

## RTD15-Replacement Resistance Temperature Detector Probe for Industrial Assemblies RTD70, RTD80.

## TEMPERATURE SENSOR

**RTD15** is a resistance temperature detector used as a replacement element in industrial assemblies like RTD70,RTD71 & RTD80 . These elements can be ordered with or without the spring-loaded fittings. It is a effective option when the thermowell and other components are still in good condition.

### Key Features

- Available in type Pt100,Pt100(0.00392),Pt200,Ni20 ohm .
- Available in Class B, Class A, Class AA, 1/10 DIN B(IEC 60751& ASTM E1137)
- Single and Duplex Sensor elements.
- Range -196 to 600°C ( -320 ... +1,112 °F)
- A wide selection of sheath materials to suit application requirements 304 SS,310 SS,321 SS 316 SS, Inconel 600.
- Sheath diameter is available from 1/8" to 0.375"(3.2mm to10.00mm).
- Mineral Insulated and Tube and wire design for low-temperature application.
- High Vibration resistance and ultra-temperature option available
- Oil Seal spring loaded option variable
- NPT and BSP Thread options

### 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)

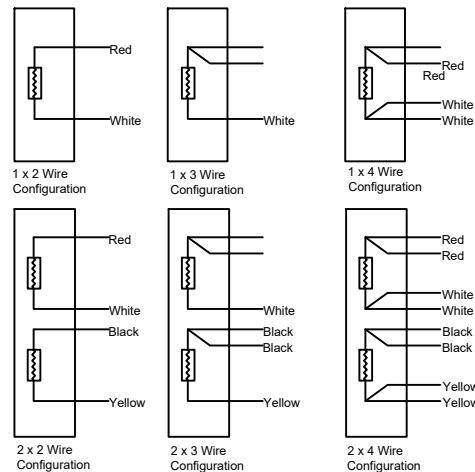
Time Constant : < 5 sec

### 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

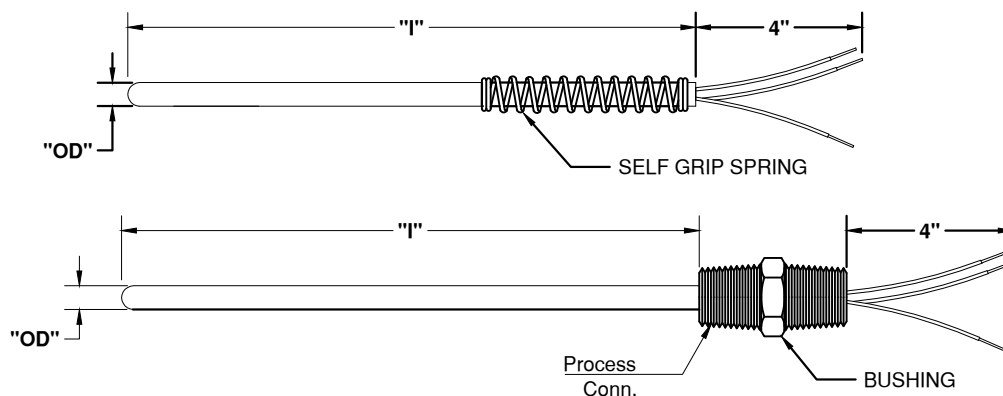
Element Type	Pt100	Pt200	Pt1000	Ni120
Wire Wound	X	X		
Thin Film	X		X	X
Alpha Value	IEC 0.00385 JIS 0.00391	IEC 0.00385 JIS 0.00391	IEC 0.00385	0.00672

### 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	-



	1	2	3	4	5	6	7	8
RTD15								

For Example- RTD15-01-A-S-02-LT-4-8-12i-02

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)
$\chi_0$	Class $\chi_0$ 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	$\frac{1}{8}$ "	3.2 mm
3	$\frac{3}{16}$ "	4.76 mm
4	$\frac{1}{4}$ "	6.35 mm
5	$\frac{5}{16}$ "	7.9mm
6	$\frac{3}{8}$ "	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
4	SS 310
9	SS 304
6	SS 321

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

9. ELEMENT BUSHING STYLE	
CODE	
0	Not required
02	Spring Loading bushing
03	Oil seal spring load bushing

10. BUSHING SIZE	
CODE	HEAD CONN. X PROCESS CONN.
55	$\frac{1}{2}$ " NPT X $\frac{1}{2}$ " NPT
57	$\frac{1}{2}$ " NPT X $\frac{3}{4}$ " NPT
5M	$\frac{1}{2}$ " NPT x M20 X1.5