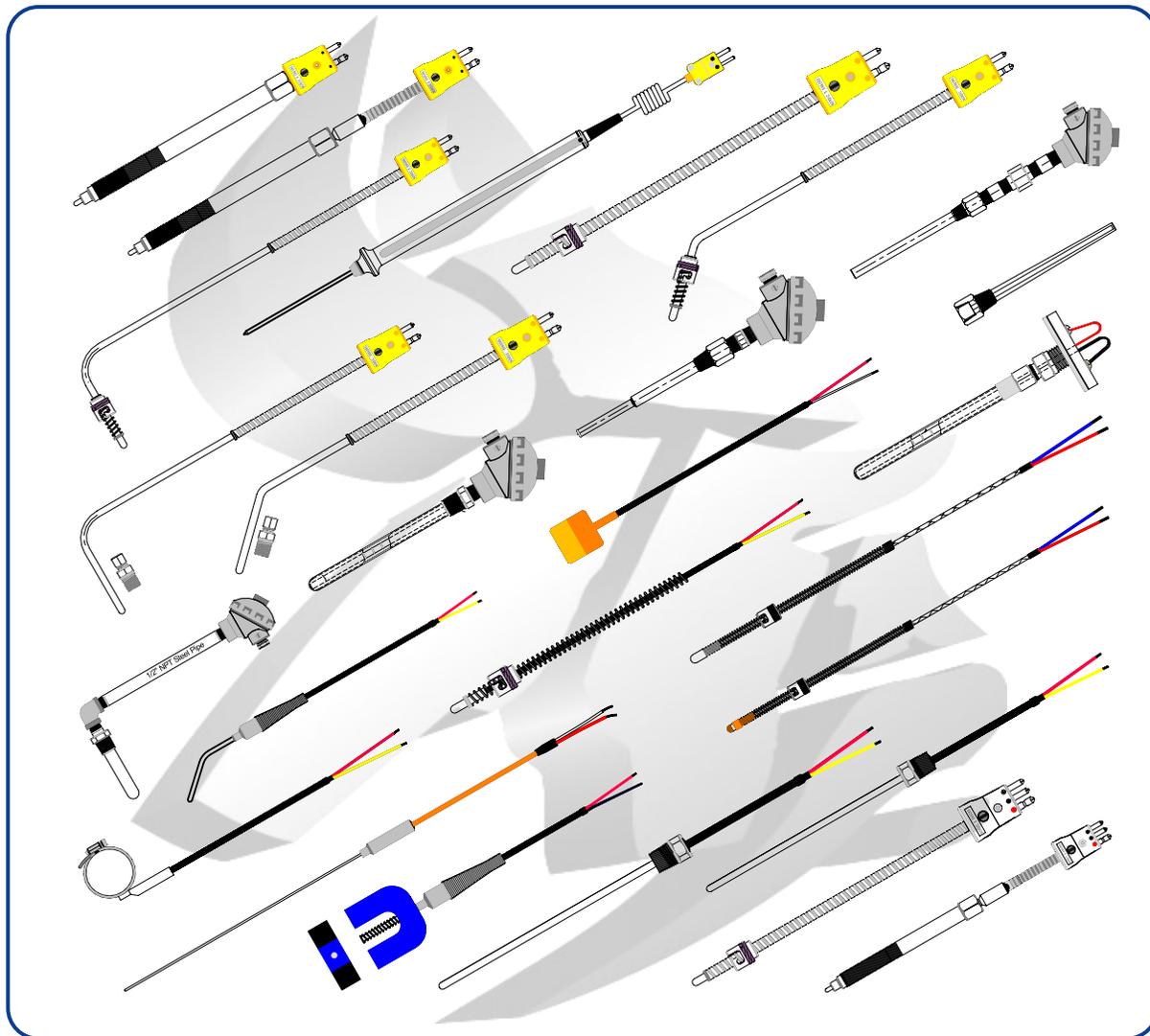


# **NORDIC** **sensors** **industrial inc.**



**Thermocouples and Temperature Resistance Devices (RTD's)  
For Industrial Applications**



Nordic Sensors Industrial Inc.  
6860 Louis-Sicard, Saint-Léonard, Québec, Canada H1P 1T7  
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**www.nordicsensors.com**

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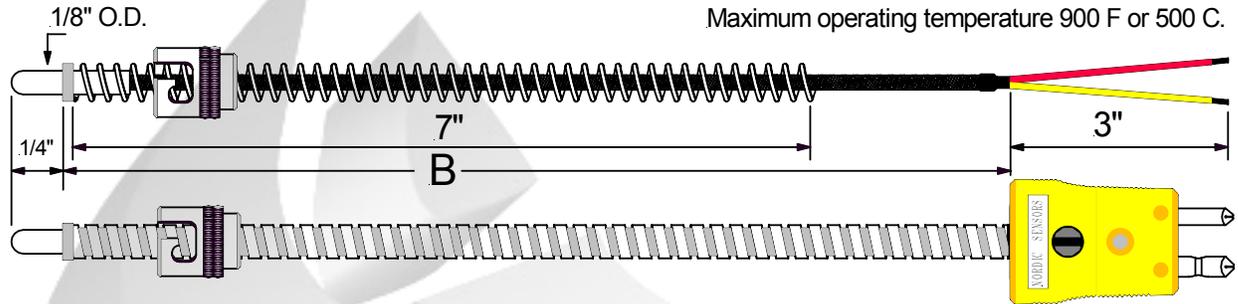
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# Plastic Industry Thermocouples

## Miniature Adjustable Bayonet Style Thermocouple



Bayonet cap runs along spring & armor cable length.

Steps To Follow:

Model No. A1  1.  2.  3.  4.  5.  6.

1.	Calibration
J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

4.	Wire Description
S	24 Gage Stranded Stainless Steel Braid
X	0.210" O.D. Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

2.	Junction
G	Grounded
U	Ungrounded

5.	Termination Type
1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

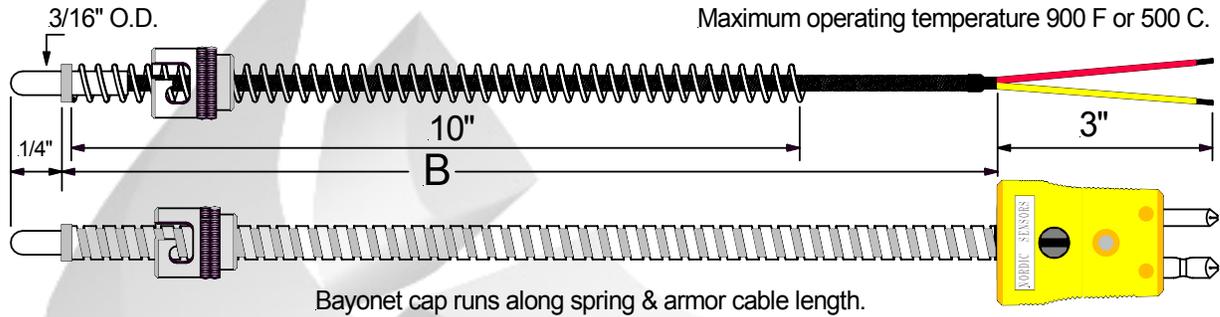
3.	"B" Dimension
"B" = <u>0 4 8</u> "	
Leads Wire Length In Inches	

6.	Accessories
A	None
B	Bx Connector
C	Cable Clamp

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# Plastic Industry Thermocouples

## Adjustable Bayonet Style Thermocouple



Steps To Follow:

Model No. A2  1.  2.  -  3.  -  4.  5.  6.  7.

**1. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
D	Dual J: (+) Iron Vs. (-) Constantan
Y	Dual K: (+) Ni.-Chromium Vs. (-) Ni.-Aluminum

**2. Junction**

G	Grounded
U	Ungrounded

**3. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

**4. Wire Description**

S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable
T	20 Gage Stranded Teflon Cable

**5. Termination Type**

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No. 10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

**6. Accessories**

A	None
B	Bx Connector
C	Cable Clamp

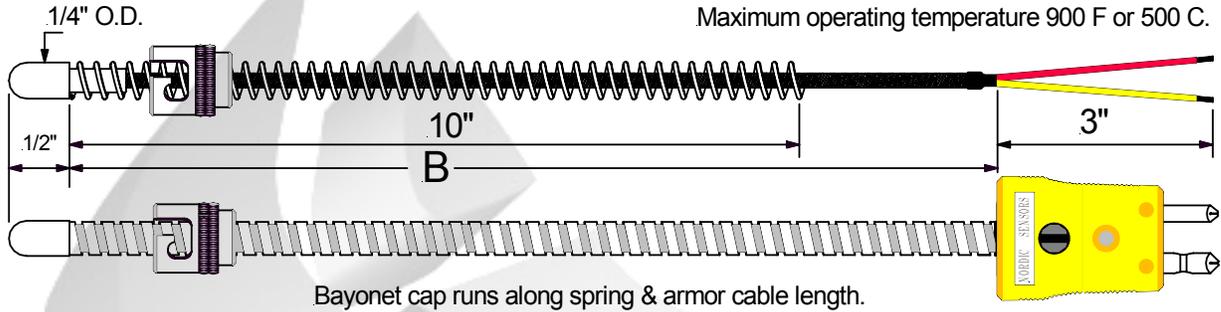
**7. Probe Tip Description**

1	Flat Tip
2	Radius Tip
3	Drill Point Tip

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# Plastic Industry Thermocouples

## 1/4" Adjustable Bayonet Style Thermocouple



Steps To Follow:

Model No. **A3**  1.  2.  -  3.  -  4.  5.  6.  7.

**1. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
D	Dual J: (+) Iron Vs. (-) Constantan
Y	Dual K: (+) Ni.-Chromium Vs. (-) Ni.-Aluminum

**4. Wire Description**

S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable
T	20 Gage Stranded Teflon Cable

**2. Junction**

G	Grounded
U	Ungrounded

**5. Termination Type**

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

**3. "B" Dimension**

"B" = <u>0</u> <u>4</u> <u>8</u> "
Leads Wire Length In Inches

**6. Accessories**

A	None
B	Bx Connector
C	Cable Clamp

**7. Probe Tip Description**

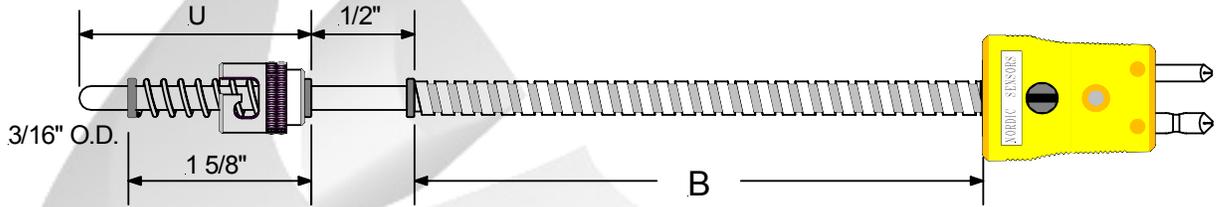
1	Flat Tip
2	Radius Tip
3	Drill Point Tip

# Plastic Industry Thermocouples

## Fixed Bayonet Style Thermocouple

Model Code: **B1**

Maximum operating temperature 900 F or 500 C.



A	B	C	D	E	F	G	H	I	J	K																																																																																																					
<b>B1</b>																																																																																																															
<b>A Outside Diameter</b> <table border="1"> <tr><td>A</td><td>1/8"</td></tr> <tr><td>B</td><td>3/16"</td></tr> <tr><td>C</td><td>1/4"</td></tr> </table>	A	1/8"	B	3/16"	C	1/4"	<b>B "U" Dimension</b> Specify "U" Length In Inches <u>0 6</u> Example "U" is 6" = 06	<b>C "U" Length Fractional</b> <table border="1"> <tr><td>A</td><td>0"</td></tr> <tr><td>B</td><td>1/8"</td></tr> <tr><td>C</td><td>3/16"</td></tr> <tr><td>D</td><td>1/4"</td></tr> <tr><td>E</td><td>1/2"</td></tr> <tr><td>F</td><td>5/8"</td></tr> <tr><td>G</td><td>3/4"</td></tr> <tr><td>H</td><td>7/8"</td></tr> </table>	A	0"	B	1/8"	C	3/16"	D	1/4"	E	1/2"	F	5/8"	G	3/4"	H	7/8"	<b>D "B" Dimension</b> Specify "B" Length In Inches <u>0 4 8</u> Example "B" is 48" = 048	<b>E Calibration</b> <table border="1"> <tr><th colspan="2">+</th><th colspan="2">-</th></tr> <tr><td>J</td><td>White</td><td>Red</td><td></td></tr> <tr><td>K</td><td>Yellow</td><td>Red</td><td></td></tr> <tr><td>T</td><td>Blue</td><td>Red</td><td></td></tr> </table>	+		-		J	White	Red		K	Yellow	Red		T	Blue	Red		<b>F Junction Styles</b> <table border="1"> <tr><th rowspan="2">Element Description</th><th colspan="2">Grounded</th><th colspan="2">Ungrounded</th></tr> <tr><th>Common</th><th>Common</th><th>Isolated</th><th></th></tr> <tr><td>Single</td><td>G</td><td></td><td>U</td><td></td></tr> <tr><td>Duplex</td><td>D</td><td>C</td><td>I</td><td></td></tr> </table>	Element Description	Grounded		Ungrounded		Common	Common	Isolated		Single	G		U		Duplex	D	C	I		<b>G Cable Conductor Description</b> <table border="1"> <tr><td>1</td><td>24 Gage, Solid Conductor</td></tr> <tr><td>2</td><td>24 Gage, 7 Stranded Conductors</td></tr> <tr><td>3</td><td>20 Gage, Solid Conductor</td></tr> <tr><td>4</td><td>20 Gage, 7 Stranded Conductors</td></tr> </table>	1	24 Gage, Solid Conductor	2	24 Gage, 7 Stranded Conductors	3	20 Gage, Solid Conductor	4	20 Gage, 7 Stranded Conductors	<b>H Cable Insulation Description</b> <table border="1"> <tr><td>A</td><td>Fiberglass Insulation: 950F / 510C</td></tr> <tr><td>B</td><td>Teflon Insulation: 500F / 260C</td></tr> <tr><td>C</td><td>P.V. C. Insulation: 221F / 105C</td></tr> <tr><td>D</td><td>Teflon, Shielded + Drain Wire</td></tr> <tr><td>E</td><td>P.V.C., Shilded + Drain Wire</td></tr> </table>	A	Fiberglass Insulation: 950F / 510C	B	Teflon Insulation: 500F / 260C	C	P.V. C. Insulation: 221F / 105C	D	Teflon, Shielded + Drain Wire	E	P.V.C., Shilded + Drain Wire	<b>I Outer Jacket Protection</b> <table border="1"> <tr><td>1</td><td>None</td></tr> <tr><td>2</td><td>Stainless Steel Braid</td></tr> <tr><td>3</td><td>Armor Flexible Cable: 0.280" Outside Diameter</td></tr> <tr><td>4</td><td>Armor Flexible Cable 0.210" Outside Diameter</td></tr> </table> <p>Metal Braid Protection not available on P.V.C insulation cable.</p>	1	None	2	Stainless Steel Braid	3	Armor Flexible Cable: 0.280" Outside Diameter	4	Armor Flexible Cable 0.210" Outside Diameter	<b>J Termination</b> <table border="1"> <tr><td>A</td><td>3 1/2" Split leads &amp; bare ends</td></tr> <tr><td>B</td><td>3 1/2" Split leads &amp; No.10 spade lugs.</td></tr> <tr><td>C</td><td>Standard Male Plug (350 F)</td></tr> <tr><td>D</td><td>Standard Female Jack (350 F)</td></tr> <tr><td>E</td><td>Mini Male Plug ( 350 F )</td></tr> <tr><td>F</td><td>Mini Female Jack (350 F)</td></tr> </table>	A	3 1/2" Split leads & bare ends	B	3 1/2" Split leads & No.10 spade lugs.	C	Standard Male Plug (350 F)	D	Standard Female Jack (350 F)	E	Mini Male Plug ( 350 F )	F	Mini Female Jack (350 F)	<b>K Termination Options</b> <table border="1"> <tr><td>1</td><td>None</td></tr> <tr><td>2</td><td>Bx Connector</td></tr> <tr><td>3</td><td>Cable Clamp</td></tr> </table>	1	None	2	Bx Connector	3	Cable Clamp
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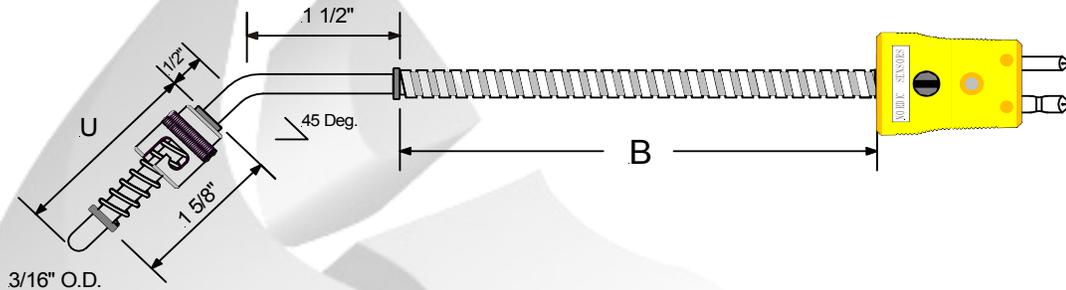
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# Plastic Industry Thermocouples

## Fixed Bayonet Style Thermocouple. 45° Bend.

Model Code: **B2**

Maximum operating temperature 900 F or 500 C.



**B2**

A	B	C	D	E	F	G	H	I	J	K

A Outside Diameter	
A	1/8"
B	3/16"
C	1/4"

B "U" Dimension	
Specify "U" Length In Inches <u>0 6</u>	

Example "U" is 6" = 06

C "U" Length Fractional	
A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension	
Specify "B" Length In Inches <u>0 4 8</u>	

Example "B" is 48" = 048

E Calibration		
	+	-
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles			
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description	
1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description	
A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shielded + Drain Wire

I Outer Jacket Protection	
1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination	
A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
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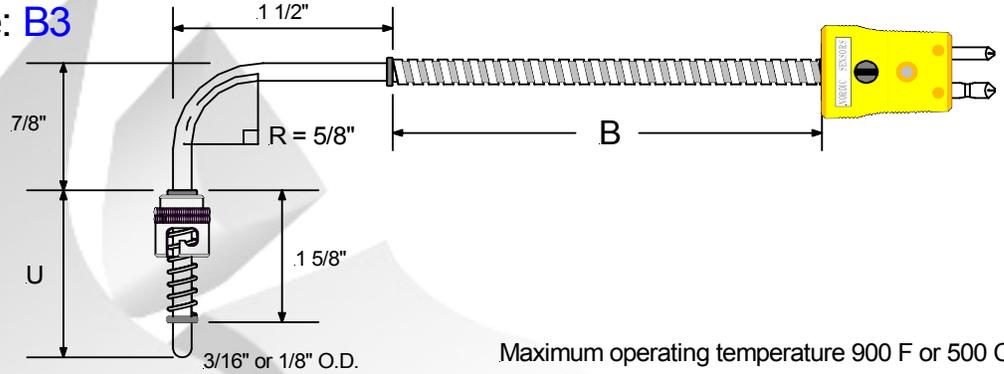
K Termination Options	
1	None
2	Bx Connector
3	Cable Clamp

Nordic Sensors Ind. Inc. Tel: 1-888-667-3421 & Fax: 1-888-867-9986.

# Plastic Industry Thermocouples

## Fixed Bayonet Style Thermocouple. 90° Bend.

Model Code: **B3**



Maximum operating temperature 900 F or 500 C.

A	B	C	D	E	F	G	H	I	J	K																																																																																			
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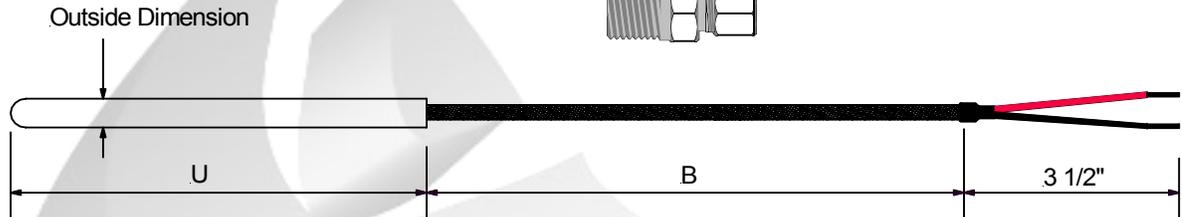
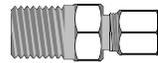
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# Plastic Industry Thermocouples

## Tube & Wire General Purpose Thermocouple

Model Code: **C1**

Compression Fitting ( Optional). Item purchased separately



Maximum operating temperature: 900F or 500C

Model Code: **C1**    A:     B:     C:     D:     E:     F:     G:     H:     I:     J:     K:

A Outside Diameter	
A	1/8"
B	3/16"
C	1/4"
D	5/16"

B "U" Dimension	
Specify " U " Length In Inches <u>0 6</u>	

Example "U" is 6" = 06

C "U" Length Fractional	
A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D "B" Dimension	
Specify " B " Length In Inches <u>0 4 8</u>	

Example "B" is 48" = 048

E Calibration		
	+	-
J	White	Red
K	Yellow	Red
T	Blue	Red

F Junction Styles			
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Conductor Description	
1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Cable Insulation Description	
A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shielded + Drain Wire

I Outer Jacket Protection	
1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J Termination	
A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug ( 350 F )
F	Mini Female Jack (350 F)

K Termination Options	
1	None
2	Bx Connector
3	Cable Clamp

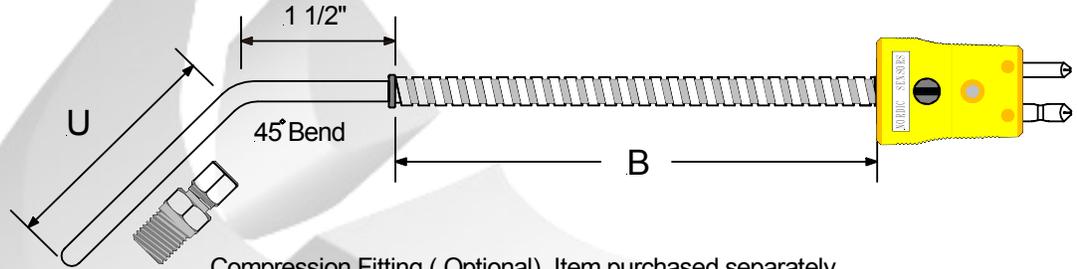
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# Plastic Industry Thermocouple

## General Purpose Thermocouple-45° Bend

Model Code: **C2**

Maximum operating temperature: 900F or 500C



	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	-	<b>J</b>	<b>K</b>
<b>C2</b>												

<b>A</b>	Outside Diameter
A	1/8"
B	3/16"
C	1/4"
D	5/16"

<b>B</b>	"U" Dimension
Specify " U " Length In Inches <u>0 6</u>	

Example "U" is 6" = 06

<b>C</b>	"U" Length Fractional
A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

<b>D</b>	"B" Dimension
Specify " B " Length In Inches <u>0 4 8</u>	

Example "B" is 48" = 048

<b>E</b>	Calibration	
	+	-
J	White	Red
K	Yellow	Red
T	Blue	Red

<b>F</b>	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

<b>G</b>	Cable Conductor Description
1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

<b>H</b>	Cable Insulation Description
A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shided + Drain Wire

<b>I</b>	Outer Jacket Protection
1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

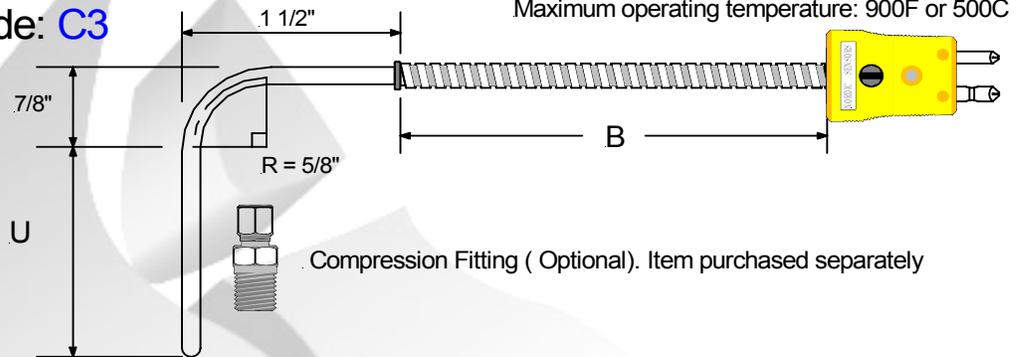
<b>J</b>	Termination
A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No.10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug ( 350 F )
F	Mini Female Jack (350 F)

<b>K</b>	Termination Options
1	None
2	Bx Connector
3	Cable Clamp

# Plastic Industry Thermocouple

## General Purpose Thermocouple-90° Bend

Model Code: **C3**



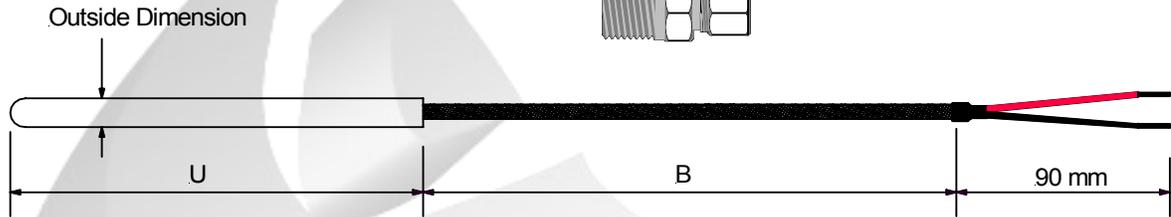
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E	1/2"																																												
F	5/8"																																												
G	3/4"																																												
H	7/8"																																												
1	24 Gage, Solid Conductor																																												
2	24 Gage, 7 Stranded Conductors																																												
3	20 Gage, Solid Conductor																																												
4	20 Gage, 7 Stranded Conductors																																												
A	Fiberglass Insulation: 950F / 510C																																												
B	Teflon Insulation: 500F / 260C																																												
C	P.V. C. Insulation: 221F / 105C																																												
D	Teflon, Shielded + Drain Wire																																												
E	P.V.C., Shilded + Drain Wire																																												
<b>D "B" Dimension</b> Specify " B " Length In Inches <u>048</u> Example "B" is 48" = 048									<b>K Termination Options</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>1</td><td>None</td></tr> <tr><td>2</td><td>Bx Connector</td></tr> <tr><td>3</td><td>Cable Clamp</td></tr> </table>			1	None	2	Bx Connector	3	Cable Clamp																												
1	None																																												
2	Bx Connector																																												
3	Cable Clamp																																												

# Plastic Industry Thermocouples

## Metric Size Tube & Wire General Purpose Thermocouple

Model Code: **C4**

Compression Fitting ( Optional). Item purchased separately



Maximum operating temperature: 500C

**C4**     -  -    -

A Outside Diameter	
A	2mm
B	3mm
C	4mm
D	5mm
E	6mm

B "U" Dimension	
Specify " U " Length In mm <u>150</u>	
Example "U" , is 150mm = 150	

C Calibration		
	+	-
J	White	Red
K	Yellow	Red
T	Blue	Red

E "B" Dimension	
Specify " B " Length In Meters <u>0.3</u>	
Example "B" is 3 M = 03	

F Cable Conductor Description	
1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Outer Jacket Protection	
1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 7.11mm Outside Diameter
4	Armor Flexible Cable 5.33mm Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

I Termination	
A	90mm Split leads & bare ends
B	90mm Split leads & No.10 spade lugs.
C	Standard Male Plug ( 218 C )
D	Standard Female Jack ( 218 C )
E	Mini Male Plug ( 218 C )
F	Mini Female Jack ( 218 C )

D Junction Styles			
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G Cable Insulation Description	
A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shilded + Drain Wire

J Termination Options	
1	None
2	Bx Connector
3	Cable Clamp

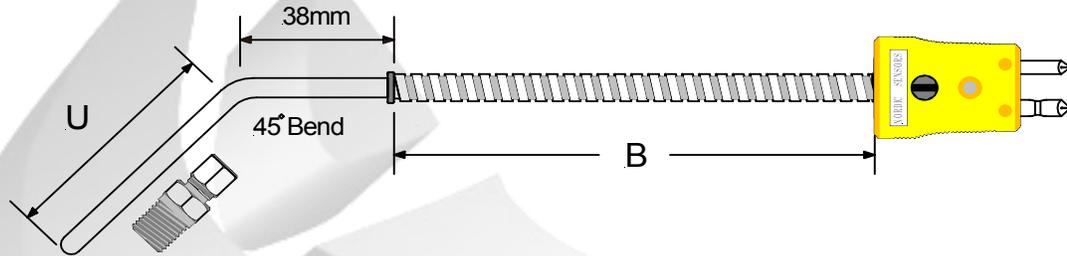
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# Plastic Industry Thermocouple

## Metric General Purpose Thermocouple-45° Bend

Model Code: **C5**

Maximum operating temperature: 500C



Compression Fitting ( Optional). Item purchased separately

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	-	<b>E</b>	-	<b>F</b>	<b>G</b>	<b>H</b>	-	<b>I</b>	<b>J</b>
<b>C5</b>												

A Outside Diameter	
A	2mm
B	3mm
C	4mm
D	5mm
E	6mm

B "U" Dimension	
Specify "U" Length In mm <u>150</u>	
Example "U", is 150mm = 150	

C Calibration		
	+	-
J	White	Red
K	Yellow	Red
T	Blue	Red

E "B" Dimension	
Specify "B" Length In Meters <u>0.3</u>	
Example "B" is 3 M = 03	

F Cable Conductor Description	
1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H Outer Jacket Protection	
1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 7.11mm Outside Diameter
4	Armor Flexible Cable 5.33mm Outside Diameter
Metal Braid Protection not available on P.V.C insulation cable.	

I Termination	
A	90mm Split leads & bare ends
B	90mm Split leads & No.10 spade lugs.
C	Standard Male Plug ( 218 C )
D	Standard Female Jack ( 218 C )
E	Mini Male Plug ( 218 C )
F	Mini Female Jack ( 218 C )

D Junction Styles			
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	<b>G</b>		<b>U</b>
Duplex	<b>D</b>	<b>C</b>	<b>J</b>

G Cable Insulation Description	
A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shilded + Drain Wire

J Termination Options	
1	None
2	Bx Connector
3	Cable Clamp

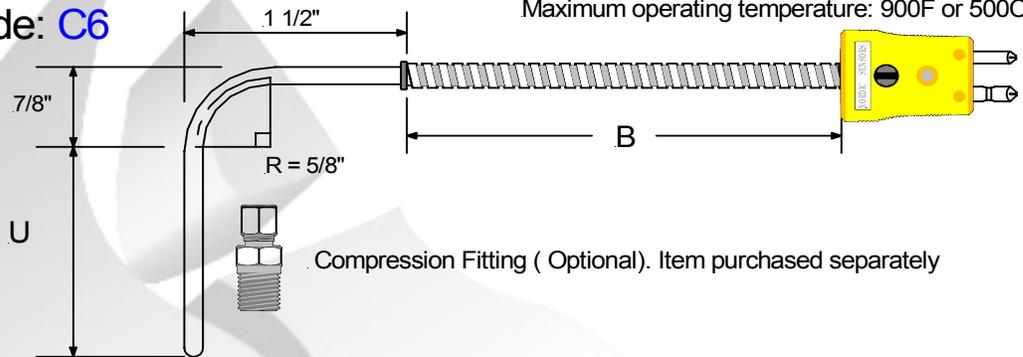
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# Plastic Industry Thermocouple

## Metric General Purpose Thermocouple-90° Bend

Model Code: **C6**

Maximum operating temperature: 900F or 500C



<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>
<b>C6</b>									

A	Outside Diameter
A	2mm
B	3mm
C	4mm
D	5mm
E	6mm

B	"U" Dimension
Specify "U" Length In mm <u>150</u>	
Example "U" is 150mm = 150	

C	Calibration	
	+	-
J	White	Red
K	Yellow	Red
T	Blue	Red

E	"B" Dimension
Specify "B" Length In Meters <u>0.3</u>	
Example "B" is 3 M = 03	

F	Cable Conductor Description
1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H	Outer Jacket Protection
1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 7.11mm Outside Diameter
4	Armor Flexible Cable 5.33mm Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

I	Termination
A	90mm Split leads & bare ends
B	90mm Split leads & No.10 spade lugs.
C	Standard Male Plug ( 218 C )
D	Standard Female Jack ( 218 C )
E	Mini Male Plug ( 218 C )
F	Mini Female Jack ( 218 C )

D	Junction Styles		
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G	Cable Insulation Description
A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shilded + Drain Wire

J	Termination Options
1	None
2	Bx Connector
3	Cable Clamp

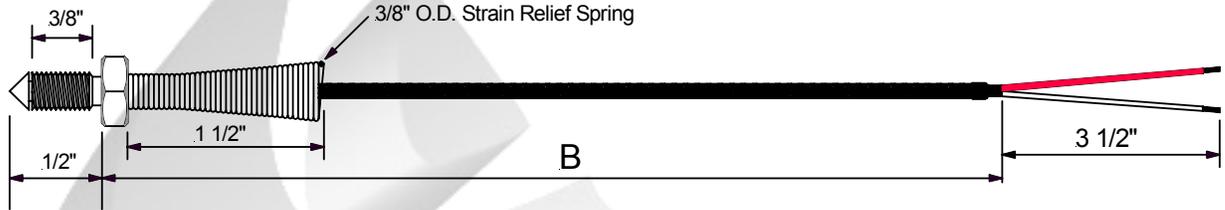
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# Plastic Industry Thermocouples

## Nozzle Bolt Style Thermocouple

Model Code: **D1**

Maximum operating temperature: 900F or 500C



Steps:

Model: **D1**  1.  2.  3.  4.  -  -  5.  6.  7.

1.	Nozzle Bolt Thread Size
1	1/4" x 28 UNF
2	M6 x 1mm
3	M8 x 1mm
4	M8 x 1.25mm

5.	"B" Dimension
	"B" = <u>0 4 8</u> "
	Leads Wire Length In Inches

2.	Wire Description
S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable
T	20 Gage Stranded Teflon Cable

6.	Termination Type
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & No. 10 Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

3.	Calibration
J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

7.	Accessories
1	None
2	Bx Connector
3	Cable Clamp

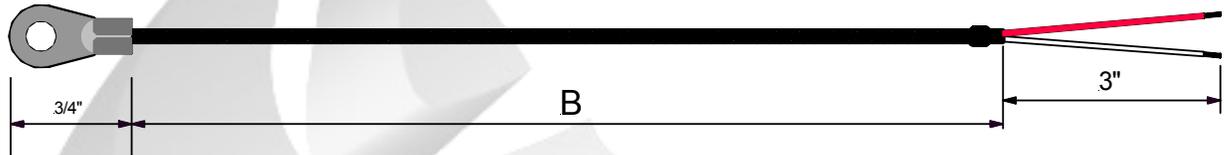
4.	Junction
G	Grounded
U	Ungrounded

# Plastic Industry Thermocouples

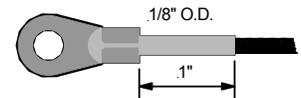
## Ring Terminal Style Thermocouple

Model Code: **E1**

Maximum operating temperature: 900F or 500C



### Unground Style Configuration



Steps:      1.      2.      3.      4.      5.      6.      7.

