

RTD12 is resistance temperature detector are ideal for applications where the metallic probe tip is inserted directly into drilled holes (such as machine components) or the process, especially when dealing with non-aggressive media or low abrasion environments. Additionally, RTDs are well-suited for monitoring temperatures in extruders, boilers, and bearing systems, providing reliable performance across diverse industrial environments.

Key Features

- Available in type Pt100, Pt100(0.00392), Pt200, Pt1000, Ni120 ohm.
- Available in Class B, Class A, Class AA, 1/10 DIN B (IEC 60751 & ASTM E1137)
- Single and Duplex Sensor elements.
- Range -196°C to 850°C (-320°F to +1562 °F)
- A wide selection of sheath materials to suit application requirements 316 SS, Inconel 600.
- Sheath diameter is available from 1/8" to 0.375" (3.2mm to 10.00mm).
- Mineral Insulated and Tube and wire design for low-temperature application.
- High Vibration resistance and ultra-temperature option available

Technical Specification

Insulation Resistance : 100 MG Ohms @ 250 vdc

Response Time : <5 Sec in circulating water @ 1ft/sec

Accuracy : As per IEC60751 (See tolerance chart)

Self Heating Error: < 0.30°F (0.17°C)

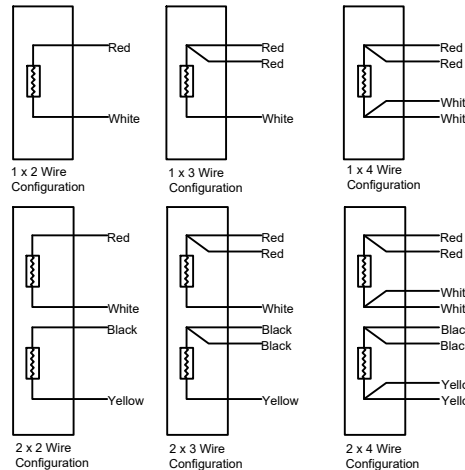
Time Constant : < 5 sec

RTD Wire Configuration

2 Wire: In 2 wire RTDs, one lead wire is connected to each wire of the RTD element. 2 Wire RTDs are an economical option for the applications where high accuracy is not required. Since there is no compensation wire, the accuracy of RTD can be affected if long lead wire is used.

3 Wire: 3 wire RTDs are the most common type of RTDs used in the industry. In 3 three-wire Rtd 1 wire is connected to the one side of the RTD element, and on the other side, 2 wires are connected to compensate for the resistance. With compensating wire, accuracy is very close to the element accuracy at the termination end.

4 wire: 4 wire RTDs are highly accurate. In 4 wire RTDs 2 wires are connected to each side of the RTD element. With additional wire on each side of the RTD element, the output at the termination is highly accurate. 4 wire RTDs are recommended where high accuracy and long lead wire is required.



RTD Type Available

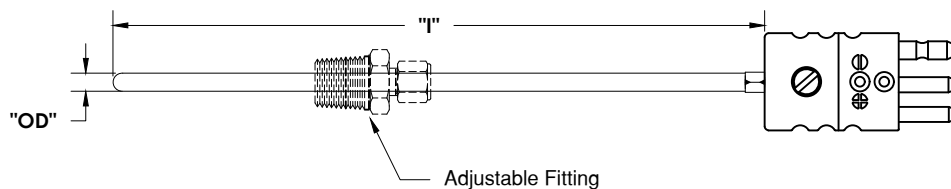
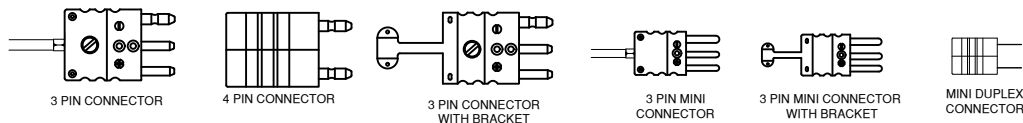
Element Type	Pt100	Pt200	Pt1000	Ni120
Wire Wound	X	X		
Thin Film	X		X	X
Alpha Value	IEC 0.00385 JIS 0.00391	IEC 0.00385 JIS 0.00391	IEC 0.00385	0.00672

Our RTD class offerings and Tolerance as per IEC60751 (pt100)

