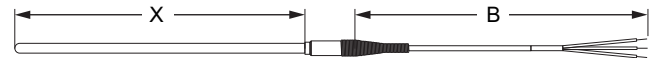
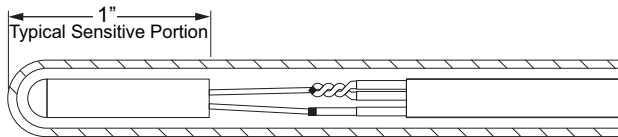


# RTD

## Configuration Code RT01 RTD Assemblies with Extension Leadwire Configuration Code RT02 RTD Assemblies with Sheath Terminations

The RTD elements illustrated and described on this page are designed to measure temperature in a variety of process and laboratory applications. These RTDs are specifically designed for use in two different process temperature ranges and will provide accurate and repeatable temperature measurement through a broad range. Low range RTDs are constructed using Teflon® insulated silver plated copper internal leads, with potting compounds to resist moisture penetration. High range RTDs are constructed with nickel internal leads inside swaged MgO insulated cable to allow higher temperature measurements at the RTD element and to provide higher temperature lead protection along the sheath. The following tables allow customer selection of standard element materials, initial accuracies, sheath materials and diameters, mounting fittings and terminations. Custom built assemblies with non-standard specifications are available upon request.



### ORDER CODES

**Example Order Number:**

1-1      1-2      1-3      1-4      Page      Page      Page      Page  
**R5T185L 48 3 - 006 - RTD-2 - RTD-3 - RTD-4 - RTD-5**

#### 1-1 Single Platinum RTD Elements

CODE	INITIAL ELEMENT ACCURACY @ 0 °C	BASE RESISTANCE @ 0 °C	TEMPERATURE COEFFICIENT	1-2 Available Sheath Diameters 316SS			
				CODE	1/8" OD	3/16" OD	1/4" OD
<i>LOW RANGE WIRE WOUND (-200 to 204) °C [-328 to 400] °F</i>							
R1T185L	± 0.1%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
R3T185L	± 0.03%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
R5T185L	± 0.01%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
R1T192L	± 0.1%	100 Ω	$\alpha = 0.00392 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
R3T192L	± 0.03%	100 Ω	$\alpha = 0.00392 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
R1T125L	± 0.1%	200 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	N/A	38	48	68
<i>LOW RANGE THIN FILM (-40 to 204) °C [-40 to 400] °F</i>							
RBF185L	± 0.12%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
RAF185L	± 0.06%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
RBF155L	± 0.12%	500 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
RBF195L	± 0.12%	1000 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
<i>HIGH RANGE WIRE WOUND (-200 to 600) °C [-328 to 1112] °F</i>							
R1T185H	± 0.1%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68
R1T192H	± 0.1%	100 Ω	$\alpha = 0.00392 \text{ } ^\circ\text{C}^{-1}$	28	38	48	68

#### 1-4 Length

CODE
3 Digit 'X' Length

#### 1-3 Element Connection

CODE	DESCRIPTION
2	2 wire
3	3 wire
4 <sup>[1]</sup>	4 wire

[1] Not available in duplex

#### 1-1 Duplex Platinum RTD Elements

CODE	INITIAL ELEMENT ACCURACY @ 0 °C	BASE RESISTANCE @ 0 °C	TEMPERATURE COEFFICIENT	1-2 Available Sheath Diameters 316SS		
				CODE	3/16" OD	1/4" OD
<i>LOW RANGE WIRE WOUND (-200 to 204) °C [-328 to 400] °F</i>						
R1T285L	± 0.1%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	38	48	68
R3T285L	± 0.03%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	38	48	68
R5T285L	± 0.01%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	38	48	68
R1T292L	± 0.1%	100 Ω	$\alpha = 0.00392 \text{ } ^\circ\text{C}^{-1}$	38	48	68
R3T292L	± 0.03%	100 Ω	$\alpha = 0.00392 \text{ } ^\circ\text{C}^{-1}$	38	48	68
<i>LOW RANGE THIN FILM (-40 to 204) °C [-40 to 400] °F</i>						
RBF285L	± 0.12%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	38	48	68
RAF285L	± 0.06%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	38	48	68
RBF295L	± 0.12%	1000 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	38	48	68
<i>HIGH RANGE WIRE WOUND (-200 to 600) °C [-328 to 1112] °F</i>						
R1T285H	± 0.1%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	38	48	68
R1T292H	± 0.1%	100 Ω	$\alpha = 0.00392 \text{ } ^\circ\text{C}^{-1}$	38	48	68

