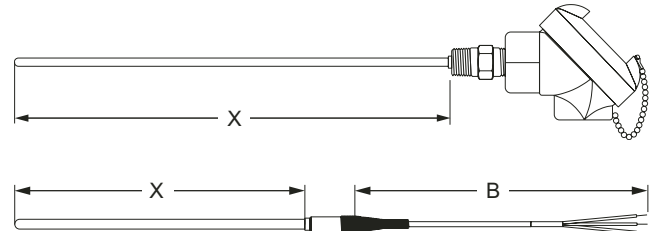
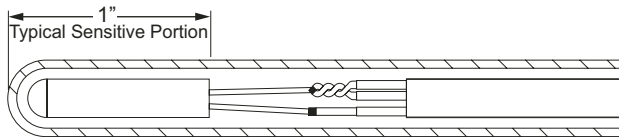


The RTD elements illustrated and described on this page are designed to measure temperature in a variety of process and laboratory applications. These RTDs are specifically designed for use in two different process temperature ranges and will provide accurate and repeatable temperature measurement through 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  
**R5T185L 48 3 - 006** - Page RTD-2 - Page RTD-3 or Page RTD-4 - Page RTD-5 - Page RTD-6

### 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</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</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</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 Wire

CODE	DESCRIPTION
2	2 wire per element
3	3 wire per element
4	4 wire per element

### 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</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</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%	100 Ω	$\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$	38	48	68
<i>HIGH RANGE WIRE WOUND (-200 TO 600) °C</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 DIA.	TIP DIA.	TIP LENGTH
88R48	1/2" OD	1/4" OD	1 1/4" OD
68R38	3/8" OD	3/16" OD	1 1/4" OD
68R28	3/8" OD	1/8" OD	1 1/4" OD
48R38	1/4" OD	3/16" OD	1 1/4" OD

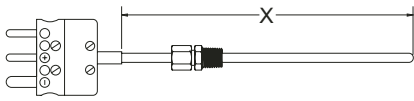
### REDUCED TIP RTD's

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: R1T185L**68R48**3-006.

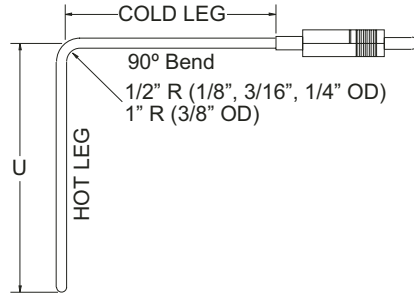
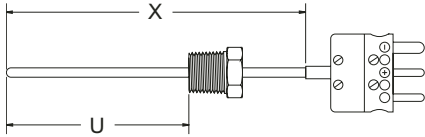
Consult factory for other RTD types.

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

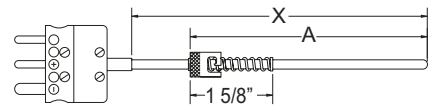
### COMPRESSION FITTING



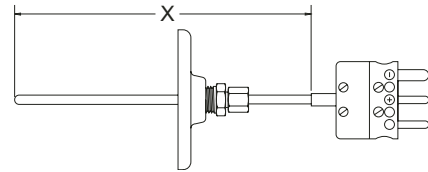
### FIXED BUSHING



### 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

PAGE  
RTD 6

### 2-1 No Fitting or Bend Options

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

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

CODE	TYPE	NPT SIZE	PRESSURE RATED	AVAILABLE SHEATH DIAMETERS (In Inches)
01A	302 stainless steel	1/8"	NO	1/16, 1/8, 3/16, 1/4
05A	316 stainless steel	1/8"	YES	1/16, 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	AVAILABLE SHEATH DIAMETERS (In Inches)
10A	302 stainless steel	1/8"	1/16, 1/8, 3/16
10B	302 stainless steel	1/4"	1/4, 3/8
10C	302 stainless steel	1/2"	1/4, 3/8
12A	316 stainless steel	1/8"	1/16, 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"	1/16, 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 (400° max.) For lava gland (1200° 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 (In Inches)
13A __ *	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