Model: **E1**                    -        -           

**1. Ring Terminal Hole Size**

1	No. 8 Ring Terminal
2	No. 10 Ring Terminal
3	1/4" I.D. Hole Ring Terminal
4	1/2" I.D. Hole Ring Terminal

**5. "B" Dimension**

"B" = <u>0 4 8</u> "
Leads Wire Length In Inches

**2. Wire Description**

S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable
T	20 Gage Stranded Teflon Cable

**6. Termination Type**

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & No.10 Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

**3. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
T	(+) Copper Vs. (-) Copper-Nickel

**7. Accessories**

1	None
2	Bx Connector
3	Cable Clamp

**4. Junction**

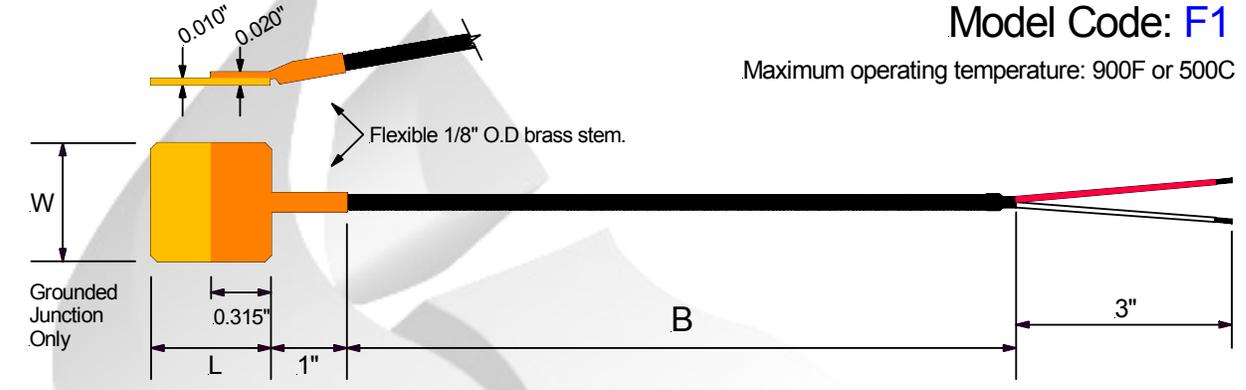
G	Grounded
U	Ungrounded

# Plastic Industry Thermocouples

## Shim Stock Style Thermocouple. Brass Shim

Model Code: **F1**

Maximum operating temperature: 900F or 500C



Steps:

Model: **F1**  1.  2.  3.  4.  5.  6.

**1. Shim Size: Width x Length**

1	1/2" x 1/2"
2	3/4" x 3/4"
3	3/4" x 7/8"
4	1" x 1"

**4. "B" Dimension**

**"B" = 0 4 8 "**

Leads Wire Length In Inches

**2. Wire Description**

S	20 Gage, Stranded, Stainless Steel Braid
F	20 Gage, Stranded, Fiberglass Cable

**5. Termination Type**

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & No. 10 Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

**3. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

**6. Accessories**

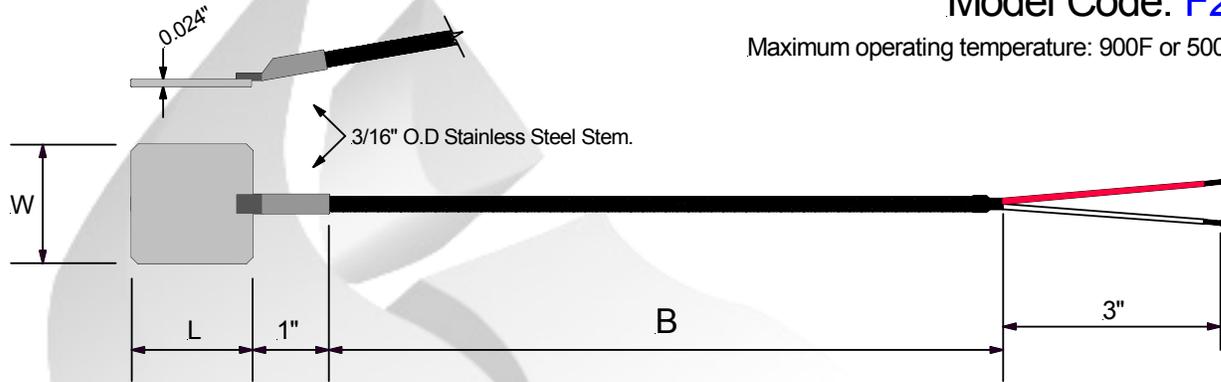
1	None
2	Cable Clamp

# Plastic Industry Thermocouples

## Shim Stock Style Thermocouple. Stainless Steel Shim

Model Code: **F2**

Maximum operating temperature: 900F or 500C



Steps: 1.  2.  3.  4.  5.  6.  7.

Model: **F2**    -  -

**1. Shim Size: Width x Length**

1	1/2" x 1/2"
2	3/4" x 3/4"
3	3/4" x 7/8"
4	1" x 1"

**2. Wire Description**

S	20 Gage, Stranded, Stainless Steel Braid
F	20 Gage, Stranded, Fiberglass Cable
X	Flexible Armor Cable

**3. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

**4. "B" Dimension**

<b>"B" = 0 4 8 "</b>
Leads Wire Length in Inches

**5. Junction**

G	Grounded
U	Ungrounded

**6. Termination Type**

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & No.10 Spade Lugs
2	Standard Male Plug
3	Standard Female Jack
4	Mini Male Plug
5	Mini Female Jack

**7. Accessories**

A	None
B	Bx Connector
C	Cable Clamp

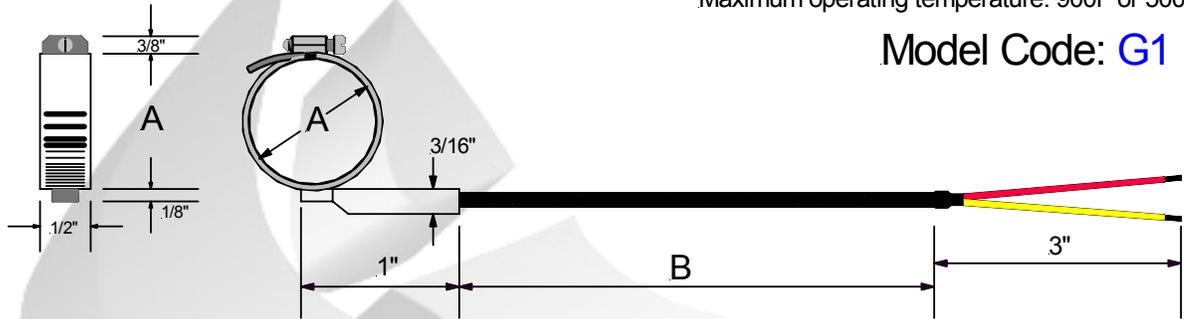
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# Plastic Industry Thermocouples

## Pipe Clamp Style Thermocouple

Maximum operating temperature: 900F or 500C

Model Code: **G1**



Steps To Follow:

Model No. **G1**  1.  2.  3.  4.  5.  6.

**1. Pipe Clamp Description**  
A= Diameter Range

	Minimum	Maximum
1	1 1/16"	2"
2	1 13/16"	2 3/4"
3	2 9/16"	3 1/2"
4	3"	5"
5	5"	7"

**4. "B" Dimension**

"B"= 0 4 8 "

Leads Wire Length In Inches

**2. Wire Description**

S	20 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	20 Gage Stranded Fiberglass Cable

**5. Termination Type**

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

**3. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

**6. Accessories**

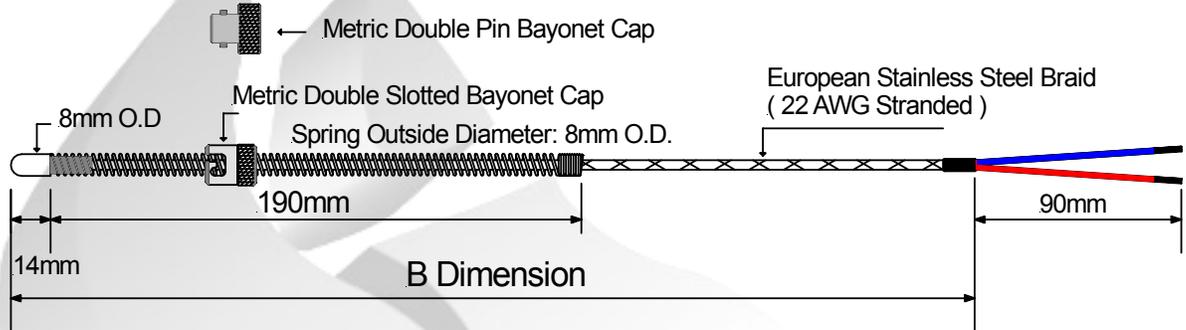
1	None
2	Bx Connector
3	Cable Clamp

# Plastic Industry Thermocouples

## European Adjustable Bayonet

Model Code: **H1**

Maximum operating temperature: 900F or 500C



Steps To Follow:

Model: **H1**    -  -

**1. Probe Tip Description**

R	Radius Tip Style
F	Flat Tip Style

**4. "B" Dimension**

"B"= <u>0 4 8</u> "	OR	"B"= <u>3 M</u>
Length In Inches		Length In Meters

**2. Bayonet Cap Option**

1	M12 Bayonet Cap
2	M14 Bayonet Cap
3	M16 Bayonet Cap
4	Double Pin Bayonet Cap

**5. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

**3. Termination Type**

A	3 1/2" Split Leads & 1/2" Bare Ends.
B	3 1/2" Split Leads & Pin Connectors
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

**6. Junction Styles**

	Grounded	Ungrounded
Single	G	U
Dual	D	Y

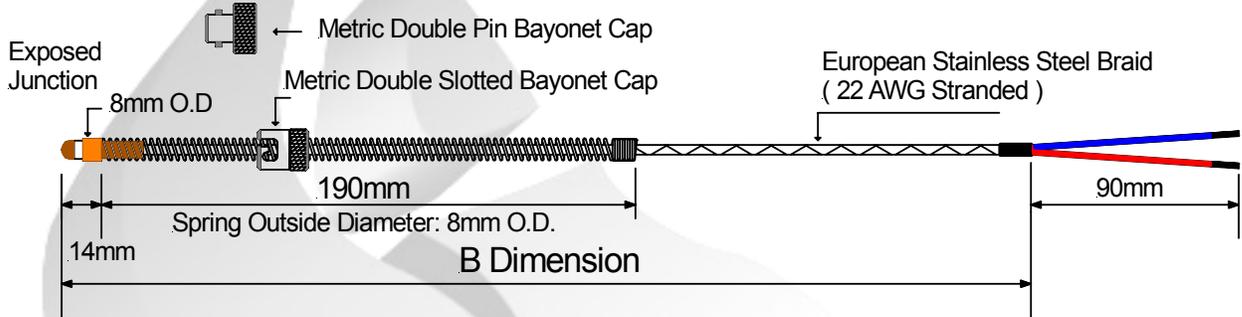
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# Plastic Industry Thermocouples

## European Adjustable Bayonet , Exposed Brass Tip Style

Model Code: **H2**

Maximum operating temperature: 900F or 500C



Steps To Follow:

Model: **H2**   -  -

**1. Bayonet Cap Option**

1	M12 Bayonet Cap
2	M14 Bayonet Cap
3	M16 Bayonet Cap
4	Double Pin Bayonet Cap

**3. "B" Dimension**

"B"= <u>0 4 8</u> "	OR	"B"= <u>3M</u>
Length In Inches		Length In Meters

**2. Termination Type**

A	3 1/2" Split Leads & 1/2" Bare Ends.
B	3 1/2" Split Leads & Pin Connectors
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

**4. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

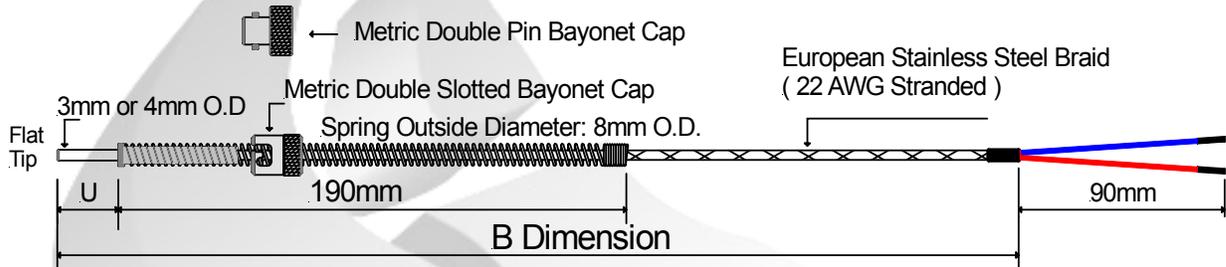
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# Plastic Industry Thermocouples

## European Fixed Adjustable Bayonet

Model Code: **H3**

Maximum operating temperature: 900F or 500C



Steps To Follow:

Model: **H3**  1.  2.  3.  4.  5.  6.  7.

1. **Probe Tip Diameter**

A	3mm Outside Diameter
B	4mm Outside Diameter

4. **"B" Dimension**

"B" = <u>0 4 8</u> "	OR	"B" = <u>3 M</u>
Length In Inches		Length In Meters

2. **"U" Dimension**

"U" = <u>2 5</u> mm
Length In MM

5. **Termination Type**

A	3 1/2" Split Leads & 1/2" Bare Ends.
B	3 1/2" Split Leads & Pin Connectors
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

3. **Bayonet Cap Option**

A	M12 Bayonet Cap
B	M14 Bayonet Cap
C	M16 Bayonet Cap
D	Double Pin Bayonet Cap

6. **Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum

7. **Junction Styles**

	Grounded	Ungrounded
Single	G	U
Dual	D	Y

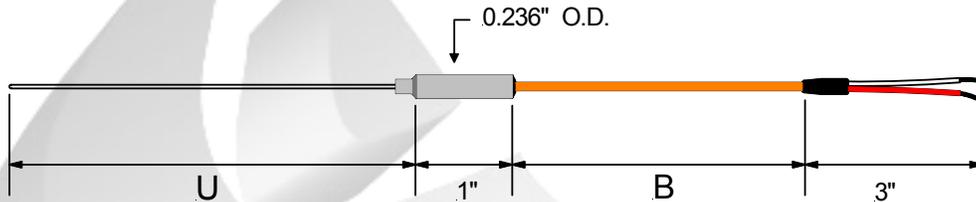
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# Mineral Insulated Thermocouple

## Hot Runner Style Thermocouple

Model Code: **J1**

Maximum operating temperature: 900F or 500C



Compression fittings are sold separately. See accessory section.

Model: **J1**       —

A Outside Diameter	
1	0.020" = 0.5mm
2	0.032"
3	0.040" = 1mm
4	0.059" = 1.5mm
5	0.063"

B Sheath Material	
A	304 Stainless
B	316 Stainless
C	Inconel 600

C "U" Dimension	
Specify "U" Length In Inches <u>0 0 6</u>	
Example "U" is 6" = 006	

D "U" Fractional Dimension	
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F Junction Styles				
Element Description	Grounded		Ungrounded	
	Common	Common	Common	Isolated
Single	G			U
Duplex	D	F		H

G "B" Dimension	
Specify "B" Length In Inches <u>0 4 8</u>	
Example "B" is 48" = 048	

H Cable Insulation Description	
A	24 Gage, Stranded, Kapton
B	24 Gage, Solid, Kapton
C	24 Gage, Stranded, Teflon
D	24 Gage, Solid, Teflon
E	24 Gage, Stranded, Fiberglass
F	24 Gage, Solid, Fiberglass

I Termination	
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

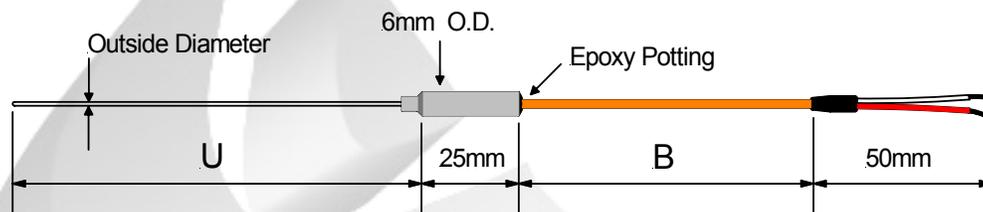
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# Mineral Insulated Thermocouple

## Metric Hot Runner Style Thermocouple

**Model Code: J2**

Maximum operating temperature: 500F or 260C



Compression fittings are sold separately. See accessory section.

Model: **A** **B** **C** **D** **E** **F** **G** **H**

**J2**

A Outside Diameter	
1	0.5mm
2	1mm
3	1.5mm

B Sheath Material	
A	304 Stainless
B	316 Stainless
C	Inconel 600

C "U" Dimension	
Specify "U" Length In mm <u>150</u>	

Example "U" is 150mm = 150

D Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E Junction Styles			
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

F "B" Dimension	
Specify "B" Length In Meters <u>0.2</u>	

Example "B" is 2M = 02

G Cable Insulation Description	
A	24 Gage, Stranded, Kapton
B	24 Gage, Solid, Kapton
C	24 Gage, Stranded, Teflon
D	24 Gage, Solid, Teflon
E	24 Gage, Stranded, Fiberglass
F	24 Gage, Solid, Fiberglass

H Termination	
1	50mm Split Leads, 15mm bare ends.
2	50mm Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

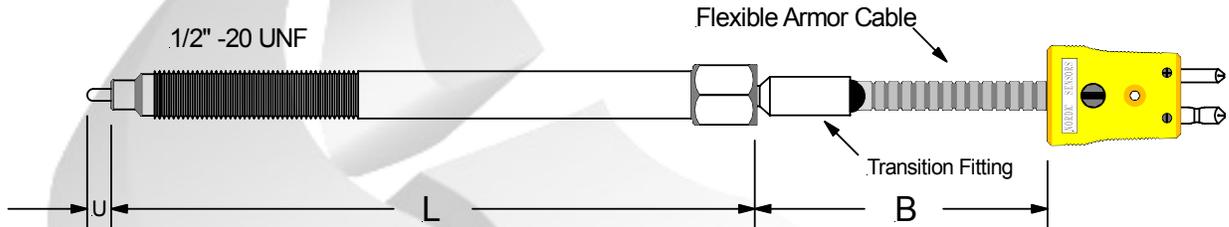
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# Plastic Industry Thermocouples

## Melt Bolt Thermocouple. Mineral Insulated

Model Code: **K1**

Operating Temperature: -200 C to +500 C



Steps:

Model **K1**    -   -

A Melt Bolt Length "L"	
3	3"
4	4"
6	6"

B "U" Tip Diameter	
F	Flush Tip
A	0.125"
B	0.188"
C	0.250"

C Insertion Depth "U"	
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E Junction Styles			
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

F "B" Dimension	
Specify "B" Length In Inches <u>0 4 8</u>	
Example "B" is 048 =48"	

G Termination	
A	3" Split leads, 1/2" bare ends.
B	3" Split leads & No. 10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug ( 350 F )
F	Mini Female Jack (350 F)

H Termination Options	
1	None
2	Bx Connector
3	Cable Clamp

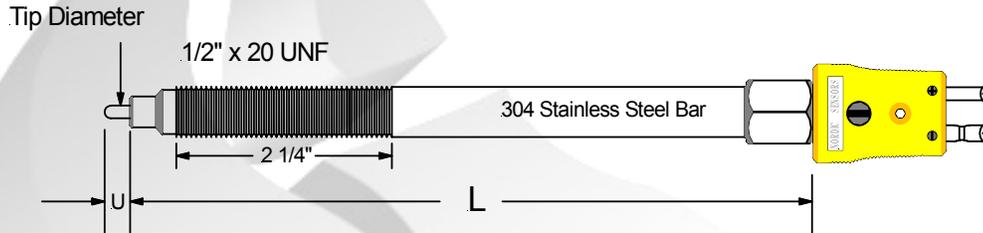
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# Plastic Industry Thermocouples

## Rigid Melt Bolt Thermocouple. Mineral Insulated

Model Code: **K2**

Operating Temperature: -200 C to +500 C



Steps:



A	Melt Bolt Length " L "
3	3"
4	4"
6	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.125"
B	0.188"
C	0.250"

C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	Calibration	
	Standard Limits of Error	Special Limits of Error
1	J	6 J
2	K	7 K
3	T	8 T
4	E	9 E
5	N	10 N

F	Termination
1	Standard Male Plug (350 F)
2	Standard Female Jack (350 F)
3	Mini Male Plug (350 F)
4	Mini Female Jack (350 F)

E	Junction Styles		
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

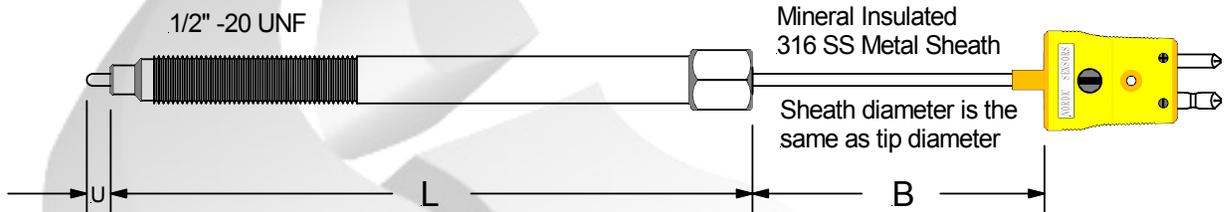
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# Plastic Industry Thermocouples

## Fixed Melt Bolt Thermocouple. Mineral Insulated

Model Code: **K3**

Operating Temperature: -200 C to +500 C



Steps:

Model **K3**    —   —

A	Melt Bolt Length "L"
3	3"
4	4"
6	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.125"
B	0.188"
C	0.250"

C	Insertion Depth "U"
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	Calibration	
	Standard Limits of Error	Special Limits of Error
1	J	6 J
2	K	7 K
3	T	8 T
4	E	9 E
5	N	10 N

E	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	M

F	"B" Dimension
	Specify "B" Length In Inches <u>04</u>
	Example "B" is 04 = 4"

G	Termination
A	Standard Male Plug.
B	Standard Female Jack.
C	Mini Male Plug.
D	Mini Female Jack.

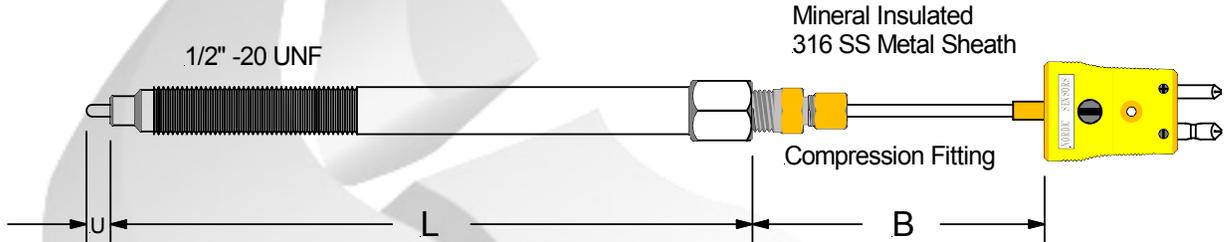
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# Plastic Industry Thermocouples

## Adjustable Melt Bolt Thermocouple. Mineral Insulated

Model Code: **K4**

Operating Temperature: -200 C to +500 C



Steps:

Model **K4**    —   —

A	Melt Bolt Length " L "
3	3"
4	4"
6	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.125"
B	0.188"
C	0.250"

C	Insertion Depth " U "
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	Calibration	
	Standard Limits of Error	Special Limits of Error
1	J	6 J
2	K	7 K
3	T	8 T
4	E	9 E
5	N	10 N

E	Junction Styles		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

F	"B" Dimension
	Specify " B " Length In Inches <u>0.4</u>
	Example "B" is 04" = 4"

G	Termination
A	Standard Male Plug.
B	Standard Female Jack.
C	Mini Male Plug.
D	Mini Female Jack.

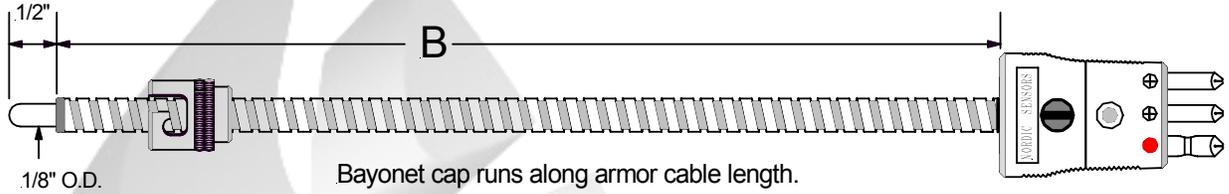
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# Plastic Industry RTD's

## Miniature Adjustable Bayonet Style RTD

Armor cable outside diameter: 0.210"

Operating Temperature: -200 C to +250 C



Steps To Follow:

Model: 1A  1.  2.  3.  4.  5.

1. **Termination Type**

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

4. **RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

2. **Accessories**

N	None
X	Bx Connector
C	Cable Clamp

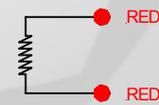
5. **RTD Wire Connection**

2	2 Wire Configuration
3	3 Wire Configuration
4	4 Wire Configuration

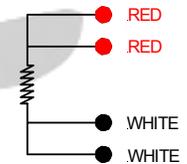
3. **"B" Dimension**

"B" = <u>0 4 8</u> "
Leads Wire Length In Inches

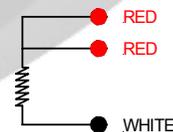
2 Wire Configuration



4 Wire Configuration



3 Wire Configuration

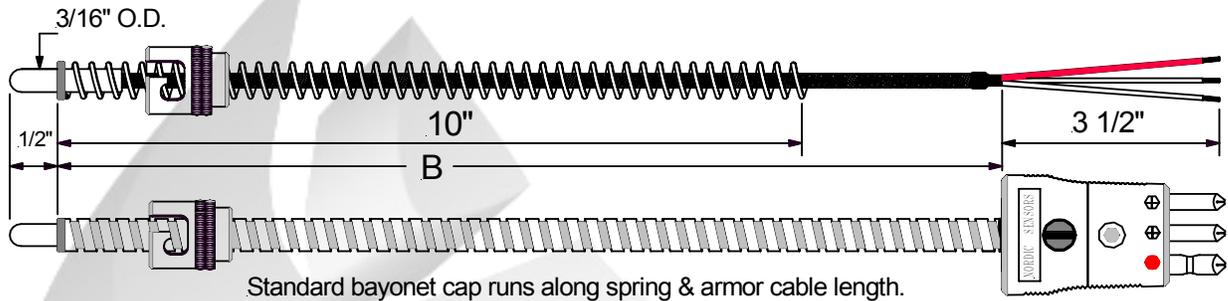


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# Plastic Industry RTD's

## Adjustable Bayonet Style RTD

Low temperature application



Standard bayonet cap runs along spring & armor cable length.

Operating Temperature: -200 C to +250 C

**2A**

1.  2.  3.  - 4.  - 5.  6.

**1. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**4. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

**2. Termination Type**

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

**5. RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

**3. Accessories**

N	None
X	Bx Connector
C	Cable Clamp

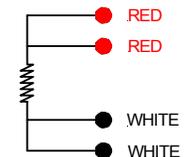
**6. RTD Wire Connection**

2	2 Wire Configuration
3	3 Wire Configuration
4	4 Wire Configuration

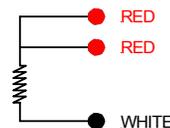
**2 Wire Configuration**



**4 Wire Configuration**



**3 Wire Configuration**

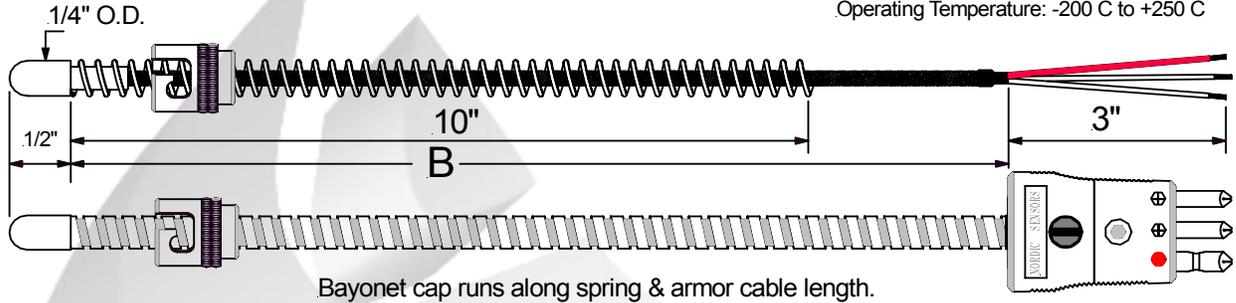


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# Plastic Industry RTD's

## 1/4" Diameter Adjustable Bayonet Style RTD

Operating Temperature: -200 C to +250 C



Steps To Follow:

Model: **3A**  1.  2.  3.  -  4.  -  5.  6.

**1. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**4. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

**2. Termination Type**

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

**5. RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

**3. Accessories**

N	None
X	Bx Connector
C	Cable Clamp

**6. RTD Wire Connection**

2	2 Wire Configuration
3	3 Wire Configuration
4	4 Wire Configuration

**2 Wire Configuration**



**3 Wire Configuration**



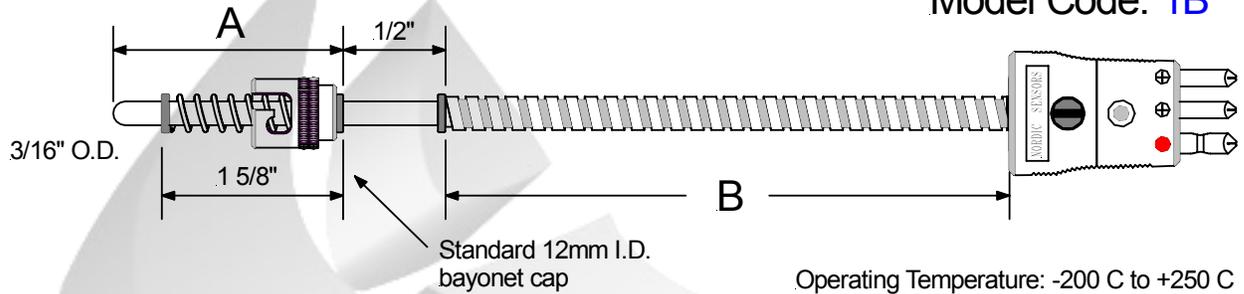
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# Plastic Industry RTD's

## Fixed Bayonet Style RTD.

Low temperature application

Model Code: **1B**



Steps To Follow:

Model: **1B**   -     -  -

1. **"A" Dimension**

"A"= 02 "

Insertion Length In Inches

2. **RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

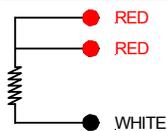
3. **RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

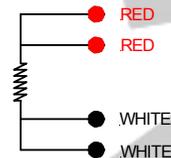
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



4. **Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

5. **"B" Dimension**

"B"= 048 "

Leads Wire Length In Inches

6. **Termination Type**

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

7. **Accessories**

1	None
2	Bx Connector
3	Cable Clamp

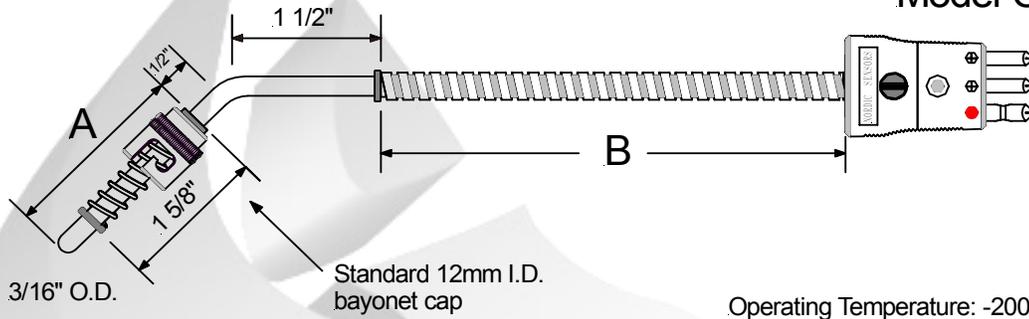
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# Plastic Industry RTD's

## Fixed Bayonet Style RTD. 45° Bend

Low temperature application

Model Code: **2B**



Steps To Follow:

Model: **2B**  1.  2.  3.  4.  5.  6.  7.

1. **"A" Dimension**

"A" = 0 2 "

Insertion Length In Inches

2. **RTD Element Type**

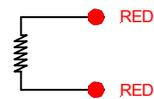
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

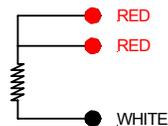
3. **RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

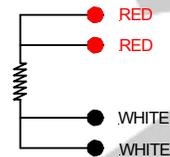
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



4. **Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

5. **"B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

6. **Termination Type**

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

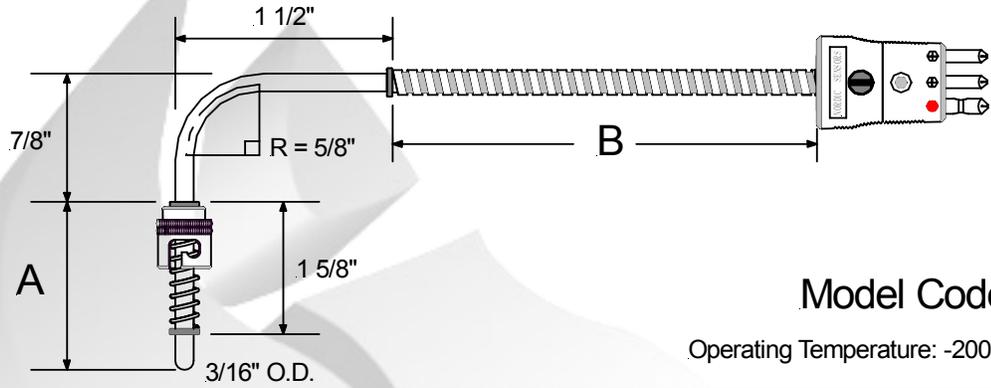
7. **Accessories**

1	None
2	Bx Connector
3	Cable Clamp

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# Plastic Industry RTD's

## Fixed Bayonet Style RTD, 90° Bend Low temperature application



Model Code: **3B**

Operating Temperature: -200 C to +250 C

Steps To Follow:

Model: **3B**  1.  2.  3.  4.  5.  6.  7.

