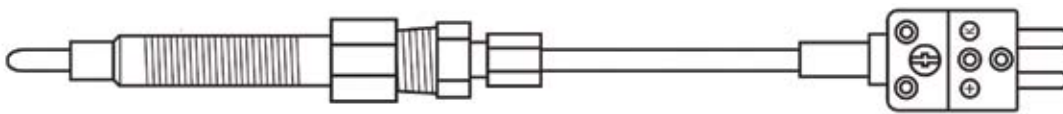


Temperature Sensors



MELT BOLT
M06 (MB)



ARMOUR ADJUST.
M06 (AA)



SPRING ADJUST.
M06 (SA)



THREADED NOZZLE
M06 (TN)



90 DEGREE FIXED
M06 (DF)



SPRING FIXED
M06 (SF)

Sensor Type	
R5	Pt100 max. 500°C
R10	Pt1000
K	K Thermocouple
J	J Thermocouple
O	Other

Cable
L2 = Inches

Cable Insulation	
T	Teflon
G	Glass
GSS	Glass w/SS Overbraid

Termination	
N	Bare Leads
P	Mini Plug
U	Standard Plug
J	Mini Plug - Mini Jack
A	Standard Jack
L	Spade Lugs

Insertion
L1 = Inches

M06 Plastic Industry Temperature Sensor

Specifications:

- 316SS or 304SS insertion stem
- Grounded thermocouple
- 3-wire 385 1/3 DIN (RTD Pt100)
- 3/16" stem diameter standard size (118" & 1/4" dia. available)

Options	
A	Flexible SS Armour over Lead Cable
4W	4-Wire RTD
D	Dual Sensors
U	Ungrounded Thermocouple Junction
O	Specify Other Options, if required

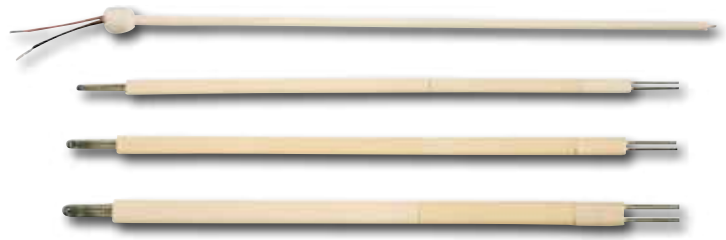
M06-

Model	Price
M06MB-K-6-60G-N	\$70
M06MB-R5-6-60T-N	\$95
M06AA-K-24-60G-N	\$40
M06AA-R5-24-60T-N	\$65
M06SA-K-12-60G-N	\$40
M06SA-R5-12-60T-N	\$65

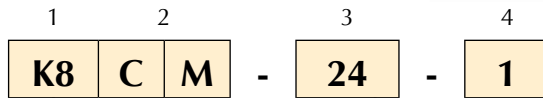
Model	Price
M06TN-K-3-60G-N	\$40
M06TN-R5-3-60T-N	\$65
M06DF-K-2.5-60G-N	\$60
M06DF-R5-2.5-60T-N	\$85
M06SF-K-2.5-60G-N	\$50
M06SF-R5-2.5-60T-N	\$75

Ceramic Insulated Industrial Thermocouples

Straight base and angle base metal thermocouple elements can serve as replacements compatible with many manufacturers' thermocouple assemblies. The angle base metal thermocouple elements are shipped in a straight configuration and are to be bent at the time of installation. The insulators at the bend are ball and socket style, while the hot and cold legs are covered with two-hole oval ceramic insulators.



Example Order Number:



1 Single Straight Element Type

CODE (Type + Wire + Gauge)				DESCRIPTION
J8	J11	J14	J20	Iron - Constantin
K8	K11	K14	K20	Chromel - Alumel
N8		N14		Nicrosil - Nisil
DUPLEX STRAIGHT ELEMENTS				
Use thermocouple type code letter twice. Example: JJ14 or KK11. Dual elements w/ceramic insulators are supplied as 2 single elements.				

2 Element Insulation

CODE	DESCRIPTION	WIRE GAUGE	INSULATOR DIMENSIONS "	
			SINGLE	DUPLEX
O	Bare Element		None Used	
C	Oval Ceramic	8 Ga.	0.500 x 0.281	
		11 Ga.	0.375 x 0.218	
		14 Ga.	0.313 x 0.188	
R	Round Ceramic	8 Ga.	0.465 OD	0.500 OD
		11 Ga.	0.465 OD	0.500 OD
		14 Ga.	0.250 OD	0.320 OD
		20 Ga.	0.150 OD	0.188 OD
A	The hole oval ceramic insulators on hot and cold legs. Ball and socket insulators at bend	8 Ga.	0.500 x 0.281	
		11 Ga.	0.500 x 0.286	
		14 Ga.	0.375 x 0.218	

The above insulated elements are supplied with refractory insulators: 1277°C (2330°F) maximum temperature.

