

## Resistance Temperature Detectors (RTDs)

Resistance Temperature Detectors (RTD's). These detectors are frequently used in the plastics industries and many others. Care must be taken to eliminate moisture and vibration effects can be troublesome as well. Thermo Sensors provides the utmost in current state of the art in materials, techniques and research.

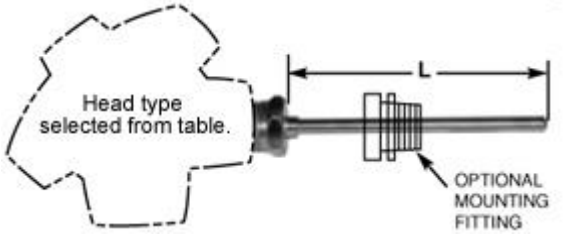
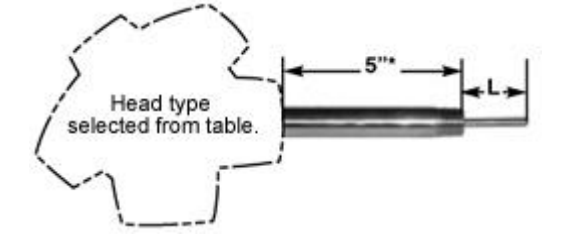
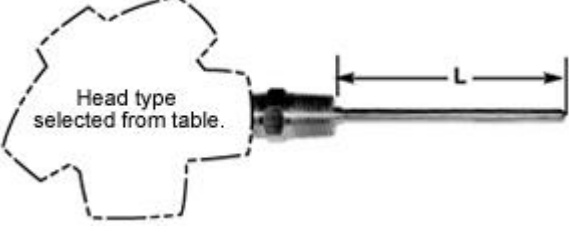
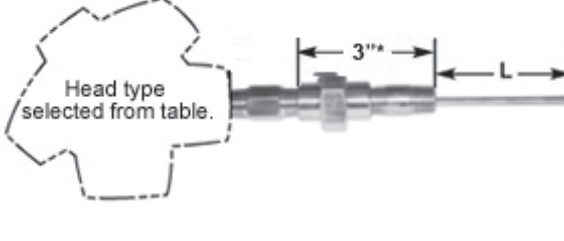
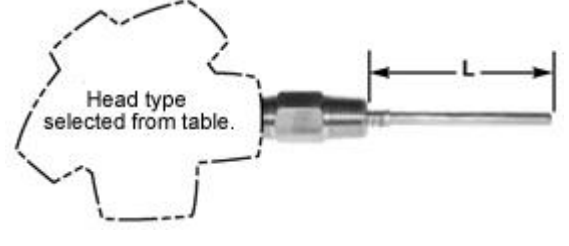
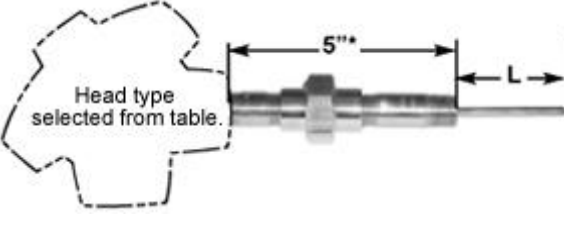
Thermo Sensors offers the Reliatemp RTD. This RTD features lifetime moisture free use as well as excellent vibration resistance.

Please refer to our order guide to assist in determining your needs. We can also provide technical design assistance and application suggestions. Give us a call.



## Terminal Head Connected RTD Assemblies

Table A

<p><b>Figure 1</b></p>	<p>RTD Assembly without Process Fitting</p>	<p><b>Figure 4</b></p>	<p>Spring-Loaded RTD Assembly with 1/2" NPT Pipe Nipple Extension</p>
			
<p><b>Figure 2</b></p>	<p>RTD Assembly with 1/2" NPT Process Fitting</p>	<p><b>Figure 5</b></p>	<p>Spring-Loaded RTD Assembly with 1/2" NPT Hex Fitting/Union Nipple Extension</p>
			
<p><b>Figure 3</b></p>	<p>Spring-Loaded RTD Assembly with 1/2" NPT Process Fitting</p>	<p><b>Figure 6</b></p>	<p>Spring-Loaded RTD Assembly with 1/2" NPT Nipple/Union/Nipple Extension</p>
			

\* For custom extension length, add desired length as suffix to basic order code. Variable lengths only available in figure 4, 5 and 6  
 Example: 5046, for 6" long extension.

\*\* Fitting/Extension shown in figures 1, 2, 3, & 5 only available in stainless steel.

\*\*\* Hockey puck transmitter will fit these heads (see accessories section)






\*\*\*\* For corrosion resistance, epoxy coating can be ordered on there head option, Add "EC" as suffix to basic order code. Example: 300EC.