**1. "A" Dimension**

"A" = 02 "

Insertion Length In Inches

**2. RTD Element Type**

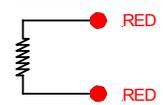
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

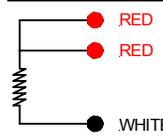
**3. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

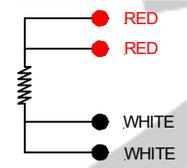
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



**4. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**5. "B" Dimension**

"B" = 048 "

Leads Wire Length In Inches

**6. Termination Type**

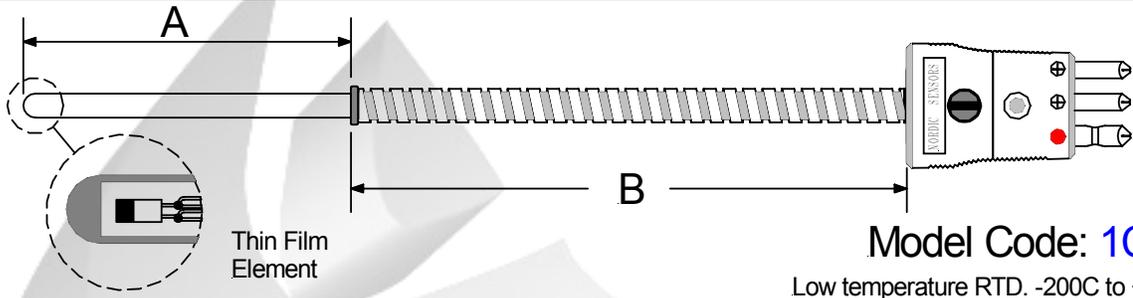
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug <small>(2 &amp; 3 Wire config. only)</small>
D	Standard Female Jack <small>(2 &amp; 3 Wire config. only)</small>
E	Mini Male Plug <small>(2 &amp; 3 Wire config. only)</small>
F	Mini Female Jack <small>(2 &amp; 3 Wire config. only)</small>

**7. Accessories**

1	None
2	Bx Connector
3	Cable Clamp

# Plastic Industry RTD's

## Tube & Wire General Purpose RTD.



Model: 1C   -

**1. Outside Diameter**

A	1/8"
B	3/16"
C	1/4"

**2. "A" Dimension**

"A" = 0 2 "

Insertion Length In Inches

**3. RTD Element Type**

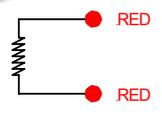
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

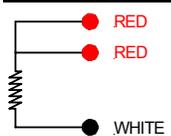
**4. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

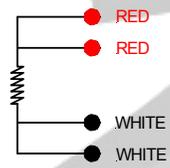
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



**5. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**6. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

**7. Termination Type**

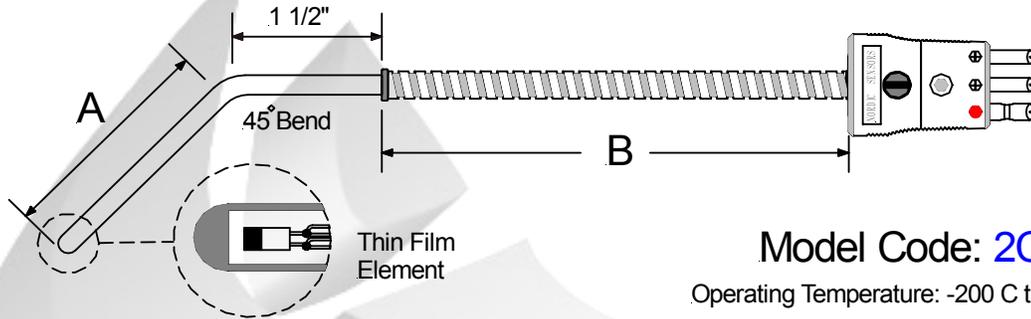
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

**8. Accessories**

1	None
2	Bx Connector
3	Cable Clamp

# Plastic Industry RTD's

## General Purpose RTD. 45° Bend



Model: **2C**   -

**1. Outside Diameter**

A	1/8"
B	3/16"
C	1/4"

**2. "A" Dimension**

**"A" = 02 "**  
Insertion Length In Inches

**3. RTD Element Type**

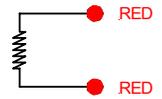
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

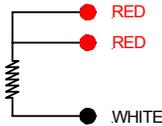
**4. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

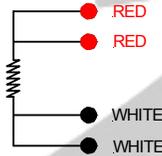
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



**5. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**6. "B" Dimension**

**"B" = 048 "**  
Leads Wire Length In Inches

**7. Termination Type**

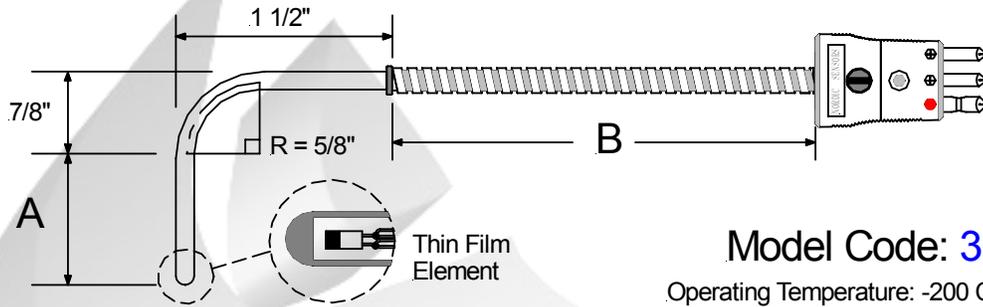
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

**8. Accessories**

1	None
2	Bx Connector
3	Cable Clamp

# Plastic Industry RTD's

## General Purpose RTD. 90° Bend



**Model Code: 3C**  
Operating Temperature: -200 C to +250 C

Model: **3C**  1.  2.  -  3.  4.  5.  6.  7.  8.

**1. Outside Diameter**

A	1/8"
B	3/16"
C	1/4"

**2. "A" Dimension**

"A" = 0 2 "

Insertion Length In Inches

**3. RTD Element Type**

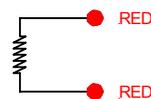
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

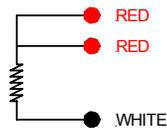
**4. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

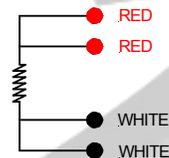
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



**5. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**6. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

**7. Termination Type**

A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

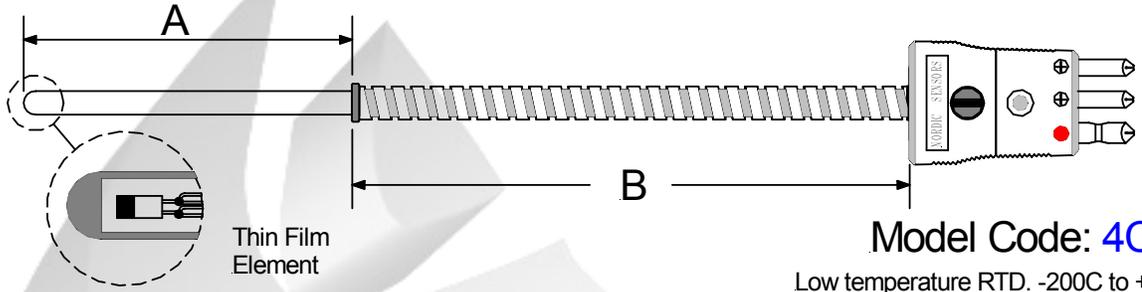
**8. Accessories**

1	None
2	Bx Connector
3	Cable Clamp

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# Plastic Industry RTD's

## Metric Size Tube & Wire General Purpose RTD



Model: **4C**  1.  2.  -  3.  4.  5.  6.  7.  8.

**1. Outside Diameter**

A	3mm
B	4mm
C	5mm
D	6mm

**2. "A" Dimension**

**"A" = 150 "**

Insertion Length In mm

**3. RTD Element Type**

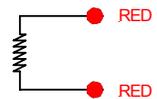
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

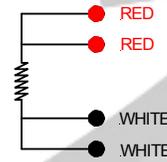
**4. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

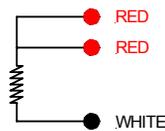
**2 Wire Configuration**



**4 Wire Configuration**



**3 Wire Configuration**



**5. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**6. "B" Dimension**

**"B" = 0.1 "**

Leads Wire Length In Meters

**7. Termination Type**

A	90mm Split Leads & Bare Ends.
B	90mm Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

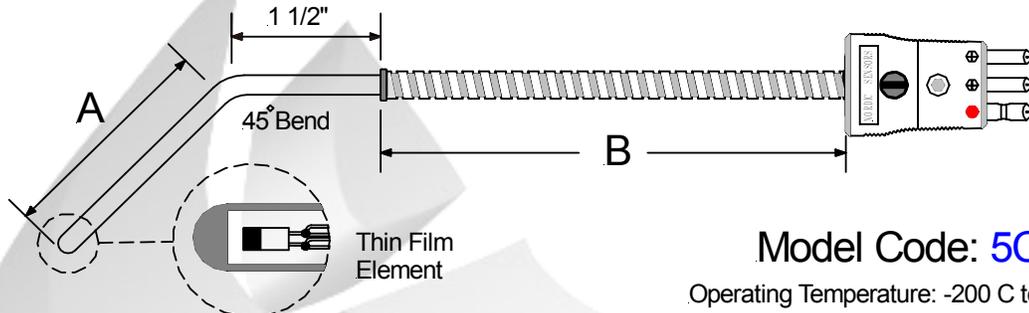
**8. Accessories**

1	None
2	Bx Connector
3	Cable Clamp

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# Plastic Industry RTD's

## Metric Size General Purpose RTD. 45 Bend



Model: **5C**   -

**1. Outside Diameter**

A	3mm
B	4mm
C	5mm
D	6mm

**2. "A" Dimension**

"A" = 1 5 0 "

Insertion Length In mm

**3. RTD Element Type**

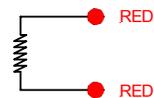
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

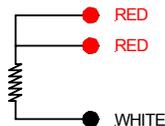
**4. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

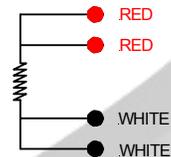
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



**5. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**6. "B" Dimension**

"B" = 0 1 "

Leads Wire Length In Meters

**7. Termination Type**

A	90mm Split Leads & Bare Ends.
B	90mm Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

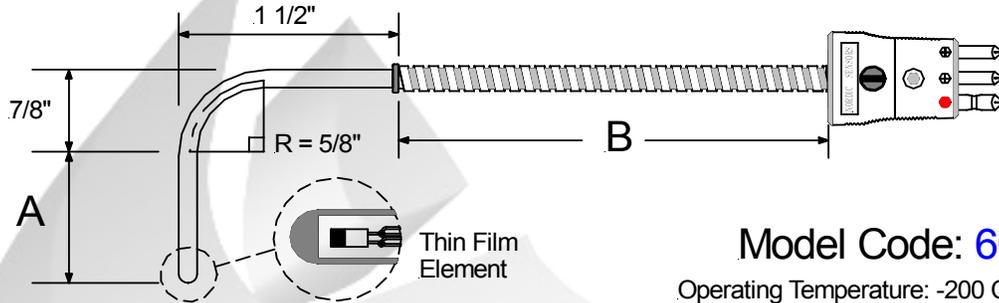
**8. Accessories**

1	None
2	Bx Connector
3	Cable Clamp

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# Plastic Industry RTD's

## General Purpose RTD. 90° Bend



Model Code: **6C**

Operating Temperature: -200 C to +250 C

6C  1.  2.  -  3.  4.  5.  6.  7.  8.

**1. Outside Diameter**

A	3mm
B	4mm
C	5mm
D	6mm

**2. "A" Dimension**

"A" = 1 5 0 "

Insertion Length In mm

**3. RTD Element Type**

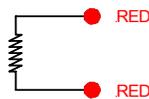
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

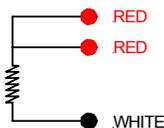
**4. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

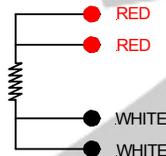
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



**5. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
X	Flexible Armor Cable
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**6. "B" Dimension**

"B" = 0 1 "

Leads Wire Length In Meters

**7. Termination Type**

A	90mm Split Leads & Bare Ends.
B	90mm Slip Leads & Spade Lugs
C	Standard Male Plug (2 & 3 Wire config. only)
D	Standard Female Jack (2 & 3 Wire config. only)
E	Mini Male Plug (2 & 3 Wire config. only)
F	Mini Female Jack (2 & 3 Wire config. only)

**8. Accessories**

1	None
2	Bx Connector
3	Cable Clamp

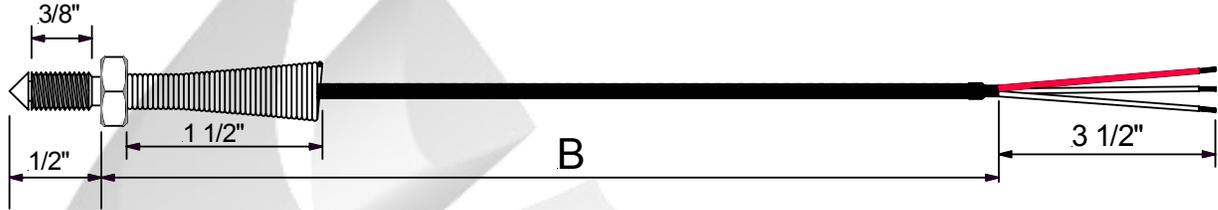
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# Plastic Industry RTD's

## Nozzle Bolt Style RTD

Model Code: **1D**

Operating Temperature: -200 C to +250 C



Model: **1D**  1.  2.  3.  4.  5.  -  6.  7.

**1. Nozzle Bolt Thread Size**

1	1/4" x 28 UNF
2	M6 x 1mm
3	M6 x 1.25mm
4	M8 x 1mm
5	M8 x 1.25mm

**2. Wire Description**

S	26 Gage, Stranded, Stainless Steel Braid
T	26 Gage, Stranded, Teflon
X	0.210 O.D., Flexible Armor, Teflon Wire
F	26 Gage, Stranded, Fiberglass Cable
C	0.210 O.D., Flexible Armor, Fiberglass Wire

**3. Termination Type**

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

**4. Accessories**

A	None
B	Bx Connector
C	Cable Clamp

**5. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

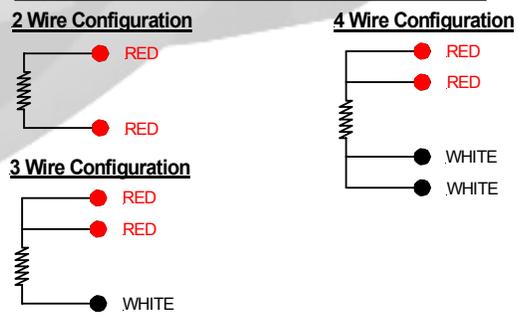
**6. RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

**7. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

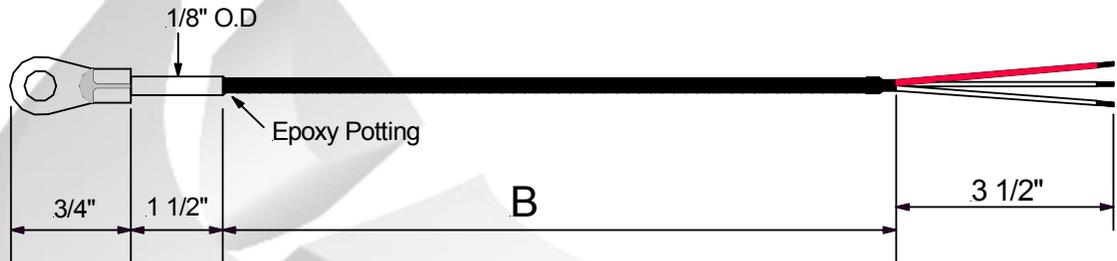


# Plastic Industry RTD's

## Ring Terminal Style RTD.

Model Code: **1E**

Operating Temperature: -200 C to +250 C



Model: **1E**  1.  2.  3.  4.  5.  -  6.  7.

**1. Ring Terminal Hole Size**

1	No. 8 Screw
2	No. 10 Screw
3	1/4" Hole
4	1/2" Hole

**2. Wire Description**

S	26 Gage, Stranded, Stainless Steel Braid
T	26 Gage, Stranded, Teflon
X	0.210 O.D., Flexible Armor, Teflon Wire
F	26 Gage, Stranded, Fiberglass Cable
C	0.210 O.D., Flexible Armor, Fiberglass Wire

**3. Termination Type**

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

**4. Accessories**

A	None
B	Bx Connector
C	Cable Clamp

**5. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

**6. RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

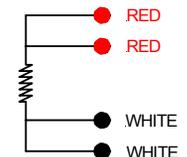
**7. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

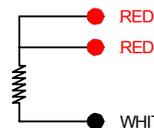
**2 Wire Configuration**



**4 Wire Configuration**



**3 Wire Configuration**



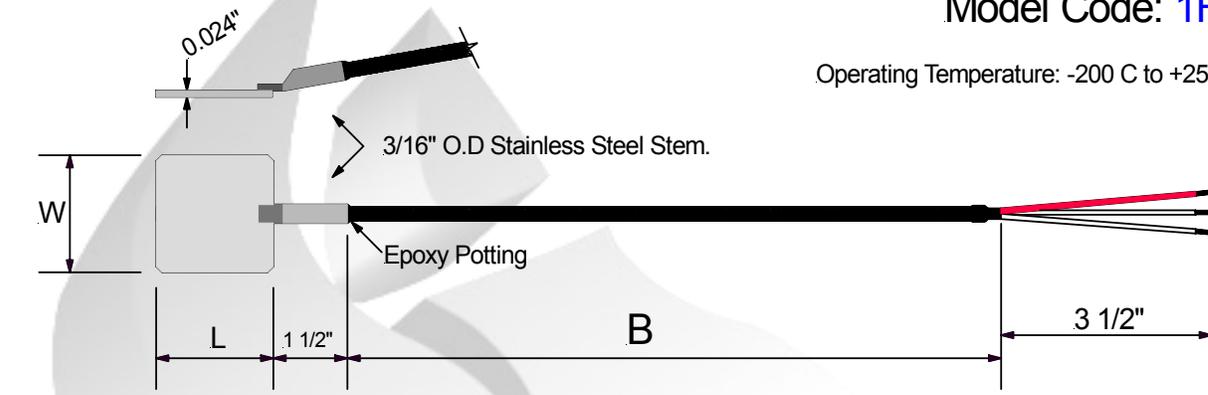
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# Plastic Industry RTD's

## Shim Stock Style RTD. Stainless Steel Shim

Model Code: **1F**

Operating Temperature: -200 C to +250 C



Model: **1F**  1.  2.  3.  4.  5.  -  6.  7.

**1. Shim Size: Width x Length**

1	1/2" x 1/2"
2	3/4" x 3/4"
3	3/4" x 7/8"
4	1" x 1"

**5. "B" Dimension**

**"B" = 0 4 8 "**

Leads Wire Length In Inches

**2. Wire Description**

S	26 Gage, Stranded, Stainless Steel Braid
T	26 Gage, Stranded, Teflon
X	0.210 O.D., Flexible Armor, Teflon Wire
F	26 Gage, Stranded, Fiberglass Cable
C	0.210 O.D., Flexible Armor, Fiberglass Wire

**6. RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

**3. Termination Type**

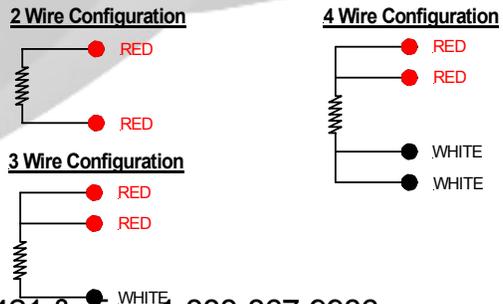
0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

**7. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

**4. Accessories**

A	None
B	Bx Connector
C	Cable Clamp

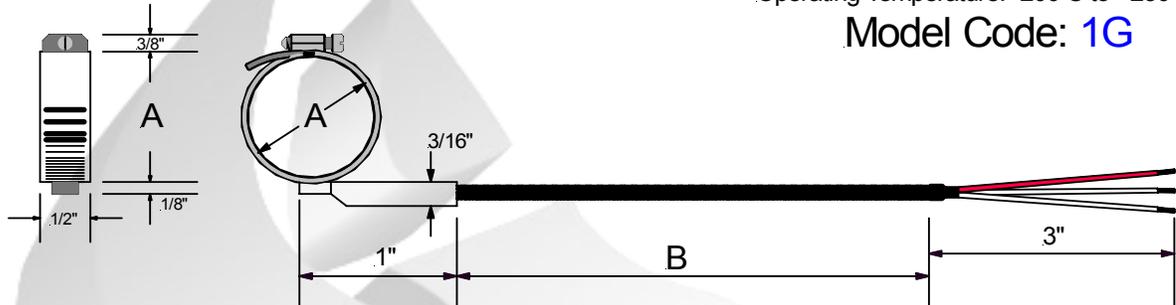


# Plastic Industry RTDs

## Pipe Clamp Style RTD

Operating Temperature: -200 C to +250 C

Model Code: **1G**



Model: **1G**      -

**1. Pipe Clamp Description**  
A = Diameter Range

	Minimum	Maximum
1	1 1/16"	2"
2	1 13/16"	2 3/4"
3	2 9/16"	3 1/2"
4	3"	5"
5	5"	7"

**5. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

**2. Wire Description**

S	26 Gage, Stranded, Stainless Steel Braid
T	26 Gage, Stranded, Teflon
X	0.210 O.D., Flexible Armor, Teflon Wire
F	26 Gage, Stranded, Fiberglass Cable
C	0.210 O.D., Flexible Armor, Fiberglass Wire

**6. RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

**3. Termination Type**

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

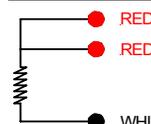
**7. RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

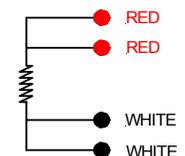
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



**4. Accessories**

A	None
B	Bx Connector
C	Cable Clamp

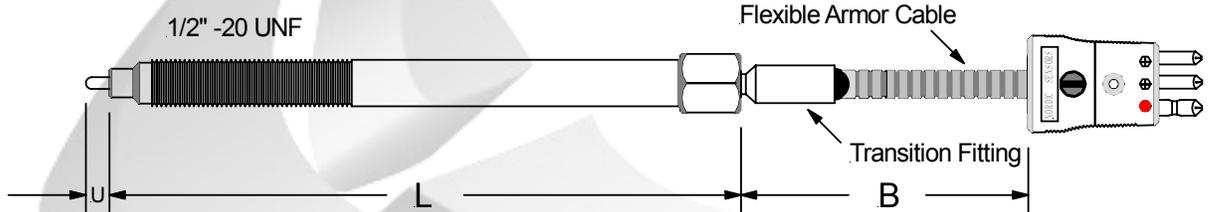
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# Plastic Industry RTD's

## Melt Bolt RTD. Mineral Insulated

Model Code: **1K**

Operating Temperature: -200 C to +500 C



Mineral insulated 316SS sensor tip.

Model	A	B	C	D	E	F	G
	<u>1K</u>						

<b>A</b>	<b>Melt Bolt Length "L"</b>
1	3"
2	4"
3	6"

<b>B</b>	<b>"U" Tip Diameter</b>
F	Flush Tip
A	0.188"
B	0.250"

<b>C</b>	<b>Insertion Depth "U"</b>
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

<b>D</b>	<b>RTD Element Type</b>	
	<b>Ohms</b>	<b>Class A</b>
	<b>Class B</b>	
	1 x Pt100	1
	2 x Pt100	3
	1 x Pt1000	5
	2 x Pt1000	7
		2
		4
		6
		8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

<b>E</b>	<b>RTD Wire Connection</b>
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

<b>F</b>	<b>"B" Dimension</b>
	Specify "B" Length In Inches <u>0 0 4</u>

Example "B" is 4" = 004

<b>G</b>	<b>Termination Type</b>
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

**2 Wire Configuration**

**3 Wire Configuration**

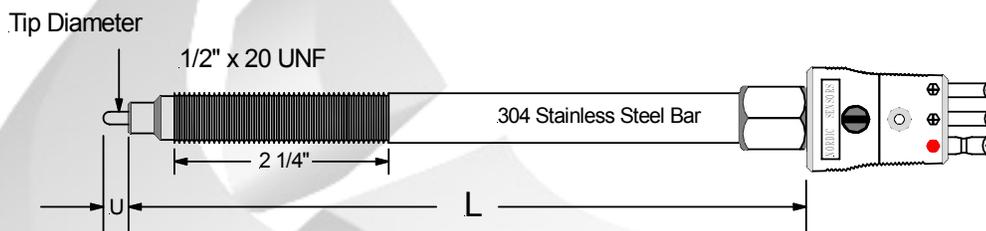
**4 Wire Configuration**

# Plastic Industry RTD's

## Rigid Melt Bolt RTD. Mineral Insulated

Model Code: **2K**

Operating Temperature: -200 C to +500 C



Mineral insulated 316SS sensor tip.



<b>A</b>	Melt Bolt Length "L"
1	3"
2	4"
3	6"

<b>B</b>	"U" Tip Diameter
F	Flush Tip
A	0.188"
B	0.250"

<b>C</b>	Insertion Depth "U"
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

<b>D</b>	RTD Element Type		
	Ohms	Class A	Class B
1	1 x Pt100	1	2
2	2 x Pt100	3	4
3	1 x Pt1000	5	6
4	2 x Pt1000	7	8

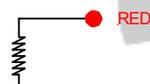
Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

<b>F</b>	Termination Type
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

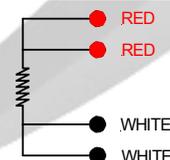
Connectors can only be installed on 2 & 3 wire configuration RTDs.

<b>E</b>	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

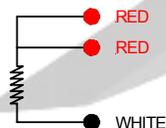
**2 Wire Configuration**



**4 Wire Configuration**



**3 Wire Configuration**



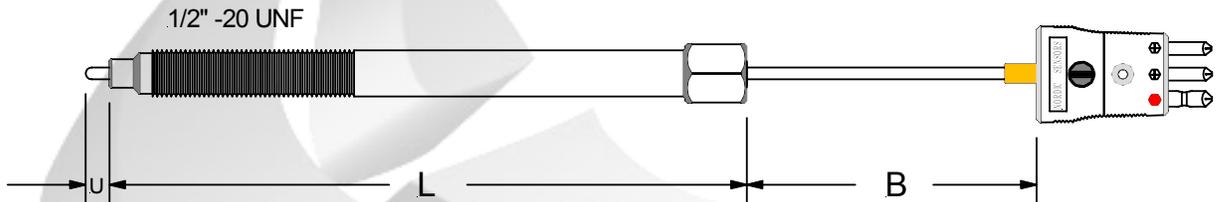
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# Plastic Industry RTD's

## Fixed Melt Bolt RTD. Mineral Insulated

Model Code: **3K**

Operating Temperature: -200 C to +500 C



Mineral insulated 316SS sensor tip.

Model	A	B	C	D	E	F	G
	<input type="checkbox"/>						
<b>3K</b>							

<b>A</b>	<b>Melt Bolt Length "L"</b>
1	3"
2	4"
3	6"

<b>B</b>	<b>"U" Tip Diameter</b>
F	Flush Tip
A	0.188"
B	0.250"

<b>C</b>	<b>Insertion Depth "U"</b>
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

<b>D</b>	<b>RTD Element Type</b>
	<b>Ohms</b> <b>Class A</b> <b>Class B</b>
1 x Pt100	1            2
2 x Pt100	3            4
1 x Pt1000	5            6
2 x Pt1000	7            8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

<b>E</b>	<b>RTD Wire Connection</b>
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

<b>F</b>	<b>"B" Dimension</b>
	Specify "B" Length In Inches <u>0 4</u>

Example "B" is 4" = 04

<b>G</b>	<b>Termination Type</b>
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

<b>2 Wire Configuration</b>	<b>4 Wire Configuration</b>
<b>3 Wire Configuration</b>	

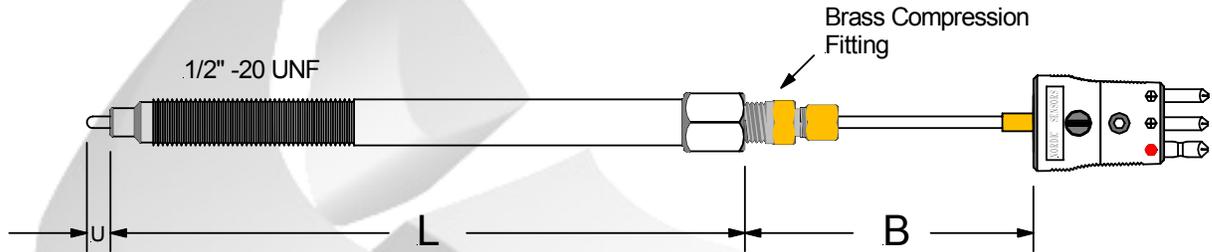
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# Plastic Industry RTD's

## Adjustable Melt Bolt RTD.

Model Code: **4K**

Operating Temperature: -200 C to +500 C



Mineral insulated 316SS tip.



A	Melt Bolt Length "L"
1	3"
2	4"
3	6"

B	"U" Tip Diameter
F	Flush Tip
A	0.188"
B	0.250"

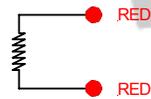
C	Insertion Depth "U"
1	Flush
2	0.125"
3	0.250"
4	0.500"
5	0.750"
6	1"

D	RTD Element Type		
	Ohms	Class A	Class B
1	1 x Pt100	1	2
2	2 x Pt100	3	4
3	1 x Pt1000	5	6
4	2 x Pt1000	7	8

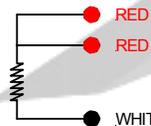
Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

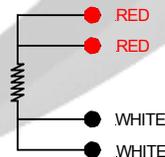
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



F	"B" Dimension
	Specify "B" Length In Inches <u>0 4</u>

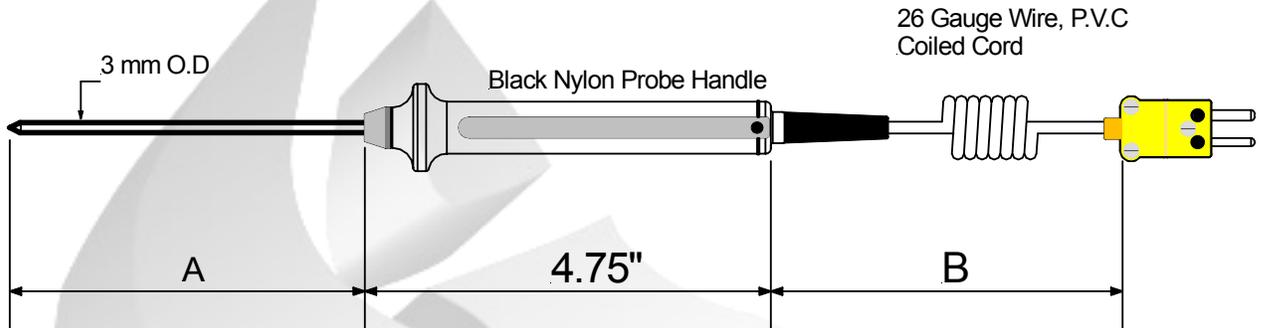
Example "B" is 4" = 04

G	Termination Type
A	3" Split Leads & 1/2" Bare Ends.
B	3" Slip Leads & Spade Lugs
C	Standard Male Plug
D	Standard Female Jack
E	Mini Male Plug
F	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

# Process Industry Thermocouples

## Mineral Insulated Thermocouple With Plastic Handle



Maximum operating temperature 900 F or 500 C.

Steps To Follow:

Model: **L1**  1. -  2. -  3. -  4. -  5. -  6.

**1. Probe Tip Option**

R	Radius Tip Style
D	Drill Tip Style

**2. Termination Type**

1	3" Split Leads & 1/2" Bare Ends.
2	Mini Male Plug

**3. "A" Dimension**

"A" = <u>0.4</u> "
Length In Inches

**4. Coiled Cord "B" Dimension**

	Retracted Length	Extended Length
A	12"	48" to 60"
B	24"	120"
C	32"	180"
D	60"	30 ft
E	96"	45 ft

**5. Calibration**

1	J	(+) Iron Vs. (-) Constantan
2	K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
3	T	(+) CU. Copper Vs. (-) Cu.-Ni. Nickel

For all other calibrations contact factory for availability.

**6. Junction**

G	Grounded
U	Ungrounded

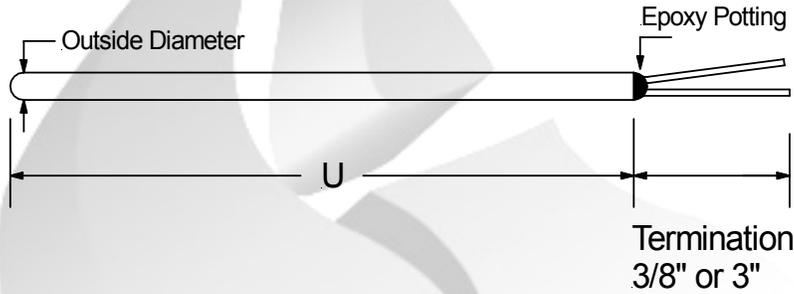
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# Mineral Insulated Thermocouple

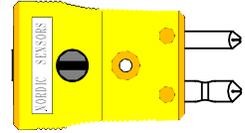
## Straight Thermocouple Elements

Operating Temperature:  
-200 C to +1000 C Max.

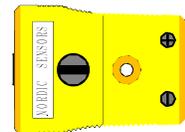
Model Code: **M1**



Optional Male Connector



Optional Female Connector



Model: **M1**    **A**    **B**    **C**    **D**    **E**    **F**    **G**

<b>A</b>	Outside Diameter
1	0.020"
2	0.040"
3	0.063"
4	0.125"
5	0.188"
6	0.250"
7	0.315"
8	0.375"

<b>B</b>	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

<b>C</b>	"U" Dimension
Specify "U" Length In Inches <u>0</u> <u>0</u> <u>6</u>	

Example "U" is 6" = 006

<b>D</b>	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
J	None

<b>E</b> Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

<b>F</b>	Junction Styles				
	Element Description	Grounded	Ungrounded		Exposed
		Common	Common	Isolated	Common
Single	G		U		E
Duplex	D	F	H	I	M
Triplex	T	Q	R	S	V

<b>G</b>	Termination
1	3/8" Split bare leads.
2	3" Split & Color Coded leads.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

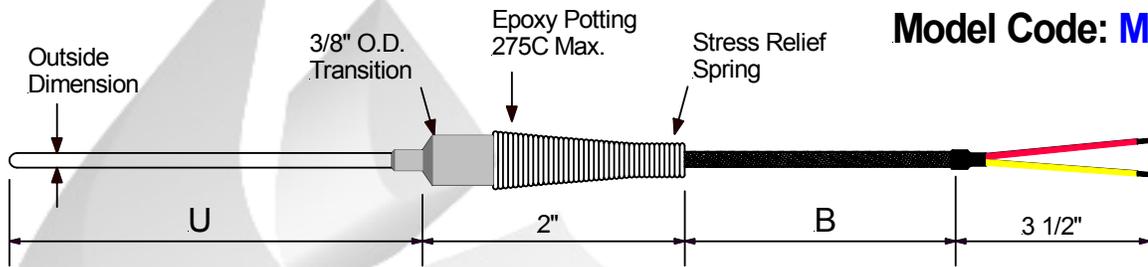
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# Mineral Insulated Thermocouple

## General Purpose Thermocouple

Operating Temperature:  
-200 C to +1000 C Max.

**Model Code: M2**



Compression fittings are sold separately. See accessory section.

Model: A B C D E F — G H I

**M2**

A	Outside Diameter
1	0.020"
2	0.040"
3	0.063"
4	0.125"
5	0.188"
6	0.250"
7	0.315"
8	0.375"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E		Calibration	
		Standard Limits of Error	Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F		Junction Styles			
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	J	M

G	"B" Dimension
Specify "B" Length In Inches <u>0 4 8</u>	

Example "B" is 48" = 048

H	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

I	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

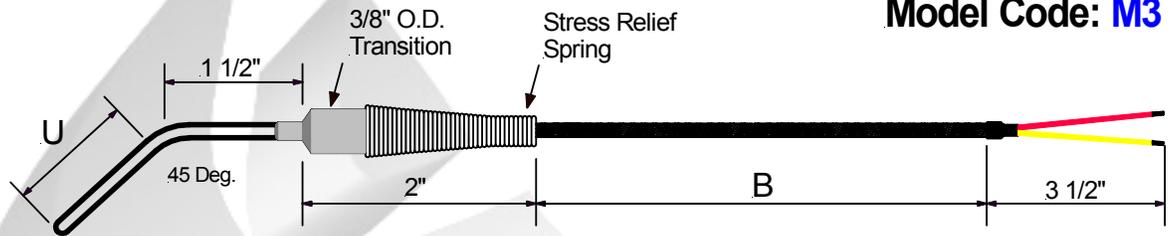
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# Mineral Insulated Thermocouple

General Purpose Thermocouple: 45 Deg. Bend

Operating Temperature:  
-200 C to +1000 C Max.