Element Options

CODE	DESCRIPTION
M	Special limits wire - types J and K (consult factory for other types)

3 Element "X" Length

LENGTH "	LENGTH "
12	30
18	36
24	
Specify other lengths in 1" increments	
Actual cut length will be 1(1/2)" longer than specified length to allow for terminal connections.	

4 Element K Options

CODE	DESCRIPTION
0	Standard weld as noted below
1	Twist and tig weld (not available with 8 gauge duplex)
2	Tig weld without twist
L	Insulated hot junction
341	Single terminal block on element
342	Duplex terminal block on element
Unless specified by option numbers above, all 8, 11, and 14 gauge elements will be provided with Opt. 2 (twist and tig weld). All elements, regardless of gauge, over 96" will be supplied with Option 1 (twist and tig weld).	

Model	Description	Price
Ceramic Insulated, Type K T/C, 8 Ga., Twist & tig weld		
K8C-12-1	12" Length	\$19
K8C-18-1	18" Length	\$28
K8C-24-1	24" Length	\$36
K8C-36-1	36" Length	\$54

Model	Description	Price
Angle Base Metal Type K T/C, 8 Ga., Ceramic insulated		
K8A-12-12	12" Hot and cold legs	\$41
K8A-12-24	12" hot and 24" cold legs	\$59
K8A-24-24	24" hot and 24" cold legs	\$76
K8A-24-30	24" hot and 30" cold legs	\$85
K8A-18-36	18" hot and 36" cold legs	\$85

MGO Sensors with Wire



Example Order Number:

1-1 1-2 1-3 1-4 2-0 3-0 4-0 5-0 6-0
K 4 8 G - 012 - 00 - 15 - F3A036 - 4

1-1 Thermos

CODE
SINGLE
J
K

1-2 Sheath Diameters

CODE	DIAMETER (inches)
1	1/16
2	1/8
3	3/16
4	1/4

1-3 Sheath Materials

CODE	MATERIAL	STANDARD AVAILABLE TYPES
3	Inconel 600	J, K
8	316 SS	J, K

1-4 Measuring Junctions

CODE	DESCRIPTION
G	Grounded junction
U	Ungrounded junction

2-0 'X' Dimension

Insert three digit sheath length (X Dimension) in inches

3-0 No Fitting or Bend Options

CODE	DESCRIPTION
00	

4-0 Leadwire Transitions

CODE	DESCRIPTION
15	Extension leadwire transition with relief spring 204 °C [400 °F]
16	Extension leadwire transition with heat shrink tubing 104 °C [220 °F]

5-0 Head Mounting Fittings

CODE	DESCRIPTION
F3_ _ _	Fiberglass insulation - stranded conductor
F3A_ _ _	Fiberglass insulation - stranded conductor - flexible armor
F3B_ _ _	Fiberglass insulation - stranded conductor - stainless steel overbraid
T3_ _ _	Teflon® insulation - stranded conductor
T3A_ _ _	Teflon® insulation - stranded conductor - flexible armor
T3B_ _ _	Teflon® insulation - stranded conductor - stainless steel overbraid

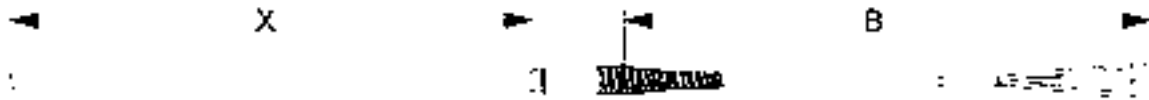
6-0 Terminations

CODE	DESCRIPTION
2	2" split leads, 1/4" stripped
3	2" split leads with spade lugs
4	Standard plug
6	Miniature plug

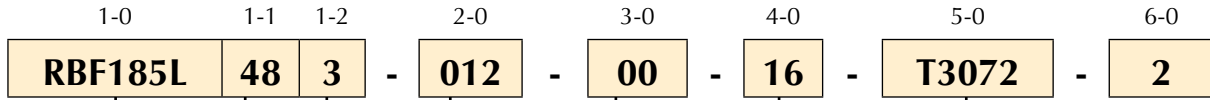
Model	Price
K13U-036-00-15-F3B048-2	\$53
K28G-012-00-15-F3A072-4	\$60
K38U-024-00-15-F3A120-4	\$87
K48G-012-00-15-F3B120-4	\$70

