

## Industrial Thermocouples

Thermo Sensors Industrial thermocouples are widely used in process industry applications. Thermocouples are generally selected by determining the particular conditions under which it must perform. These conditions which have recommended wire and material selections and are grouped in types.



Thermo Sensors thermocouple element types include:

- Type E Chromel-Constantan Thermocouple
- Type J Iron-Constantan Thermocouple
- Type K Chromel-Alumel Thermocouple
- Type N Nicrosil-Nisil Thermocouple
- Type R Platinum-Platinum 13% Rhodium Thermocouple
- Type S Platinum-Platinum 10% Rhodium Thermocouple
- Type B Platinum 6% Rhodium-Platinum 30% Rhodium Thermocouple
- Type T Copper- Constantan Thermocouple

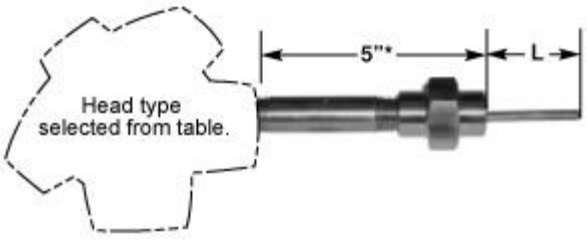
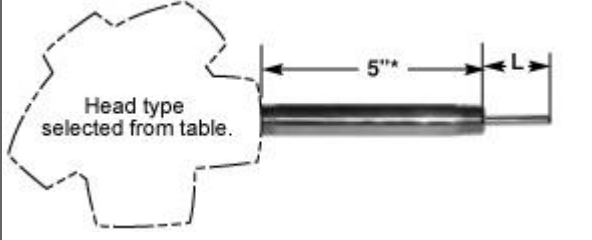
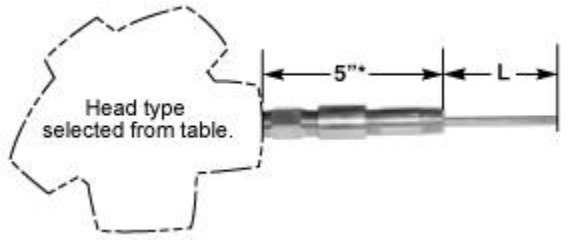
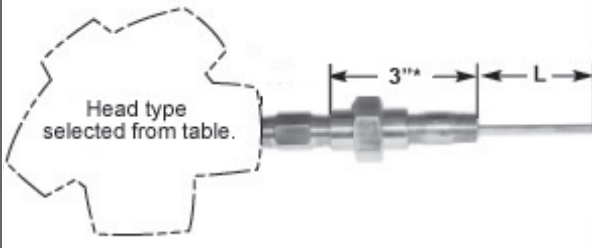
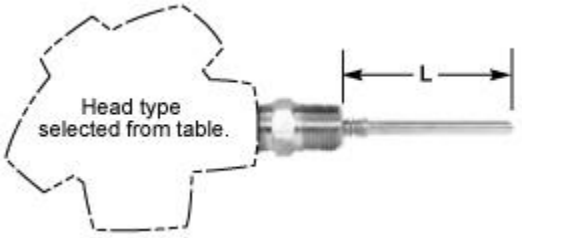
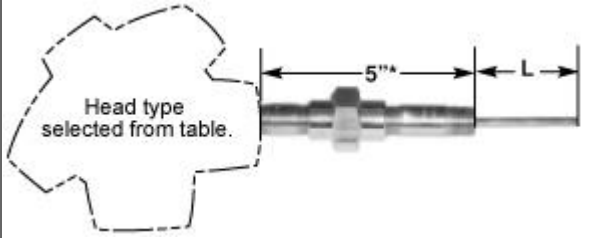
The wire gauge and recommended temperature ranges are of various sizes as well.

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

### Terminal Head Connected Thermocouple Assemblies

#### Table A

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<p><b>Figure 1</b></p>	<p>T/C Assembly with 1/2" NPT Nipple/Union Extension (For Male Threaded Tubes and Wells)</p>	<p><b>Figure 4</b></p>	<p>Spring-Loaded T/C Assembly with 1/2" NPT Pipe Nipple Extension</p>
			
<p><b>Figure 2</b></p>	<p>T/C Assembly with 1/2" NPT Hex Fitting/Coupling/ Nipple Extension</p>	<p><b>Figure 5</b></p>	<p>Spring-Loaded T/C Assembly with 1/2" NPT Hex Fitting/Union Nipple Extension</p>
			
<p><b>Figure 3</b></p>	<p>Spring-Loaded T/C Assembly with 1/2" NPT Hex Fitting</p>	<p><b>Figure 6</b></p>	<p>Spring-Loaded T/C Assembly with 1/2" NPT Nipple/Union/Nipple Extension</p>
			

\* For custom extension length, add desired length as suffix to basic order code.

Example: 5046, for 6" long extension.

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

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

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

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- If connection head is not required, simply insert fiugre number as basic order code Example: 3

## How to Order:

Tables A -B (Pages 6-8)

Page 6	Page 7		TW Section
Basic Order Code	Element	"L" Length	Order Code for Thermowell
104	CU4K	12	If required (See Thermowell Section)
Table A	Table B	Table C	

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Table 4 continued

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

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## Elements

### Single Thermocouple, 1/4" O.D. 316 S.S. Metal Sheathed Element



Grounded Hot Junction    Ungrounded Hot Junction

Table B

ANSI Calibrations	Ordering Code	
	Grounded	Ungrounded
J - Iron - Constantan	C4J	CU4J
K - Chromel - Alumel	C4K	CU4K
N - Nicrosil - Nisil	C4N	CU4N
T - Copper - Constantan	C4T	CU4T
E - Chromel - Constantan	C4E	CU4E

### Dual Thermocouple 1/4" O.D. 316 S.S. Metal Sheathed Element



Grounded Hot Junction    Ungrounded Hot Junction    Ungrounded & Isolated (Remote) Hot Junction

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**Table B continued**

ANSI Calibrations	Ordering Code		
	Grounded	Ungrounded	Ungrounded Isolated
J - Iron - Constantan	D4J	DU4J	DUR4J
K - Chromel - Alumel	D4K	DU4K	DUR4K
N - Nicrosil - Nisil	D4N	DU4N	DUR4N
T - Copper - Constantan	D4T	DU4T	DUR4T
E - Chromel - Constantan	D4E	DU4E	DUR4E

- Sheath materials other than 316 S.S. can be ordered by choosing a material code from the [Material Table](#) in Thermowell section. Insert desired material code as suffix to order code. Example DU4K61.