Model Code: **M3**



Compression fittings are sold separately. See accessory section.

Model: A B C D E F G H I

**M3**

A	Outside Diameter
1	0.020"
2	0.040"
3	0.063"
4	0.125"
5	0.188"
6	0.250"
7	0.315"
8	0.375"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F Junction Styles						
Element Description	Grounded		Ungrounded		Exposed	
	Common	Isolated	Common	Isolated	Common	Isolated
Single	G	U			E	
Duplex	D	F	H	I	M	

G	"B" Dimension
Specify "B" Length In Inches <u>0 4 8</u>	
Example "B" is 48" = 048	

H	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

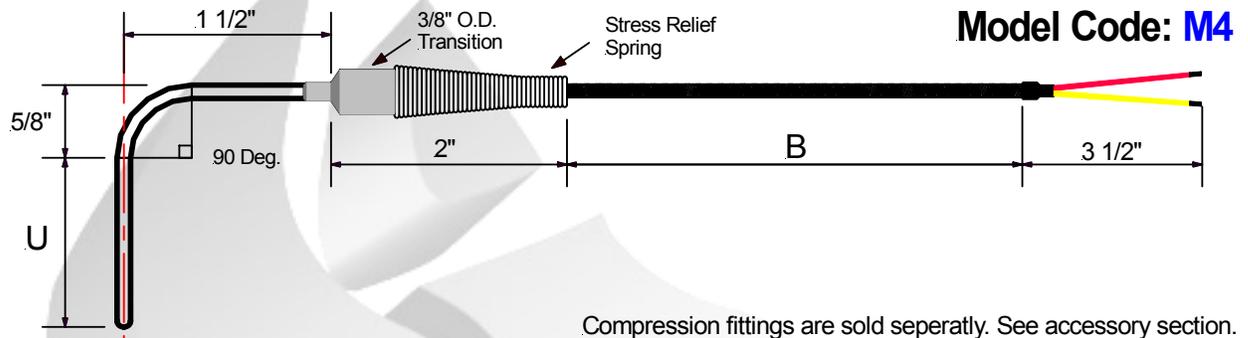
I	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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# Mineral Insulated Thermocouple

## General Purpose Thermocouple: 90 Deg. Bend

Operating Temperature:  
-200 C to +1000 C Max.



Model: A B C D E F G H I

**M4**

A	Outside Diameter
1	0.020"
2	0.040"
3	0.063"
4	0.125"
5	0.188"
6	0.250"
7	0.315"
8	0.375"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E	Calibration
Standard Limits of Error	
1	J
2	K
3	T
4	E
5	N
Special Limits of Error	
6	J
7	K
8	T
9	E
10	N

F	Junction Styles		
Element Description	Grounded	Ungrounded	Exposed
	Common	Common Isolated	Common Isolated
Single	G	J	E
Duplex	D	F H	J M

G	"B" Dimension
Specify "B" Length In Inches <u>0 4 8</u>	

Example "B" is 48" = 048

H	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

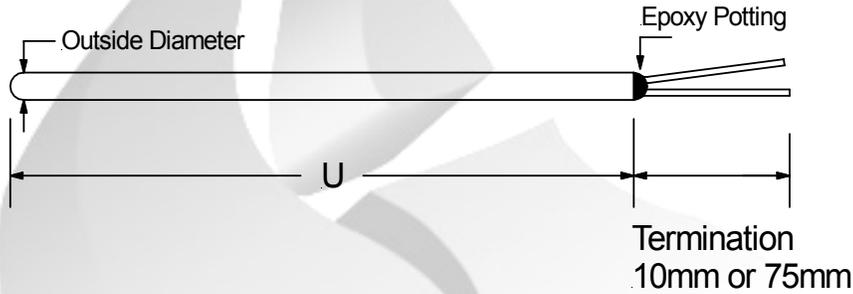
I	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

# Mineral Insulated Thermocouple

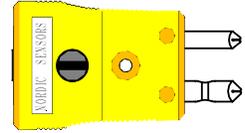
## Metric Straight Thermocouple Elements

Operating Temperature:  
-200 C to +1000 C Max.

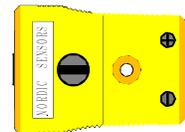
Model Code: **M5**



Optional Male Connector



Optional Female Connector



Model:

**A**

**B**

**C**

**D**

**E**

**F**

**M5**

<b>A</b>	<b>Outside Diameter</b>
1	0.5mm
2	1mm
3	1.5mm
4	2mm
5	3mm
6	4mm
7	5mm
8	6mm
9	8mm

<b>B</b>	<b>Sheath Material</b>
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

<b>C</b>	<b>"U" Dimension</b>
	Specify "U" Length In MM <u>150</u>

Example "U" is 150mm= 150

<b>D</b>		<b>Calibration</b>	
		Standard Limits of Error	Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

<b>E</b>	<b>Junction Styles</b>			
Element Description	Grounded	Ungrounded		Exposed
	Common	Common	Isolated	Common Isolated
Single	G	U	U	E
Duplex	D	F	H	I M

<b>F</b>	<b>Termination</b>
1	10mm Split bare leads.
2	75mm Split & Color Coded leads.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

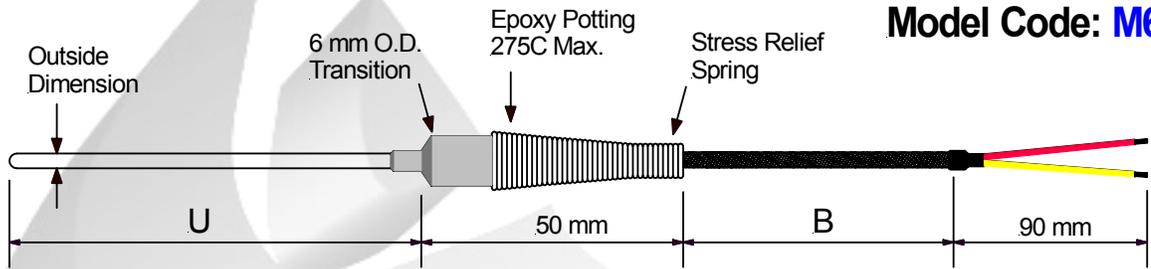
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# Mineral Insulated Thermocouple

## Metric General Purpose Thermocouple

Operating Temperature:  
-200 C to +1000 C Max.

**Model Code: M6**



Compression fittings are sold separately. See accessory section.

Model: A B C D E F G H

**M6**    —   —

A	Outside Diameter
1	0.5 mm
2	1 mm
3	1.5 mm
4	2 mm
5	3 mm
6	4 mm
7	6 mm
8	8 mm

C	"U" Dimension
Specify "U" Length In mm	
	<u>1 0 0</u>

Example "U" is 100 mm = 100

F	"B" Dimension
Specify "B" Length In Meters	
	<u>0 2</u>

Example "B" is 2 Meters = 02

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

D Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

G	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

E Junction Styles						
Element Description	Grounded		Ungrounded		Exposed	
	Common	Common	Common	Isolated	Common	Isolated
Single	G	■	U	■	E	■
Duplex	D	F	H	I	J	M

H	Termination
1	75 mm Split Leads & 15 mm bare ends.
2	75 mm Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

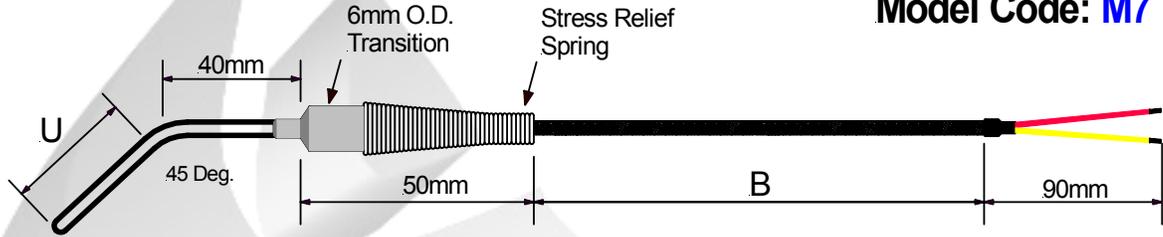
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# Mineral Insulated Thermocouple

Metric General Purpose Thermocouple: 45 Deg. Bend

Operating Temperature:  
-200 C to +1000 C Max.

Model Code: **M7**



Compression fittings are sold separately. See accessory section.

Model: A B C D E F G H

**M7**    —   —

A	Outside Diameter
1	0.5 mm
2	1 mm
3	1.5 mm
4	2 mm
5	3 mm
6	4 mm
7	6 mm
8	8 mm

C	"U" Dimension
Specify "U" Length	
In mm <u>1 0 0</u>	

Example "U" is 100 mm = 100

F	"B" Dimension
Specify "B" Length	
In Meters <u>0 2</u>	

Example "B" is 2 Meters = 02

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

D Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

G	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

E Junction Styles						
Element Description	Grounded		Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated	Common
Single	G		U		E	
Duplex	D	F	H	J	M	

H	Termination
1	75 mm Split Leads & 15 mm bare ends.
2	75 mm Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

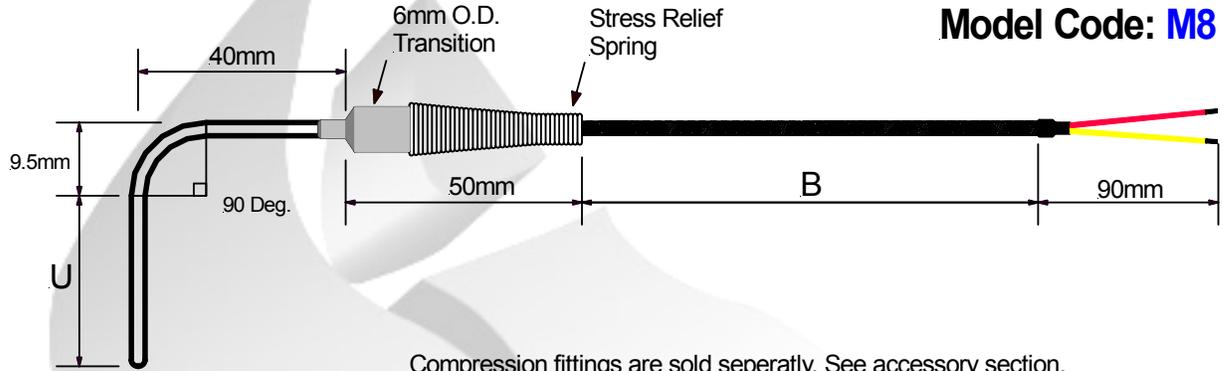
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# Mineral Insulated Thermocouple

Metric General Purpose Thermocouple: 90 Deg. Bend

Operating Temperature:  
-200 C to +1000 C Max.

Model Code: **M8**



Compression fittings are sold separately. See accessory section.

Model: A B C D E F G H

**M8**    —   —

A	Outside Diameter
1	0.5 mm
2	1 mm
3	1.5 mm
4	2 mm
5	3 mm
6	4 mm
7	6 mm
8	8 mm

C	"U" Dimension
Specify "U" Length In mm	
	<u>1 0 0</u>

Example "U" is 100 mm = 100

F	"B" Dimension
Specify "B" Length In Meters	
	<u>0 2</u>

Example "B" is 2 Meters = 02

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

D		Calibration	
		Standard Limits of Error	Special Limits of Error
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

G	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

E		Junction Styles			
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G	U	U	E	E
Duplex	D	F	H	J	M

H	Termination
1	75 mm Split Leads & 15 mm bare ends.
2	75 mm Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

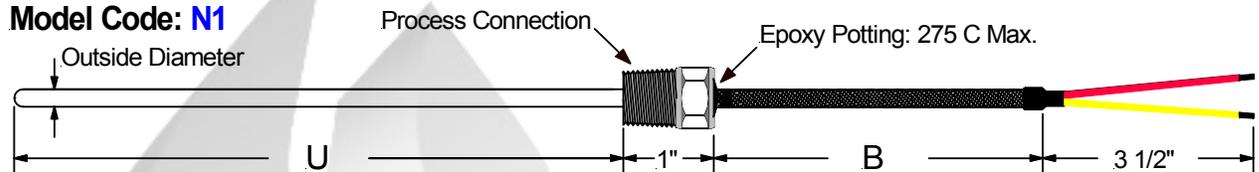
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# Mineral Insulated Thermocouple

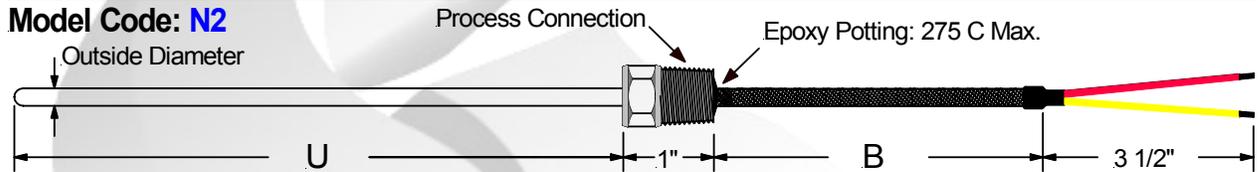
## Hex Bushing Style Thermocouple

Operating Temperature:  
-200 C to +1000 C Max.

Model Code: **N1**



Model Code: **N2**



Model:

**N1**

**N2**

Model:	A	B	C	D	E	F	G	H	I	J
<b>N1</b>										
<b>N2</b>										

A	Outside Diameter
1	0.063"
2	0.125"
3	0.188"
4	0.250"
5	0.315"
6	0.375"
7	0.500"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	
Example "U" is 6" = 006	

D	"U" Fractional Dimension
A	0.125"
B	0.250"
C	0.375"
D	0.500"
E	0.750"
F	None

E	Process Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

F	Calibration
Standard Limits of Error	Special Limits of Error
1 J	6 J
2 K	7 K
3 T	8 T
4 E	9 E
5 N	10 N

G	Junction Styles				
Element Description	Grounded	Ungrounded		Exposed	
	Common	Common	Isolated	Common	Isolated
Single	G		U		E
Duplex	D	F	H	J	M
Triplex	T	Q	R	S	V

H	"B" Dimension
Specify "B" Length In Inches <u>0 4 8</u>	
Example "B" is 48" = 048	

I	Cable Insulation Description
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC
F	.210" O.D. Flexible Armor Cable

J	Termination
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

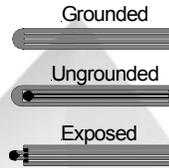
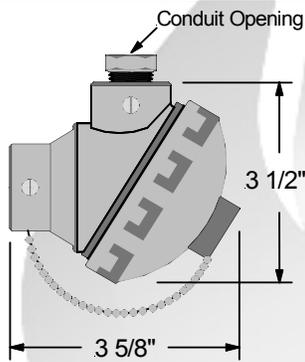
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# Mineral Insulated Thermocouple

## Compression Fitting Mounting Style

Operating Temperature:  
-200 C to +1000 C Max.

### Connection Head



Outside Diameter

Compression Fitting

\*( Optional )

U

\*See Accessories section for compression fitting information.

**Model Code: N3**

Head Connection

20 Gage  
Fiberglass Leads

Epoxy Potting  
275 C Max.

Model:

A    B    C    D    E    F    G    H    I    J

**N3**

A	Outside Diameter
1	0.063"
2	0.125"
3	0.188"
4	0.250"
5	0.315"
6	0.375"
7	0.500"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	
Example "U" is 6" = 006	

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
J	None

E Calibration			
Standard limits of error		Special limits of error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	Junction Styles				
	Element Description	Grounded Common	Ungrounded Common	Ungrounded Isolated	Exposed Common
Single	G		U		E
Duplex	D	F	H	I	M
Triplex	T	Q	R	S	V

G	Head Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

H	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
T	4-20mA Transmitter
X	No Terminal Block

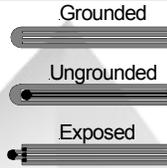
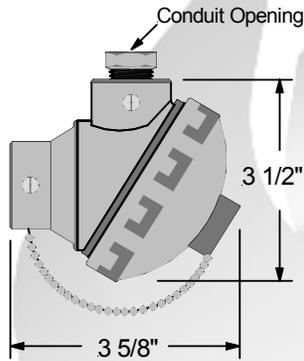
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# Mineral Insulated Thermocouple

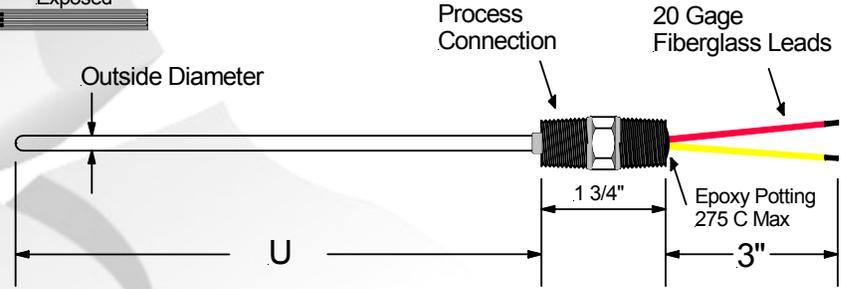
## Hex Nipple Style

Operating Temperature:  
-200 C to +1000 C Max.

### Connection Head



Model Code: **N4**



Model:

**N4**

A     B     C     D     E     F     G     H     I     J

A	Outside Diameter
1	0.063"
2	0.125"
3	0.188"
4	0.250"
5	0.315"
6	0.375"
7	0.500"

B	Sheath Material
A	304 Stainless
B	316 Stainless
C	310 Stainless
D	Inconel 600

C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	

Example "U" is 6" = 006

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
J	None

E		Calibration	
Standard limits of error	Special limits of error		
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

F	Junction Styles			
Element Description	Grounded	Ungrounded		Exposed
	Common	Common	Isolated	Common / Isolated
Single	G	U	U	E
Duplex	D	F	H	J / M
Triplex	T	Q	R	S / V

G	Process Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

H	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
B	No Terminal Block
S	Spring Loaded
T	4-20mA Transmitter
R	Options S & T
Q	Options S & B

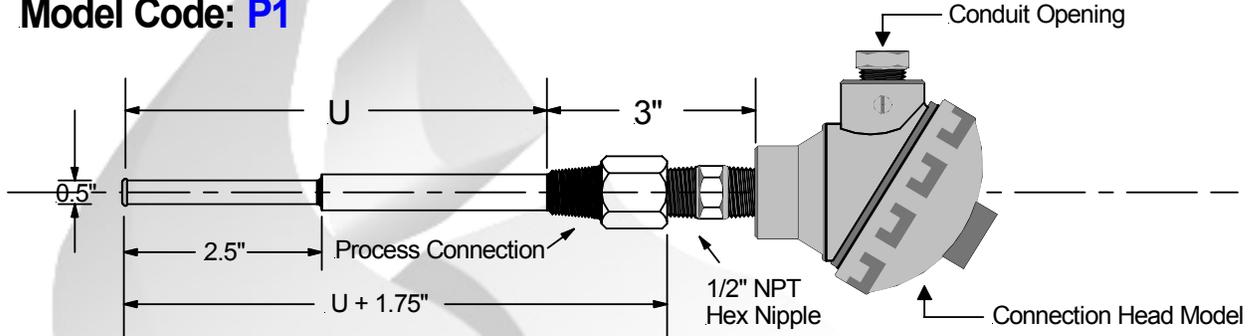
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# Mineral Insulated Thermocouple & Thermowell Assembly

## Standard Stepped Threaded Thermowell

Operating Temperature:  
-200 C to +1000 C Max.

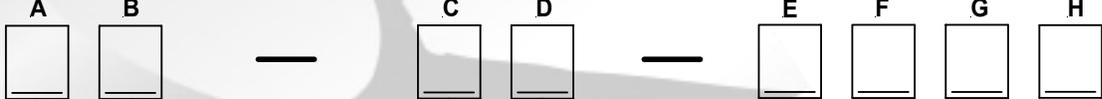
Model Code: **P1**



All Thermowell Assemblies Are Spring Loaded.

Model:

**P1**



A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

C Calibration	
Standard Limits of Error	Special Limits of Error
1 J	6 J
2 K	7 K
3 T	8 T
4 E	9 E
5 N	10 N

E Process Connection	
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F Connection Head Model	
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

For all other materials contact factory for availability.

D Junction Styles				
Element Description	Grounded		Ungrounded	
	Common	Common	Common	Isolated
Single	G			U
Duplex	D		F	H
Triplex	T		Q	R

G Conduit Opening	
1	None
2	1/2" NPT
3	3/4" NPT

H Connection Head Options	
N	None
B	No Terminal Block
T	4-20mA Transmitter

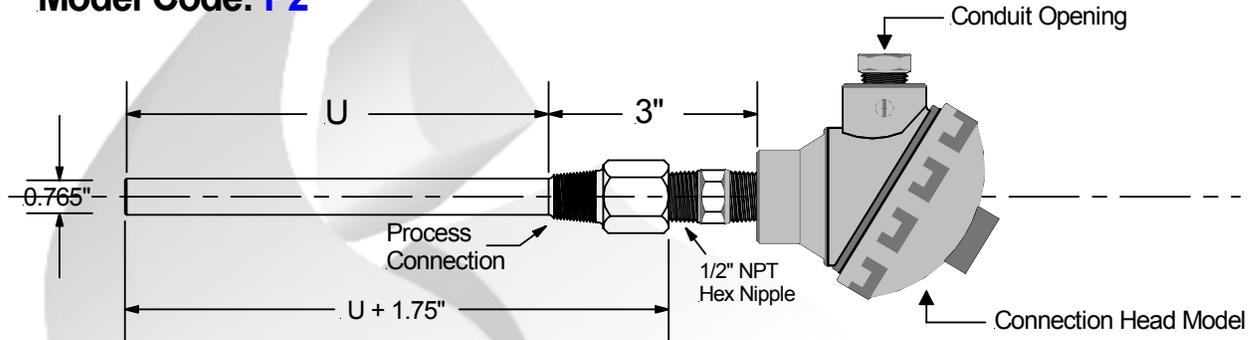
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# Mineral Insulated Thermocouple & Thermowell Assembly

## Standard Straight Threaded Thermowell

Operating Temperature:  
-200 C to +1000 C Max.

Model Code: **P2**



All Thermowell Assemblies Are Spring Loaded.

Model: **P2**     **A**     **B**     **C**     **D**     **E**     **F**     **G**     **H**

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

C Calibration			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

For all other materials contact factory for availability.

D	Junction Styles	Grounded		Ungrounded	
		Common	Common	Common	Isolated
Single		G			U
Duplex		D		F	H
Triplex		T		Q	R

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

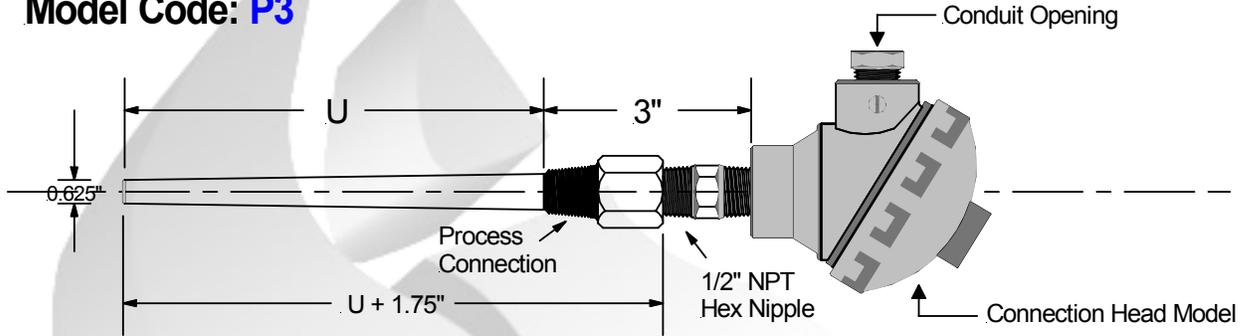
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# Mineral Insulated Thermocouple & Thermowell Assembly

## Standard Tapered Threaded Thermowell

Operating Temperature:  
-200 C to +1000 C Max.

Model Code: **P3**



All Thermowell Assemblies Are Spring Loaded.

Model:	<b>A</b>	<b>B</b>	—	<b>C</b>	<b>D</b>	—	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
	<b>P3</b>									

<b>A</b>	<b>"U" Fractional Dimension</b>
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

<b>B</b>	<b>Sheath Material</b>
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

For all other materials contact factory for availability.

<b>C</b>	<b>Calibration</b>
	Standard Limits of Error
1	J
2	K
3	T
4	E
5	N
	Special Limits of Error
6	J
7	K
8	T
9	E
10	N

<b>D</b>	<b>Junction Styles</b>		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H
Triplex	T	Q	R

<b>E</b>	<b>Process Connection</b>
1	1/2" NPT
2	3/4" NPT
3	1" NPT

<b>F</b>	<b>Connection Head Model</b>
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

<b>G</b>	<b>Conduit Opening</b>
1	None
2	1/2" NPT
3	3/4" NPT

<b>H</b>	<b>Connection Head Options</b>
N	None
B	No Terminal Block
T	4-20mA Transmitter

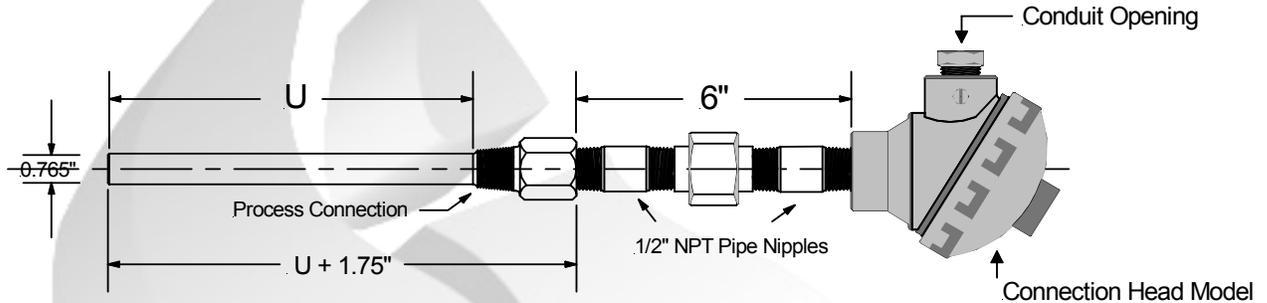
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# Mineral Insulated Thermocouple & Thermowell Assembly

## Nipple-Union-Nipple-Thermowell Style

Operating Temperature:  
-200 C to +1000 C Max.

Model Code: **P4**



All Thermowell Assemblies Are Spring Loaded.

Model:	<b>A</b>	<b>B</b>	<b>C</b>	—	<b>D</b>	<b>E</b>	—	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>
<b>P4</b>											

<b>A</b>	<b>Thermowell Type</b>
1	Stepped
2	Straight
3	Tapered

<b>C</b>	<b>Sheath Material</b>
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon
For all other materials contact factory for availability.	

<b>D</b>	<b>Calibration</b>		
	Standard Limits of Error		
	Special Limits of Error		
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

<b>E</b>	<b>Junction Styles</b>		
Element Description	Grounded	Ungrounded	
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H
Triplex	T	Q	R

<b>F</b>	<b>Process Connection</b>
1	1/2" NPT
2	3/4" NPT
3	1" NPT

<b>G</b>	<b>Connection Head Model</b>
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

<b>H</b>	<b>Conduit Opening</b>
1	None
2	1/2" NPT
3	3/4" NPT

<b>I</b>	<b>Connection Head Options</b>
N	None
B	No Terminal Block
T	4-20mA Transmitter

<b>B</b>	<b>"U" Fractional Dimension</b>
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

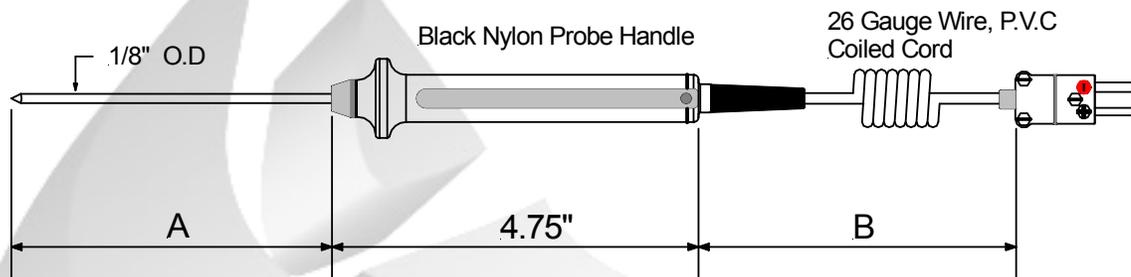
For all other U lengths contact factory for availability.

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# Process Industry RTD's

## Hand Held RTD Probe

Low temperature application  
-200 C To +100 C



Operating Temperature: -200 C to +250 C

Steps To Follow:

Model: 1L  -  -  -  -  -  -

1. **Probe Tip Option**

R	Radius Tip Style
D	Drill Point Style

2. **Termination Type**

1	3" Split Leads & 1/2" Bare Ends.
2	Mini Male Plug (2 wire configuration only)

3. **"A" Dimension**

"A" = <u>0.4</u> "
Length In Inches

4. **Coiled Cord "B" Dimension**

	Retracted Length	Extended Length
A	12"	48" to 60"
B	24"	120"
C	32"	180"
D	60"	360"
E	96"	540"

5. **RTD Element Type**

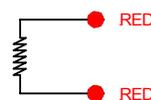
Ohms	Class A	Class B
1 x Pt100	2	1
2 x Pt100	4	3
1 x Pt1000	6	5
2 x Pt1000	8	7

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

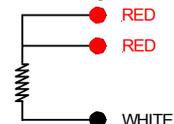
6. **RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration

2 Wire Configuration



3 Wire Configuration



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# Mineral Insulated RTD

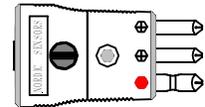
## Straight RTD Elements

Operating Temperature:  
-200 C to +500 C Max.

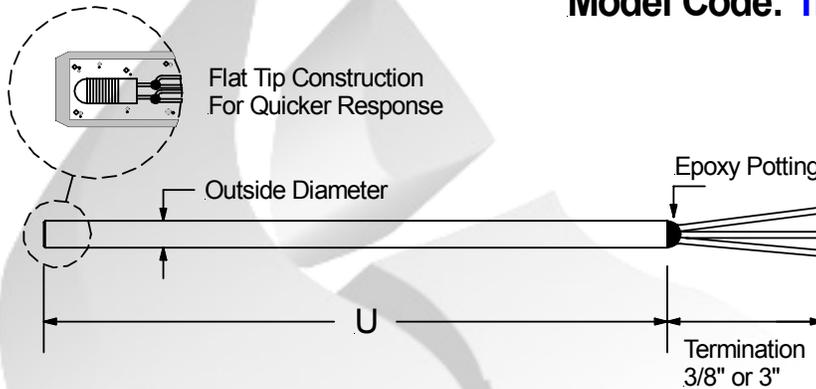
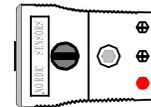
Ceramic RTD Element

Model Code: **1M**

Optional Male Connector



Optional Female Connector



Model:

**A**

**B**

**C**

**D**

**E**

**F**

**G**

**1M**

<b>A</b>	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

<b>B</b>	Sheath Material
A	304 Stainless
B	316 Stainless

<b>C</b>	"U" Dimension
	Specify "U" Length In Inches <u>006</u>

Example "U" is 6" = 006

<b>D</b>	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

<b>E</b>	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

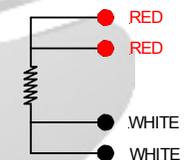
Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

<b>F</b>	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

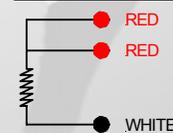
**2 Wire Configuration**



**4 Wire Configuration**



**3 Wire Configuration**



<b>G</b>	Termination Type
1	3/8" Split Bare Ends.
2	3" Split & Color Coded Leads.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

Connectors can only be installed on 2 & 3 wire configuration RTDs.

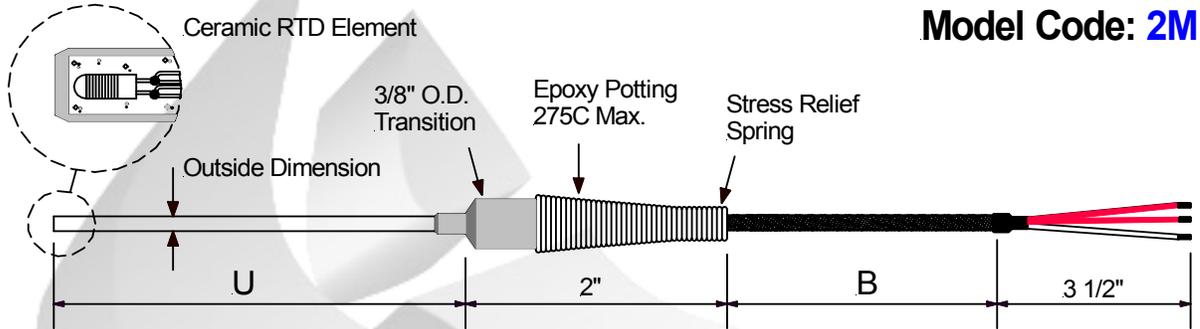
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# Mineral Insulated RTD

## General Purpose Type

Operating Temperature:  
-200 C to +500 C Max.

**Model Code: 2M**



Model: **2M**     -   -   -

A	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B	Sheath Material
A	304 Stainless
B	316 Stainless

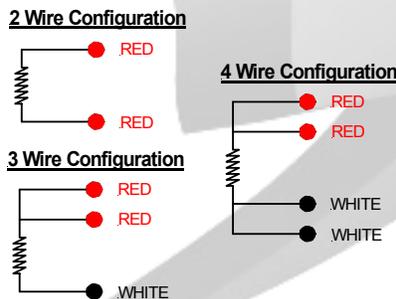
C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	
Example "U" is 6" = 006	

D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E	RTD Element Type	
	Ohms	Class
		<b>A</b>
		<b>B</b>
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

F	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration



G	"B" Dimension
Specify "B" Length In Inches <u>0 4 8</u>	
Example "B" is 48" = 048	

H	Cable Insulation Description
A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

I	Termination
1	3 1/2" Split leads & bare ends
2	3 1/2" Split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

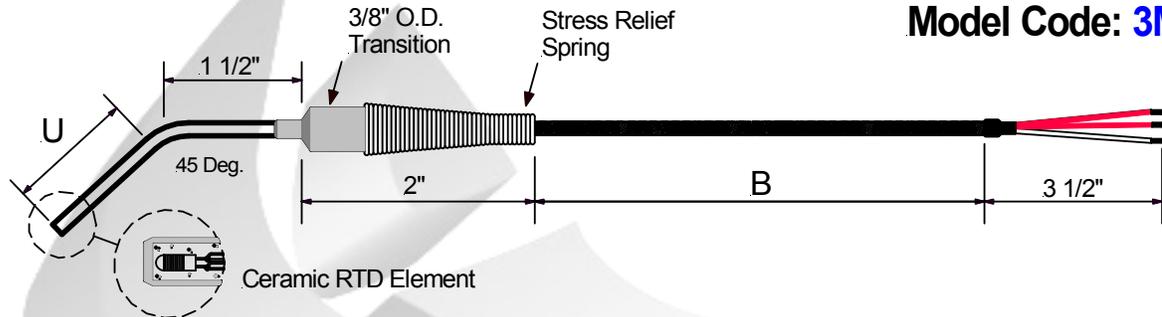
Connectors can only be installed on 2 & 3 wire configuration RTDs.