Model	Price
J18U-036-00-15-F3B048-2	\$44
J28G-012-00-15-F3A072-4	\$56
J38U-024-00-15-F3A120-4	\$81
J48G-012-00-15-F3B120-4	\$64

RTD Sensors with Wire



Example Order Number:



1-0 100 Ω Platinum RTD Elements α = 0.003 85 °C⁻¹

CODE	INITIAL ELEMENT ACCURACY 0 °C
LOW RANGE WIRE WOUND (-200 to 204) °C	
SINGLE	
R1T185L	± 0.1%
R5T185L	± 0.01%
LOW RANGE THIN FILM (-40 to 204) °C	
RBF185L	± 0.12%
RAF185L	± 0.06%
HIGH RANGE WIRE WOUND (-200 to 600) °C	
R1T185H	± 0.1%

1-1 Sheath Diameters

CODE	DIAMETER (inches)
28	1/8
38	3/16
48	1/4

1-2 Element Connection

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

2-0 'X' Dimension

Insert three digit sheath length (X Dimension) in inches

3-0 No Fitting or Bend Options

CODE	00

4-0 Leadwire Transitions

CODE	DESCRIPTION
13 ^[1]	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]

[1] Not available with flex armor or high range element

5-0 Head Mounting Fittings

CODE	DESCRIPTION
F3_ _ _	Fiberglass insulation - stranded conductor
F3A_ _ _	Fiberglass insulation - stranded conductor - flexible armor
F3B_ _ _	Fiberglass insulation - stranded conductor - stainless steel overbraid
T3_ _ _	Teflon® insulation - stranded conductor
T3A_ _ _	Teflon® insulation - stranded conductor - flexible armor
T3B_ _ _	Teflon® insulation - stranded conductor - stainless steel overbraid

6-0 Terminations

CODE	DESCRIPTION
2	2" split leads, 1/4" stripped
3	2" split leads with spade lugs
4	Standard plug
6	Miniature plug

Model	Price
RBF185L483-006-00-16-T3048-2	\$70
RBF185L483-012-00-16-T3A072-2	\$82
RAF185L483-006-00-16-T3048-2	\$83
RAF185L483-012-00-16-T3A072-2	\$95
R1T185H383-006-00-15-T3048-2	\$136
R1T185H383-012-00-15-T3A072-2	\$148
R1T185H483-006-00-15-T3048-2	\$142
R1T185H483-012-00-15-T3A072-2	\$154

Thermocouple Sensors with Heads



Example Order Number:

1-0	1-1	1-2	1-3		2-0		3-0		4-0	4-1
J	3	8	U	-	012	-	SL	-	8HN	49

1-0 Thermocouple Types

CODE
SINGLE
J
K

1-1 Sheath Diameters

CODE	DIAMETER (inches)
2	1/8
3	3/16
4	1/4
6	3/8

1-2 Sheath Materials

CODE	MATERIAL	STANDARD AVAILABLE TYPES
3	Inconel 600	J, K
8	316 SS	J, K

1-3 Measuring Junctions

CODE	DESCRIPTION
G	Grounded junction
U	Ungrounded junction

2-0 'X' Dimension

Insert three digit sheath length (X Dimension) in inches
Sheath lengths over 98" will be shipped in a coiled configuration unless otherwise specified.

3-0 No Fitting or Bend Options

CODE	DESCRIPTION
00	Fixed element
SL	Spring loaded element
SC	Self-contained spring loaded element

4-0 Head Mounting Fittings

CODE	DESCRIPTION
6HN	1/2" x 1/2" NPT hex nipple 1" "E" length
8HN	1/2" x 1/2" NPT hex nipple 1" "E" length

4-1 Head and Sheath Terminations

CODE	DESCRIPTION
22	3" Individual Teflon® leads with terminal pins
31	Aluminum screw cover head
34	Cast iron screw cover head
53	Grey Delrin® screw cover head
62	White DIN form B polypropylene head
63	White polypropylene head
91	316 L stainless steel screw cover head
92	DIN form B 316 stainless steel screw cover head

Model

Price

K48U-006-00-8HN31	\$96
K48G-006-SL-8HN31	\$96
K48U-012-00-8HN31	\$96
K48G-012-SL-8HN31	\$96
J48U-006-00-8HN31	\$96
J48G-006-SL-8HN31	\$96
J48U-012-00-8HN31	\$96
J48U-012-SL-8HN31	\$100

RTD Sensors with Heads



Example Order Number:

