

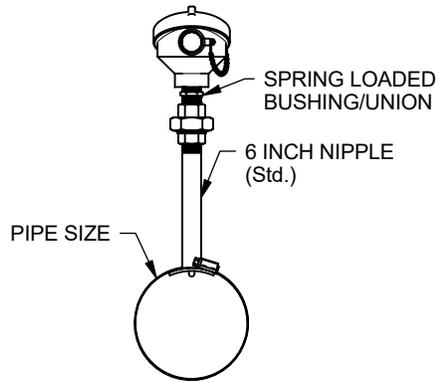
PIPE MOUNTING KIT

The Pipe Mounting Kit allows for non-intrusive surface temperature measurement. It's available in various pipe sizes to meet your application needs. The minimum pipe size is 3/4".



Made in USA

THERMOCOUPLES



BUILD YOUR HEAD ASSEMBLY: Build your thermocouple or RTD head assembly part number, then add the following code on the end as an option. Example: **BX4T6M25K1SG6-PMK4**

BX4T6M25K1SG6

-PMK4

**HEAD ASSEMBLY
PART NUMBER**

OPTIONS

Note: a spring loaded nipple or nipple-union-nipple process connection is required.

See page 7 for the Thermocouple Head Assembly part builder.

The minimum pipe size is 3/4".

- PMK2** = Pipe Mounting Kit for 2" Pipe
- PMK4** = Pipe Mounting Kit for 4" Pipe
- PMK6** = Pipe Mounting Kit for 6" Pipe
- PMK?** = Pipe Mounting Kit for ?" Pipe

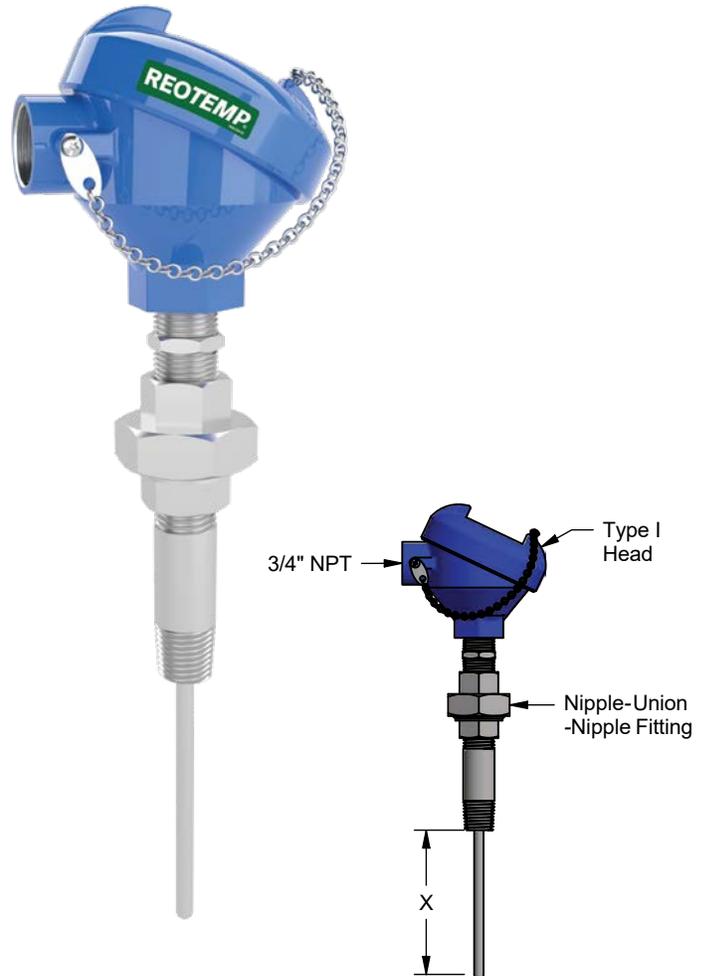
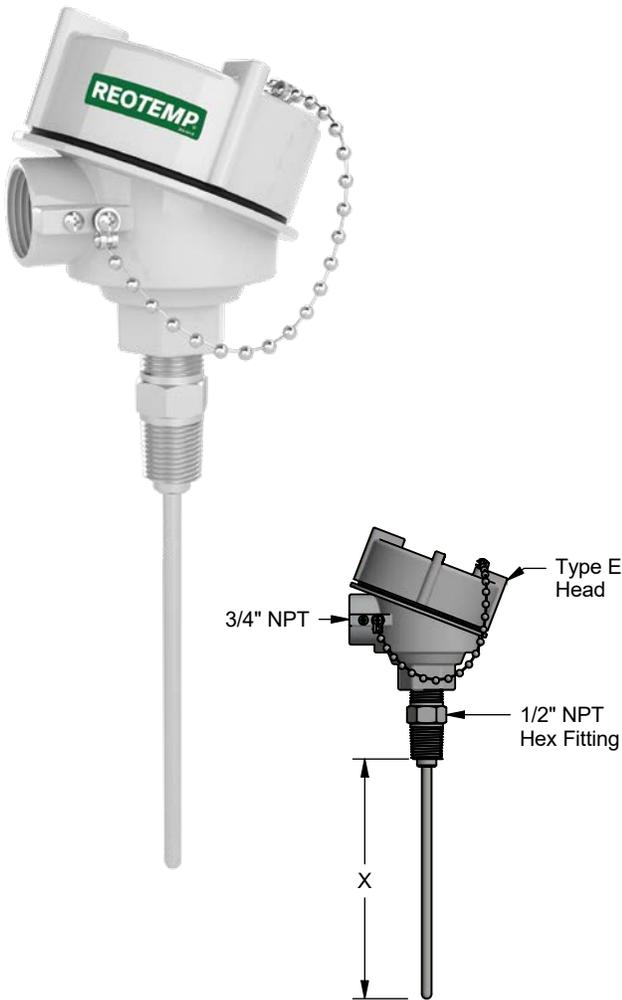
THERMOCOUPLE HEAD ASSEMBLY

