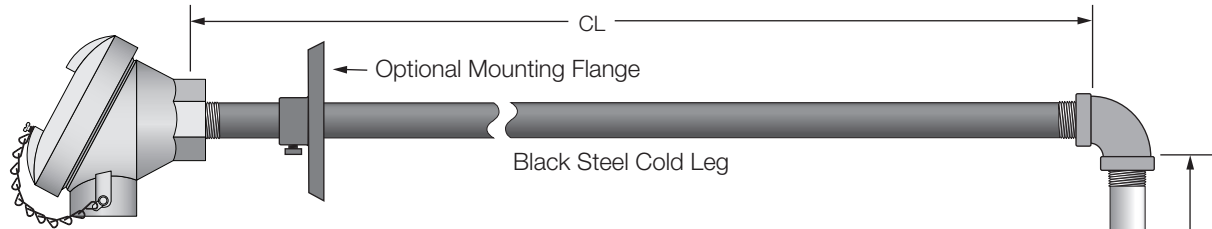


# 90° Metal or Ceramic T/C

Base metal industrial thermocouple assemblies are designed to be used in the most severe and demanding environments. The choice of a specific style is to a large degree determined by the temperature

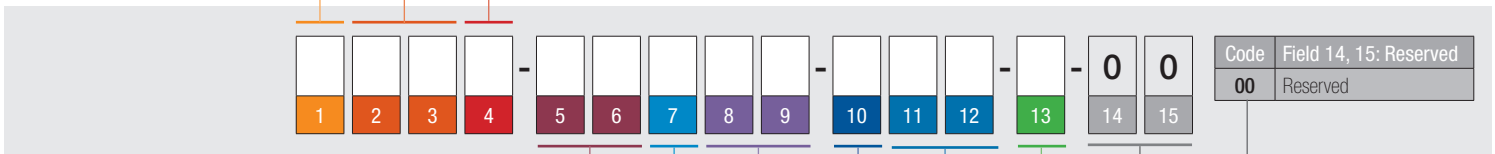
working range, ambient atmospheric or media conditions, as well as the size and shape required for the application. Control requirements such as accuracy and speed of response may also be considerations.



Field 1	Code	Type	Wire Material
	J	Type J	Iron-Constantan
	K	Type K	Chromel-Alumel
	E	Type E	Chromel-Constantan

Field 2, 3	Gauge	Code	Limits
	8	08	Standard
		09	Special
	14	14	Standard
		15	Special
	20	20	Standard
		21	Special

Field 4	Elements	Code	Junction Style	Ground
Single	L	C	Twisted	Grounded
				Ungrounded
	E	F	Butt Welded	Grounded
				Ungrounded
Dual	G	Twisted	Grounded	
	J	Common, Butt Welded	Ungrounded	
	M	Isolated, Butt Welded	Ungrounded	



Field 5, 6	Code	Size	Protection Tube Material	
			Hot Length Only	
Metal	02	1/4" NPT	Low carbon black steel	
	03	1/2" NPT		
	04	3/4" NPT		
	05	1" XH NPT	Low carbon black steel, extra heavy wall, schedule 80 pipe	
	11	3/4" NPT	446 stainless steel	
	12	1/2" NPT		
	13	1" NPT		
	16	1/2" NPT		
	17	3/4" NPT	Inconel 601	
	18	1/4" NPT	304 stainless steel	
19	1/2" NPT			
44	1/2" NPT			
47	3/4" NPT	316 stainless steel		
<i>Lengths that are not a multiple of 6" may have an extra lead time. There is an additional surcharge for lengths longer than 48". Consult factory for lengths longer than 72".</i>				
Ceramic	21*	1-3/4" OD	Silicon carbide (Note 3)	
	22*	1-3/4" OD	Silicon carbide with collar (Note 3)	
	23	3/8" OD	High temperature Mullite	
	24	11/16" OD		
	25	1" OD	Metal ceramic (Note 3)	
	28*	7/8" OD		
	29	3/8" OD		
	30	11/16" OD	Aluminum oxide	
	31	1" OD		
	34	7 mm OD		
<i>Ceramic tubes are stocked in increments of 6". Models marked with * cannot be cut.</i>				
Other	09	1-5/8" OD	Cast iron	
	41	1-1/4" OD	Steel, ceramic coated (Notes 1, 3)	
	42	1-1/4" OD	Steel, ceramic coated, with spring (Notes 2, 3)	