# Mineral Insulated RTD

## General Purpose Type: 45 Deg. Bend

Operating Temperature:  
-200 C to +500 C Max.

**Model Code: 3M**



Model: **A** **B** **C** **D** - **E** **F** - **G** - **H** **I**

**3M**     -   -  -

**A Outside Diameter**

1	0.079"
2	0.125"
3	0.188"
4	0.250"

**B Sheath Material**

A	304 Stainless
B	316 Stainless

**C "U" Dimension**

Specify "U" Length  
In Inches 0 0 6

Example "U" is 6" = 006

**D "U" Fractional Dimension**

A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

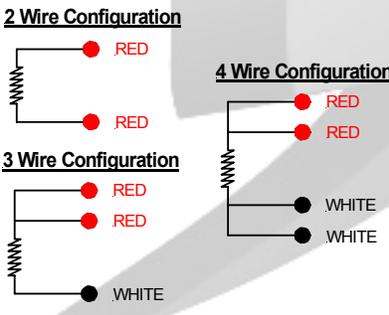
**E RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

**F RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration



**G "B" Dimension**

Specify "B" Length  
In Inches 0 4 8

Example "B" is 48" = 048

**H Cable Insulation Description**

A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

**I Termination**

1	3 1/2" Split leads & bare ends
2	3 1/2" Split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

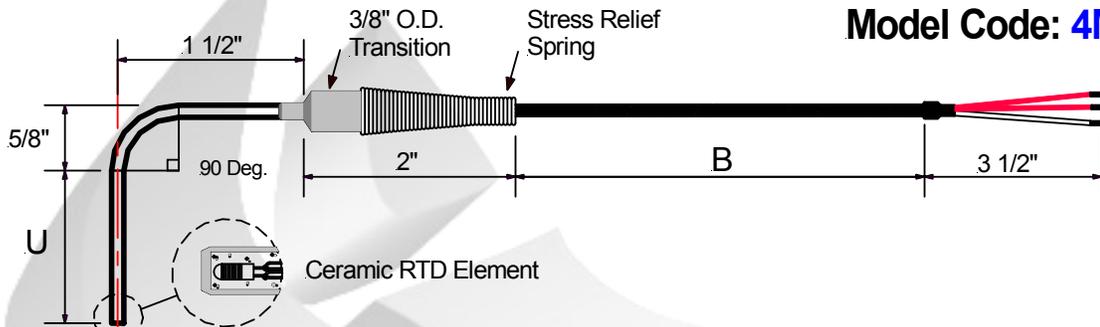
Connectors can only be installed on 2 & 3 wire configuration RTDs.

# Mineral Insulated RTD

## General Purpose Type: 90 Deg. Bend

Operating Temperature:  
-200 C to +500 C Max.

**Model Code: 4M**



Model: A B C D E F G H I

**4M**

A	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	
Example "U" is 6" = 006	

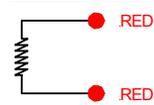
D	"U" Fractional Dimension
A	0.125"
B	0.188"
C	0.250"
D	0.315"
E	0.375"
F	0.500"
G	0.625"
H	0.750"
I	0.875"
N	None

E RTD Element Type		
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

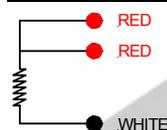
Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

F	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

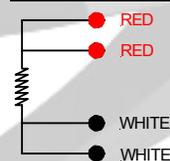
### 2 Wire Configuration



### 3 Wire Configuration



### 4 Wire Configuration



G	"B" Dimension
Specify "B" Length In Inches <u>0 4 8</u>	
Example "B" is 48" = 048	

H	Cable Insulation Description
A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

I	Termination
1	3 1/2" Split leads & bare ends
2	3 1/2" Split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed on 2 & 3 wire configuration RTDs.

# Mineral Insulated RTD

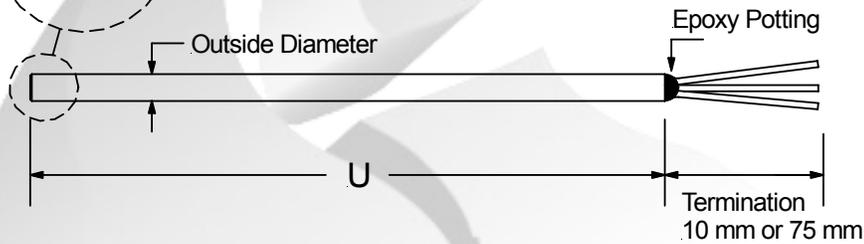
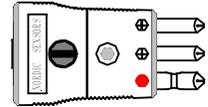
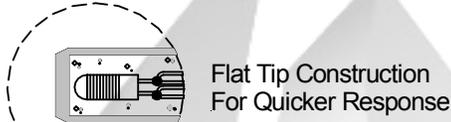
## Metric Straight RTD Elements

Operating Temperature:  
-200 C to +500 C Max.

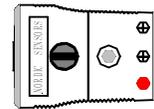
Ceramic RTD Element

Model Code: **5M**

Optional Male Connector



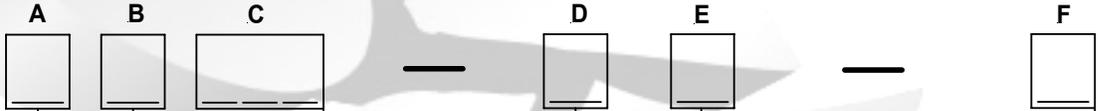
Optional Female Connector



Compression fittings are sold separately. See accessory section.

Model:

**5M**



A	Outside Diameter
1	2 mm
2	3 mm
3	4 mm
4	6 mm

C	"U" Dimension
	Specify "U" Length In mm <u>100</u>

Example "U" is 100 mm = 100

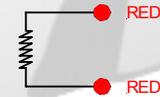
B	Sheath Material
A	304 Stainless
B	316 Stainless

D	RTD Element Type	
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

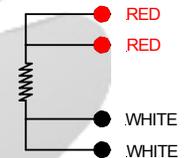
Temperature Coefficient: 0.00385  
Platinum Element  
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

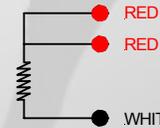
2 Wire Configuration



4 Wire Configuration



3 Wire Configuration



F	Termination Type
1	10 mm Split Bare Ends.
2	75 mm Split & Color Coded Leads.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

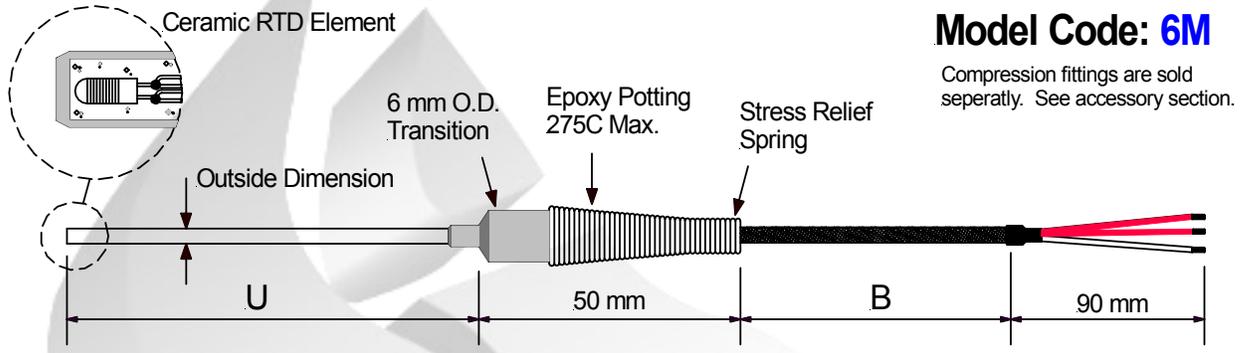
Connectors can only be installed  
on 2 & 3 wire configuration RTDs.

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# Mineral Insulated RTD

## Metric General Purpose Type

Operating Temperature:  
-200 C to +500 C Max.



**Model Code: 6M**  
Compression fittings are sold separately. See accessory section.

Model: **A** **B** **C** **D** **E** **F** **G** **H**

**6M**

**A Outside Diameter**

1	2 mm
2	3 mm
3	4 mm
4	6 mm

**D RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

**F "B" Dimension**

Specify "B" Length  
In Meters 0 2

Example "B" is 2 Meters = 02

**B Sheath Material**

A	304 Stainless
B	316 Stainless

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

**E RTD Wire Connection**

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

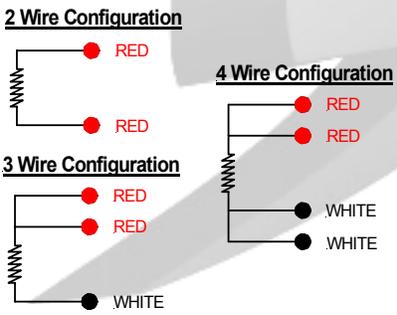
**G Cable Insulation Description**

A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

**C "U" Dimension**

Specify "U" Length  
In mm 1 0 0

Example "U" is 100 mm = 100



**H Termination**

1	75 mm split leads & 15 mm bare ends
2	75 mm split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

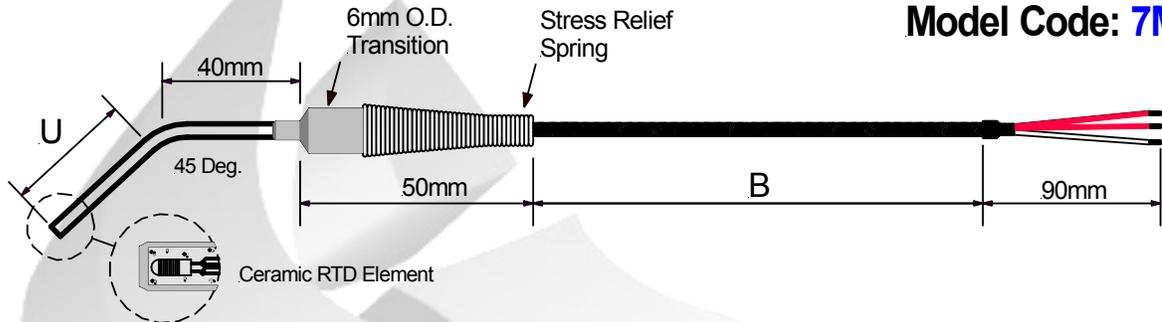
Connectors can only be installed on 2 & 3 wire configuration RTDs.

# Mineral Insulated RTD

Metric General Purpose Type: 45 Deg. Bend

Operating Temperature:  
-200 C to +500 C Max.

Model Code: **7M**



Compression fittings are sold separately. See accessory section.

Model: **7M**

**A** Outside Diameter

1	2 mm
2	3 mm
3	4 mm
4	6 mm

**B** Sheath Material

A	304 Stainless
B	316 Stainless

**C** "U" Dimension

Specify "U" Length  
In mm 100

Example "U" is 100 mm = 100

**D** RTD Element Type

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

**E** RTD Wire Connection

A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

**F** "B" Dimension

Specify "B" Length  
In Meters 02

Example "B" is 2 Meters = 02

**G** Cable Insulation Description

A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

**H** Termination

1	75 mm split leads & 15 mm bare ends
2	75 mm split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

**2 Wire Configuration**

**3 Wire Configuration**

**4 Wire Configuration**

Connectors can only be installed on 2 & 3 wire configuration RTDs.

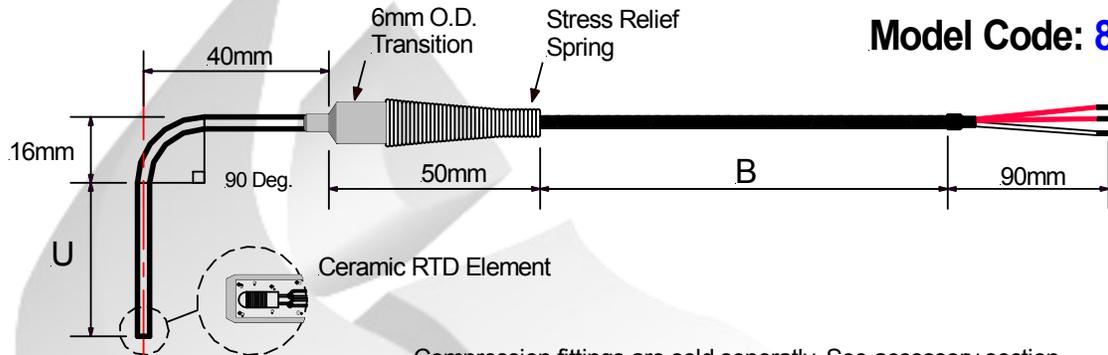
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# Mineral Insulated RTD

Metric General Purpose Type: 90 Deg. Bend

Operating Temperature:  
-200 C to +500 C Max.

Model Code: **8M**



Compression fittings are sold separately. See accessory section.

Model: A B C D E F G H

**8M**

A	Outside Diameter
1	2 mm
2	3 mm
3	4 mm
4	6 mm

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
	Specify "U" Length In mm <u>100</u>

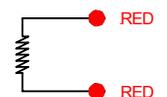
Example "U" is 100 mm = 100

D	RTD Element Type	
	Ohms	Class
		A B
	1 x Pt100	1 2
	2 x Pt100	3 4
	1 x Pt1000	5 6
	2 x Pt1000	7 8

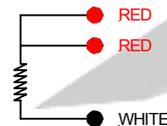
Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

E	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

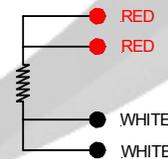
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



F	"B" Dimension
	Specify "B" Length In Meters <u>02</u>

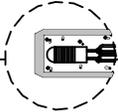
Example "B" is 2 Meters = 02

G	Cable Insulation Description
A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

H	Termination
1	75 mm split leads & 15 mm bare ends
2	75 mm split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

Connectors can only be installed  
on 2 & 3 wire configuration RTDs.

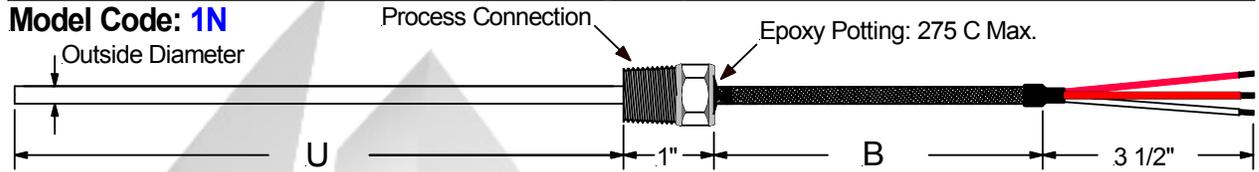
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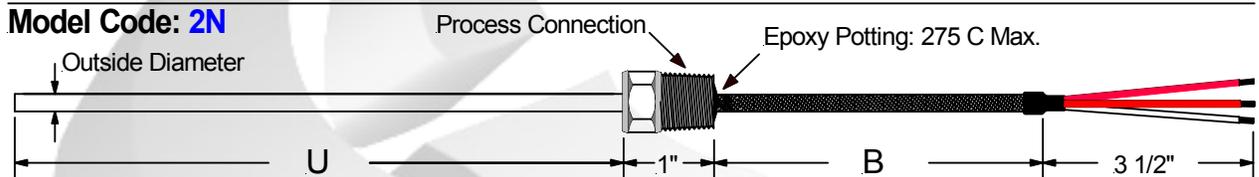
# Mineral Insulated RTD Hex Bushing Style RTD

Operating Temperature:  
-200 C to +500 C Max.

Model Code: **1N**



Model Code: **2N**



Model: A B C D E F G H I J

**1N**

**2N**

A	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B	Sheath Material
A	304 Stainless
B	316 Stainless

C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	
Example "U" is 6" = 006	

D	"U" Fractional Dimension
A	0.125"
B	0.250"
C	0.375"
D	0.500"
E	0.750"
F	None

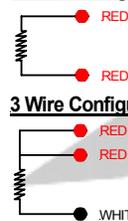
E	Process Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

F	RTD Element Type		
	Ohms	Class A	Class B
1 x Pt100	1	2	
2 x Pt100	3	4	
1 x Pt1000	5	6	
2 x Pt1000	7	8	

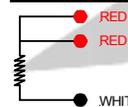
Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

G	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

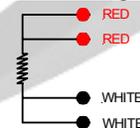
**2 Wire Configuration**



**3 Wire Configuration**



**4 Wire Configuration**



H	"B" Dimension
Specify "B" Length In Inches <u>0 4 8</u>	

Example "B" is 48" = 048

I	Cable Insulation Description
A	24 gage, Stranded, Fiberglass
B	24 gage, Fiberglass, Metal Braid
C	.281" O.D. Flexible Armor Cable
D	.210" O.D. Flexible Armor Cable
E	24 gage, Stranded, Teflon
F	24 gage, Stranded, Sheilded, Teflon
G	24 gage, Stranded, PVC
H	24 gage, Stranded, Sheilded, PVC

J	Termination
1	3 1/2" Split leads & bare ends
2	3 1/2" Split leads & No.10 spade lugs
3	Standard Male Plug (350 F)
4	Standard Female Jack (350 F)
5	Mini Male Plug (350 F)
6	Mini Female Jack (350 F)

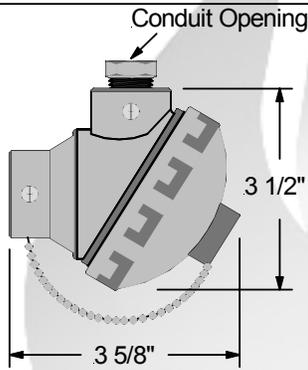
Connectors can only be installed on 2 & 3 wire configuration RTDs.

# Mineral Insulated RTD Probe Assembly

## Compression Fitting Mounting Style

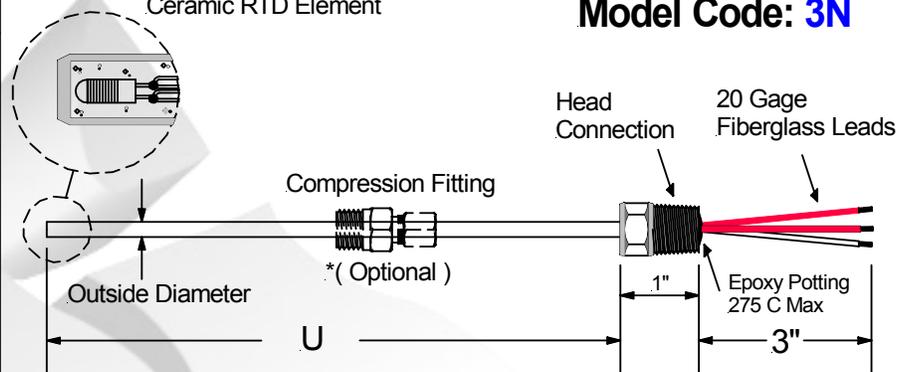
Operating Temperature:  
-200 C to +500 C Max.

### Connection Head



Ceramic RTD Element

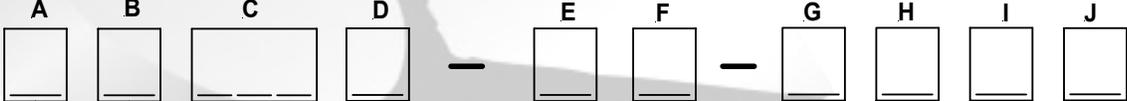
Model Code: **3N**



Compression fittings are sold separately. See accessory section.

Model:

**3N**



A Outside Diameter	
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B Sheath Material	
A	304 Stainless
B	316 Stainless

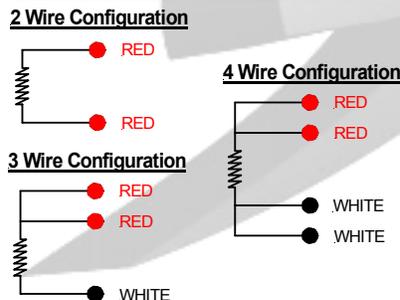
C "U" Dimension	
Specify "U" Length In Inches <u>0 0 6</u>	
Example "U" is 6" = 006	

D "U" Fractional Dimension	
A	0.125"
B	0.250"
C	0.375"
D	0.500"
E	0.625"
F	0.750"
G	None

E RTD Element Type		
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

F RTD Wire Connection	
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration



G Head Connection	
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

H Connection Head Model	
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel

I Conduit Opening	
1	None
2	1/2" NPT
3	3/4" NPT

J Connection Head Options	
N	None
T	4-20mA Transmitter
X	No Terminal Block

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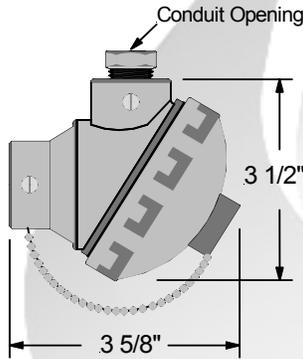
# Mineral Insulated RTD Probe Assembly

## Hex Nipple Process Style

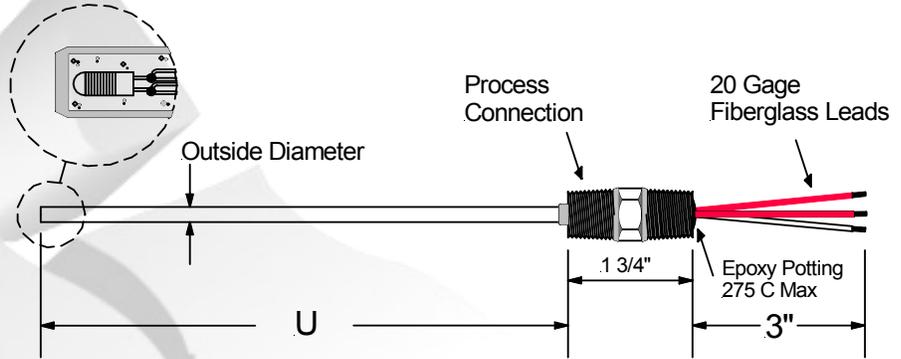
Operating Temperature:  
-200 C to +500 C Max.

**Model Code: 4N**

### Connection Head



Ceramic RTD Element



Model:

**4N**

A    B    C    D    E    F    G    H    I    J

A	Outside Diameter
1	0.079"
2	0.125"
3	0.188"
4	0.250"

B	Sheath Material
A	304 Stainless
B	316 Stainless

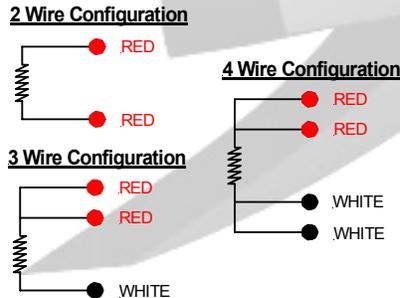
C	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	
Example "U" is 6" = 006	

D	"U" Fractional Dimension
A	0.125"
B	0.250"
C	0.375"
D	0.500"
E	0.625"
F	0.750"
G	None

E	RTD Element Type		
	Ohms	Class A	Class B
1 x Pt100	1	2	
2 x Pt100	3	4	
1 x Pt1000	5	6	
2 x Pt1000	7	8	

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

F	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration



G	Process Connection
1	1/4" NPT
2	1/2" NPT
3	3/4" NPT

H	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

J	Connection Head Options
N	None
B	No Terminal Block
S	Spring Loaded
T	4-20mA Transmitter
R	Options S & T
Q	Options S & B

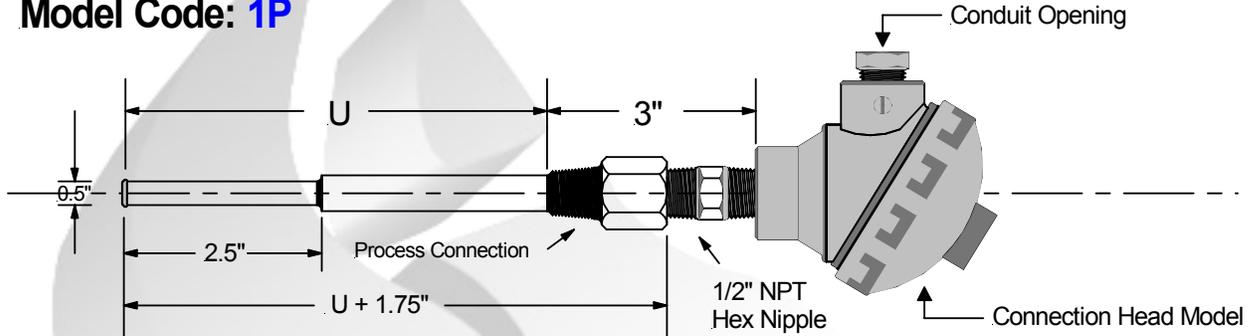
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# Mineral Insulated RTD & Thermowell Assembly

## Standard Stepped Threaded Thermowell

Operating Temperature:  
-200 C to +500 C Max.

Model Code: **1P**



All Thermowell Assemblies Are Spring Loaded.

Model:

**1P**

 A

 B

—

 C

 D

—

 E

 F

 G

 H

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

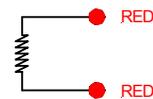
For all other U lengths contact factory for availability.

C	RTD Element Type		
	Ohms	Class	
		<u>A</u>	<u>B</u>
1 x Pt100	1	2	
2 x Pt100	3	4	
1 x Pt1000	5	6	
2 x Pt1000	7	8	

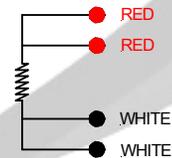
Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

D	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

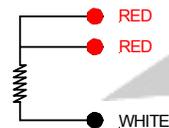
### 2 Wire Configuration



### 4 Wire Configuration



### 3 Wire Configuration



B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Solid Teflon

For all other materials contact factory for availability.

E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

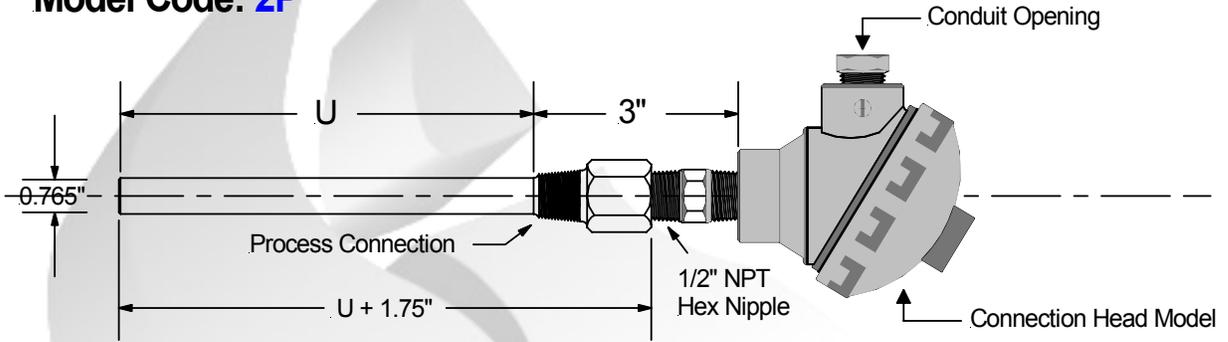
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# Mineral Insulated RTD & Thermowell Assembly

## Standard Straight Threaded Thermowell

Operating Temperature:  
-200 C to +500 C Max.

Model Code: **2P**



All Thermowell Assemblies Are Spring Loaded.

Model:

**2P**

A	B	C	D	E	F	G	H
<input type="checkbox"/>							

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Solid Teflon

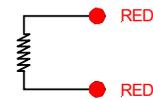
For all other materials contact factory for availability.

C	RTD Element Type	
	Ohms	Class
		<b>A</b>
		<b>B</b>
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

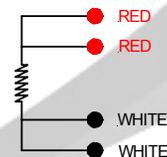
Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

D	RTD Wire Connection
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

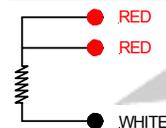
2 Wire Configuration



4 Wire Configuration



3 Wire Configuration



E	Process Connection
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

G	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

H	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

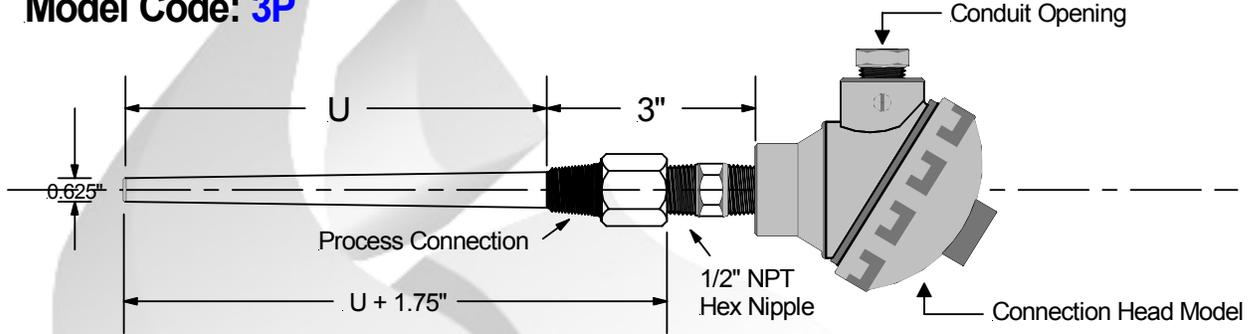
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# Mineral Insulated RTD & Thermowell Assembly

## Standard Tapered Threaded Thermowell

Operating Temperature:  
-200 C to +500 C Max.

Model Code: **3P**



All Thermowell Assemblies Are Spring Loaded.

Model: **3P**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
----------	----------	----------	----------	----------	----------	----------	----------

A "U" Fractional Dimension	
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

C RTD Element Type		
Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

D RTD Wire Connection	
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

**2 Wire Configuration**

**3 Wire Configuration**

**4 Wire Configuration**

E Process Connection	
1	1/2" NPT
2	3/4" NPT
3	1" NPT

F Connection Head Model	
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

G Conduit Opening	
1	None
2	1/2" NPT
3	3/4" NPT

H Connection Head Options	
N	None
B	No Terminal Block
T	4-20mA Transmitter

B Sheath Material	
1	304 Stainless
2	316 Stainless
3	Solid Teflon

For all other materials contact factory for availability.

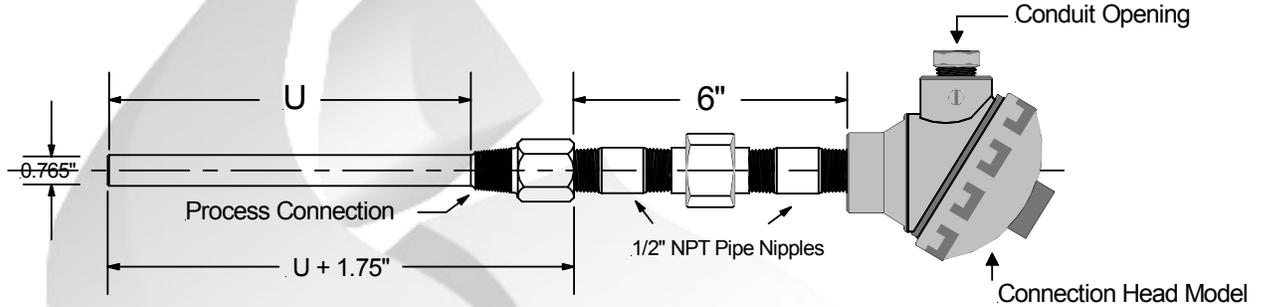
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# Mineral Insulated RTD & Thermowell Assembly

## Nipple-Union-Nipple-Thermowell Style

Operating Temperature:  
-200 C to +500 C Max.

Model Code: **4P**



All Thermowell Assemblies Are Spring Loaded.

Model:	<b>A</b>	<b>B</b>	<b>C</b>	—	<b>D</b>	<b>E</b>	—	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>
	<b>4P</b>										

<b>A</b>	<b>Thermowell Type</b>
1	Stepped
2	Straight
3	Tapered

<b>B</b>	<b>"U" Fractional Dimension</b>
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

For all other U lengths contact factory for availability.