Reotemp offers a large selection of Industrial Thermocouple Head Assemblies supplied with or without a transmitter. Customizable options include a large variety of elements, connection heads, explosion proof approvals, stem lengths and process connections.



Made in USA

THERMOCOUPLES



THERMOCOUPLE HEAD ASSEMBLY

BUILD YOUR THERMOCOUPLE ASSEMBLY: Choose options to build a part number. For example: BX1TM25K1SG6

B

HEAD STYLE

Head	Code	Description	Ratings				Display	Standard Conduit
	A	Cast Iron Black	NEMA 4					3/4"
	B	Cast Aluminum	NEMA 4X					3/4"
	E	Explosion Proof Aluminum	NEMA 4X	✓	✓			3/4"
	I	Blue Epoxy Aluminum	NEMA 4X					3/4"
	S	Polypropylene White	NEMA 4					3/4"
	W	Field HART Transmitter	IP68, NEMA 4X	✓	✓	✓	✓	1/2"
	Z	Z-Temp™ Explosion Proof Aluminum	NEMA 4X, IP66	✓	✓	✓	✓	1/2"
	G	316SS	NEMA 4X					3/4"
	T	ATEX Explosion Proof Aluminum	NEMA 4X	✓	✓	✓		1/2"
	L	Explosion Proof Epoxy Coated Aluminium	NEMA 4X	✓	✓			3/4"

See page 50 for additional head style options.



HEAD OPTIONS (OPTIONAL)

TRANSMITTER (OPTIONAL)

Note: All heads come standard with a ceramic terminal block unless no terminal block or a transmitter is chosen.

- H** = 1/2" Conduit
- S** = 1/2" BSPP Conduit
- M** = M20 x 1.5"
- N** = No Terminal Block

Standard

- X** = 4-20 mA 2-wire Transmitter
- R** = 4-20 mA 2-wire HART Transmitter
- F** = 4-20 mA 2-wire Foundation Fieldbus
- P** = 4-20 mA 2-wire Profibus

Required when Z-Head is Selected:

- B** = 4-20 mA 2-wire Transmitter with Digital Display
- Y** = 4-20 mA 2-wire HART Transmitter with Digital Display

THERMOCOUPLE HEAD ASSEMBLY

THERMOCOUPLES

1T

M

25

THREADED CONNECTIONS

- All have 1/2" NPT male unless noted.
- Use a spring loaded connection with a thermowell.
- Use a welded connection when the stem goes directly into the process medium.
- All threaded connections have 316 stainless steel fittings.