Fields 10	Code	Hot End
	0	Closed End
	8	Open End, metal pipe protection tube
	9	Open End, ceramic protection tube

Fields 8, 9	Code	Hot Length "HL"
	HL	Enter Hot Length in inches using two digits <i>NOTE: If over 98", specify 99 = "length" on order</i>

Field 7	Code	Cold End Termination	Code with Transmitter
	1	Cast iron. Obsolete, replace with Code 2	
	3	Aluminum. Obsolete, replace with Code A	
	2	Weatherproof, cast iron head (NEMA 4X)	S*
	A	Weatherproof, aluminum head (NEMA 4X)	T*
	4	Weatherproof, 316 SS (NEMA 4X)	U*
	E	Explosion proof, aluminum head (NEMA 4X)	V*
	F	Explosion proof, blue epoxy, aluminum head (ATEX)	W*
	G	Explosion proof, 316 SS head (NEMA 4X)	X*
	H	Explosion proof, 316 SS head (ATEX)	Y*

*\*Must specify the range of the sensor on the order. (i.e., 0°F - 800°F)*

Field 13	Code	Process Mounting Fitting
	0	None
	2	Adjustable Flange

Field(s) 11, 12	Code	Cold Leg "CL"
	CL	Enter Cold Length in whole inch increments, using two digits. <i>NOTE: If over 98", specify 99 = "length" on order</i>



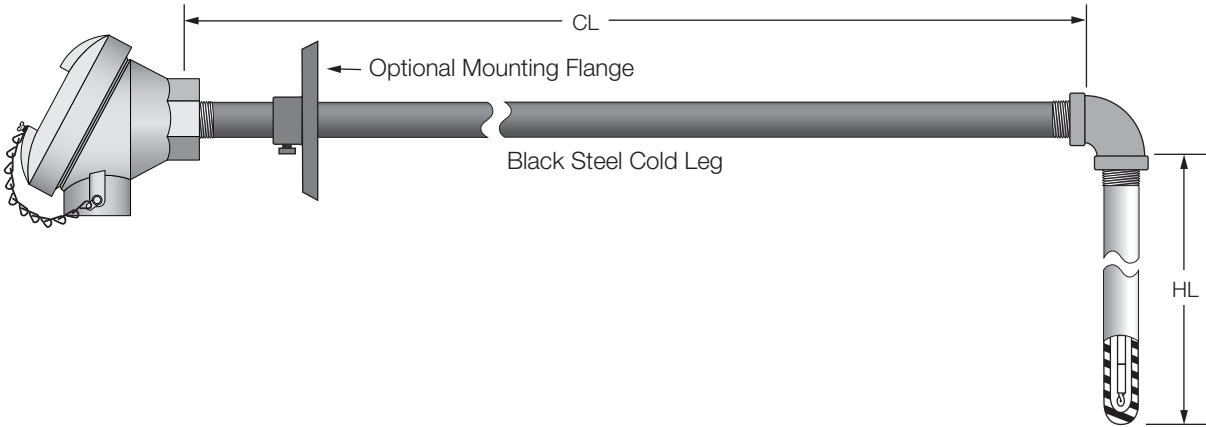
**\*Add a Transmitter**  
Select the code in the Transmitter Code column to add a fully isolated 4 to 20 mA two-wire loop powered temperature transmitter for in-head assembly.



*You must specify the range of the sensor on the order. (i.e. 0°F - 800°F)*

Note	Description
1	Immersion depth is 2" less than hot length. Replacement element is A-11711.
2	Immersion depth is 8" less than hot length. Minimum length is 18". Replacement element is A-11888.
3	Available with only in increments of 6".

# 90° Metal or Ceramic T/C



## Common Model Numbers

*(The numbers below are just some of the more common numbers for this product. There are too many combinations to list them all.)*

- J08L-03A12-008-0-00
- J08L-03A18-008-0-00
- J14C-13218-012-0-00
- J14J-13218-012-0-00
- J14M-13218-012-0-00
- K08L-21224-024-2-00
- K14J-13A22-022-0-00
- K14L-41A24-024-0-00