<b>C</b>	<b>Sheath Material</b>
1	304 Stainless
2	316 Stainless
3	Solid Teflon

<b>D</b>	<b>RTD Element Type</b>															
	<table border="1"> <tr> <th>Ohms</th> <th>Class A</th> <th>Class B</th> </tr> <tr> <td>1 x Pt100</td> <td>1</td> <td>2</td> </tr> <tr> <td>2 x Pt100</td> <td>3</td> <td>4</td> </tr> <tr> <td>1 x Pt1000</td> <td>5</td> <td>6</td> </tr> <tr> <td>2 x Pt1000</td> <td>7</td> <td>8</td> </tr> </table>	Ohms	Class A	Class B	1 x Pt100	1	2	2 x Pt100	3	4	1 x Pt1000	5	6	2 x Pt1000	7	8
Ohms	Class A	Class B														
1 x Pt100	1	2														
2 x Pt100	3	4														
1 x Pt1000	5	6														
2 x Pt1000	7	8														
	Temperature Coefficient: 0.00385 Platinum element IEC 751															

<b>E</b>	<b>RTD Wire Connection</b>
A	2 Wire Configuration
B	3 Wire Configuration
C	4 Wire Configuration

<b>F</b>	<b>Process Connection</b>
1	1/2" NPT
2	3/4" NPT
3	1" NPT

<b>G</b>	<b>Connection Head Model</b>
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Polypropylene: FDA Appr.
E	Cast Iron: Standard
F	316 Stainless Steel
G	Explosion Proof

<b>H</b>	<b>Conduit Opening</b>
1	None
2	1/2" NPT
3	3/4" NPT

<b>I</b>	<b>Connection Head Options</b>
N	None
B	No Terminal Block
T	4-20mA Transmitter

**2 Wire Configuration**

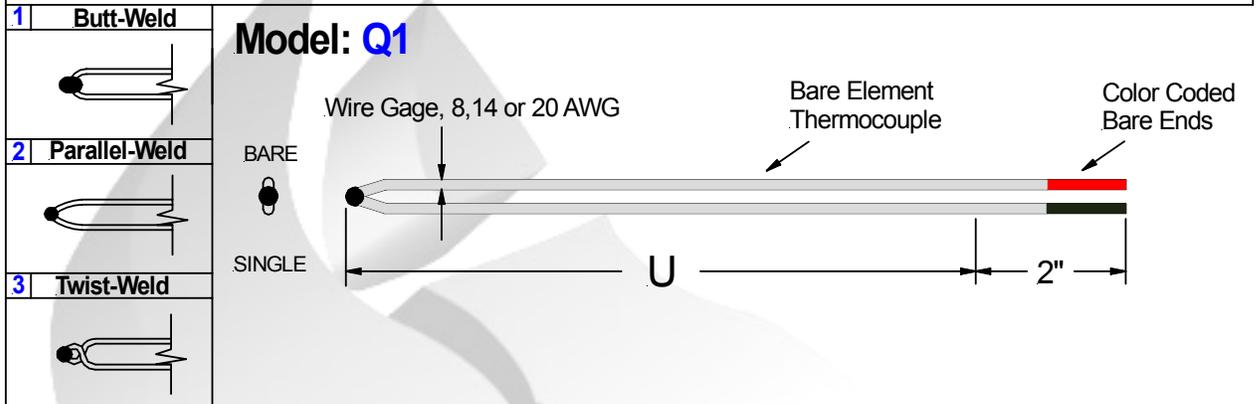
**3 Wire Configuration**

**4 Wire Configuration**

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# INDUSTRIAL THERMOCOUPLES

## Base Metal Bare Thermocouple Elements



Steps:     **A**                      **B**                      **C**                      **D**

Model: **Q1**          —          —          —    

A Junction Weld Description	
A	Butt-weld
B	Parallel-weld
C	Twist-weld

C Calibration			
Standard Limits of Error		Special Limits of Error	
A	J	C	J
B	K	D	K

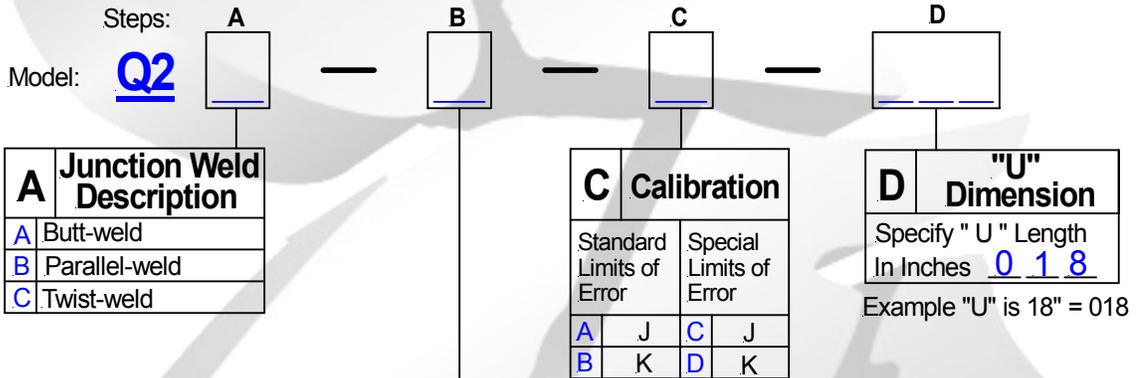
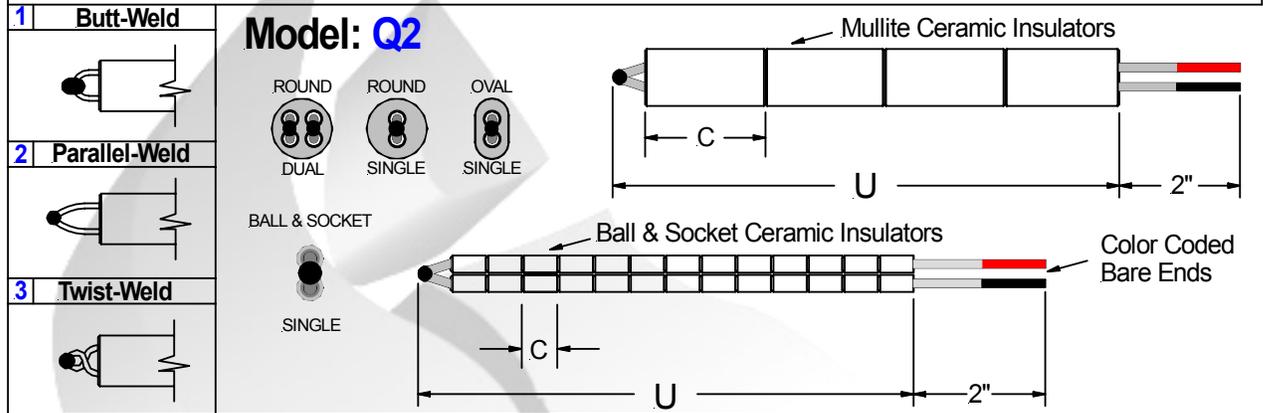
D "U" Dimension	
Specify "U" Length In Inches <u>0 1 8</u>	

Example "U" is 18" = 018

B Thermocouple Wire Gage		
Model	Wire Gage	Description
1	8	No Ceramic Insulators, Bare Thermocouple Element
2	14	No Ceramic Insulators, Bare Thermocouple Element
3	20	No Ceramic Insulators, Bare Thermocouple Element

# INDUSTRIAL THERMOCOUPLES

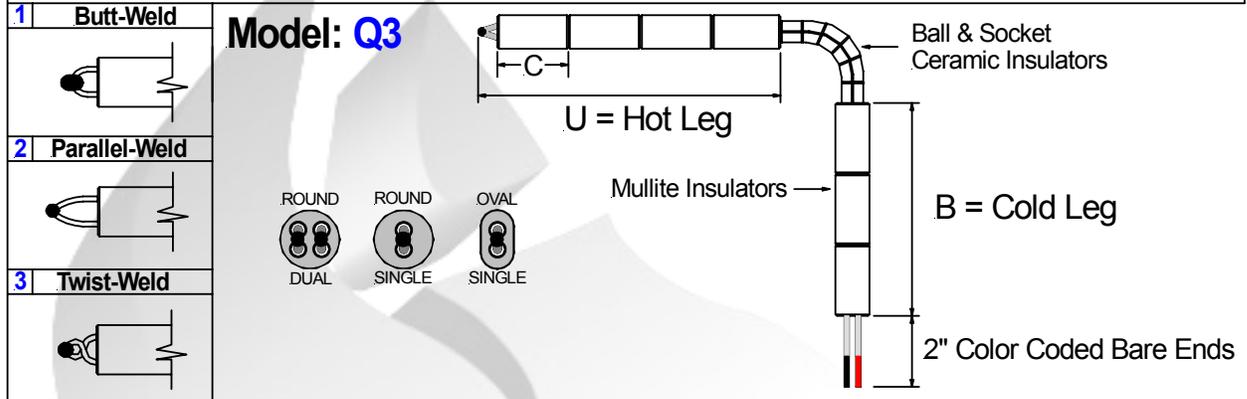
## Base Metal Thermocouple Elements With Ceramic Insulators



B Wire Gage & Ceramic Insulator Selection					
Model	Wire Gage	Shape	"C" Length	Outside Diameter	Elements
1	8	Round	1"	0.468"	Single
2	8	Round	3"	0.500"	Single
3	8	Oval	1"	0.435" x 0.250"	Single
4	8	Oval	3"	0.562" x 0.312"	Single
5	14	Round	1"	0.250"	Single
6	14	Round	3"	0.281"	Single
7	14	Round	1"	0.312"	Dual
8	14	Oval	1"	0.312" x 0.187"	Single
9	14	Oval	3"	0.375" x 0.217"	Single
10	20	Round	1"	0.187"	Single
11	20	Round	3"	0.225"	Single
12	8	Ball & Socket	0.260"	0.260"	Single
13	14	Ball & Socket	0.200"	0.200"	Single
14	20	Ball & Socket	0.170"	0.170"	Single

# INDUSTRIAL THERMOCOUPLES

## Base Metal Angle Thermocouple Elements With Ceramic Insulators



Steps: A B C D E

Model: **Q3**

A	Junction Weld Description
A	Butt-weld
B	Parallel-weld
C	Twist-weld

C	Calibration	
	Standard Limits of Error	Special Limits of Error
A	J	J
B	K	K

D	"U" Hot Dimension
	Specify "U" Length In Inches <u>12</u>
	Example "U" is 12" = 12

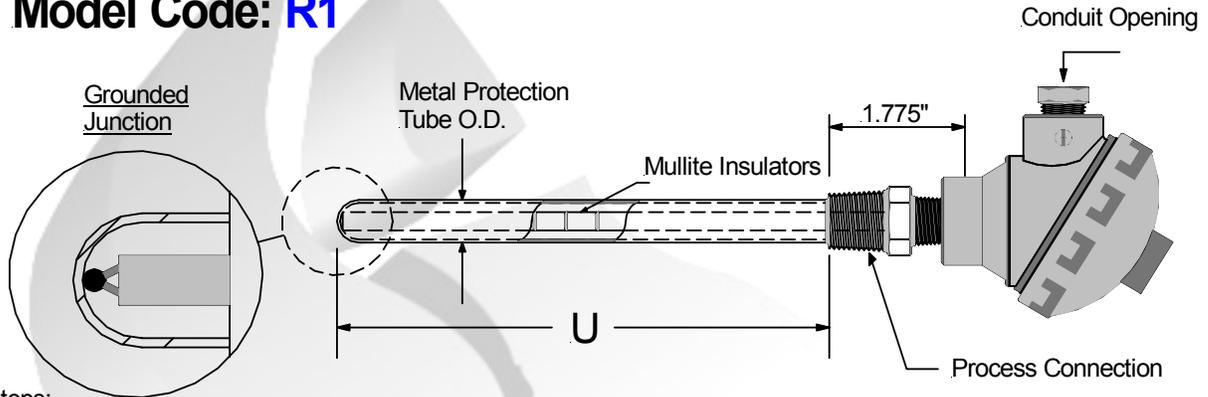
E	"B" Cold Dimension
	Specify "B" Length In Inches <u>18</u>
	Example "U" is 18" = 18

B Wire Gage & Ceramic Insulator Selection					
Model	Wire Gage	Shape	"C" Length	Outside Diameter	Elements
1	8	Round	1"	0.468"	Single
2	8	Round	3"	0.500"	Single
3	8	Oval	1"	0.435" x 0.250"	Single
4	8	Oval	3"	0.562" x 0.312"	Single
5	14	Round	1"	0.250"	Single
6	14	Round	3"	0.281"	Single
7	14	Round	1"	0.312"	Dual
8	14	Oval	1"	0.312" x 0.187"	Single
9	14	Oval	3"	0.375" x 0.217"	Single
10	20	Round	1"	0.187"	Single
11	20	Round	3"	0.225"	Single

# INDUSTRIAL THERMOCOUPLES

## Base Metal Thermocouple & Metal Protection Tube Assembly

Model Code: **R1**



Steps:

Model:

**R1**

A     B     C     D     E     F     G    —     H     I     J

A	Outside Diameter
1	1/4" NPT Pipe
2	1/2" NPT Pipe
3	3/4" NPT Pipe

B	Wall Thickness
1	Schedule 20
2	Schedule 40
3	Schedule 80

C	Sheath Material
A	Carbon Steel
B	304 SS
C	316 SS
D	Inconel 600
E	Ceramic Coated

D	"U" Dimension
Specify "U" Length In Inches <u>0 0 6</u>	

Example "U" is 6" = 006

E	Calibration
Standard Limits of Error	
A	J
B	K
Special Limits of Error	
C	J
D	K

F	Junction			
Wire Gage	Grounded		Ungrounded	
	Single	Dual	Single	Dual
8	1	4	7	10
14	2	5	8	11
20	3	6	9	12

G	Process Connection
1	None
2	1/2" NPT
3	3/4" NPT
4	1" NPT

H	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

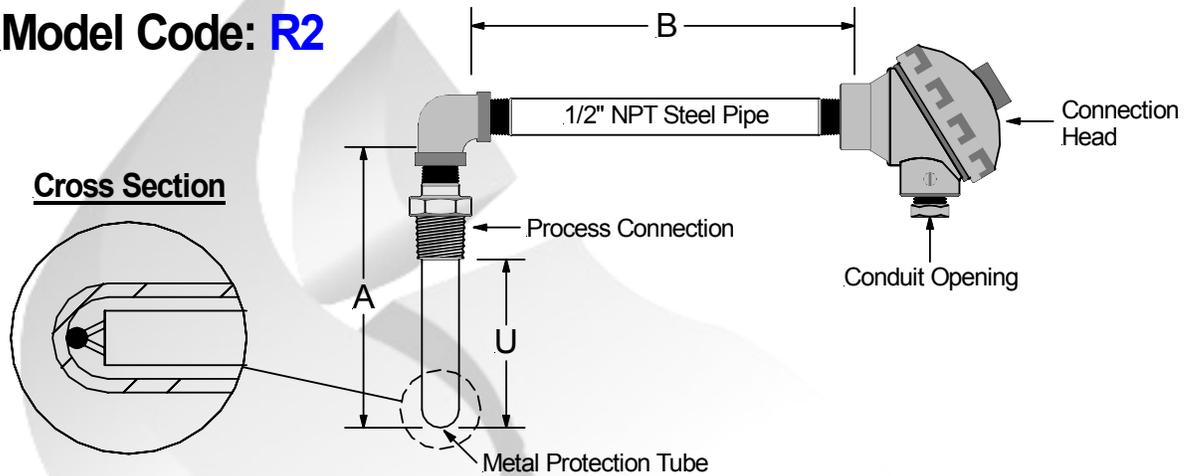
J	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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# INDUSTRIAL THERMOCOUPLES

## Base Metal Angle Thermocouple & Metal Protection Tube Assembly

Model Code: **R2**



Steps: A B C D E F G H I J K L

Model: **R2**

<b>A</b>	<b>Protection Tube O.D.</b>
A	1/4" Pipe
B	1/2" Pipe
C	3/4" Pipe

<b>B</b>	<b>Wall Thickness</b>
1	Schedule 20
2	Schedule 40
3	Schedule 80

<b>C</b>	<b>Sheath Material</b>
A	Carbon Steel
B	304 SS
C	316 SS
D	Inconel 600
E	Ceramic Coated

<b>D</b>	<b>"A" Dimension</b>
Specify "A" Length In Inches <u>0 1 2</u>	
Example "A" is 12" = 012	

<b>E</b>	<b>Calibration</b>
Standard Limits of Error	Special Limits of Error
A J	C J
B K	D K

<b>F</b>	<b>Junction</b>			
Wire Gage	Grounded	Ungrounded		
	Single	Dual	Single	Dual
8	1	4	7	10
14	2	5	8	11
20	3	6	9	12

<b>G</b>	<b>Process Connection</b>
A	None
B	1/2" NPT
C	3/4" NPT
D	1" NPT

<b>H</b>	<b>"U" Dimension</b>
Specify "U" Length In Inches <u>0 0 8</u>	
Example "U" is 8" = 008	

<b>I</b>	<b>Connection Head Model</b>
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

<b>J</b>	<b>Conduit Opening</b>
1	None
2	1/2" NPT
3	3/4" NPT

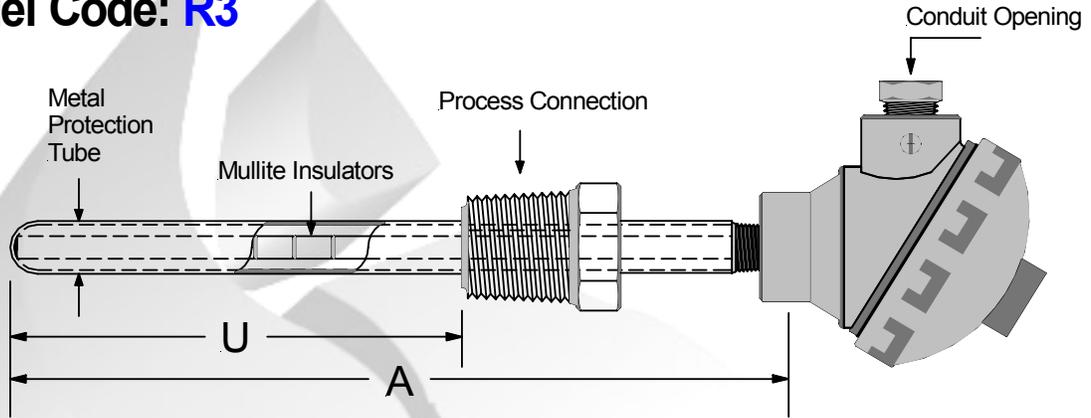
<b>K</b>	<b>Connection Head Options</b>
N	None
B	No Terminal Block
T	4-20mA Transmitter

<b>L</b>	<b>"B" Insertion</b>
Specify "B" Length In Inches <u>0 1 8</u>	
Example "B" is 18" = 018	

# INDUSTRIAL THERMOCOUPLES

## Base Metal Thermocouple & Metal Protection Tube Assembly

Model Code: **R3**



Steps: A B C D E F G H I J K

Model: **R3**

A Protection Tube O.D.	
A	1/4" Pipe
B	1/2" Pipe
C	3/4" Pipe

B Wall Thickness	
1	Schedule 20
2	Schedule 40
3	Schedule 80

C Sheath Material	
A	Carbon Steel
B	304 SS
C	316 SS
D	Inconel 600
E	Ceramic Coated

D "A" Dimension	
Specify "A" Length In Inches <u>0 1 2</u>	
Example "A" is 12" = 012	

E Calibration	
Standard Limits of Error	Special Limits of Error
A J	C J
B K	D K

F Junction				
Wire Gage	Gounded		Ungounded	
	Single	Dual	Single	Dual
8	1	4	7	10
14	2	5	8	11
20	3	6	9	12

G Process Connection	
A	1/2" NPT Hex Bushing
B	3/4" NPT Hex Bushing
C	1" NPT Hex Bushing

H "U" Dimension	
Specify "U" Length In Inches <u>0 0 8</u>	
Example "U" is 8" = 008	

I Connection Head Model	
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

J Conduit Opening	
1	None
2	1/2" NPT
3	3/4" NPT

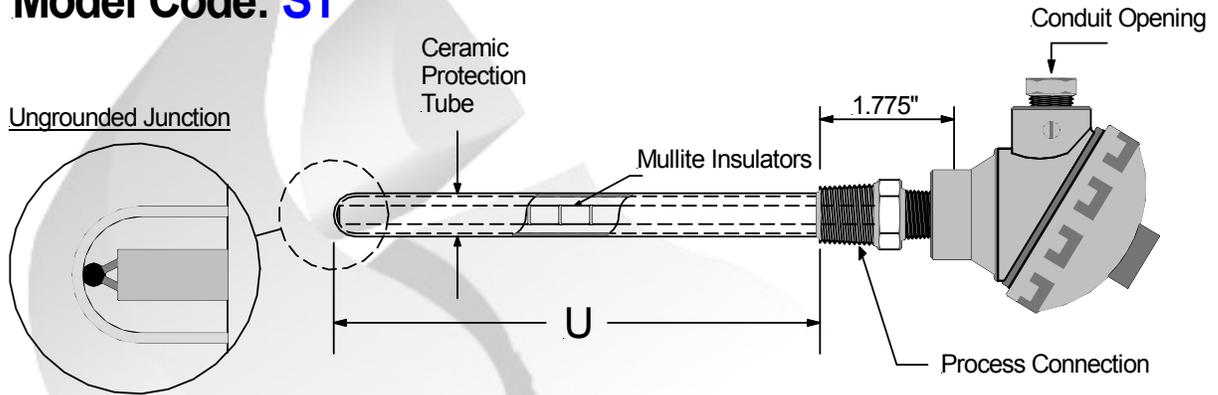
K Connection Head Options	
N	None
B	No Terminal Block
T	4-20mA Transmitter

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# INDUSTRIAL THERMOCOUPLES

## Base Metal Thermocouple & Ceramic Protection Tube Assembly

**Model Code: S1**



Model:

**S1**

A     B     C     D     E     F     G     H     I

A	Ceramic Tube Size
A	1/4" O.D.
B	3/8" O.D.
C	1/2" O.D.
D	11/16" O.D.
E	1" O.D.

D		Calibration	
Standard Limits of Error		Special Limits of Error	
A	J	C	J
B	K	D	K

G	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

B	Protection Tube
1	Alumina 1800C Max.
2	Mullite 1600C Max.

E	Wire Size	
Gage	Single	Dual
8	1	4
14	2	5
20	3	6

H	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

C	"U" Dimension
	Specify "U" Length In Inches <u>06</u>

Example "U" is 6" = 06

F	Process Connection
1	None
2	1/2" NPT
3	3/4" NPT
4	1" NPT

I	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

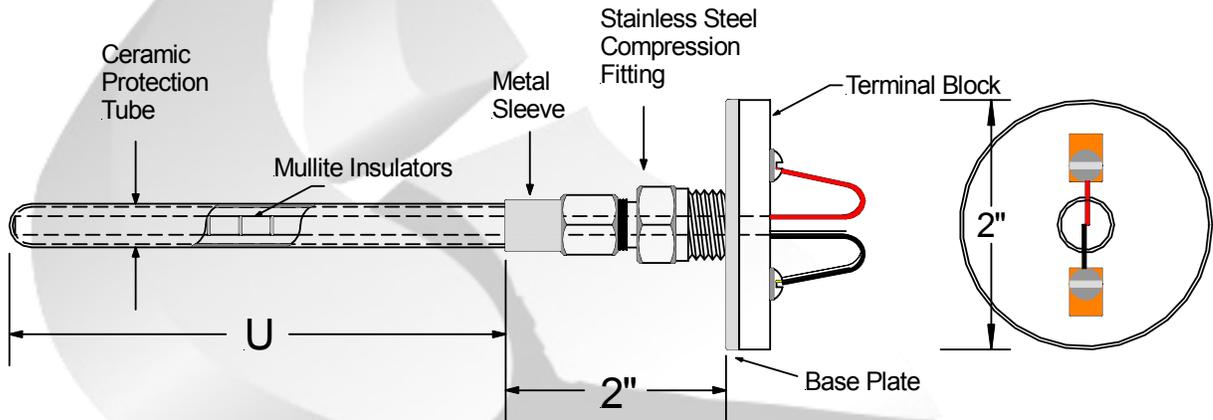
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# INDUSTRIAL THERMOCOUPLES

Base Metal Thermocouple, Ceramic Protection Tube & Terminal Block Assembly

Model Code: **S2**

Operating Temperature:  
+1000 C Max.



Model: **S2**    —   —

<b>A</b>	<b>Ceramic Tube Size</b>
A	1/4" O.D.
B	3/8" O.D.

<b>B</b>	<b>Protection Tube</b>
1	Alumina 1800C Max.
2	Mullite 1600C Max.

<b>C</b>	<b>"U" Dimension</b>
Specify "U" Length In Inches <u>06</u>	
Example "U" is 6" = 06	

<b>D</b>	<b>Calibration</b>		
Standard Limits of Error	Special Limits of Error		
A	J	C	J
B	K	D	K

<b>E</b>	<b>Wire Size</b>	
<b>Gage</b>	<b>Single</b>	<b>Dual</b>
20	1	4
24	2	5

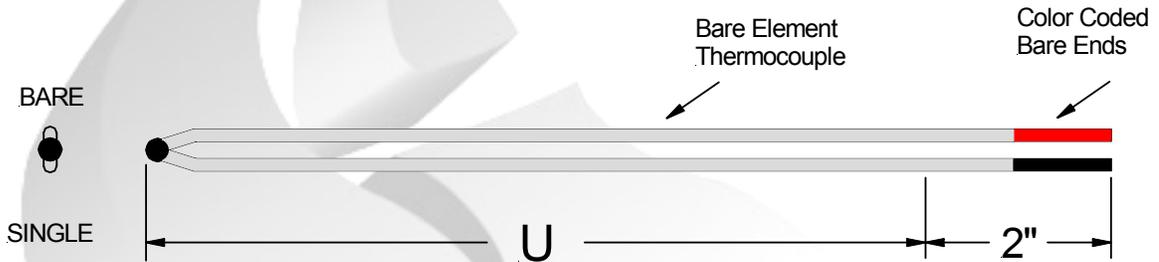
<b>F</b>	<b>Terminal Block Description</b>
A	Ceramic
B	Ceramic, Spring Loaded
C	Plastic, 1" Dia. Micro Head Size

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# NOBEL METAL THERMOCOUPLES

## Bare Element Thermocouples

Model: **T1**



Steps:      **A**                      **B**                      **C**

Model: **T1**            —            —     

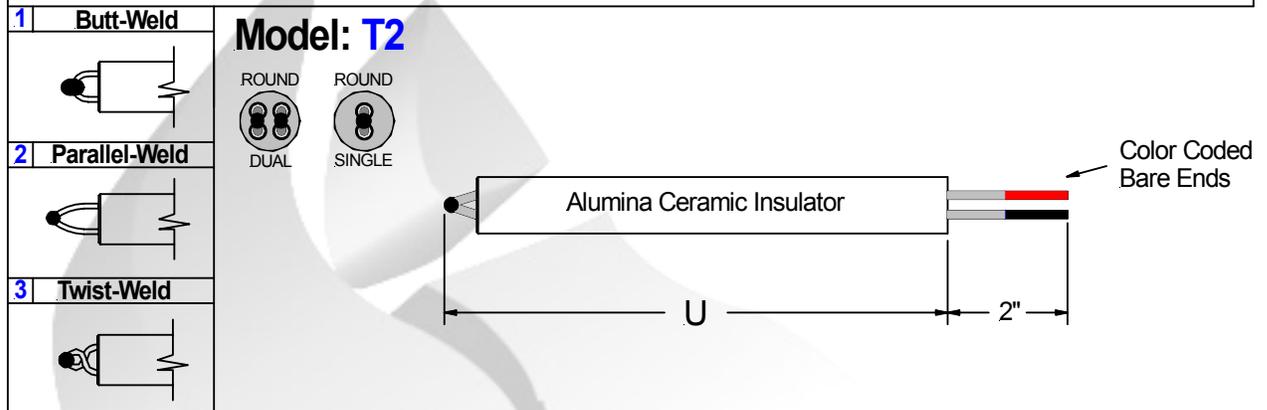
<b>A</b>	<b>Wire Gage</b>
<b>A</b>	20 Gage
<b>B</b>	24 Gage
<b>C</b>	26 Gage
<b>D</b>	28 Gage

<b>B</b>		<b>Calibration</b>	
Standard Limits of Error		Special Limits of Error	
<b>A</b>	<b>S</b>	<b>D</b>	<b>S</b>
<b>B</b>	<b>R</b>	<b>E</b>	<b>R</b>
<b>C</b>	<b>B</b>	<b>F</b>	<b>B</b>

<b>C</b>	<b>"U" Dimension</b>
Specify "U" Length In Inches <u>0 1 8</u>	
Example "U" is 18" = 018	

# NOBEL METAL THERMOCOUPLES

## Nobel Metal Thermocouple Elements With Ceramic Insulators



Steps:      A      B      C      D

Model: **T2**                       

A Wire Size		
Gage	Single	Dual
20	1	5
24	2	6
26	3	7
28	4	8

B Insulator Diameter	
A	1/8" O.D.
B	3/16" O.D.
C	1/4" O.D.

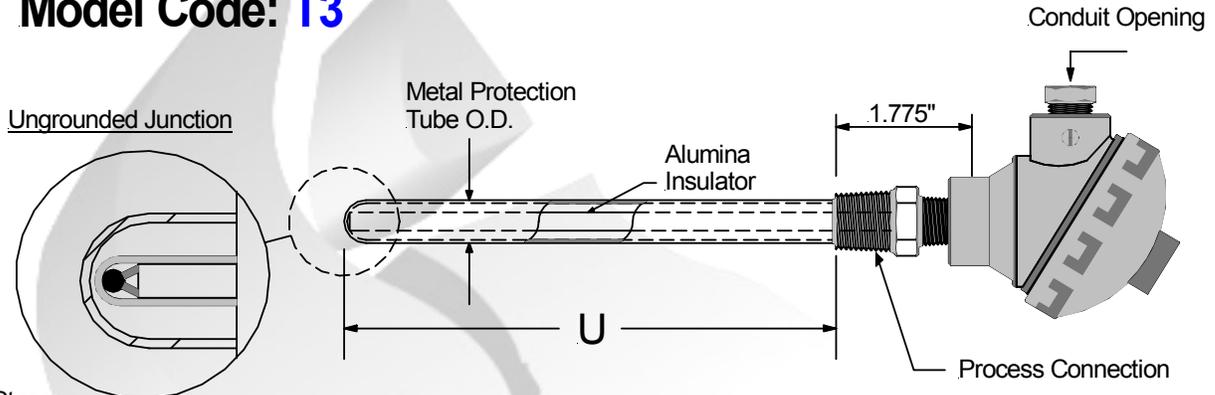
C Calibration	
Standard Limits of Error	Special Limits of Error
A S	D S
B R	E R
C B	F B

D "U" Dimension	
Specify "U" Length In Inches <u>0 1 8</u>	
Example "U" is 18" = 018	

# NOBEL METAL THERMOCOUPLES

## Nobel Metal Thermocouple & Metal Protection Tube Assembly

Model Code: **T3**



Steps:

Model:

**T3**
A
B
C
D
E
F
G
—
H
I
J

A	Outside Diameter
1	1/4" NPT Pipe
2	1/2" NPT Pipe
3	3/4" NPT Pipe

B	Wall Thickness
1	Schedule 20
2	Schedule 40
3	Schedule 80

C	Sheath Material
A	Carbon Steel
B	304 SS
C	316 SS
D	Inconel 600
E	Ceramic Coated

D	"U" Dimension
Specify "U" Length In Inches <u>0.6</u>	

Example "U" is 6" = 06

E	Calibration
Standard Limits of Error	
A	S
B	R
C	B
Special Limits of Error	
D	S
E	R
F	B

F	Wire Size		
	Gage	Single	Dual
	20	1	5
	24	2	6
	26	3	7
	28	4	8

G	Process Connection
1	None
2	1/2" NPT
3	3/4" NPT
4	1" NPT

H	Connection Head Model
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

I	Conduit Opening
1	None
2	1/2" NPT
3	3/4" NPT

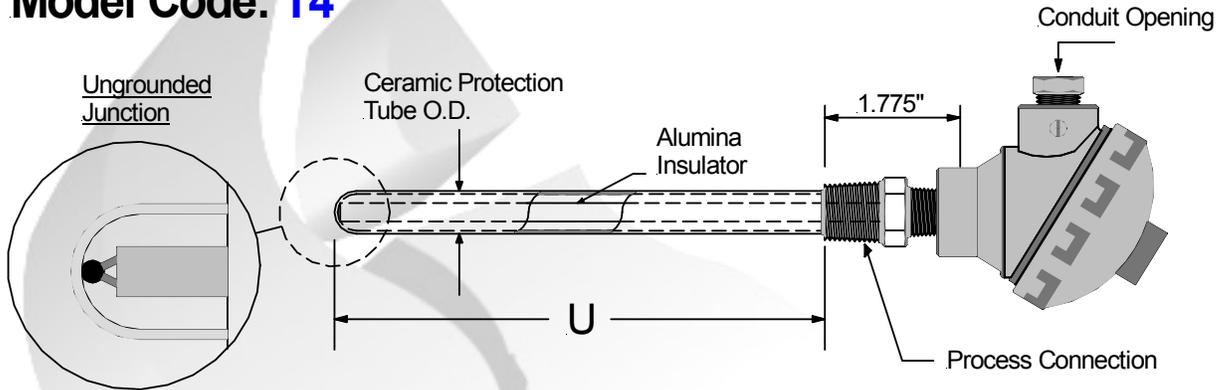
J	Connection Head Options
N	None
B	No Terminal Block
T	4-20mA Transmitter

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# NOBEL METAL THERMOCOUPLES

Nobel Metal Thermocouple & Ceramic Protection Tube Assembly

Model Code: **T4**



Model: **T4**    A    B    C    —    D    E    F    —    G    H    I

A Ceramic Tube Size	
A	1/4" O.D.
B	3/8" O.D.
C	1/2" O.D.
D	11/16" O.D.
E	1" O.D.

B Protection Tube	
1	Alumina 1800C Max.
2	Mullite 1600C Max.

C "U" Dimension	
Specify "U" Length In Inches <u>06</u>	

Example "U" is 6" = 06

D Calibration			
Standard Limits of Error		Special Limits of Error	
A	S	D	S
B	R	E	R
C	B	F	B

E Wire Size		
Gage	Single	Dual
20	1	5
24	2	6
26	3	7
28	4	8

F Process Connection	
1	None
2	1/2" NPT
3	3/4" NPT
4	1" NPT

G Connection Head Model	
A	None, 3" Split Leads
B	Cast Aluminum: Standard
C	Cast Aluminum: Mini
D	Black Nylon Head
E	Cast Iron: Standard Size
F	316 Stainless Steel
G	Explosion Proof

H Conduit Opening	
1	None
2	1/2" NPT
3	3/4" NPT

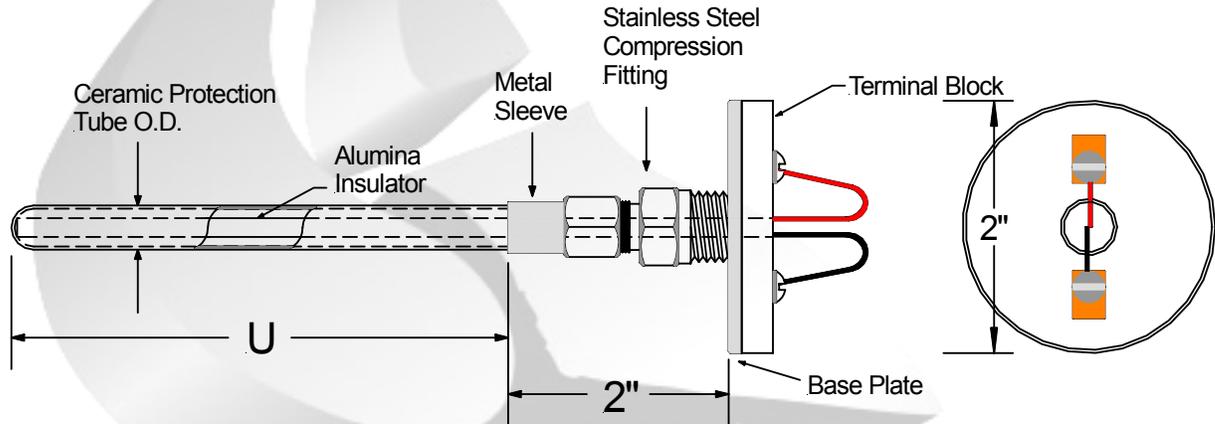
I Connection Head Options	
N	None
B	No Terminal Block
T	4-20mA Transmitter

# NOBEL METAL THERMOCOUPLES

Nobel Metal Thermocouple, Ceramic Protection Tube & Terminal Block Assembly

Model Code: **T5**

Operating Temperature:  
+1000 C Max.



Model: **T5**    A    B    C    —    D    E    —    F

A	Ceramic Tube Size
1	1/4" O.D.
2	3/8" O.D.

B	Protection Tube
A	Alumina 1800C Max.
B	Mullite 1600C Max.

C	"U" Dimension
	Specify "U" Length In Inches <u>06</u>

Example "U" is 6" = 06

D	Calibration	
	Standard Limits of Error	Special Limits of Error
A	S	D
B	R	E
C	B	F

F	Terminal Block Description
A	Ceramic
B	Ceramic, Spring Loaded
C	Plastic, 1" Dia. Micro Head Size

E	Wire Size		
	Gage	Single	Dual
	20	1	5
	24	2	6
	26	3	7
	28	4	8

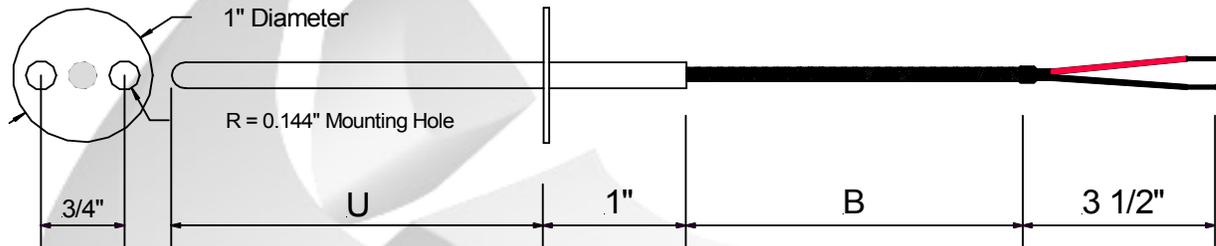
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# SPECIAL THERMOCOUPLE ASSEMBLIES

## Flanged Style Tube & Wire Thermocouple Probe

Model Code: **Z1**

Maximum operating temperature: 900F or 500C



Model: A B C D E F G H I J K

**Z1**

A	Outside Diameter
A	1/8"
B	3/16"
C	1/4"
D	5/16"

B	"U" Dimension
Specify "U" Length In Inches <u>06</u>	

Example "U" is 6" = 06

C	"U" Length Fractional
A	0"
B	1/8"
C	3/16"
D	1/4"
E	1/2"
F	5/8"
G	3/4"
H	7/8"

D	"B" Dimension
Specify "B" Length In Inches <u>048</u>	

Example "B" is 48" = 048

E	Calibration	
	+	-
J	White	Red
K	Yellow	Red
T	Blue	Red

F	Junction Styles		
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	C	I

G	Cable Conductor Description
1	24 Gage, Solid Conductor
2	24 Gage, 7 Stranded Conductors
3	20 Gage, Solid Conductor
4	20 Gage, 7 Stranded Conductors

H	Cable Insulation Description
A	Fiberglass Insulation: 950F / 510C
B	Teflon Insulation: 500F / 260C
C	P.V. C. Insulation: 221F / 105C
D	Teflon, Shielded + Drain Wire
E	P.V.C., Shielded + Drain Wire

I	Outer Jacket Protection
1	None
2	Stainless Steel Braid
3	Armor Flexible Cable: 0.280" Outside Diameter
4	Armor Flexible Cable 0.210" Outside Diameter

Metal Braid Protection not available on P.V.C insulation cable.

