RTD13- Resistance Temperature Detector Cut to Length Style with Lead wire

TEMPERATURE SENSOR

RTD13 series sensors are designed as quick, temporary replacements for malfunctioning RTD sensors, making them ideal for applications where minimizing downtime is crucial. These sensors offer a cost-effective solution, as they are available in predetermined lengths that can be cut to fit specific needs, reducing the need to stock various RTD lengths. Primarily intended as a quick fix for failed sensors within thermowell assemblies, the cut-to-length RTDs are recommended for short-term use until a permanent replacement can be installed. This provides a practical, flexible option for maintaining operations with minimal disruption.

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 -50°C to 485°C (-58°F t o 905 °F)
- Sheath diameter is available from 1/8″ to 0.394″(3.2mm to10.00mm).
- Adjustable Compression fitting and spring loaded holder 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)

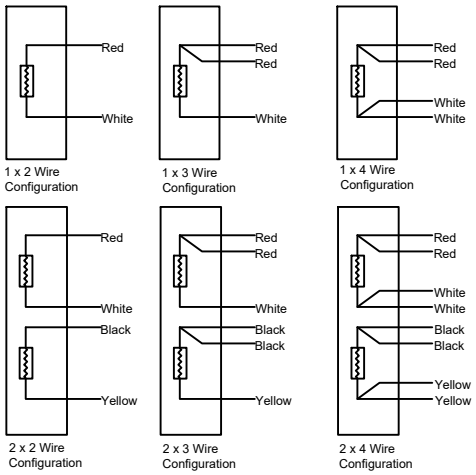
Time Constanat : < 5 sec

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	Tolerance
	Wire Wound	Thin Film	Values Ω	values °C
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	-

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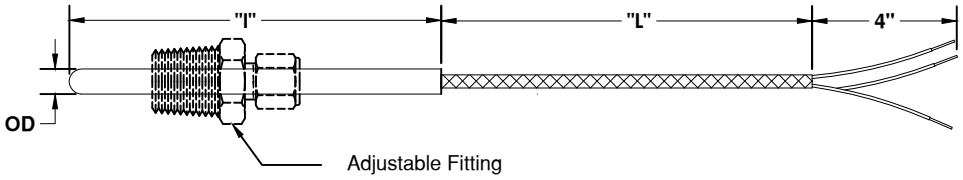
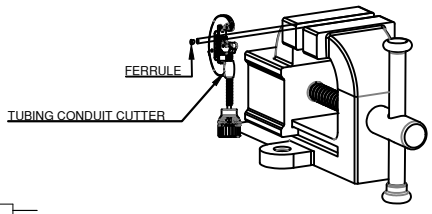
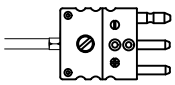
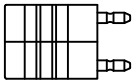
TEMPERATURE SENSOR

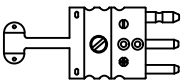


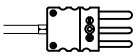


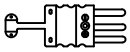
Termination options-


3 PIN CONNECTOR


4 PIN CONNECTOR


3 PIN CONNECTOR WITH BRACKET


3 PIN MINI CONNECTOR


3 PIN MINI CONNECTOR WITH BRACKET


MINI DUPLEX CONNECTOR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RTD13															

For Example- RTD13-01-A-S-03-LT-4-8-24i-48i-0-2-Z-0-0-0

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)

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

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

6. SHEATH OD		
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

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

9. LEAD LENGTH (L)
Lead length - use "I"for inches and "M"for millimetre

10. PROCESS FITTING	
CODE	
0	Not Required
10-1. MATERIAL	
S	Stainless Steel
B	Brass
M	Mild Steel
10-2. SIZE	
2	1/8"
4	1/4"
6	3/8"
8	1/2"
10-2. SIZE	
18	M18 X 1.5
20	M20 X 1.5
10-3. THREAD TYPE	
N	NPT
B	BSP
Leave blank for metric thread	

10. PROCESS FITTING	
10-4. FERRULE MATERIAL	
	Leave Blank for SS
T	Teflon

11. WIRE TYPE	
CODE	
2	TEFLON (205° C)
6	TEFLON (260° C)
3	FIBRE GLASS (510° C)
NOTE:- Add "O" for no jacketing. Add "X" for SS braiding & "Z" for Armor	

12. CODES FOR TERMINATION	
CODE	
Z	Bare ends
TPP	3 Pin Standard Plug
MTPP	Miniature 3 Pin Plug
FPP	4 Pin Standard Plug
RM	M12 Round Connector Male

13. CODES FOR TERMINATION (JACK)	
CODE	
0	Not required
TPJ	3 Pin Standard Jack
MTPJ	Miniature 3 Pin Jack
FPJ	4 Pin Standard Jack
RF	M12 Round Connector Female

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

15. CUSTOM	
CODE	
0	Standard
CTL	Cut to Length
Standard Tube length only Available in 3/16", 1/4", 3/8" OD	
NOTE:- Cut to length is only available in the model without armour lead wires	