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

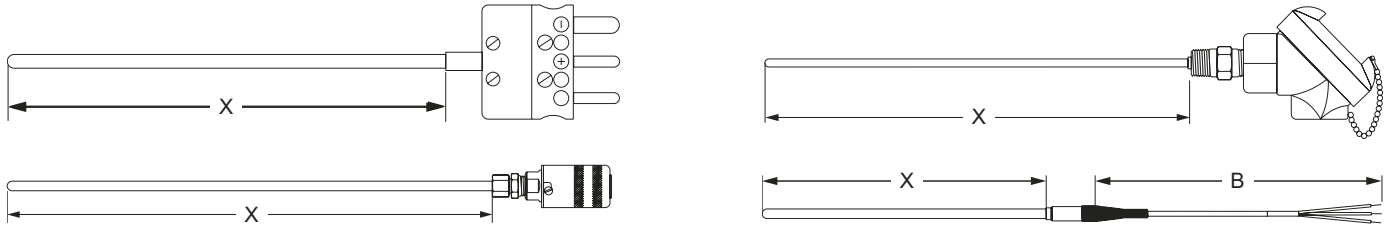
### 2-5 Fixed Bushings

CODE	MOUNTING THREAD NPT SIZE	AVAILABLE SHEATH DIAMETERS (In Inches)
316 SS		
8A __ *	1/8"	1/8, 3/16, 1/4
8B __ *	1/4"	1/8, 3/16, 1/4, 3/8
8C __ *	1/2"	1/8, 3/16, 1/4, 3/8
8D __ *	3/4"	1/8, 3/16, 1/4, 3/8

\* 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. "U". 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.	



### ORDER CODES

**Example Order Number:**

**R5T185L483-006-00** - <sup>3-1A</sup>**8HN** <sup>3-2A</sup>**31, I** <sup>3-3A</sup>**I** or SEE RTD-4 FOR SHEATH TERMINATIONS AND LEADWIRE TRANSITION OPTIONS

**3-1A Head Mounting Fittings For Standard Heads**  
For head terminations, a head mounting fitting must be selected

CODE	DESCRIPTION
6HN	1/2" x 1/2" NPT steel hex nipple
8HN	1/2" x 1/2" NPT stainless steel hex nipple
9HP	1/2" NPT stainless steel bushing (no process threads)
8RNDC	3/4" process x 1/2" NPT stainless steel hex nipple
22CF	Brass compression fitting (not available with head termination order codes 71, 72, 81, 82)

**Head Mounting Fittings For Miniature Heads Options 17 & 25**

CODE	DESCRIPTION
8HPB	1/4" NPT stainless steel bushing (no process threads)
9HNB	1/4" x 1/4" NPT stainless steel hex nipple
22CF	Brass compression fitting

**3-2A Standard Head Terminations**

CODE	DESCRIPTION
31	Aluminum screw cover head
34	Cast iron screw cover head
49	Flip top aluminum head
53	Grey delrin screw cover head
62	White DIN form B polypropylene head
63	White polypropylene head
69	Flip-top polypropylene head
71	Cast iron/aluminum explosion proof head class C
72	DIN form B aluminum explosion proof head class B
81	316L stainless steel explosion proof head class C
82	DIN form B 316 stainless steel explosion proof head class B
91	316L stainless steel head
92	DIN form B 316 stainless steel head

**3-3A Standard Head Options**

CODE	DESCRIPTION
BX	Box connector
CG	Nylon cord grip
CT	Ceramic terminal block
GS	Ground screw
I	Stainless steel tag
NB	1/2" NPT nylon conduit reducer bushing
SB	1/2" NPT plated steel conduit reducer bushing
T	Head-mounted transmitter (see instrument section)
W*	Epoxy coated aluminum

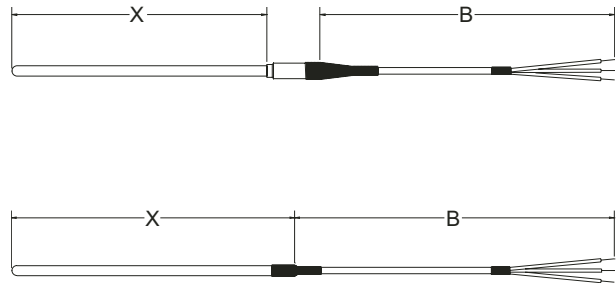
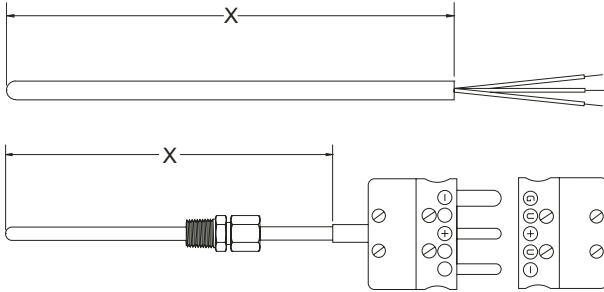
\*Available with option 31 only.