#### 1-2A

CODE	NOMINAL SHEATH DIAMETER (inches)	TIP DIA. OD (inches)	TIP LENGTH (inches)
88R48	1/2	1/4	1 1/4
68R38	3/8	3/16	1 1/4
48R28	1/4	1/8	1 1/4

#### REDUCED TIP RTD's

Table 1-2A lists RTD elements with reduced tip sheaths. To order, use order code numbers from Tbl. 1-2A in place of straight sheath order code numbers from Tbl. 1-2. Other reduced tips are available upon request. EXAMPLE: R1T185L88R483-006.

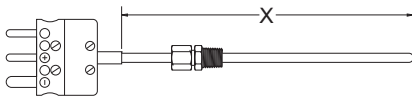
Consult factory for other RTD types.

**Pyromation, Inc.**

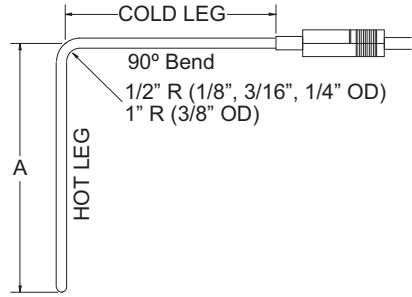
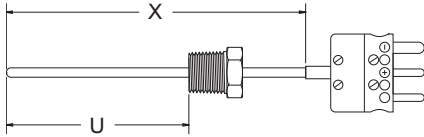
© Copyright 2006 Pyromation, Inc., All Rights Reserved.

Select Sheath Mounting or Bend Options as desired from tables below.

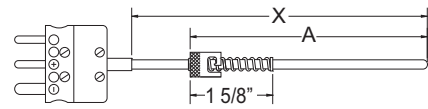
### COMPRESSION FITTING



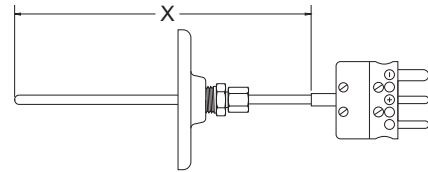
### FIXED BUSHING



### BAYONET CAP and SPRING (OPTION 13A)



### ADJUSTABLE FLANGE (OPTION 14)



## ORDER CODES

Example Order Number:

R5T185L483-006 -

2  
01A,304

PAGE  
RTD 3

PAGE  
RTD 4

PAGE  
RTD 5

### 2-1 No Fitting or Bend Options

CODE	00
------	----

### 2-2 One-time Adjustable Compression Fittings

CODE	TYPE	NPT SIZE (inches)	PRESSURE RATED	AVAILABLE SHEATH DIAMETERS (inches)
01A	303 stainless steel	1/8	NO	1/8, 3/16, 1/4
05A	316 stainless steel	1/8	YES	1/8, 3/16, 1/4
05B	316 stainless steel	1/4	YES	1/8, 3/16, 1/4, 3/8
05C	316 stainless steel	1/2	YES	1/8, 1/4, 3/8
15A	Brass	1/8	NO	1/8, 3/16, 1/4
15B	Brass	1/4	NO	3/16, 1/4, 3/8
15C	Brass	1/2	NO	1/4, 3/8

