 22 AWG
TSR-120H:	3 ft, PTFE Jacketed, 3-wire, 22 AWG
TSR-140H:	3 ft, SS Armored/PTFE, 3-wire, 22 AWG
Measuring Range	
TSR-100K:	-10...212 °F
TSR-100L:	-58...390 °F
TSR-120H:	-320...1100 °F
TSR-140H:	-320...1100 °F

Technical Details: TSR-9000 DIN Rail Transmitters

Input Type:	Pt-100, RTD
Output:	4-20 mA, 2-wire
Power Supply:	10-36 V _{DC}
Accuracy:	± 0.1% of Span
Zero Drift:	± 0.0025% / °F
Span Drift:	± 0.0025% / °F
Open Circuit	
Detection:	Current Output > 23 mA
Packaging:	DIN Rail (NEMA 1)
Dimensions:	2.50" x 0.71" x 2.44"

Order Details*: TSR Thermoelements

Model	Description
TSR-100KS3450	3 ft, PVC Cable, -10...212 °F
TSR-100LS3450	3 ft, PTFE Cable, -58...390 °F
TSR-120HS3450	3 ft, PTFE Cable, -320...1100 °F
TSR-140HS3450	3 ft, SS Armored Cable, -320...1100 °F
Options	
..EC = Custom Cable Length (Specify Desired Cable Length when Ordering)	
Accessories	
TSR-FT44FH4BZSS	1/4" 316 SS bore through compression fitting, 1/4" NPT Male
TSR-FT48FH4BZSS	1/4" 316 SS bore through compression fitting, 1/2" NPT Male

* When Ordering, Please Also Specify the Desired Probe Length.

Order Details: TSR DIN Rail Transmitter

Model	Description	Options
TSR-9101	-58...120 °F	..E = Non-Standard Temp, Range (Specify Range)
TSR-9102	32...120 °F	
TSR-9103	32...212 °F	
TSR-9104	32...400 °F	
TSR-9105	32...600 °F	
TSR-9106	32...750 °F	
TSR-9107	32...1100 °F	