**3-2A Miniature Head Terminations**

CODE	DESCRIPTION
17	Miniature plastic head
25	Miniature nickel plated head

**3-2A Hex Fitting Termination Option Without Connection Heads**

CODE	DESCRIPTION
22	3" individual Teflon® leads with terminal pins - 12" maximum leads
23	Extension lead wire beyond hex (requires table 5 & 6 selections)



### ORDER CODES

**Example Order Number:**

**R5T185L483-006-00 - 4, MC** <sup>3-1B</sup> or **R5T185L483-006-01A,304 - 16** <sup>3-2B</sup> - **PAGE RTD-5** - **PAGE RTD-6**

#### 3-1B Plug and Jack Sheath Terminations

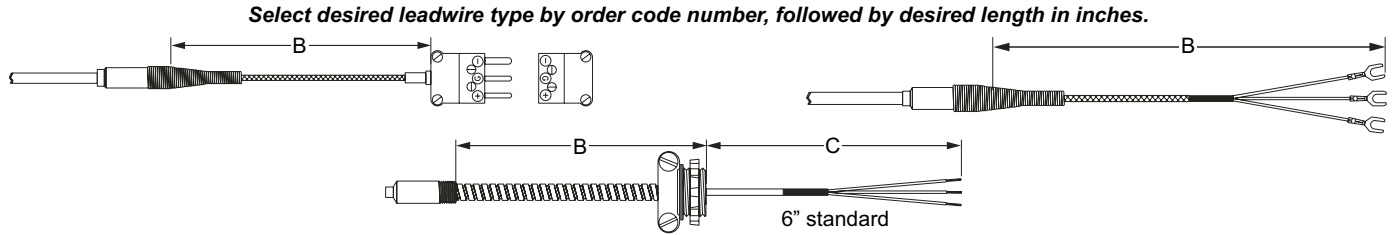
CODE	DESCRIPTION
4	Standard plug
5	Standard jack
6	Miniature plug
7	Miniature jack
<b>Options</b>	
MC	Mating connector
CL	Compression L bracket to hold plug to sheath

#### Sheath Terminations

CODE	DESCRIPTION
14 <sup>1</sup>	Ceramic wafer head
22 <sup>2</sup>	3" individual leads with terminal pins
<sup>1</sup> Duplex available in 2 wire only	
<sup>2</sup> High temp RTD's are supplied with 1" long transition	

#### 3-2B Leadwire transitions (Requires Tbl. 5 and 6 selections)

CODE	DESCRIPTION
13*	Same size transition with heat shrink tubing 104 °C [220 °F]
15	Extension leadwire transition with relief spring 204 °C [400 °F]
16	Extension leadwire transition with heat shrink tubing 104 °C [220 °F]
18*	Same size transition without heat shrink tubing 204 °C [400 °F]
19	Extension leadwire transition without spring or heat shrink 204 °C [400 °F]
<b>Options</b>	
HT	High temperature potting 538 °C [1000 °F] not available with option 13 or 16
* Not available with flex armor	



### ORDER CODES

Example Order Number:

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

**T3 036**

**PAGE  
RTD 6**

#### 5 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 - 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	

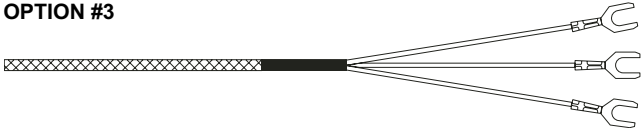
NOTE 1 Insert wire code number and 3 digit 'B' length in inches EX: T3036 = 36" B length

NOTE 2 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.

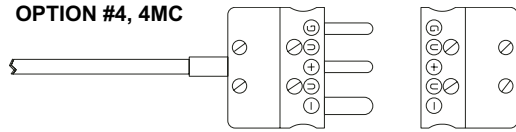
NOTE 3 All insulated leadwires in flexible armor are available with either extruded PVC or Teflon® covering over the flexible armor. Substitute suffix codes T (Teflon®) or P (PVC) for the suffix 'A' code above. EXAMPLE: T3T is Teflon® covered armor.

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

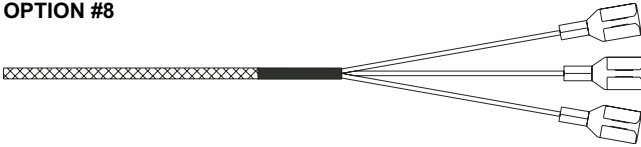
OPTION #3



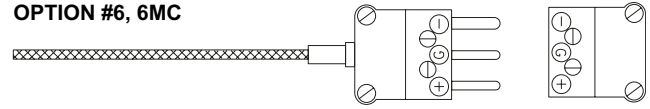
OPTION #4, 4MC



OPTION #8



OPTION #6, 6MC



### ORDER CODES

Example Order Number:

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

6-1

6-2

#### 6-1 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

#### 6-2 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