### 2-3 Re-adjustable Compression Fittings

CODE	TYPE	NPT SIZE (inches)	AVAILABLE SHEATH DIAMETERS (inches)
10A	303 stainless steel	1/8	1/8, 3/16
10B	303 stainless steel	1/4	1/4, 3/8
10C	303 stainless steel	1/2	1/4, 3/8
12A	316 stainless steel	1/8	1/8, 3/16, 1/4
12B	316 stainless steel	1/4	1/8, 3/16, 1/4, 3/8
12C	316 stainless steel	1/2	1/8, 1/4, 3/8
11A	Brass	1/8	1/8, 3/16, 1/4
11B	Brass	1/4	1/8, 3/16, 1/4, 3/8
11C	Brass	1/2	1/4, 3/8
19C	Spring loaded SS well fitting	1/2	3/16, 1/4

Teflon® gland standard 204 °C [400 °F] max. For lava gland 649 °C [1200 °F] max. opt. 10A and 10B only use letter suffix "L" after compression fitting order code. EX: 10AL for lava gland.

### 2-6 Miscellaneous Options

CODE	TYPE	AVAILABLE SHEATH DIAMETER (inches)
13A __ [1]	Spring-loaded bayonet fitting	1/8, 3/16
14	Adjustable flange with brass compression fitting	1/8, 3/16, 1/4, 3/8
16A	Spring-loaded adjustable bayonet compression fitting	1/8

[1] When ordering fixed bayonet fitting specify dimension "A". EX: order code 13A06 is for a fixed bayonet adapter with 6" A Dimension.

### 2-5 Fixed Bushings

CODE	MOUNTING THREAD NPT (inches)	AVAILABLE SHEATH DIAMETERS (inches)
316 SS		
8A __ [1]	1/8	1/8, 3/16, 1/4
8B __ [1]	1/4	1/8, 3/16, 1/4, 3/8
8C __ [1]	1/2	1/8, 3/16, 1/4, 3/8
8D __ [1]	3/4	1/8, 3/16, 1/4, 3/8

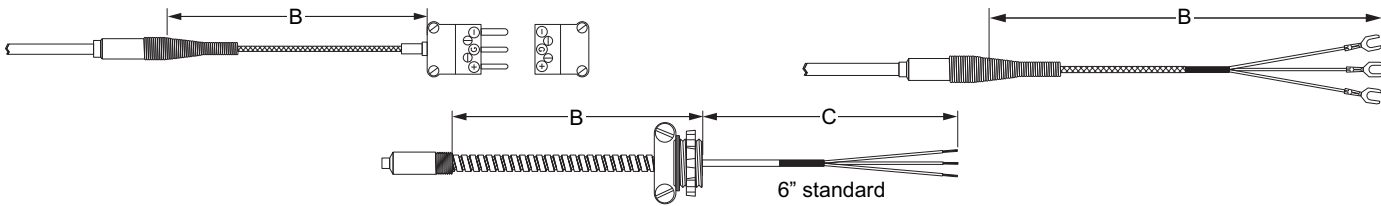
[1] When ordering fixed bushings, specify order code above, plus insertion length "U", as measured from hot tip to bottom of threaded bushing. EX: order code 8A06 is 1/8" NPT, 316 SS bushing located 6" from hot tip.

### 2-4 Sheath Bends

CODE	DESCRIPTION
2 __	Sheath bent 45°
3 __	Sheath bent 90°
2" minimum hot leg length	
When ordering bend options, specify hot leg dim. "A". Ex: order code 206 is a 45° bend with 6" hot leg. Total sheath length is Table 1 "X" length = hot leg plus cold leg.	



Select desired leadwire type by order code number, followed by desired length in inches.