J	Termination
A	3 1/2" Split leads & bare ends
B	3 1/2" Split leads & No. 10 spade lugs.
C	Standard Male Plug (350 F)
D	Standard Female Jack (350 F)
E	Mini Male Plug (350 F)
F	Mini Female Jack (350 F)

K	Termination Options
1	None
2	Bx Connector
3	Cable Clamp

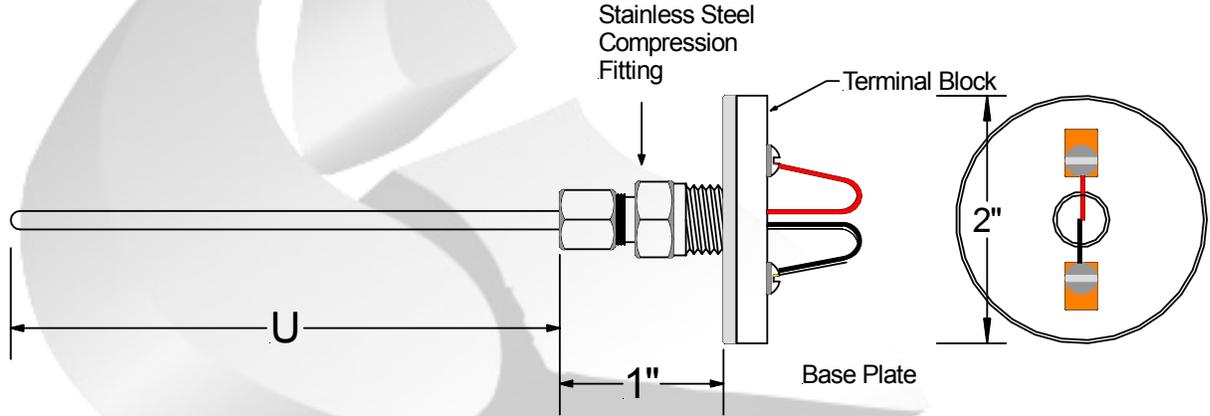
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# SPECIAL THERMOCOUPLE ASSEMBLIES

## Mineral Insulated Thermocouple & Terminal Block Assembly

Model Code: **Z2**

Operating Temperature:  
-200 C to +1000 C Max.



Model:

**Z2**

A

B

C

D

E

A	Outside Diameter
A	1/8" O.D.
B	3/16" O.D.
C	1/4" O.D.
D	1/2" O.D.

C Calibration			
Standard Limits of Error		Special Limits of Error	
A	J	D	J
B	K	E	K
C	T	F	T

E	Terminal Block Description
A	Ceramic
B	Ceramic, Spring Loaded
C	Plastic, Micro Head Size

B	"U" Dimension
Specify "U" Length In Inches <u>06</u>	

Example "U" is 6" = 06

D Junction Styles			
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G		U
Duplex	D	F	H

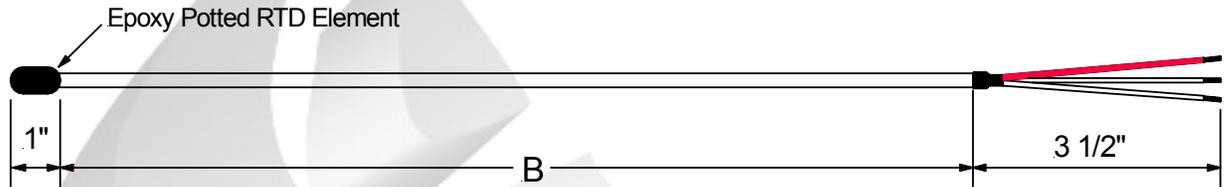
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# SPECIAL SENSOR ASSEMBLIES

## Epoxy Potted RTD Assembly

Low temperature application

Model Code: **Z3**



Operating Temperature: -200 C to +250 C

Steps To Follow:

Model: **Z3**  1.  2.  3.  4.  5.  6.

**1. Wire Description**

S	24 Gage Stranded Stainless Steel Braid
F	24 Gage Stranded Fiberglass Cable
T	24 Gage Stranded Teflon Cable

**4. "B" Dimension**

"B" = 0 4 8 "

Leads Wire Length In Inches

**2. Termination Type**

0	3" Split Leads & 1/2" Bare Ends.
1	3" Slip Leads & Spade Lugs
2	Standard Male Plug (2 & 3 Wire config. only)
3	Standard Female Jack (2 & 3 Wire config. only)
4	Mini Male Plug (2 & 3 Wire config. only)
5	Mini Female Jack (2 & 3 Wire config. only)

**5. RTD Element Type**

Ohms	Class A	Class B
1 x Pt100	1	2
2 x Pt100	3	4
1 x Pt1000	5	6
2 x Pt1000	7	8

Temperature Coefficient: 0.00385  
Platinum element  
IEC 751

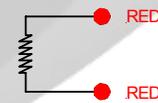
**3. Accessories**

N	None
X	Bx Connector
C	Cable Clamp

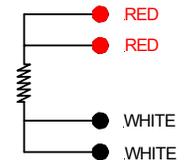
**6. RTD Wire Connection**

2	2 Wire Configuration
3	3 Wire Configuration
4	4 Wire Configuration

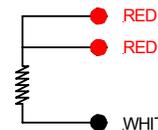
**2 Wire Configuration**



**4 Wire Configuration**



**3 Wire Configuration**



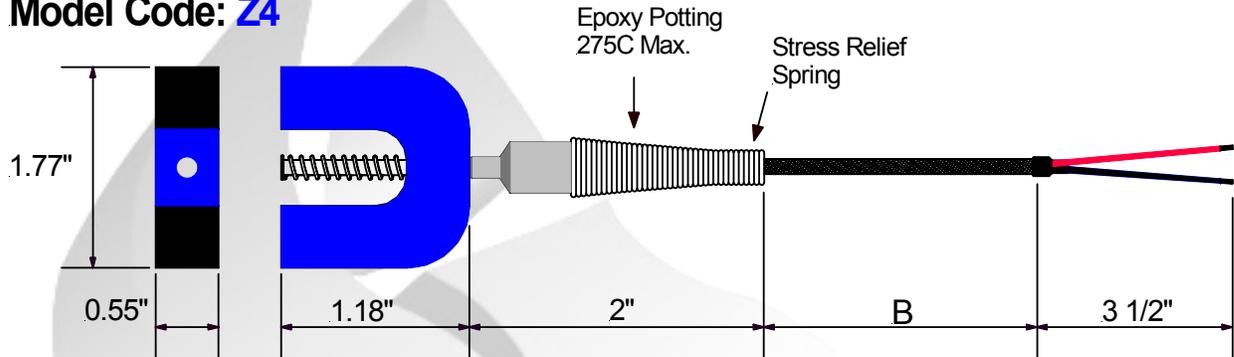
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# SPECIAL THERMOCOUPLE ASSEMBLIES

## MAGNET MOUNT THERMOCOUPLE

Operating Temperature:  
-200 C to +1000 C Max.

Model Code: **Z4**



Model: **Z4**    **A**    **B**    **C**    —    **D**    **E**    **F**

<b>A Magnet Pull</b>	
1	12 lbs
2	24 lbs

<b>D "B" Dimension</b>	
Specify "B" Length In Inches <b>0 4 8</b>	

Example "B" is 48" = 048

<b>B Calibration</b>			
Standard Limits of Error		Special Limits of Error	
1	J	6	J
2	K	7	K
3	T	8	T
4	E	9	E
5	N	10	N

<b>E Cable Insulation Description</b>	
A	20 Gage, Stranded, Metal Braid
B	20 Gage, Stranded, Fiberglass
C	.281" O.D. Flexible Armor Cable
D	20 Gage, Stranded, Teflon
E	20 Gage, Stranded, PVC

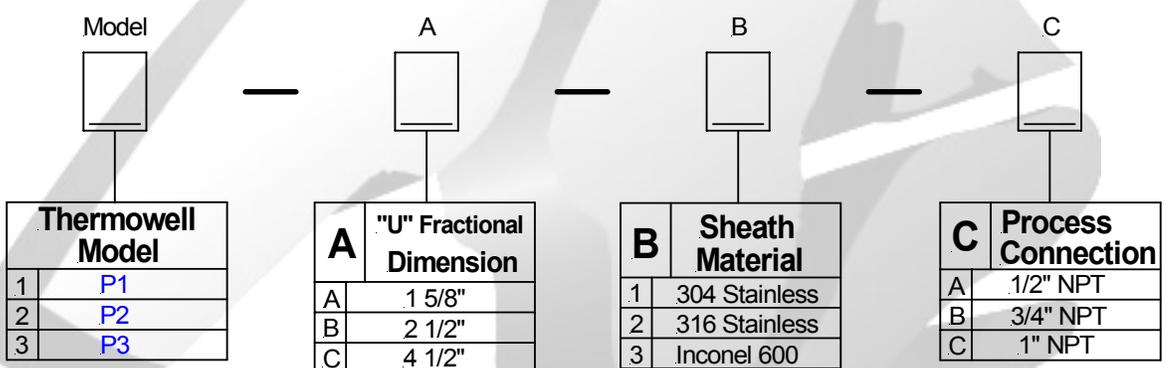
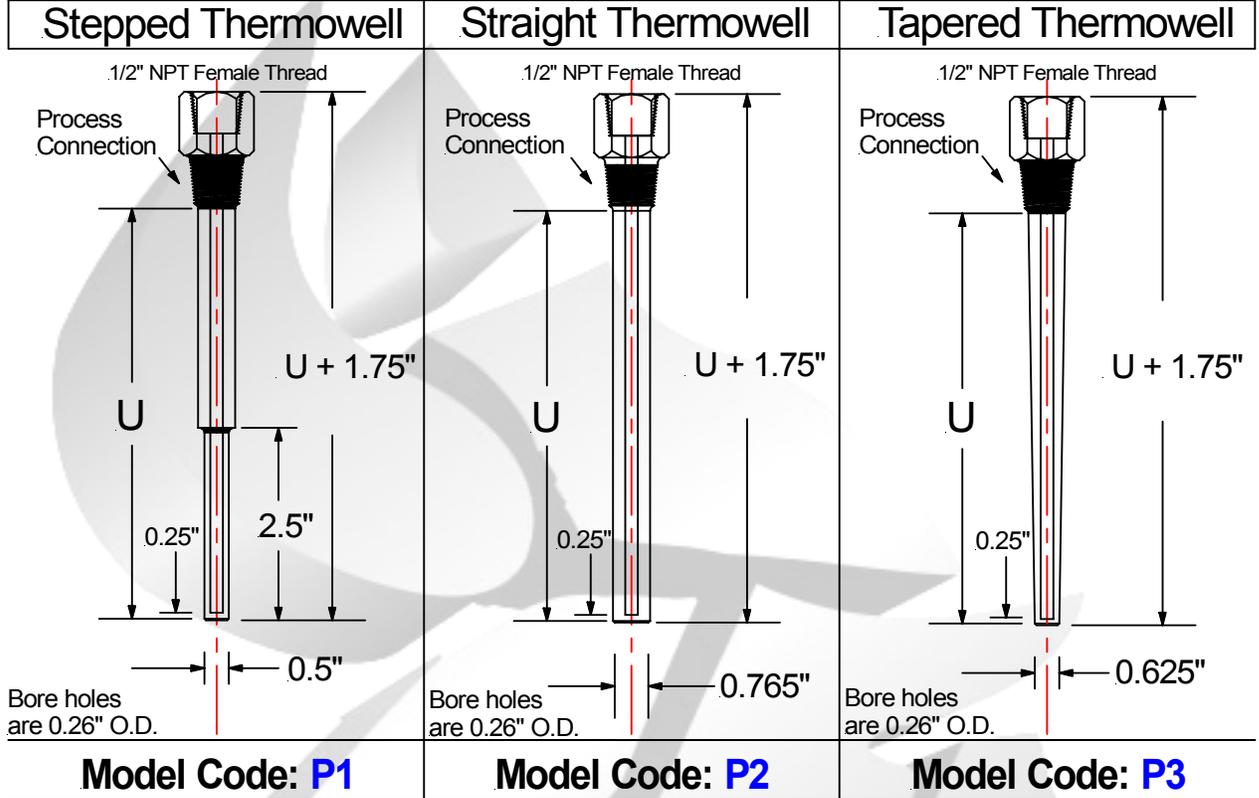
<b>C Junction Styles</b>			
Element Description	Grounded		Ungrounded
	Common	Common	Isolated
Single	G	U	U
Duplex	D	F	H

<b>F Termination</b>	
1	3" Split Leads & 1/2" bare ends.
2	3" Split Leads & Spade Lugs.
3	Standard Male Plug (425 F)
4	Standard Female Jack (425 F)
5	Mini Male Plug (425 F)
6	Mini Female Jack (425 F)
7	Hi Temp. Male Plug (800 F)
8	Hi Temp. Female Jack (800 F)

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# ACCESSORIES

## P-SERIES THERMOWELLS



Thermowell Model	
1	P1
2	P2
3	P3

A	"U" Fractional Dimension
A	1 5/8"
B	2 1/2"
C	4 1/2"
D	7 1/2"
E	10 1/2"
F	13 1/2"
G	16 1/2"
H	22 1/2"

B	Sheath Material
1	304 Stainless
2	316 Stainless
3	Inconel 600
4	Carbon Steel
5	Solid Teflon

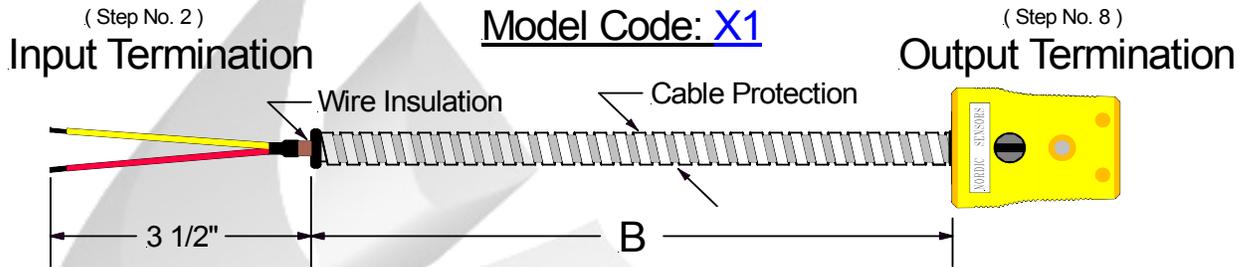
C	Process Connection
A	1/2" NPT
B	3/4" NPT
C	1" NPT

For all other U lengths contact factory for availability.

For all other materials contact factory for availability.

# ACCESSORIES

## THERMOCOUPLE EXTENTION CABLES



Model:

X1    1.     2.     3.  - 4.  - 5.     6.     7.     8.     9.

**1. Calibration**

J	(+) Iron Vs. (-) Constantan
K	(+) Ni.-Chromium Vs. (-) Ni.-Aluminum
T	(+) Copper Vs. (-) Constantan
E	(+) Ni.-Chromium Vs. (-) Constantan
N	(+) Nicrosil Vs. (-) Nisil

**2. Input Termination Option**

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

**3. Input Accessories**

A	None
B	Bx Connector
C	Cable Clamp

**4. "B" Dimension**

<b>"B" = 0 4 8 "</b>
Leads Wire Length In Inches

**5. Wire Gage Description**

A	24 Gage Stranded Conductors
B	24 Gage Solid Conductors
C	20 Gage Stranded Conductors
D	20 Gage Solid Conductors

**6. Wire Insulation Description**

1	Fiberglass Insulation Jacket
2	Teflon Insulation Jacket
3	Teflon Jacket, Tin foil Sheild & Drain Wire
4	P.V.C. Insulation Jacket
5	P.V.C. Jacket, Tin foil Sheild & Drain Wire

**7. Wire Cable Protection**

N	None
S	Stanless Steel Overbraid
F	Flexible Armor Cable

**8. Output Termination Option**

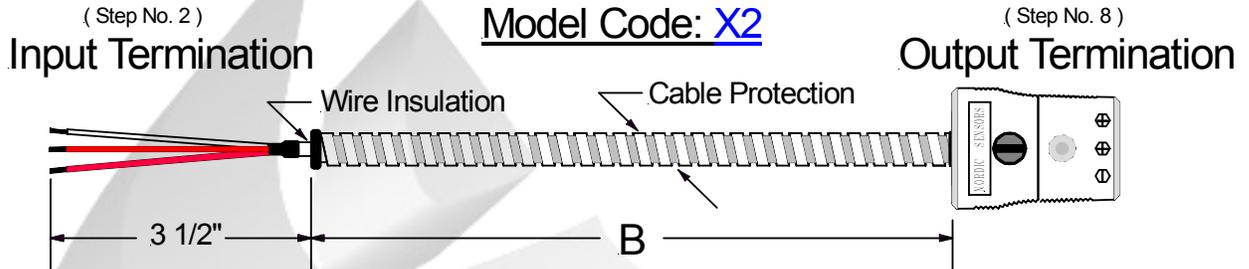
1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug
4	Standard Female Jack
5	Mini Male Plug
6	Mini Female Jack

**9. Output Accessories**

A	None
B	Bx Connector
C	Cable Clamp

# ACCESSORIES

## RTD EXTENTION CABLES



Model:

X2  1.  2.  3. -  4. -  5.  6.  7.  8.  9.

**1. Number Of Conductors**

A	2 Conductors
B	3 Conductors
C	4 Conductors

**6. Wire Insulation Description**

1	Fiberglass Insulation Jacket
2	Teflon Insulation Jacket
3	Teflon Jacket, Tin foil Sheild & Drain Wire
4	P.V.C. Insulation Jacket
5	P.V.C. Jacket, Tin foil Sheild & Drain Wire

**2. Input Termination Option**

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug <span style="float: right;">2 &amp; 3 Wire Cable, Only</span>
4	Standard Female Jack <span style="float: right;">2 &amp; 3 Wire Cable, Only</span>
5	Mini Male Plug <span style="float: right;">2 &amp; 3 Wire Cable, Only</span>
6	Mini Female Jack <span style="float: right;">2 &amp; 3 Wire Cable, Only</span>

**7. Wire Cable Protection**

N	None
S	Stanless Steel Overbraid
F	Flexible Armor Cable

**3. Input Accessories**

A	None
B	Bx Connector
C	Cable Clamp

**8. Output Termination Option**

1	3" Split Leads & 1/2" Bare Ends.
2	3" Split Leads & No.10 Spade Lugs.
3	Standard Male Plug <span style="float: right;">2 &amp; 3 Wire Cable, Only</span>
4	Standard Female Jack <span style="float: right;">2 &amp; 3 Wire Cable, Only</span>
5	Mini Male Plug <span style="float: right;">2 &amp; 3 Wire Cable, Only</span>
6	Mini Female Jack <span style="float: right;">2 &amp; 3 Wire Cable, Only</span>

**4. "B" Dimension**

**"B" = 0 4 8 "**

Leads Wire Length In Inches

**5. Wire Gage Description**

A	26 Gage Stranded Conductors
B	24 Gage Stranded Conductors
C	20 Gage Stranded Conductors

**9. Output Accessories**

A	None
B	Bx Connector
C	Cable Clamp

# ACCESSORIES

## STANDARD CONNECTORS



Temperature rating 425° F Max

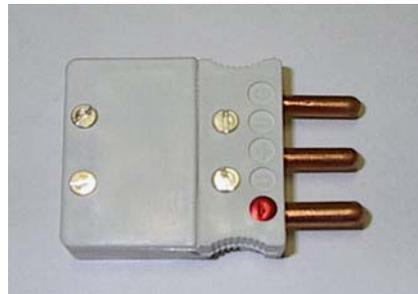
### MALE (2-PIN)

PART #	CALIBRATIONS
LP - ( )	J, K, T, R, U, E, N



### FEMALE (2-PIN)

PART #	CALIBRATIONS
LJ - ( )	J, K, T, R, U, E, N



### MALE (3-PIN)

PART #	CALIBRATIONS
LP3 - ( )	J, K, T, R, U, E, N

### FEMALE (3-PIN)

PART #	CALIBRATIONS
LJ3 - ( )	J, K, T, R, U, E, N

## HIGH TEMPERATURE

High temperature rating 800° F continuous (1000° F intermittent)

### MALE (2-PIN)

PART #	CALIBRATIONS
HTLP - ( )	J, K, T, R, U, E, N,

### FEMALE (2-PIN)

PART #	CALIBRATIONS
HTLJ - ( )	J, K, T, R, U, E, N,

### MALE (3-PIN)

PART #	CALIBRATIONS
HTLP3 - ( )	J, K, T, R, U, E, N,

### FEMALE (3-PIN)

PART #	CALIBRATIONS
HTLJ3 - ( )	J, K, T, R, U, E, N,

## PANEL JACKS



Temperature rating 400° F (max)

### **2 - PIN**

PART #	CALIBRATIONS
H 30 -	J, K, T, R, U, E, N

### **3 - PIN**

PART #	CALIBRATIONS
H 303 -	J, K, T, R, U, E, N

### **CIRCULAR (2-PIN)**

PART #	CALIBRATIONS
H 32 -	J, K, T, R, U, E, N

## HIGH TEMPERATURE

High temperature rating 550° F (max)

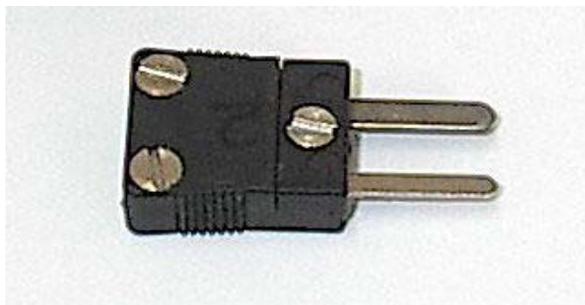
### **STANDARD (2-PIN)**

PART #	CALIBRATIONS
HTH30 -	J, K, T, R, U, E, N

### **CIRCULAR (2-PIN)**

PART #	CALIBRATIONS
HTH32 -	J, K, T, R, U, E, N,

### MINI MALE PLUG



Temperature rating 400° F

#### **2-PIN**

PART #	CALIBRATIONS
MP -( _ )	J, K, T, R, U, E, N,

#### **3-PIN**

PART #	CALIBRATIONS
MP3 -( _ )	J, K, T, R, U, E, N,

### HIGH TEMPERATURE MINI PLUG

High temperature rating 550° F

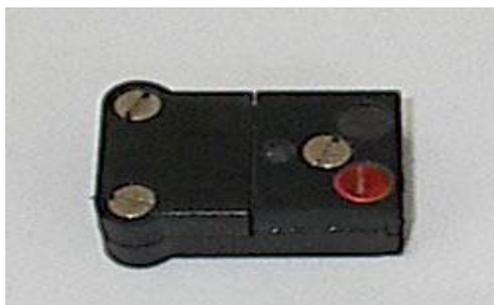
#### **2-PIN**

PART #	CALIBRATIONS
HTMP -( _ )	J, K, T, R, U, E, N,

#### **3-PIN**

PART #	CALIBRATIONS
HTMP3 -( _ )	J, K, T, R, U, E, N,

### MINI JACK ( FEMALE)



Temperature rating 400° F

#### **2-PIN**

PART #	CALIBRATIONS
MJ -( _ )	J, K, T, R, U, E, N,

#### **3-PIN**

PART #	CALIBRATIONS
MJ3 -( _ )	J, K, T, R, U, E, N,

### HIGH TEMPERATURE MINI JACK

High temperature rating 550° F

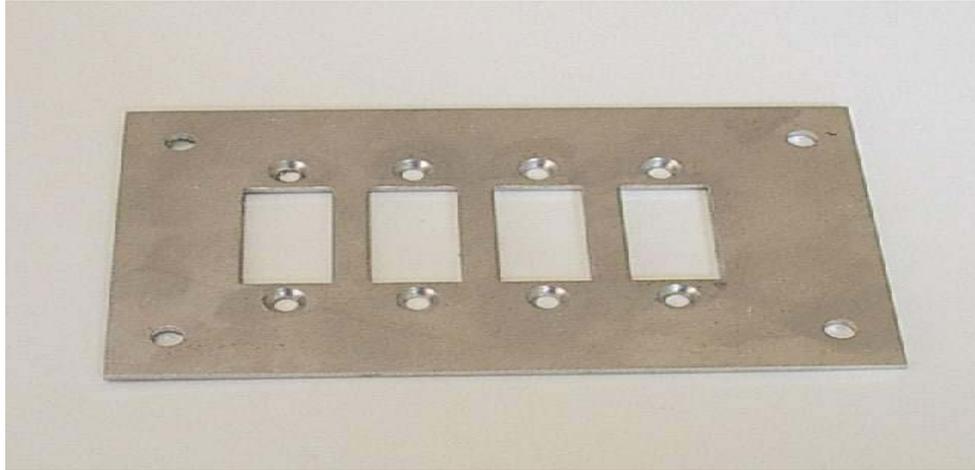
#### **2-PIN**

PART #	CALIBRATIONS
HTMJ - ( _ )	J, K, T, R, U, E, N,

#### **3-PIN**

PART #	CALIBRATIONS
HTMJ3 - ( _ )	J, K, T, R, U, E, N,

## STANDARD PANELS FOR OUTLET BOXES



No	PART#	# OF JACKS	SIZE
1	H510	0	2 3/4" x 4 1/2"
2	H511	1	2 3/4" x 4 1/2"
3	H512	2	2 3/4" x 4 1/2"
4	H513	3	2 3/4" x 4 1/2"
5	H514	4	2 3/4" x 4 1/2"
6	H515	5	2 3/4" x 4 1/2"
7	H516	6	2 3/4" x 4 1/2"
8	H550	5	3 1/4" x 5 3/4"
9	H551	6	3 1/4" x 5 3/4"
10	H551-1	6	2 5/8" x 5 3/4"
11	H552	8	3 1/4" x 7 1/4"
12	H553	10	3 1/4" x 8 3/4"
13	H554	12	3 1/4" x 10 1/4"
14	H555	20	3 1/2" x 19"
15	H555-16	16	3 1/2" x 19"
16	H555-18	18	3 1/2" x 19"
17	H556 (2 rows of 20)	40	5 1/4" x 19"
18	H557 (4 rows of 20)	80	8 3/4" x 19"

## BAYONET ADAPTORS



No	PART #	MATERIAL	LENGTH	THREADS
1	H440-7-1-NI	Steel, Nickel Pl.	7/8"	1/8 NPT
2	H440-7-3	Steel, Zinc Pl.	7/8"	3/8 x 24
3	H440-7-3-NI	Steel, Nickel Pl.	7/8"	3/8 x 24
4	H440-7-BPT	Steel, Blk. Ox	7/8"	1/8 x 28 British
5	H441-0-3-16	Steel, Zinc Pl.	1"	3/8 x 16
6	H441-2-1-NI	Steel, Nickel Pl.	1 1/4"	1/8 NPT
7	H441-3-1-NI	Steel, Nickel Pl.	1 3/8"	1/8 NPT
8	H441-3-3	Steel, Zinc Pl.	1 3/8"	3/8 x 24
9	H441-3-3-16	Steel, Zinc Pl.	1 3/8"	3/8 x 16
10	H441-4-1-NI	Steel, Nickel Pl.	1 1/2"	1/8 NPT
11	H441-6-1	Steel, Zinc Pl.	1 3/4"	1/8 NPT
12	H442-0-1-NI	Steel, Nickel Pl.	2"	1/8 NPT
13	H442-2-1-NI	Steel, Nickel Pl.	2 1/4"	1/8 NPT
14	H442-4-1-NI	Steel, Nickel Pl.	2 1/2"	1/8 NPT
15	H443-0-1-NI	Steel, Nickel Pl.	3"	1/8 NPT
16	H443-0-3	Steel, Zinc Pl.	3"	3/8 x 24
17	H443-4-1-NI	Steel, Nickel Pl.	3 1/2"	1/8 NPT
18	H443-4-3-NI	Steel, Nickel Pl.	3 1/2"	3/8 x 24
19	H444-0-1-NI	Steel, Nickel Pl.	4"	1/8 NPT
20	H444-4-1	Steel, Zinc Pl.	4 1/2"	1/8 NPT
21	H445-0-1	Steel, Zinc Pl.	5"	1/8 NPT
22	H445-4-1	Steel, Zinc Pl.	5 1/2"	1/8 NPT

## STOCK METRIC ADAPTORS



PART #	SIZE & THREAD	LENGTH
EA121	M12 x 1	25 mm
EA1215	M12 x 1.5	25 mm
EA1275	M12 x 1.75	25 mm
EA141	M14 x 1	30 mm
EA1415	M14 x 1.5	38 mm
EA142	M14 x 2	30 MM
EA1615	M16 x 1.5	30 MM

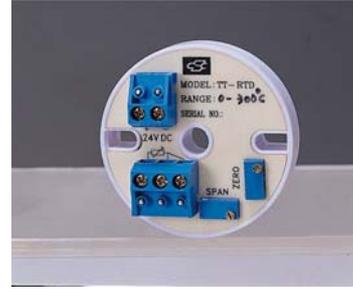
\* For Additional models please inquire

# 2-WIRE HEAD MOUNT ( RTD, T/C ) TRANSMITTER

TT

## FEATURE

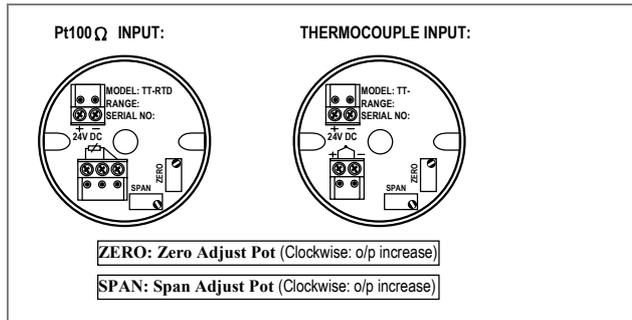
- Accuracy: RTD: 0.15%, T/C: 0.3%
- Wide selection of input / output range
- Dimension small
- Low output ripple
- Head Mount type
- High stability & low cost



## SPECIFICATION

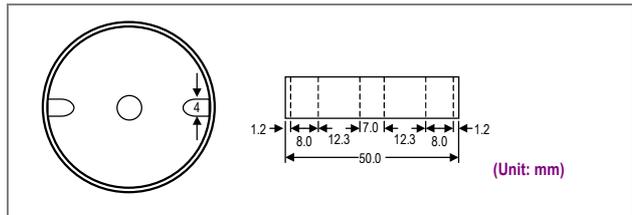
Input Range	Input Impedance	Output Range	Load Resistance
Type K 0 ~ 1200°C	≧ 1M ohm	4 ~ 20 mA	≧ (Vs-12) / 20mA (ohm)
Type J 0 ~ 1000°C	≧ 1M ohm		
Type E 0 ~ 800°C	≧ 1M ohm		
Type T -50 ~ 400°C	≧ 1M ohm		
Pt100Ω -100 ~ 800°C	≧ 10M ohm		

## ADJUSTMENT

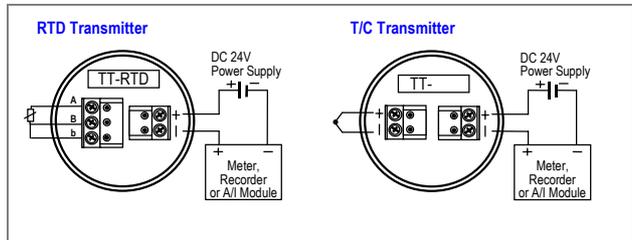


- Accuracy: RTD ( Pt100 ): ±0.15% of R.O.  
T/C ( K, J, E, T ): ±0.3% of R.O.
- Response time: ≧ 300 msec.
- Span adjustment: ≧ 10% of R.O.
- Zero adjustment: ≧ 5% of R.O.
- Output ripple: ≧ 0.3% of R.O.
- Power Supply: DC 16 ~ 36V
- Open circuit protection: Upscale > 22mA
- Operating temperature: 0~60 °C
- Operating relative humidity: 20~95 %RH
- Temperature coefficient: ≧ 100 PPM/°C
- Cold junction: 25±10°C, error ≧ 0.5°C
- Storage temperature: -10~70 °C
- Weight: 50g

## DIMENSIONS



## CONNECTION DIAGRAM



## ORDER INFORMATION

TT- Input Type - Input Range

RTD	THERMOCOUPLE				CODE	TEMPERATURE RANGE
P	K	J	E	T		
●				●	A	-50 ~ +100°C
●					B	-10 ~ +40°C
●	●	●	●	●	C	0 ~ 50°C
●	●	●	●	●	D	0 ~ 100°C
●	●	●	●	●	E	0 ~ 200°C
●	●	●	●	●	F	0 ~ 400°C
●	●	●	●	●	G	0 ~ 500°C
●	●	●	●	●	H	0 ~ 600°C
●	●	●	●	●	I	0 ~ 800°C
	●	●			J	0 ~ 1000°C
	●				K	0 ~ 1200°C
					O	Specify

# NYLON BARRIER TERMINAL STRIPS

- Made Of the same glass-filled Nylon used in our thermocouple connectors (350° F - 400° F Max)
- Similar to Cinch type 141 or equivalent with 27/64" screw spacing in each section, with 6-32 terminal screws
- Nuts for the terminal screws are pressed into the back of the terminal strips.

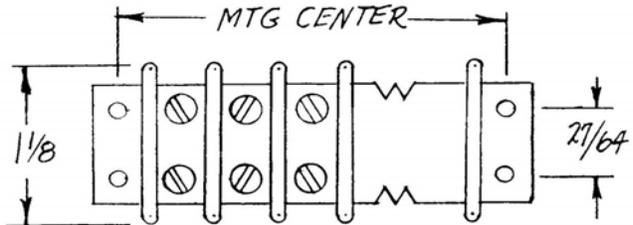
There are no terminal lugs or connecting strips between the terminal screws in each section on the basic H221-XX and H222-XX barrier terminal strips.

**Series H221** - Screws are not installed, but are supplied in a separate bag ready for installation of the terminal lugs.

**Series H222** - Screws are installed (there is no lug between them in each section).

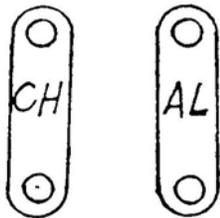
**Series H223** - Has nickel plated copper lugs installed in each section. For non-thermocouple applications.