1-0
1-1
1-2
2-0
3-0
4-0
4-1
RBF185L 48 3 - 012 - 00 - 8HN 31

1-0 100 Ω Platinum RTD Elements $\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$

CODE	INITIAL ELEMENT ACCURACY @ 0 °C
LOW RANGE WIRE WOUND (-200 to 204) °C	
SINGLE	
R1T185L	± 0.1%
R5T185L	± 0.01%
LOW RANGE THIN FILM (-40 to 204) °C	
RBF185L	± 0.12%
RAF185L	± 0.06%
HIGH RANGE WIRE WOUND (-200 to 600) °C	
R1T185H	± 0.1%

1-1 Sheath Diameters

CODE	DIAMETER (inches)
38	3/16
48	1/4
68	3/8

1-2 Element Connection

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

2-0 'X' Dimension

Insert three digit sheath length (X Dimension) in inches

3-0 No Fitting or Bend Options

CODE	DESCRIPTION
00	Fixed element
SL	Spring loaded element
SC	Self-contained spring loaded element

4-0 Head Mounting Fittings

CODE	DESCRIPTION
6HN	1/2" x 1/2" NPT hex nipple 1" "E" length
8HN	1/2" x 1/2" NPT hex nipple 1" "E" length

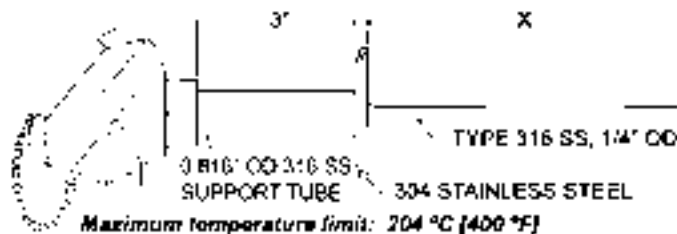
4-1 Head and Sheath Terminations

CODE	DESCRIPTION
22	3" Individual Teflon [®] leads with terminal pins
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
91	316 L stainless steel screw cover head
92	DIN form B 316 stainless steel screw cover head

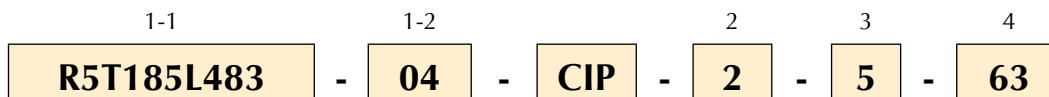
Model	Price
RBF185L483-006-00-8HN31	\$124
RBF185L483-012-00-8HN31	\$124
R1T185L483-006-SL-8HN31	\$155
R1T185L483-012-SL-8HN31	\$155
R1T185H483-006-00-8HN31	\$191
R1T185H483-006-SL-8HN31	\$195

CIP Sanitary RTD Temperature Sensors

General purpose CIP sanitary connected RTD temperature sensors are used in food, dairy, beverage, pharmaceutical, and chemical processing applications where sensor corrosion and product contamination are critical factors. The sanitary caps listed are those most commonly used in such processes. Sanitary caps are welded to the sheath and to a heavier support tube, all of stainless steel, and then ground and polished to a finish that exceeds No. 4 minimum finish required by the 3-A Sanitary Standard 74 - 03. Typical surface roughness average measurement is 15 μ in Ra or better. The process contact surfaces are free of pits, crevices, and pockets thus preventing corrosion and bacteria growth. The three wire constructed sensor assembly consists of a high-accuracy platinum element sealed inside a 316 stainless steel sheath and is provided with a FDA compliant white thermoplastic gasketed connecting head. The complete assembly provides excellent washdown protection. It is recommended that once customer connections are made, the connecting terminals be further protected by applying a coating of moisture-proof sealant over the connections.



Example Order Number:



1-1 Pt100 ($\alpha = 0.00385$ °C⁻¹) RTD Assemblies

CODE	INITIAL ELEMENT ACCURACY @ 0 °C (percentage)
SINGLE	
RAF185L483	± 0.06
R1T185L483	± 0.1
R5T185L483	± 0.01

1-2 Immersion Length "X"

Specify "X" length in inches using 2 digits, plus any fractional length desired. Examples: 04 = 4", 05(1/2) = 5.5"

2 Sanitary Cap Size

CODE	TUBE OD (inches)
1	1 (1/2)
2	2
3	2 (1/2)
4	3

3 Sanitary Cap Style

CODE	DESCRIPTION
1	16A cap - Bevel Seat [1]
2	16A cap - Bevel Seat with 13-H Nut [1]
5	16 AMP cap - Tri-Clamp®
[1] Must be manually cleaned	