## ORDER CODES

Example Order Number:

**R5T185L483-006-01A,304-16**

**T3 036**

**PAGE  
RTD 5**

### 4 Extension Leadwire Type and B + C Dimension

CODE	DESCRIPTION	TEMP. RATING
<b>FIBERGLASS</b>		
F3J___	Fiberglass insulation - individual leads - stranded conductor (12" limit)	482 °C [900 °F]
F3___	Fiberglass insulation - stranded conductor	
F3A___	Fiberglass insulation - stranded conductor - flexible armor	
F3B___	Fiberglass insulation - stranded conductor - stainless steel overbraid	
<b>TEFLON®</b>		
T3J___	Teflon® insulation - individual leads - stranded conductor (12" limit)	204 °C [400 °F]
T3___	Teflon® insulation - stranded conductor	
T3A___	Teflon® insulation - stranded conductor - flexible armor	
T3B___	Teflon® insulation - stranded conductor - stainless steel overbraid	
M3___	Teflon® insulation - stranded conductor - stainless steel overbraid - Teflon® insulation	
T3M___	Teflon® insulation - stranded conductor - mylar shield	
T3MA___	Teflon® insulation - stranded conductor - mylar shield - flexible armor	
<b>KAPTON®</b>		
K3___	Kapton® insulation - stranded conductor	316 °C [600 °F]
K3A___	Kapton® insulation - stranded conductor - flexible armor	
K3B___	Kapton® insulation - stranded conductor - stainless steel overbraid	
<b>SILICON RUBBER</b>		
S3___	Teflon® insulation - stranded conductor - silicon rubber	204 °C [400 °F]
<b>COIL CORDS</b>		
C3060	PVC insulation - stranded conductor - coil cord - 60" extended length	104 °C [220 °F]
C3120	PVC insulation - stranded conductor - coil cord - 120" extended length	

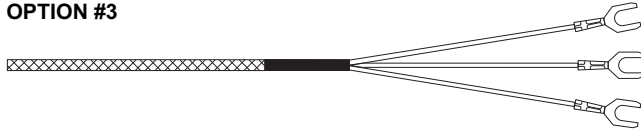
Insert wire code number and 3 digit 'B' length in inches EX: T3036 = 36" B length

For assemblies requiring leadwire beyond the flexible armor (illustrated in 'C' in drawing), insert 3 digit 'C' length after armor length.  
EX: F3A036 -012 = 36" B length with additional 12" 'C' length leads beyond armor.

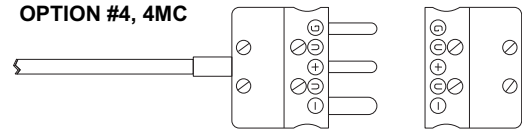
All insulated leadwires in flexible armor are available with either extruded PVC or Teflon® covering over the flexible armor.  
Substitute suffix codes T (Teflon®) or P (PVC) for the suffix 'A' code above. EXAMPLE: T3T is Teflon® covered armor.

Select desired leadwire termination and options (if desired), by order code numbers below.

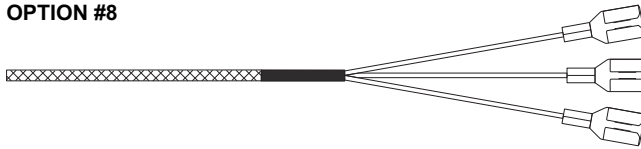
OPTION #3



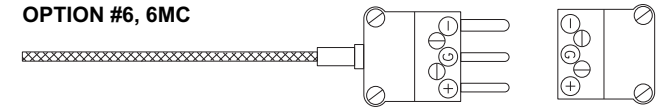
OPTION #4, 4MC



OPTION #8



OPTION #6, 6MC



## ORDER CODES

Example Order Number:

**R5T185L483-006-01A,304-16-T3036 - 4, MC**

### 5-1 Terminations

CODE	DESCRIPTION
0	Leads not stripped
2	2" split leads, 1/4" stripped
3	2" split leads with spade lugs
4	Standard plug
5	Standard jack
6	Miniature plug
7	Miniature jack
8	2" split leads with 1/4" female quick disconnects

### 5-2 Options

CODE	DESCRIPTION
BX	1/2" NPT BX connector with Options 0, 2, 3, or 8
CC	Plug or jack secured to leads with cable clamp
CG	Cord Grip (1/2" NPT PVC)
MC	Mating connector
RB	Rubber boot