Threaded Connections

1T = Spring-loaded 316SS Hex Bushing

4T = 5" Nominal Spring Loaded Nipple-Union-Nipple 316SS

2T = 2.5" Spring Loaded Nipple 316SS

7T = Spring Loaded Explosion Proof Bushing 316SS

5T = Nipple-Union-Nipple Spring Loaded Explosion Proof Bushing, Explosion Proof Union

Welded Fittings

1F = Welded Hex Bushing 316SS

4F = Nipple-Union-Nipple Welded 316SS

6F = Stainless Steel Bushing, 1/2" NPT, No Process Threads

Welded Fittings with Compression Fitting Loose on Stem

6FT = SS Welded Bushing with 1/4" NPT Comp Fitting "Set Once" Loose On Stem

6FU = SS Welded Bushing with 1/2" NPT Comp Fitting "Set Once" Loose On Stem

6FV = SS Welded Bushing with 1/8" NPT Comp Fitting "Set Once" Loose On Stem

Other Nipple-Union-Nipple

4T3 = 3" Nominal Spring Loaded N-U-N

4T4 = 4" Nominal Spring Loaded N-U-N

4T6 = 6" Nominal Spring Loaded N-U-N

4T7 = 7" Nominal Spring Loaded N-U-N

Other Nipples

2T3 = 3" Spring Loaded Nipple

2T4 = 4" Spring Loaded Nipple

2T5 = 5" Spring Loaded Nipple

2T6 = 6" Spring Loaded Nipple

2T7 = 7" Spring Loaded Nipple

2T8 = 8" Spring Loaded Nipple

Special Fittings

8T = Spring Loaded Terminal Block, No Fitting 1/2" NPT Female Head Opening

METAL SHEATH

M = Metal Sheathed Thermocouple

SHEATH DIAMETER

06 = 0.062 in
12 = 0.125 in
18 = 0.188 in
25 = 0.250 in
37 = 0.375 in

Connection Types		
1T, 7T, 1F	Hex Bushing	
2T	Pipe Nipple	
4T3, 4T, 5T, 4F, etc.	Nipple-Union-Nipple (N-U-N)	
6FT, 6FU, 6FV	Compression Fitting	
6F	No Process Threads	

K

1

S

G

6

-TS

THERMOCOUPLE TYPE

J = Type J
K = Type K
E = Type E
T = Type T
JS = Type J Special Limits of Error
KS = Type K Special Limits of Error
ES = Type E Special Limits of Error
TS = Type T Special Limits of Error

For thermocouple accuracy information see page 5.

For thermocouple temperature operating ranges see page 6.

SHEATH MATERIAL

1 = 316 Stainless Steel
2 = 310 Stainless Steel
3 = 304 Stainless Steel
5 = Inconel 600

NUMBER OF ELEMENTS

S = Single Element
D = Dual Element

TYPE OF JUNCTION

G = Grounded Elements
U = Ungrounded Elements
E = Exposed Elements
UU = Ungrounded Uncommon Elements

STEM LENGTH "X"

Stem length measured from bottom of threads to stem tip.
 ??? = Stem length in inches.

OPTIONS

-TS = Stainless Tag
-R1 = One Point Calibration Certification (Reotemp Chooses)
-R3 = Three Point Calibration Certification (Reotemp Chooses)

For additional options see page 149.

For thermowells see pages 142-148.

REFERENCE INFORMATION

THERMOCOUPLE WIRE COLOR CODES (U.S.A. ANSI)					
Thermocouple Grade	Extension Grade	Plug/Jack	Thermocouple Grade	Extension Grade	Plug/Jack
K		Yellow	N		Orange
J		Black	S		Green
T		Blue	R		Green
E		Purple	B		White

