

# Noble Metal Dual Ceramic T/C

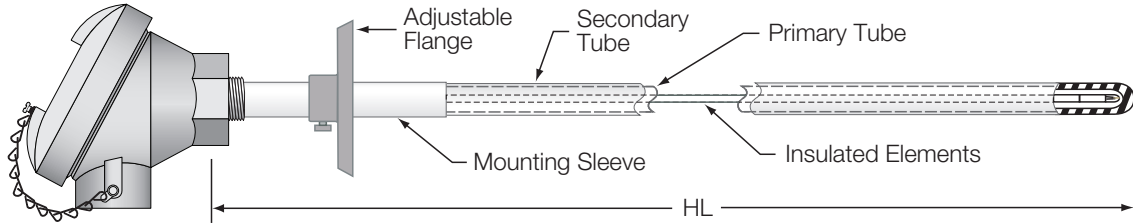
## Noble Metal Dual Tube (Ceramic in Inconel 601), Straight Thermocouple

This thermocouple is assembled with two tubes to assure element protection in the event one of the tubes cracks or breaks. Also, two tubes provide additional mechanical strength.

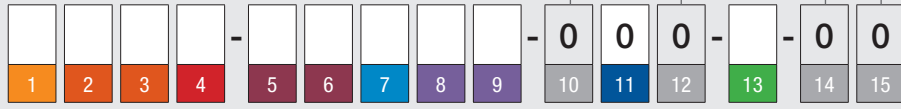
Mullite protection tubes (Field 5, codes 23, 24) are impervious to gases at high temperature. They have good resistance to thermal shock but poor resistance to mechanical shock; they should be mounted vertically.

Aluminum oxide protection tubes have fair resistance to thermal shock and mechanical shock. They are impervious to gases up to 3200°F.

Primary metal industry, heat treat furnaces, forging furnaces and bright annealing. Suitable for ceramics and glass industries. Salt baths in general, Barium Chloride salt baths up to 2350°F, and high speed salt baths. Semi-conductor manufacturing and research laboratories.



Code	Field 10: Reserved	Code	Field 12: Reserved	Code	Field 14, 15: Reserved
0	Single Ceramic Tube	0	Reserved	00	Reserved



Field 1	Code	Type	Wire Material
Field 1	B	Type B	Pt, 6% Rh v Pt, 30% Rh
	R	Type R	Pt v Pt, 13% Rh
	S	Type S	Pt v Pt, 10% Rh**
	C	Type C	W, 5% Re v W, 26% Re*

Field 2, 3	Gauge	Code	Limits
Field 2, 3	24	24	Standard
		25	Special*
	26	26	Standard (26 GA. Only available with Type S)**

*\*Type C not available with Special Limits*

Field 4	Elements	Code	Junction Style	Ground
Field 4	Single	I	Butt Welded	Ungrounded
	Dual	H	Butt Welded	Ungrounded

Field 5, 6	Code	Dual Ceramic Protection Tube Material			
		Primary Tube		Secondary Tube	
		O.D.	Material	O.D.	Material
	23	3/8"	Mullite	1/2" NPT	Inconel
	24	11/16"	Mullite	3/4" NPT	Inconel
	29	3/8"	Alumina	1/2" NPT	Inconel
	30	11/16"	Alumina	3/4" NPT	Inconel

*Ceramic tubes are stocked in increments of 6".  
\* Not available with Type C from Field 1, Code C  
\*\* Not available with Field 7, Codes 2 or A*

Field 7	Code	Cold End Termination	Code with Transmitter
Field 7	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)*



**\*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)*

Field 13	Code	Size	Process Mounting Fitting
Field 13	0		None
	1	4"	Black Steel Sleeve
	4	4"	Black Steel Sleeve and Flange
	R	Specify length on order	Black Steel Sleeve
	V		Black Steel Sleeve and Flange
	3	4"	Stainless Steel Sleeve
	5	4"	S.S. Sleeve and Flange
	T	Specify length on order	S.S. Sleeve
	W		S.S. Sleeve and Flange
	7	1/2" NPT	Double-ended Bushing
	P	1/2" x 3/4"	Double-ended Bushing (Only available with Protection Tubes, Code 23 & 29 from Fields 5 & 6)

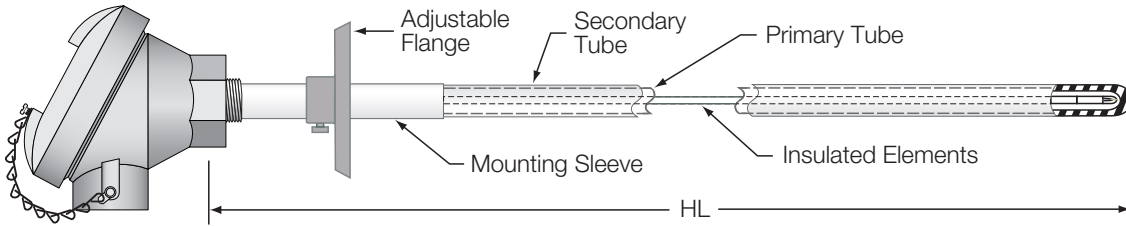
Fields 5, 6 Code	Mounting Fitting NPT Sizes (Except as noted for code "P" in field 13)
23, 29, 34	1/2" NPT
24, 30	3/4" NPT
25, 31	1" NPT

Fields 11	Code	Tube Seal
Fields 11	0	None, n/a with fields 1, 2 & 3 = C24
	8	Sealed and filled with Argon Gas

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

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## 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.)*