- If connection head is not required, simply insert figure number as basic order code Example:

**How to Order:**

Pgs. 6-8	Page 9						Page 10	TW Section	
Basic Order Code	Sensor Diameter	Element	Tolerance	Temp. Range	Sheath Mate	Lead Conn.	"L" Length	Options	Order Code for Thermowell
104	4	A	1	B	1	C	12	2AS	If required (see Thermowell section)
Table A	Table B	Table C	Table D	Table E	Table F	Table G	Table H	Table I	

Table 4 continued

Type of Head	Head Material	Basic Order Code					
		Figure 1	Figure 2	Figure 3	Figure 4	Figure 5	Figure 6
 <p>Industrial Weatherproof Screw Cover Head</p>	Cast Aluminum	100	200	300	400	500	600
 <p>3/4" Conduit Epoxy Coated Weatherproof Screw Cover Head</p>	Cast Iron	102	202	302	402	502	602
 <p>General Purpose Weatherproof Screw Cover Head For Flip Top Style, add suffix "F" to basic order code</p>	Cast Aluminum	104	204	304	404	504	604
 <p>1/2" Conduit Corrosion Resistant Weatherproof Screw Cover Head For Flip Top Style, add suffix "F" to basic order code</p>	Nylon	106	206	306	406	506	606
 <p>CSA / ATEX / FM Approved Explosion Proof Head meets NEC Class I Div I Groups B, C, D Class II Div I, Groups E, F, G NEMA 4X, 7, 9, II2G, Ex d, IIC, Gb, II2 D, Ex tb, IIC Db, IECEx</p>	Cast Aluminum	108	208	308	408	508	608
	316 Stainless Steel	110	210	310	410	510	610

## RTD Assembly Specifications

**Table B (sensor diameter)**

Sensor Diameter		Order Code
1/8"	(.125")	2
3/16"	(.188")	3
1/4"	(.250")STD	4
5/16"	(.312")	5
3/8"	(.375")	6

**Table C (element)**

Resistance 0°C	Material	Temperature Coefficient/Alpha (a)	Order Code	
			Single Element	Dual Element
100Ω	Platinum	.00385Ω/Ω°C	A	2A
100Ω	Platinum	.003916Ω/Ω°C	B	2B
100Ω	Platinum	.003902Ω/Ω°C	C	2C
98.129Ω (100Ωnom-)	Platinum Sama Standard RC21-4-1966	.00392Ω/Ω°C	D	2D
120Ω	Nickel	.00672Ω/Ω°C	E	2E
9.035Ω	Copper	.00427Ω/Ω°C	F	2F

**Table D (tolerance)**

Accuracy at 0°C	Order Code	
± .12%	Class B	1
± .06%	Class A	2
± .03%	Lab Grade	3
± .02%	Lab Grade	4
± .01%	Lab Grade	5

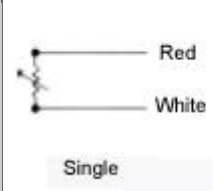
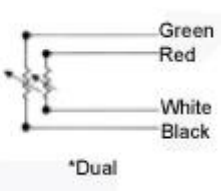
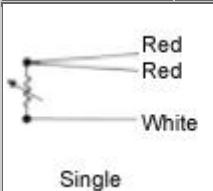
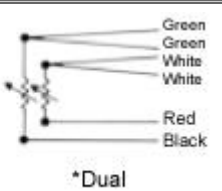
**Table E (temperature range)**

Temperature Range	Order Code
-50 to +250 Deg. C -58 to +482 Deg. F	A
-50 to +400 Deg. C -58 to +752 Deg. F	B
-50 to +660 Deg. C -58 to +1220 Deg. F	C

**Table F (sheath material)**

Sheath Material	Order Code
316 SS	1
Alloy 600	2
Alloy C-276	3

**Table G (lead connection)**

2-Wire	Order Code A
 <p>Single</p>	 <p>*Dual</p>
3-Wire	Order Code B
 <p>Single</p>	 <p>*Dual</p>
4-Wire	Order Code C

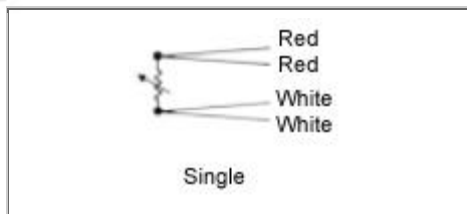


Table H (length)

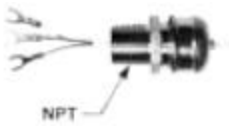
Specify "L" in Inches  
Length Not required when Thermowell is used.


### Optional Connections




(For extended lead types)

Table I (options)

	Description	Order Code
	Spade Lugs for #8 Screw	L
	Male Plug	M
	Two - 2 Pin connectors mounted in tandem will be furnished for both styles of 4-wire single element assemblies.	
	Dual element assemblies will have the same connector arrangements except Doubled.	
	Female Jack	F
	Watertight connector	1/2" NPT W1
		3/4" W3

	Watertight connector with lugs for #8 screws	NPT	
		1/2" NPT	WL1
		3/4" NPT	WL3

Optional Mounting Fittings		
Description	NPT	Order Code
	1/8"	1AS
	1/4"	2AS
	3/8"	3AS
	1/2"	4AS
	3/4"	6AS
For Teflon readjustable insert, replace "A" with "R" Example: 4RS		

Optional Spring-Loaded Devices	
Description	Order Code
 Adjustable Spring	FP 275
 1/2" NPT Double threaded adjustable hex bushing	FP 240
 1/2" NPT single threaded adjustable hex bushing	