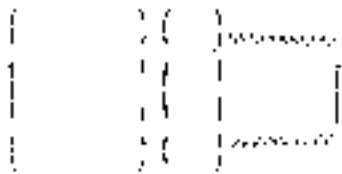
4 Terminations

CODE	DESCRIPTION
91	316L stainless steel head
63	White polypropylene head
62	White polypropylene head, DIN form B

Model	Price
R5T185L483-04-CIP-1-5-63	\$199
R5T185L483-04-CIP-2-5-63	\$205
R5T185L483-06-CIP-1-5-63	\$199
R5T185L483-06-CIP-2-5-63	\$205
RAF185L483-04-CIP-1-5-63	\$142
RAF185L483-04-CIP-2-5-63	\$148
RAF185L483-06-CIP-1-5-63	\$142
RAF185L483-06-CIP-2-5-63	\$148

Compression Fittings

Re-Adjustable Compression Fittings



Stainless Steel with Teflon® Ferrule

Code	Tube Size (Inches)	Process Thread (Inches)	Price
6109T-1A	1/16 OD	1/8 NPT	\$15
6109T-2A	1/8 OD	1/8 NPT	\$15
6109T-3A	3/16 OD	1/8 NPT	\$15
6109T-4B	1/4 OD	1/4 NPT	\$35
6109T-6B	3/8 OD	1/4 NPT	\$35
6109T-4C	1/4 OD	1/2 NPT	\$40
6109T-6C	3/8 OD	1/2 NPT	\$40

Stainless Steel Re-Adjustable Spring-Loaded Well Fittings with Teflon® Ferrule

Code	Tube Size (Inches)	Process Thread (Inches)	Price
6109TSL-3C	3/16 OD	1/2 NPT	\$67
6109TSL-4C	1/4 OD	1/2 NPT	\$67
6109TSL-6C	3/8 OD	1/2 NPT	\$67

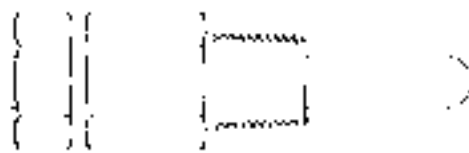
Brass with Teflon® Ferrule

Code	Tube Size (Inches)	Process Thread (Inches)	Price
6122T-1A	1/16 OD	1/8 NPT	\$19
6122T-2A	1/8 OD	1/8 NPT	\$21
6122T-3A	3/16 OD	1/8 NPT	\$17
6122T-2B	1/8 OD	1/4 NPT	\$21
6122T-3B	3/16 OD	1/4 NPT	\$18
6122T-4B	1/4 OD	1/4 NPT	\$14
6122T-6B	3/8 OD	1/4 NPT	\$16
6122T-4C	1/4 OD	1/2 NPT	\$21
6122T-6C	3/8 OD	1/2 NPT	\$22

Teflon® with Teflon® Ferrule

Code	Tube Size (Inches)	Process Thread (Inches)	Price
61TT-4B	1/4 OD	1/4 NPT	\$59
61TT-4C	1/4 OD	1/2 NPT	\$59

One-Time Adjustable Compression Fittings



Stainless Steel with SS Ferrule

Code	Tube Size (Inches)	Process Thread (Inches)	Price
6009-1A	1/16 OD	1/8 NPT	\$18
6009-2A	1/8 OD	1/8 NPT	\$18
6009-3A	3/16 OD	1/8 NPT	\$18
6009-4A	1/4 OD	1/8 NPT	\$18
6008-2B	1/8 OD	1/4 NPT	\$26
6008-3B	3/16 OD	1/4 NPT	\$25
6008-4B	1/4 OD	1/4 NPT	\$21
6008-6B	3/8 OD	1/4 NPT	\$29
6008-2C	1/8 OD	1/2 NPT	\$64
6008-4C	1/4 OD	1/2 NPT	\$37
6008-6C	3/8 OD	1/2 NPT	\$40

Stainless Steel Re-Adjustable Spring-Loaded Well Fittings with Teflon® Ferrule

Code	Tube Size (Inches)	Process Thread (Inches)	Price
6022-2A	1/8 OD	1/8 NPT	\$7
6022-3A	3/16 OD	1/8 NPT	\$7
6022-4A	1/4 OD	1/8 NPT	\$7
6022-3B	3/16 OD	1/4 NPT	\$8
6022-4B	1/4 OD	1/4 NPT	\$8
6022-6B	3/8 OD	1/4 NPT	\$8
6022-4C	1/4 OD	1/2 NPT	\$14
6022-6C	3/8 OD	1/2 NPT	\$12