RTD21- Nozzle Resistance Temperature Detector with Lead Wire	**TEMPERATURE SENSOR**

RTD21 series from Tempotech Controls, featuring a threaded nozzle design, is commonly used for measuring the temperature of an injection molding machine nozzle. This style does not come into direct contact with molten plastic. Due to its compact size, it is also suitable for use in other applications with limited space, such as mounting in bearing housings, sealing bars, and heat plates. Custom elements with different materials, values, and tolerances are available upon request for specific needs.

Key Features

- Available in type Pt100,Pt1000.
- Available in Class B, Class A (IEC 60751& ASTM E1137)
- Single and Duplex Sensor elements.
- Range -50°C to 510°C (-58°F to 1,112 °F)
- Standard bolt size 1/4"-20 & M6 X 1.75 custom option available
- TEFLON (200°C and Fiber Glass wire 480°C with SS braiding and Armours available

Technical Specification

Insulation Resistance : 100 MG Ohms @ 250 vdc

Response Time : <5 Sec in circulating water @ 3ft/sec

Accuracy : As per IEC60751 (See tolerance chart)
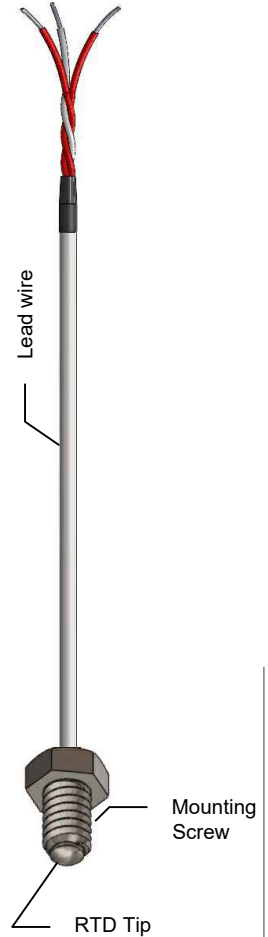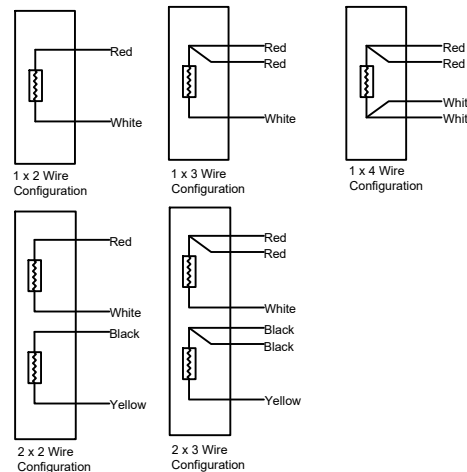
Self Heating Error: < 0.30°F (0.17°C)

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.


1 x 2 Wire Configuration
1 x 3 Wire Configuration
1 x 4 Wire Configuration
2 x 2 Wire Configuration
2 x 3 Wire Configuration

Lead wire
Mounting Screw
RTD Tip

RTD Type Available

Element Type	Pt100	Pt200	Pt1000	Ni120
``	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)**

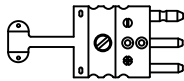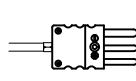| Tolerance Class	Temperature Range °C		Tolerance Values Ω	Tolerance values °C
	Wire Wound	Thin Film		
AA	-50 TO +250	0 TO +150	±0.04	± (0.1 + 0.0017 |t|)
A	-100 TO +450	-30 TO +300	±0.06	± (0.15 + 0.002 |t|)
B	-196 TO +600	-50 TO +500	±0.12	± (0.3 + 0.005 |t|)
C	-196 TO +600	-50 TO +600	±0.23	± (0.6 + 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	-

TEMPOTECH

BOLT SIZE

Strain Relief Spring
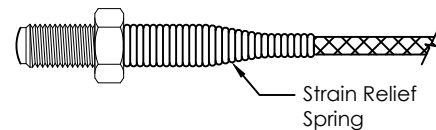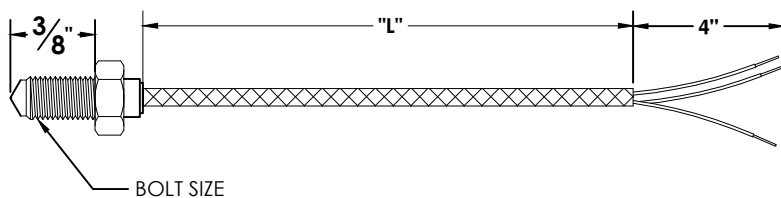
Termination options-
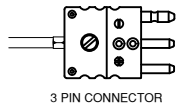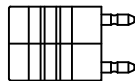
3 PIN CONNECTOR 4 PIN CONNECTOR 3 PIN CONNECTOR WITH BRACKET 3 PIN MINI CONNECTOR 3 PIN MINI CONNECTOR WITH BRACKET MINI DUPLEX CONNECTOR
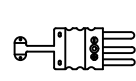
	1	2	3	4	5	6	7	8	9	10	11	12	13
RTD21													

For Example- RTD21-01-A-S-03-LT-8-32i-01-2X-Z-0-0

1. RTD TYPE

CODE	
01	Pt100 Ohm, 0.00385, Coefficient
04	Pt1000 Ohm, 0.00385 Coefficient

2. RTD ACCURACY

CODE	
B	Class "B"
A	Class "A"

3. SENSOR ELEMENT

CODE	
S	Single
D	Dual

4. WIRE CONFIGURATION

CODE	
03	3 wire
04	4 wire
06	Dual 6 wire

5. TEMPERATURE RANGE

CODE	
LT	-50°C to 250°C, Thin Film
MT	-50°C to 485°C, Thin Film

6. SHEATH MAT.

CODE	
8	SS 316 / SS 304

7. LEAD LENGTH (L)

Lead length - use "I" for inches and "M" for millimetre

8. BOLT SIZE

CODE	
01	¼" - 20
02	M6 X 1.75
09	Specify if any other size

9. 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	

10. CODES FOR TERMINATION

CODE	
Z	Bare ends
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
02	Strain relief spring

13. OPTIONAL ACCESSORY

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