THERMOCOUPLE & RTD ACCURACIES

	Type K	Type J	Type T	Type E	Type N	Type S	Type R	Type B	RTD Class B	RTD Class A
-328°F	*	—	*	*	—	—	—	—	± 2.34°F	± 2.34°F
-148°F	*	—	*	*	—	—	—	—	± 1.44°F	± 1.44°F
32°F	± 3.96°F	± 3.96°F	± 1.8°F	± 3.06°F	± 3.96°F	± 2.7°F	± 2.7°F	—	± 0.54°F	± 0.27°F
392°F	± 3.96°F	± 3.96°F	± 2.7°F	± 3.06°F	± 3.96°F	± 2.7°F	± 2.7°F	—	± 2.34°F	± 0.99°F
752°F	± 5.4°F	± 5.4°F	—	± 3.6°F	± 5.4°F	± 2.7°F	± 2.7°F	—	± 4.14°F	± 4.14°F
1112°F	± 8.1°F	± 8.1°F	—	± 5.4°F	± 8.1°F	± 2.7°F	± 2.7°F	—	± 5.94°F	± 5.94°F
1472°F	± 10.8°F	—	—	± 7.2°F	± 10.8°F	± 3.6°F	± 3.6°F	—	—	—
1832°F	± 13.5°F	—	—	—	± 13.5°F	± 4.5°F	± 4.5°F	± 9°F	—	—
2192°F	± 16.2°F	—	—	—	± 16.2°F	± 5.4°F	± 5.4°F	± 10.8°F	—	—
2552°F	—	—	—	—	—	± 6.3°F	± 6.3°F	± 12.6°F	—	—
2912°F	—	—	—	—	—	—	—	± 14.4°F	—	—

Note: The accuracies in the above table are estimates given at fixed points, they do not apply to temperature ranges and are intended only as examples to give a general idea of what can be expected. Consult Reotemp if a specific accuracy is required or to confirm accuracies at any points not listed in the above table.

*Thermocouples are normally supplied to meet the tolerances specified in the table for temperatures above 32°F. The same materials, however, may not fall within the tolerances for temperatures below 32°F. If materials are required to meet the tolerances stated for temperatures below 32°F, contact Reotemp sales.

Looking for better accuracy?



Reotemp offers **RTDs** up to 5x more accurate than Class B RTDs with the Hi-Accuracy™ option.

Thermocouples up to 2x more accurate with the Special Limits of Error option.

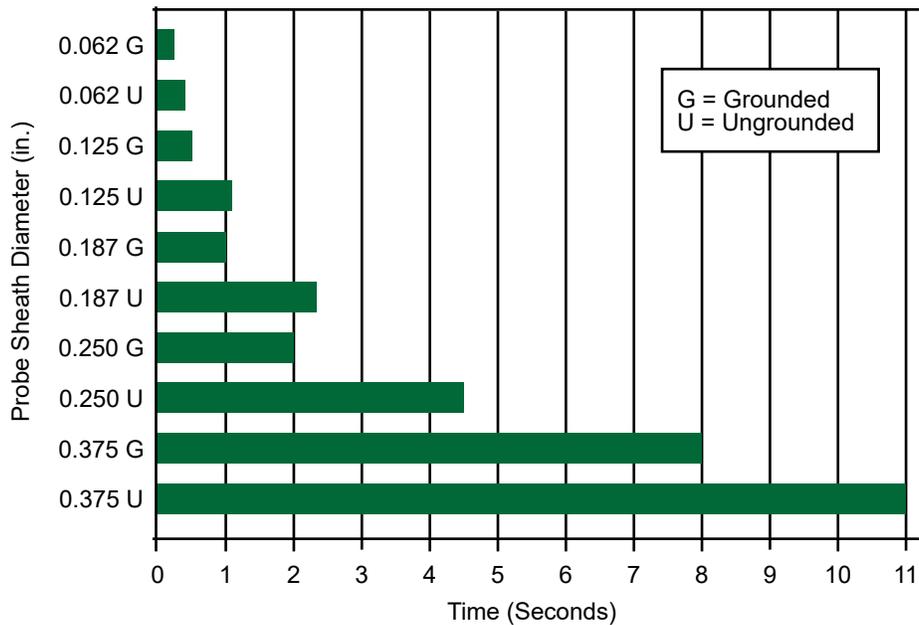
REFERENCE INFORMATION

THERMOCOUPLE TEMPERATURE OPERATING RANGES

Type	Minimum Temp. °F	Maximum Temp. °F
K	-328	2300
J	32	1400
T	-328	700
E	-328	1600
N	32	2300
S	32	2700
R	32	2700
B	1600	3100