Tolerance Class	Temperature Range °C		Tolerance Values Ω	Tolerance values °C
	Wire Wound	Thin Film		
AA	-50 TO +250	0 TO +150	±0.04	± (0.1 + 0.0017 t)
A	-100 TO +450	-30 TO +300	±0.06	± (0.15 + 0.002 t)
B	-196 TO +600	-50 TO +500	±0.12	± (0.3 + 0.005 t)
C	-196 TO +600	-50 TO +600	±0.23	± (0.6 + 0.01 t)
a t = modulus of temperature in °C without regard to sign				
For 1/10 DIN B RTD is not standardize. The only accuracy defined is 1/10 of Class B accuracy at 0°C = 0.03°C				

Tolerance Chart pt100 (IEC60751)

Temperature	Class B±	Class A±	Class AA± (1/3 DIN B)	Class 1/10 DIN B±
-50° C	0.55	0.25	0.19	0.060
0° C	0.30	0.15	0.10	0.030
100° C	0.80	0.35	0.27	0.070
200° C	1.30	0.55	0.44	0.120
250° C	1.55	0.65	0.53	0.160
300° C	1.80	0.75	0.61	0.220
350° C	2.05	0.85	0.70	-
400° C	2.30	0.95	0.78	-
450° C	2.55	1.05	0.87	-
500° C	2.80	1.15	0.95	-
550° C	3.05	1.25	1.04	-
600° C	3.30	1.35	1.12	-
650° C	3.55	1.45	1.21	-

**Termination options-**

	1	2	3	4	5	6	7	8	9	10	11	12
RTD12												

For Example- RTD12-01-A-S-03-LT-3-8-11.5i-0-TPP-0-0

1. RTD TYPE	
CODE	
01	Pt100 Ohm, 0.00385, Coefficient
02	Pt100 Ohm, 0.00392, Coefficient
03	Pt200 Ohm, 0.00385, Coefficient
04	Pt1000 Ohm, 0.00385 Coefficient
05	Ni120 Ohm, 0.00672 Curve Class B Only (Only Available in Low temp)

2. RTD ACCURACY	
CODE	
B	Class "B"
A	Class "A"
AA	Class "AA" (Available only for RTD type 01,02)
1/10	Class 1/10 DIN B (Available only for RTD type 01,02)

3. SENSOR ELEMENT	
CODE	
S	Single
D	Dual

4. WIRE CONFIGURATION	
CODE	
02	2 wire
03	3 wire
04	4 wire
06	Dual 6 wire
08	Dual 8 wire

5. TEMPERATURE RANGE	
CODE	
LT	-50°C to 250°C
MT	-50°C to 485°C
HT	-196°C to 600°C
UT	-196°C to 700°C

6.SHEATH OD		
CODE	IMPERIAL SIZE	METRIC SIZE
2	1/8"	3.2 mm
3	3/16"	4.76 mm
4	1/4"	6.35 mm
5	5/16"	7.9mm
6	3/8"	9.5 mm
7	0.215"	5.46 mm
2M	0.079"	3.0mm
3M	0.197"	5.0mm
4M	0.236"	6.0 mm
5M	0.315"	8.0mm
6M	0.354"	9.0 mm
7M	0.394"	10.0 mm

7. SHEATH MAT.	
CODE	
8	SS 316
3	INCONEL 600 (For High Temp RTD)

8. IMMERSION LENGTH (I)	
Immersion length - use "I" for inches and "M" for millimetre	

9. PROCESS FITTING	
CODE	
0	Not Required
9-1. MATERIAL	
S	Stainless Steel
B	Brass
M	Mild Steel
9-2. SIZE	
2	1/8"
4	1/4"
6	3/8"
8	1/2"
18	M18 X 1.5
20	M20 X 1.5

9. PROCESS FITTING	
9-3. THREAD TYPE	
N	NPT
B	BSP
Leave blank for metric thread	
9-4. FERRULE MATERIAL	
	Leave Blank for SS
T	Teflon

10. CODES FOR TERMINATION	
CODE	
Z	Bare ends (2 " Stripped leads)
TPP	3 Pin Standard Plug
MTPP	Miniature 3 Pin Plug
FPP	4 Pin Standard Plug

11. CODES FOR TERMINATION (JACK)	
CODE	
0	Not required
TPJ	3 Pin Standard Jack
MTPJ	Miniature 3 Pin Jack
FPJ	4 Pin Standard Jack

12. OPTIONAL ACCESSORY	
CODE	
0	Not required
WC	Wire clamp
TA	Tube Adapter
BT	Silicon rubber boot for connector
Only choose when ordering with connector	

ACCESSORY

Standard Connector Tube Adapter