EMB- Embedment Resistance Temperature Detector for Bearing Temperature

TEMPERATURE SENSOR

EMB-RTD ; Embedment style resistance temperature detector specifically designed for bearing temperature or other rotating shafts temperature. Probe tip is inserted directly into drilled holes (such as bearing housing,machine components) or the process. With small button type design these rtds can be installed at norrow and small spaces. TempoTech Embedment RTDs comes in three tip styles A, B, C and D to use in all types of application. Typically embedment rtds are installed close to the Babbitt layer of the bearing shoe for accurate bearing temperature measurement.

Key Features

- Available in type Pt100,Pt1000,Ni120 ohm .
- Type Style A, B, C and D.
- Available in Class B, Class A (IEC 60751& ASTM E1137)
- Single and Duplex Sensor elements.
- Range -50°C to 260°C (-58°F to +500 °F)
- Sheath diameter is available 0.275,0.250,0.125 and 0.080 Inch.
- High Vibration resistance design.
- Available with Hazardous Approvals Class 1, Div. 2.

Technical Specification

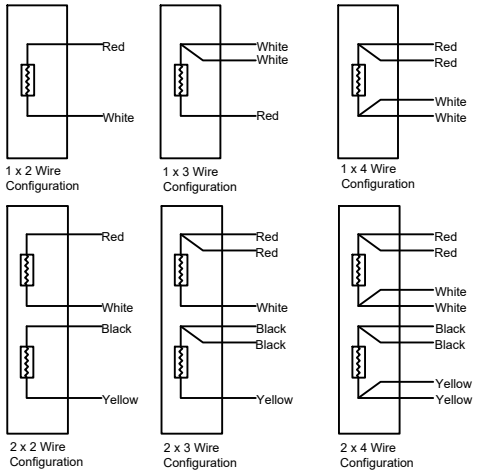
Insulation Resistance : 100 MG Ohms @ 250 vdc
Response Time : <5 Sec in circulating water @ 1ft/sec
Accuracy : As per IEC60751 (See tolerance chart)
Self Heating Error: < 0.30°F (0.17°C)
Time Constanat : < 3 sec

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
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				

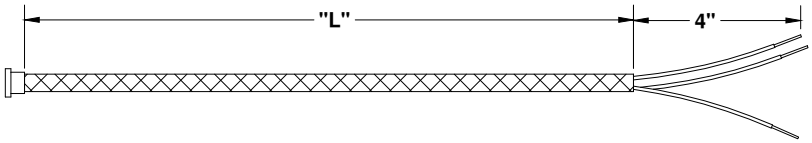
Tolerance Chart pt100 (IEC60751)

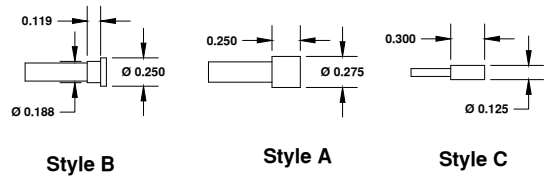
Temperature	Class B±	Class A±	Class AA± (1/3 DIN B)	Class 1/10 DIN B±
-50° C	0.55	0.25	0.19	0.060
0° C	0.30	0.15	0.10	0.030
100° C	0.80	0.35	0.27	0.070
200° C	1.30	0.55	0.44	0.120
250° C	1.55	0.65	0.53	0.160
300° C	1.80	0.75	0.61	0.220
350° C	2.05	0.85	0.70	-
400° C	2.30	0.95	0.78	-
450° C	2.55	1.05	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	-

EMB- Embedment Resistance Temperature Detector for Bearing Temperature

TEMPERATURE SENSOR

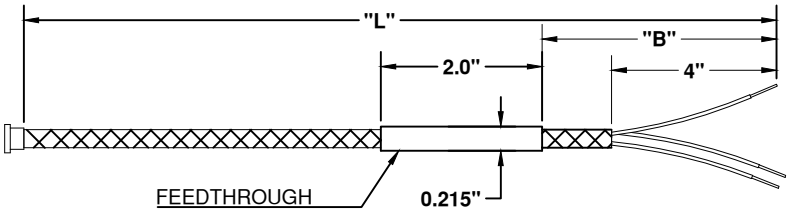
WITHOUT FEEDTHROUGH

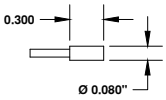




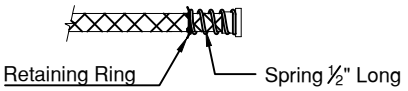
Style B Style A Style C

WITH FEEDTHROUGH





Style D



	1	2	3	4	5	6	7	8	9
EMBRTD									

For Example- EMBRTD-PT-A-S-04-B-48i-PFX-12i-RS

1. RTD TYPE	
CODE	
PT	Pt100 Ohm, 0.00385, Coefficient
PTK	Pt1000 Ohm, 0.00385 Coefficient
NI	Ni120 Ohm, 0.00672 Curve Class B Only (Only Available in Low temp)

2. RTD ACCURACY	
CODE	
B	Class "B" (For Ni120)
A	Class "A" (For PT100)

3. SENSOR ELEMENT	
CODE	
S	Single
D	Dual

4. WIRE CONFIGURATION	
CODE	
02	2 wire (Red White)
03	3 wire (Red/Red/White) STD
04	3 wire (Red/White/White) STD
05	4 wire(Red/Red/White/White)
06	6 wire (4Red/2Red) Dual Element
07	6 wire (Red/Red/White/ Black/Black/Yellow)Only available with Dual Element

5. CASING STYLE	
CODE	
A	0.275" OD x 0.250" Long
B	0.188" OD x 0.250" Long x 0.250" Flange
C	0.125" OD x 0.300" Long

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

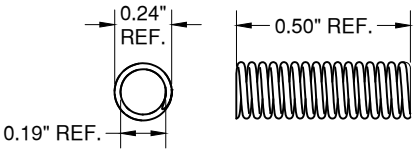
7. WIRE TYPE	
CODE	
PFO	PFA Insulated Leads only
PF	PFA Insulated leads and jacket
PFX	PFA Insulated leads and jacket with SS overbraid

8. TAIL LENGTH (T)	
CODE	
0	If ordering without Feedthrough
Tail Length - use "I" for inches and "M" for millimetre	

9. ACCESSORY	
CODE	
0	Not required
RS	Retaining ring and Spring

ACCESSORIES

1.SPRING



2. RETAINING RING