THERMOCOUPLE TYPICAL RESPONSE TIMES

63.2% Temperature Change in an Agitated Water Bath



TEMP. LIMITS OF WIRE JACKETS

Jacket	Temp. Limit
PVC	221°F
Teflon	400°F
Fiberglass	900°F

THERMOCOUPLE & RTD OPTIONS

		Thermocouple	RTD	Digital Thermometers	Handheld Digital
CERTIFICATION OPTIONS					
-R1	1 Point Calibration Certification, Reotemp Chooses	✓	✓	✓	✓
-R3	3 Point Calibration Certification, Reotemp Chooses	✓	✓	✓	✓
-C1	1 Point Calibration Certification, Customer Chooses	✓	✓	✓	✓
-C3	3 Point Calibration Certification, Customer Chooses	✓	✓	✓	✓
-CC	Certificate of Conformance	✓	✓	✓	✓
-CS	NIST Calibration Sticker (No Logged Points)	✓	✓	✓	✓
OTHER OPTIONS					
-VB	Hi-Vibration	N/A	✓	✓	✓
-AC	Hi-Accuracy	N/A	✓	N/A	N/A
-PS	Pointed Stem	✓	✓	✓	✓
-TF	Teflon Coating	✓	✓	✓	✓
-SS	316 SS stem	N/A	STD	✓	✓
-NL	No Logo	✓	✓	✓	✓
-HT	Heat Transfer Compound (2 oz)	✓	✓	✓	N/A
-GL	Plain Glass Lens	N/A	N/A	✓	✓
-CL	Custom Logo Dial	N/A	N/A	✓	✓
-BP	Replacement Battery Pack	N/A	N/A	✓	✓
-WD	White Dial	N/A	N/A	✓	✓
-AS	Allows to Fit 1-1/4-18 Industrial Thermowell	✓	✓	✓	N/A
TAG OPTION					
-TS	Stainless Steel Tag (1-10 Characters)			✓	
-TM	Stainless Steel Tag (11-80 Characters)			✓	
-TP	Paper Tag			✓	
✓	Indicates that the option is available with this model.				
N/A	Indicates the option is not available with this model.				
STD	Indicates standard options with no additional cost.				

HEAD STYLES

All head styles are IP65 or greater. Additional head styles available, contact customer service for more information.

Head	Code	Description	NEMA Rating	IP Rating				Display	STD Conduit	Material
	A	Cast Iron Black	4	65					3/4"	Cast Iron
	B	Cast Aluminum	4X	68					3/4"	Cast Aluminium
	E	Explosion Proof Aluminum	4X	68	✓	✓			3/4"	Cast Aluminium
	I	Blue Epoxy Aluminum	4X	68					3/4"	Cast Aluminium
	S	Polypropylene White	4	65					3/4"	Polypropylene
	W	Explosion Proof Field HART Transmitter	4X	68	✓	✓	✓	✓	1/2"	Cast Aluminium
	Z	Z-Temp™ Explosion Proof Aluminum	4X	66	✓	✓	✓	✓	1/2"	Cast Aluminium
	C	Polypropylene Black	4	65					3/4"	Polypropylene
	G	316SS	4X	65					3/4"	316SS
	H	Aluminum Flip Top	4	65					3/4"	Cast Aluminium
	J	Explosion Proof 316SS	4X	65	✓	✓			3/4"	316SS
	T	ATEX Explosion Proof Aluminum	4X	68	✓	✓	✓		1/2"	Cast Aluminium
	L	Explosion Proof Epoxy Coated Aluminium	4X	68	✓	✓			3/4"	Cast Aluminium
	D	Mini Cast Aluminum	4	65					3/4"	Cast Aluminium
	K	Polished 316SS Knurl	4X	65					1/2"	316SS
	P	DIN Black Polypropylene	4	65					3/4"	Polypropylene
	U	Hi-dome Aluminum Fliptop	4	65					3/4"	Cast Aluminium
	V	Ball-dome Aluminum Fliptop	4	65					3/4"	Cast Aluminium