**Series H224** - Has thermocouple compensating lugs installed, as specified.

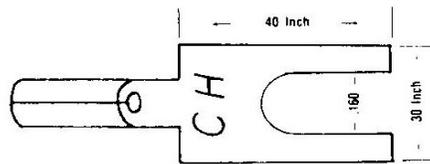


Number of Terminals	Length: Inches	Mounting Centers: Inches	Part Number Basic Strip	Part No. w/Screws Installed	Part No. w/ Nickel Plated Copper Lugs	Part Number w/TC lugs (Calibration)
2	1 5/8	1 5/16	H221-2	H222-2	H223-2	H224-2-_____
3	2 1/8	1 3/4	H221-3	H222-3	H223-3	H224-3-_____
4	2 1/2	2 1/5	H221-4	H222-4	H223-4	H224-4-_____
6	3 3/8	3 1/16	H221-6	H222-6	H223-6	H224-6-_____
8	4 1/4	3 15/16	H221-8	H222-8	H223-8	H224-8-_____
10	5 1/8	4 13/16	H221-10	H222-10	H223-10	H224-10-_____
12	6	5 11/16	H221-12	H222-12	H223-12	H224-12-_____
14	6 7/8	6 9/16	H221-14	H222-14	H223-14	H224-14-_____
16	7 3/4	7 7/16	H221-16	H222-16	H223-16	H224-16-_____
20	9 1/2	9 3/16	H221-20	H222-20	H223-20	H224-20-_____

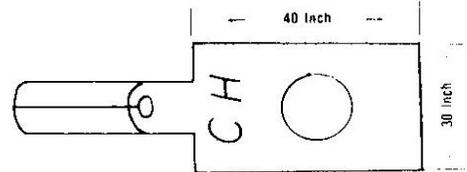
**Terminal Lugs**



**Spade Lugs**



**Ring Lugs**



T/C Alloy	Terminal Lug P/N	Spade Lug P/N	Ring Lug for #8 Stud P/N	Ring Lug for #10 Stud P/N
Chromel	H200-CH	H210-CH	H230-CH	H231-CH
Alumel	H200-AL	H210-AL	H230-AL	H231-AL
Iron	H200-IR	H210-IR	H230-IR	
Constantan	H200-CO	H210-CO	H230-CO	
Copper	H200-CP	H210-CP	H230-CP	
Alloy II	H200-11	H210-11	H230-11	
Nicrosil	H200-N+	H210-N+		H231-N+
Nisil	H200-N-	H210-N-		H231-N-

Compensated Terminal Lugs to Fit Barrier Terminal Blocks Compensated Spade and Ring Lugs to Accept AWG 18 Wire and Smaller. All Lugs Alloy Marked. (Sold in bags of 100)

## COMPRESSION FITTINGS

- "Drilled-Thru" for Thermocouples
- Re-Adjustable Fittings use a Teflon ® ferrule
- Lava and Neoprene Ferrules Available - Inquire



PART#	BORE	MATERIAL	NPT
NCB 12	1/16"	Brass Compression Fitting	1/8
NCB 14	1/16"	Brass Compression Fitting	1/4
NCB 18	1/16"	Brass Compression Fitting	1/2
NCB 22	1/8"	Brass Compression Fitting	1/8
NCB 24	1/8"	Brass Compression Fitting	1/4
NCB 28	1/8"	Brass Compression Fitting	1/2
NCB 32	3/16"	Brass Compression Fitting	1/8
NCB 32-4.5mm	4.5mm	Brass Compression Fitting	1/8
NCB 34	3/16"	Brass Compression Fitting	1/4
NCB 38	3/16"	Brass Compression Fitting	1/2
NCB 38-4.5mm	4.5mm	Brass Compression Fitting	1/2
NCB 42	1/4"	Brass Compression Fitting	1/8
NCB 44	1/4"	Brass Compression Fitting	1/4
NCB 48	1/4"	Brass Compression Fitting	1/2
NCB 88	1/2"	Brass Compression Fitting	1/2
NCS 11	1/16"	S/S Compression Fitting	1/16
NCS 12	1/16"	S/S Compression Fitting	1/8
NCS 12T	1/16"	S/S Re-Adjustable Fitting	1/8
NCS 21	1/8"	S/S Compression Fitting	1/16
NCS 22	1/8"	S/S Compression Fitting	1/8
NCS 22T	1/8"	S/S Re-Adjustable Fitting	1/8
NCS 22-3mm	3mm	S/S Compression Fitting	1/8
NCS 24	1/8"	S/S Compression Fitting	1/4
NCS 24T	1/8"	S/S Re-Adjustable Fitting	1/4
NCS 32	3/16"	S/S Compression Fitting	1/8
NCS 32T	3/16"	S/S Re-Adjustable Fitting	1/8
NCS 34	3/16"	S/S Compression Fitting	1/4
NCS 34T	3/16"	S/S Re-Adjustable Fitting	1/4
NCS 42	1/4"	S/S Compression Fitting	1/8
NCS 42T	1/4"	S/S Re-Adjustable Fitting	1/8
NCS 42-6mm	6mm	S/S Compression Fitting	1/8
NCS 44	1/4"	S/S Compression Fitting	1/4
NCS 44T	1/4"	S/S Re-Adjustable Fitting	1/4
NCS 48	1/4"	S/S Compression Fitting	1/2
NCS 48T	1/4"	S/S Re-Adjustable Fitting	1/2
NCS 64	3/8"	S/S Compression Fitting	1/4
NCS 64T	3/8"	S/S Re-Adjustable Fitting	1/4
NCS 68	3/8"	S/S Compression Fitting	1/2
NCS 68T	3/8"	S/S Re-Adjustable Fitting	1/2

# **THERMOCOUPLE WIRE**

## **PVC Insulated 221°F (105°C)**

### Applications

- Temperature Sensors
- Testing
- Laboratories
- Heating and Air Conditioning
- General Industry

### Product Features

- Continuous use up to 221°F (105°C)
- Flame Retardant
- Good Moisture, Chemical and Solvent Resistance
- Excellent Dielectric Strength
- Economical Construction

### Available Options

- Metal Overbraids
- Galvanized Half-Oval Armor
- Nylon Jackets
- Twisted/Shielded Pair
- Multi-Pair Cables
- Cotton Overbraid
- TPE Insulation and Jacket Rated to 250°F (125°C)
- Special Color Codes



### Product Specifications

**Conductors:** Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

**Insulation:** Flame retardant PVC

**Construction:** Parallel conductors

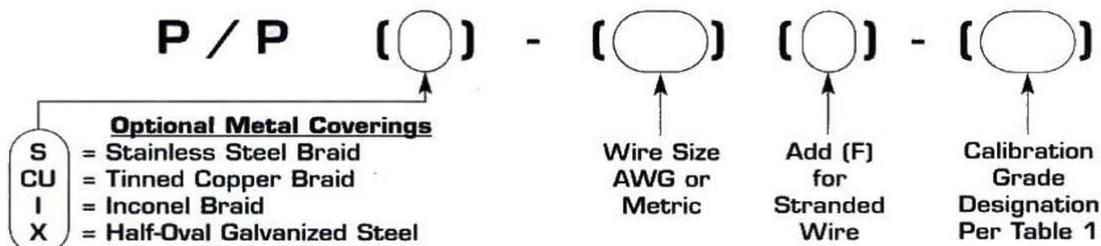
**Jacket:** Flame retardant PVC

**Operating Temperature:** -15°F (-26°C) to +221°F (+105°C) continuous

**Limits of Error:** Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

**Color Code:** Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)

### Ordering Code



## Nominal Weights and Dimensions

PVC Insulated 221°F (105°C)

Conductor Size AWG	Insulation Thickness		Jacket Thickness		Outer Diameter		Net Weight		
	(MM)	Inches	(MM)	Inches	(MM)	Inches	(MM)	LB/MF	(KG/KM)
12	(2.05)	.020	(.51)	.020	(.51)	.161 x .282	(4.1 x 7.2)	57	(85)
14	(1.63)	.015	(.38)	.015	(.38)	.124 x .218	(3.1 x 5.5)	34	(51)
14F*	(1.80)	.015	(.38)	.015	(.38)	.132 x .234	(3.4 x 5.9)	38	(57)
16	(1.29)	.015	(.38)	.015	(.38)	.111 x .192	(2.8 x 4.9)	24	(36)
16F*	(1.47)	.015	(.38)	.015	(.38)	.118 x .206	(3.0 x 5.2)	26	(39)
18	(1.02)	.015	(.38)	.015	(.38)	.100 x .170	(2.5 x 4.3)	17	(25)
18F*	(1.22)	.015	(.38)	.015	(.38)	.108 x .186	(2.7 x 4.7)	18	(27)
20	(0.81)	.015	(.38)	.015	(.38)	.092 x .154	(2.3 x 3.9)	14	(21)
20F*	(0.97)	.015	(.38)	.015	(.38)	.096 x .162	(2.4 x 4.1)	15	(22)
22	(0.64)	.015	(.38)	.015	(.38)	.085 x .140	(2.2 x 3.6)	8.1	(13)
24	(0.51)	.015	(.38)	.015	(.38)	.080 x .130	(2.0 x 3.3)	7.1	(11)
24F*	(0.61)	.015	(.38)	.015	(.38)	.084 x .138	(2.1 x 3.5)	7.6	(12)

\* Denotes flexible 7-strand wire

## Initial Calibration Tolerances Per ASTM E230 and MC96.1

Thermocouple Type	Temperature Range °F (°C)	Grade Designation	Tolerance-Reference Junction 32°F (0°C)		
			Standard Grade Limits °F (°C) whichever is greater	Grade Designation	Special Grade Limits °F (°C) whichever is greater
<b>Thermocouple Wire</b>					
T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT	±0.9 (0.5) or 0.4%
J	32 (0) to 1400 (760)	J	±4 (2.2) or ±0.75%	JJ	±2 (1.1) or 0.4%
E	32 (0) to 1600 (870)	E	±3.1(1.7) or ±0.50%	EE	±1.8 (1) or 0.4%
K or N	32 (0) to 2300 (1260)	K or N	±4 (2.2) or ±0.75%	KK or NN	±2 (1.1) or 0.4%
T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT	±0.9(0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1(1.7) or ±1%	EE	±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK	**
<b>Extension Wire</b>					
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX	±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX	±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1(1.7)	EEX	±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX	±2 (1.1)
<b>Compensating Extension Wire</b>					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)		
BX	32 (0) to 400 (200)	BX ALLOY***	±6.7(3.7)		

\* Thermocouple material is normally supplied to meet tolerances above 0°C (32°F). If material is required to meet tolerances below 0°C (32°F), the purchase order must so state. Special selection of material is required.

\*\* Suggested initial calibration tolerance. Requirements should be discussed between purchaser and supplier.

\*\*\* Copper vs. copper can be used as an extension for Type B thermocouples if the transition is below 100°C (112°F). Above 100°C (112°F), PCLW30-6 alloy should be used as the positive extension wire.

# **THERMOCOUPLE WIRE**

## **Shielded PVC Insulated 221°F (105°C)**

### Applications

- Temperature Sensors
- Testing
- Laboratories
- New Plant Construction
- General Industry

### Product Features

- Continuous use up to 221°F (105°C)
- Flame Retardant
- Good Moisture, Chemical and Solvent Resistance
- Excellent Dielectric Strength
- 100% Continuous Drain/Shield Contact
- Economical Construction

### Available Options

- Metal Overbraids
- Multi-Pair Cables
- UL Listed Constructions
- TPE Insulation and Jacket Rated to 250°F (125°C)
- Special Color Codes
- Calibration Test Reports

### Product Specifications

**Conductors:** Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

**Insulation:** Flame retardant PVC

**Construction:** Single twisted pair

**Pair Shield:** .002"(.05MM) aluminum/polyester tape, 25% overlap

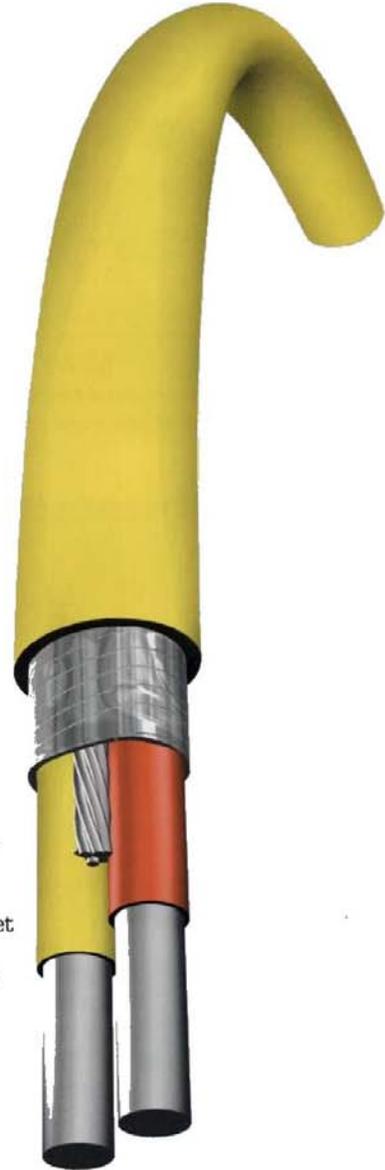
**Pair Drain Wire:** 7-strand tinned copper, 2 AWG sizes smaller than conductor (24 AWG smallest drain)

**Jacket:** Flame retardant PVC with ripcord under jacket

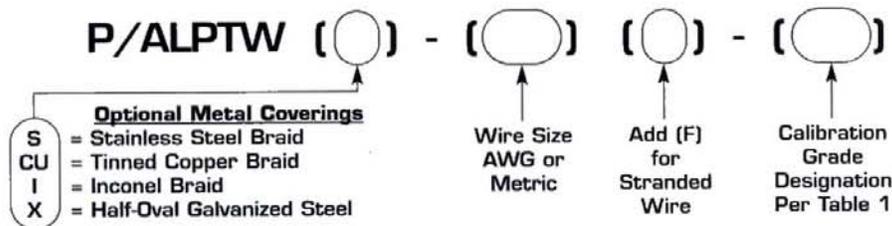
**Operating Temperature:** -15°F (-26°C) to +221°F (+105°C) continuous

**Limits of Error:** Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

**Color Code:** Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)



### Ordering Code



## Nominal Weights and Dimensions

## Shielded PVC Insulated 221°F (105°C)

Conductor Size AWG	Insulation Thickness		Jacket Thickness		Outer Diameter		Net Weight		
	(MM)	Inches	(MM)	Inches	(MM)	Inches	(MM)	LB/MF	(KG/KM)
12	(2.05)	.020	(.51)	.025	(.64)	.308	(7.8)	77	(115)
14	(1.63)	.020	(.51)	.025	(.64)	.274	(7.0)	54	(80)
14F*	(1.80)	.020	(.51)	.025	(.64)	.290	(7.4)	60	(89)
16	(1.29)	.015	(.38)	.020	(.51)	.218	(5.5)	35	(52)
16F*	(1.47)	.015	(.38)	.020	(.51)	.232	(5.9)	38	(57)
18	(1.02)	.015	(.38)	.020	(.51)	.196	(5.0)	25	(37)
18F*	(1.22)	.015	(.38)	.020	(.51)	.208	(5.3)	27	(40)
20	(0.81)	.015	(.38)	.020	(.51)	.180	(4.6)	18	(27)
20F*	(0.97)	.015	(.38)	.020	(.51)	.188	(4.8)	20	(30)
22	(0.64)	.015	(.38)	.020	(.51)	.166	(4.2)	16	(24)
24	(0.51)	.015	(.38)	.020	(.51)	.156	(4.0)	12	(18)
24F*	(0.61)	.015	(.38)	.020	(.51)	.164	(4.1)	13	(19)

\* Denotes flexible 7-strand wire

## Initial Calibration Tolerances Per ASTM E230 and MC96.1

Thermocouple Type	Temperature Range °F (°C)	Grade Designation	Tolerance-Reference Junction 32°F (0°C)		
			Standard Grade Limits °F (°C) whichever is greater	Grade Designation	Special Grade Limits °F (°C) whichever is greater
<b>Thermocouple Wire</b>					
T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT	±0.9 (0.5) or 0.4%
J	32 (0) to 1400 (760)	J	±4 (2.2) or ±0.75%	JJ	±2 (1.1) or 0.4%
E	32 (0) to 1600 (870)	E	±3.1(1.7) or ±0.50%	EE	±1.8 (1) or 0.4%
K or N	32 (0) to 2300 (1260)	K or N	±4 (2.2) or ±0.75%	KK or NN	±2 (1.1) or 0.4%
T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT	±0.9(0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1(1.7) or ±1%	EE	±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK	**
<b>Extension Wire</b>					
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX	±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX	±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1(1.7)	EEX	±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX	±2 (1.1)
<b>Compensating Extension Wire</b>					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)		
BX	32 (0) to 400 (200)	BX ALLOY***	±6.7(3.7)		

\* Thermocouple material is normally supplied to meet tolerances above 0°C (32°F). If material is required to meet tolerances below 0°C (32°F), the purchase order must so state. Special selection of material is required.

\*\* Suggested initial calibration tolerance. Requirements should be discussed between purchaser and supplier.

\*\*\* Copper vs. copper can be used as an extension for Type B thermocouples if the transition is below 100°C (112°F). Above 100°C (112°F), PCLW30-6 alloy should be used as the positive extension wire.

# **THERMOCOUPLE WIRE**

## **PFA Insulated 500°F (260°C)**

### **Applications**

- Temperature Sensors
- Aerospace
- Transportation
- Cryogenics
- Petrochemical Plants
- FDA Approved Applications
- Composites

### **Product Features**

- Continuous use up to 500°F (260°C)
- Excellent Chemical Resistance
- Excellent Electrical Properties
- Flame Retardant
- Passes IEEE 383 Flame Test
- Passes VW-1 Flame Test

### **Available Options**

- Metal Overbraids
- Galvanized Half-Oval Armor
- Twisted/Shielded Pair
- Multi-Pair Cables
- Fiberglass Overbraid
- ETFE Insulation and Jacket Rated to 300°F (150°C)
- Special Color Codes
- Calibration Test Reports

### **Product Specifications**

**Conductors:** Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

**Insulation:** Flame retardant extruded fluoropolymer PFA

**Construction:** Parallel conductors

**Jacket:** Flame retardant extruded fluoropolymer PFA

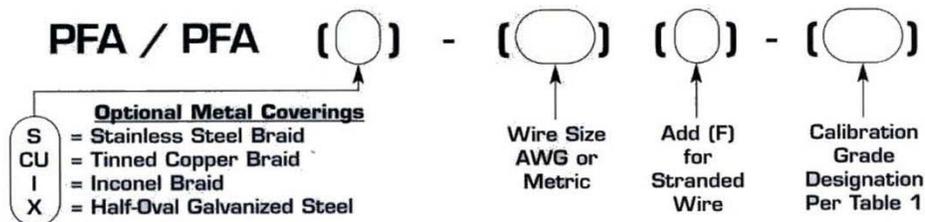
**Operating Temperature:** -328°F (-200°C) to +500°F (+260°C) continuous

**Limits of Error:** Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

**Color Code:** Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)



### **Ordering Code**



## Nominal Weights and Dimensions

PFA Insulated 500°F (260°C)

Conductor Size AWG	Insulation Thickness		Jacket Thickness		Outer Diameter		Net Weight		
	(MM)	Inches	(MM)	Inches	(MM)	Inches	(MM)	LB/MF	(KG/KM)
14	(1.63)	.008	(.20)	.010	(.25)	.104 x .188	(2.6 x 4.8)	34	(51)
16	(1.29)	.008	(.20)	.010	(.25)	.087 x .154	(2.2 x 3.9)	22	(33)
16F*	(1.47)	.008	(.20)	.010	(.25)	.094 x .168	(2.4 x 4.3)	24	(36)
18	(1.02)	.008	(.20)	.010	(.25)	.076 x .132	(1.9 x 3.4)	15	(22)
20	(0.81)	.008	(.20)	.010	(.25)	.068 x .116	(1.7 x 2.9)	11	(16)
20F*	(0.97)	.008	(.20)	.010	(.25)	.072 x .124	(1.8 x 3.1)	12	(18)
22	(0.64)	.008	(.20)	.010	(.25)	.061 x .102	(1.5 x 2.6)	7.6	(11)
24	(0.51)	.008	(.20)	.010	(.25)	.056 x .092	(1.4 x 2.3)	5.7	(8.5)
24F*	(0.61)	.008	(.20)	.010	(.25)	.060 x .100	(1.6 x 2.7)	6.2	(9.2)
26	(0.41)	.008	(.20)	.010	(.25)	.052 x .084	(1.3 x 2.1)	4.4	(6.5)
28	(0.32)	.008	(.20)	.010	(.25)	.049 x .078	(1.2 x 2.0)	3.7	(5.5)
30	(0.25)	.008	(.20)	.010	(.25)	.046 x .072	(1.2 x 1.8)	3.0	(4.5)

\* Denotes flexible 7-strand wire

## Initial Calibration Tolerances Per ASTM E230 and MC96.1

Thermocouple Type	Temperature Range °F (°C)	Grade Designation	Tolerance-Reference Junction 32°F (0°C)		
			Standard Grade Limits °F (°C) whichever is greater	Grade Designation	Special Grade Limits °F (°C) whichever is greater
<b>Thermocouple Wire</b>					
T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT	±0.9 (0.5) or 0.4%
J	32 (0) to 1400 (760)	J	±4 (2.2) or ±0.75%	JJ	±2 (1.1) or 0.4%
E	32 (0) to 1600 (870)	E	±3.1(1.7) or ±0.50%	EE	±1.8 (1) or 0.4%
K or N	32 (0) to 2300 (1260)	K or N	±4 (2.2) or ±0.75%	KK or NN	±2 (1.1) or 0.4%
T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT	±0.9(0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1(1.7) or ±1%	EE	±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK	**
<b>Extension Wire</b>					
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX	±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX	±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1(1.7)	EEX	±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX	±2 (1.1)
<b>Compensating Extension Wire</b>					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)		
BX	32 (0) to 400 (200)	BX ALLOY***	±6.7(3.7)		

\* Thermocouple material is normally supplied to meet tolerances above 0°C (32°F). If material is required to meet tolerances below 0°C (32°F), the purchase order must so state. Special selection of material is required.

\*\* Suggested initial calibration tolerance. Requirements should be discussed between purchaser and supplier.

\*\*\* Copper vs. copper can be used as an extension for Type B thermocouples if the transition is below 100°C (112°F). Above 100°C (112°F), PCLW30-6 alloy should be used as the positive extension wire.

# **THERMOCOUPLE WIRE**

## **Fiberglass Insulated 950°F (510°C)**

### Applications

- Heat Treatment
- Temperature Sensors
- Steel and Aluminum Industry
- Plastic Processing Equipment
- Furnace Surveys
- Testing

### Product Features

- Continuous use up to 950°F (510°C)
- Single Exposure up to 1200°F (650°C)
- Good Moisture, Chemical and Abrasion Resistance
- High Temperature Stability

### Available Options

- Reduced Itch Tuffbond™ Impregnation on Singles
- Stabilized Type K & Type E Conductors
- Fused PTFE Tape Moisture Barrier
- Double Glass Braid Insulation
- Twisted/Shielded Pair
- Metal Coverings
- Tighter Than Special Limit Accuracy Tolerances
- Special Color Codes
- Calibration Test Reports



### Product Specifications

**Conductors:** Solid or stranded thermocouple wire per ASTM E230 & ANSI MC96.1

**Insulation:** Braided fiberglass with high temperature impregnation\* (24 to 30 AWG Served Glass)

**Construction:** Parallel conductors

**Jacket:** Braided fiberglass with high temperature impregnation\*

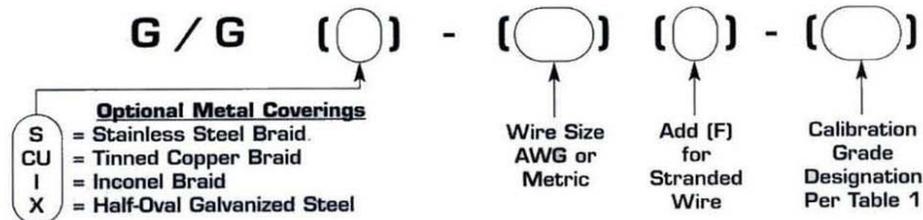
**Operating Temperature:** +950°F (+510°C) continuous  
+1200°F (+650°C) single exposure

**Limits of Error:** Conforms to ASTM E230, IEC 584 and ANSI MC 96.1

**Color Code:** Conforms to ASTM E230 and ANSI MC 96.1 (International Color Codes Available)

\*Impregnation maintained to +400°F (+200°C)

### Ordering Code



## Nominal Weights and Dimensions

## Fiberglass Insulated 950°F (510°C)

Conductor Size AWG	Insulation Thickness		Jacket Thickness		Outer Diameter		Net Weight		
	(MM)	Inches	(MM)	Inches	(MM)	Inches	(MM)	LB/MF	(KG/KM)
14	(1.63)	.007	(.18)	.010	(.25)	.100 x .180	(2.5 x 4.6)	29	(43)
16	(1.29)	.007	(.18)	.010	(.25)	.085 x .150	(2.2 x 3.8)	20	(30)
16F*	(1.47)	.007	(.18)	.010	(.25)	.094 x .168	(2.4 x 4.3)	22	(33)
18	(1.02)	.007	(.18)	.010	(.25)	.070 x .124	(1.8 x 3.2)	13	(19)
20	(0.81)	.006	(.15)	.006	(.15)	.056 x .100	(1.4 x 2.5)	7.7	(11)
20F*	(0.97)	.006	(.15)	.006	(.15)	.060 x .108	(1.5 x 2.7)	8.3	(12)
22	(0.64)	.006	(.15)	.006	(.15)	.049 x .086	(1.2 x 2.2)	5.4	(8.0)
24	(0.51)	.006	(.15)	.006	(.15)	.040 x .068	(1.0 x 1.7)	3.2	(4.8)
24F*	(0.61)	.006	(.15)	.006	(.15)	.048 x .084	(1.2 x 2.1)	3.4	(5.1)
26	(0.41)	.004	(.11)	.006	(.15)	.036 x .060	(0.9 x 1.5)	2.2	(3.3)
28	(0.32)	.004	(.11)	.006	(.15)	.033 x .054	(0.8 x 1.4)	1.7	(2.5)
30	(0.25)	.004	(.11)	.006	(.15)	.030 x .048	(0.8 x 1.2)	1.3	(1.9)

\* Denotes flexible 7-strand wire

## Initial Calibration Tolerances Per ASTM E230 and MC96.1

Thermocouple Type	Temperature Range °F (°C)	Grade Designation	Tolerance-Reference Junction 32°F (0°C)		
			Standard Grade Limits °F (°C) whichever is greater	Grade Designation	Special Grade Limits °F (°C) whichever is greater
<b>Thermocouple Wire</b>					
T	32 (0) to 700 (370)	T	±1.8 (1) or ±0.75%	TT	±0.9 (0.5) or 0.4%
J	32 (0) to 1400 (760)	J	±4 (2.2) or ±0.75%	JJ	±2 (1.1) or 0.4%
E	32 (0) to 1600 (870)	E	±3.1(1.7) or ±0.50%	EE	±1.8 (1) or 0.4%
K or N	32 (0) to 2300 (1260)	K or N	±4 (2.2) or ±0.75%	KK or NN	±2 (1.1) or 0.4%
T*	-328 (-200) to 32 (0)	T	±1.8 (1) or ±1.5%	TT	±0.9(0.5) or 0.8%**
E*	-328 (-200) to 32 (0)	E	±3.1(1.7) or ±1%	EE	±1.8 (1) or 0.5%**
K*	-328 (-200) to 32 (0)	K	±4 (2.2) or ±2%	KK	**
<b>Extension Wire</b>					
TX	32 (0) to 212 (100)	TX	±1.8 (1)	TTX	±0.9 (0.5)
JX	32 (0) to 400 (200)	JX	±4 (2.2)	JJX	±2 (1.1)
EX	32 (0) to 400 (200)	EX	±3.1(1.7)	EEX	±1.8 (1)
KX or NX	32 (0) to 400 (200)	KX or NX	±4 (2.2)	KKX or NNX	±2 (1.1)
<b>Compensating Extension Wire</b>					
RX or SX	32 (0) to 400 (200)	RX or SX	±9 (5)		
BX	32 (0) to 212 (100)	BX***	±7.6 (4.2)		
BX	32 (0) to 400 (200)	BX ALLOY***	±6.7(3.7)		

\* Thermocouple material is normally supplied to meet tolerances above 0°C (32°F). If material is required to meet tolerances below 0°C (32°F), the purchase order must so state. Special selection of material is required.

\*\* Suggested initial calibration tolerance. Requirements should be discussed between purchaser and supplier.

\*\*\* Copper vs. copper can be used as an extension for Type B thermocouples if the transition is below 100°C (112°F). Above 100°C (112°F), PCLW30-6 alloy should be used as the positive extension wire.

# Color Codes

## Thermocouple

### Codes/Conductor combinations

### Characteristics

### National & International standards

### Extension & compensating cable colours

National colour coding for insulation of the thermocouple and extension cable (and compensating cable where noted as such)

CODE	CONDUCTOR COMBINATIONS		Approximate working temperature range of measuring junction.	BRITISH	AMERICAN	GERMAN	FRENCH	JAPANESE
	+ leg	- leg		to BS 1843	to ANSI/MC96.1	to DIN 43714	to NF C 42-323	to JIS C 1610-1981
<b>K</b>	<b>NICKEL-CHROMIUM</b> Also known as *Chromel, Thermokanthal KP, Ni-Cr, *T1, *Tophel	<b>NICKEL-ALUMINIUM</b> (magnetic) Also known as Ni-Al, *Alumel, *Thermokant:al KN, *T2, *Nial	0 to + 1100					
<b>V</b>	<b>COPPER</b>	<b>COPPER-NICKEL</b> Also known as: Nickel, *Cupron, *Advance, Constantan	Compensating Cable only		Colour coded for use as a compensating cable for Type 'K' thermocouples.			
<b>T</b>	<b>COPPER</b>	<b>COPPER-NICKEL</b> Also known as: Constantan, *Advance, *Cupron	- 185 to + 300					
<b>J</b>	<b>IRON</b> (magnetic) Also known as: Fe	<b>COPPER-NICKEL</b> Also known as: Constantan, *Advance, *Cupron	+ 20 to + 700					
<b>E</b>	<b>NICKEL-CHROMIUM</b> Also known as: *Chromel, *Tophel, Chromium, Nickel	<b>COPPER-NICKEL</b> Also known as Nickel, Copper, Constantan, *Advance, *Cupron	0 to + 800					
<b>N</b>	<b>NICKEL-CHROMIUM-SILICON</b> Also known as Nicrosil	<b>NICKEL-SILICON-MAGNESIUM</b> Also known as Nisil	0 to + 1100		This combination shows good promise as an alternative to Type 'K'. Appears to be more stable and longer lived.			
<b>R</b>	<b>PLATINUM-13% RHODIUM</b>	<b>PLATINUM</b>	0 to + 1600					
<b>S</b>	<b>PLATINUM-10% RHODIUM</b>	<b>PLATINUM</b>	0 to + 1350					
<b>B</b>	<b>PLATINUM-30% RHODIUM</b>	<b>PLATINUM 6% RHODIUM</b>	+ 100 to + 1600					
<b>U</b>	<b>COPPER</b>	<b>COPPER-LOW VALUE NICKEL</b> Also known as Nickel, *Advance, *Cupronic	Compensating Cable only					

## TEMPERATURE AND METRIC CONVERSION DATA

Temperature Conversion Data				
°F.....°C	°F.....°C	°F.....°C	°F.....°C	°F.....°C
140.....60.00	160.....71.11	180.....82.22	200.....93.33	300.....148.89
141.....60.55	161.....71.66	181.....82.77	205.....96.11	305.....151.67
142.....61.11	162.....72.22	182.....83.33	210.....98.89	310.....154.44
143.....61.66	163.....72.77	183.....83.88	215.....101.67	315.....157.22
144.....62.22	164.....73.33	184.....84.44	220.....104.44	320.....160.00
145.....62.78	165.....73.89	185.....85.00	225.....107.22	325.....162.78
146.....63.33	166.....74.44	186.....85.55	230.....110.00	330.....165.56
147.....63.88	167.....75.00	187.....86.11	235.....112.78	335.....168.33
148.....64.44	168.....75.55	188.....86.66	240.....115.56	340.....171.11
149.....65.00	169.....76.11	189.....87.22	245.....118.33	345.....173.89
150.....65.56	170.....76.67	190.....87.78	250.....121.11	350.....176.67
151.....66.11	171.....77.22	191.....88.33	255.....123.89	355.....179.44
152.....66.66	172.....77.77	192.....88.88	260.....126.67	360.....182.22
153.....67.22	173.....78.33	193.....89.44	265.....129.44	365.....185.00
154.....67.77	174.....78.88	194.....90.00	270.....132.22	370.....187.78
155.....68.33	175.....79.44	195.....90.55	275.....135.00	375.....190.55
156.....68.88	176.....80.00	196.....91.11	280.....137.78	380.....193.33
157.....69.44	177.....80.55	197.....91.66	285.....140.55	385.....196.11
158.....70.00	178.....81.11	198.....92.22	290.....143.33	390.....198.89
159.....70.55	179.....81.66	199.....92.77	295.....146.11	395.....201.67

### Metric Conversion Factors

**Length**

Inch x 25.4 = Millimeters  
 Millimeters x 0.03937 = Inches  
 Feet x 0.3048 = Meters  
 Meters x 3.281 = Feet

**Mass**

Ounce x 28.35 = Gram  
 Gram x 0.03527 = Ounce  
 Pound x 0.4536 = Kilogram  
 Kilogram x 2.205 = Pound

**Area**

Square Inch x 6.452 = Square Centimeter  
 Square Centimeter x 0.1550 = Square Inch  
 Square Foot x 0.0929 = Square Meter  
 Square Meter x 10.76 = Square Foot

**Volume**

Cubic Inch x 16.39 = Cubic Centimeter  
 Cubic Centimeter x 0.06102 = Cubic Inch  
 Cubic Foot x 0.02832 = Cubic Meter  
 Cubic meter x 35.31 = Cubic Foot

### Fractions to decimals to Millimeters Conversion Chart

Inches		mm	Inches		mm	Inches		mm	Inches		mm
Fraction	Decimal		Fraction	Decimal		Fraction	Decimal		Fraction	Decimal	
1/64	0.0156	0.3969	17/64	0.2656	6.7469	33/64	0.5156	13.0969	49/64	0.7656	19.4469
1/32	0.0312	0.7938	9/32	0.2812	7.1438	17/32	0.5312	13.4938	25/32	0.7812	19.8437
3/64	0.0468	1.1906	19/64	0.2968	7.5406	35/64	0.5468	13.8906	51/64	0.7968	20.2406
1/16	0.0625	1.5875	5/16	0.3125	7.9375	9/16	0.5625	14.2875	13/16	0.8125	20.6375
5/64	0.0781	1.9844	21/64	0.3281	8.3344	37/64	0.5781	14.6844	53/64	0.8281	21.0344
3/32	0.0937	2.3812	11/32	0.3437	8.7312	19/32	0.5937	15.0812	27/32	0.8437	21.4312
7/64	0.1093	2.7781	23/64	0.3593	9.1281	39/64	0.6093	15.4781	55/64	0.8593	21.8281
1/8	0.1250	3.1750	3/8	0.3750	9.5250	5/8	0.6250	15.8750	7/8	0.8750	22.2250
9/64	0.1406	3.5719	25/64	0.3906	9.9219	41/64	0.6406	16.2719	57/64	0.8906	22.6219
5/32	0.1562	3.9688	13/32	0.4062	10.3188	21/32	0.6562	16.6688	29/32	0.9062	23.0188
11/64	0.1718	4.3656	27/64	0.4218	10.7156	43/64	0.6718	17.0656	59/64	0.9218	23.4156
3/16	0.1875	4.7625	7/16	0.4375	11.1125	11/16	0.6875	17.4625	15/16	0.9375	23.8125
13/64	0.2031	5.1594	29/64	0.4531	11.5094	45/64	0.7031	17.8594	61/64	0.9531	24.2094
7/32	0.2187	5.5562	5/32	0.4687	11.9062	23/32	0.7187	18.2562	31/32	0.9687	24.6062
15/64	0.2343	5.9531	31/64	0.4843	12.3031	47/64	0.7343	18.6531	63/64	0.9843	25.0031
1/4	0.2500	6.3500	1/2	0.5000	12.7000	3/4	0.7500	19.0500	1	1.0000	25.4000