

EMBEDMENT BEARING THERMOCOUPLE

Reotemp's Bearing Embedment Thermocouples are used to monitor the temperature of bearings in turbines, compressors, generators and motors. They are embedded in the bearing shoe, close to the bearing surface.



Made in USA



Case A



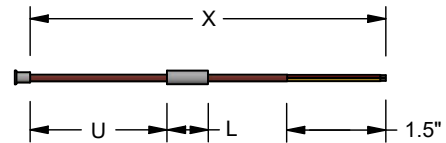
Case B



Case C

FEATURES / BENEFITS

- Compact and Flexible, Fits Into Tight Spaces
- Fast Response
- High Accuracy
- Snake Into Hard to Reach Locations
- Direct or Indirect Immersion



BUILD YOUR BEARING THERMOCOUPLE: Choose options to build a part number. For example: **BTCAKSUTN120S**

MODEL	CASE	THERMOCOUPLE TYPE	THERMOCOUPLE NUMBER	JUNCTION	LEAD WIRE INSULATION
BTC	A	K	S	U	TN
BTC = Bearing Embedment Thermocouple	A = 0.25"D x 0.25"L, 316 Stainless Steel B = 0.188"D x 0.25"L with 0.25"D x 0.030"L Flange, 316 Stainless Steel C = 0.125"D x 0.30"L, 316 Stainless Steel	J = Type J K = Type K E = Type E T = Type T	S = Single D = Dual (Not Available on Case Style C)	U = Ungrounded	<i>Option TN is required for case style C.</i> TN = Teflon insulation, stranded conductors, individual leads no over jacket T2 = Teflon insulation, stranded conductors, teflon overjacket T20 = Teflon insulation, stranded conductors, stainless steel overbraid
120	S				
LEAD WIRE LENGTH "X"	LEAD WIRE TERMINATION	OPTIONS	FEED THROUGH LOCATION "U"	FEED THROUGH LENGTH "L"	
??? = Lead wire length in inches, Last 1.5" Split	S = 1.5" Stripped Leads L = Spade Lugs (Compensated)	-R = Spring and retaining washer for case B -F1 = Feed Through, 0.188"D, 316SS -F2 = Feed Through, 0.250"D, 316SS	Only choose if options -F1 or -F2 are selected. -U?? = Feed Through Location "U" in Inches	Only choose if options -F1 or -F2 are selected. -??L = Feed Through Length "L" in Inches	

REFERENCE INFORMATION

THERMOCOUPLES

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.

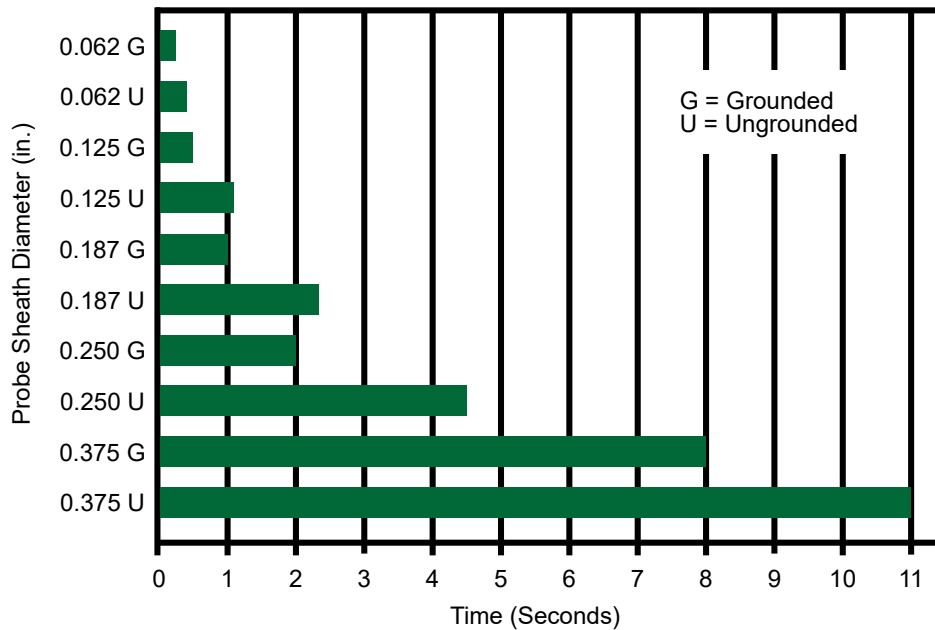
REFERENCE INFORMATION

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.