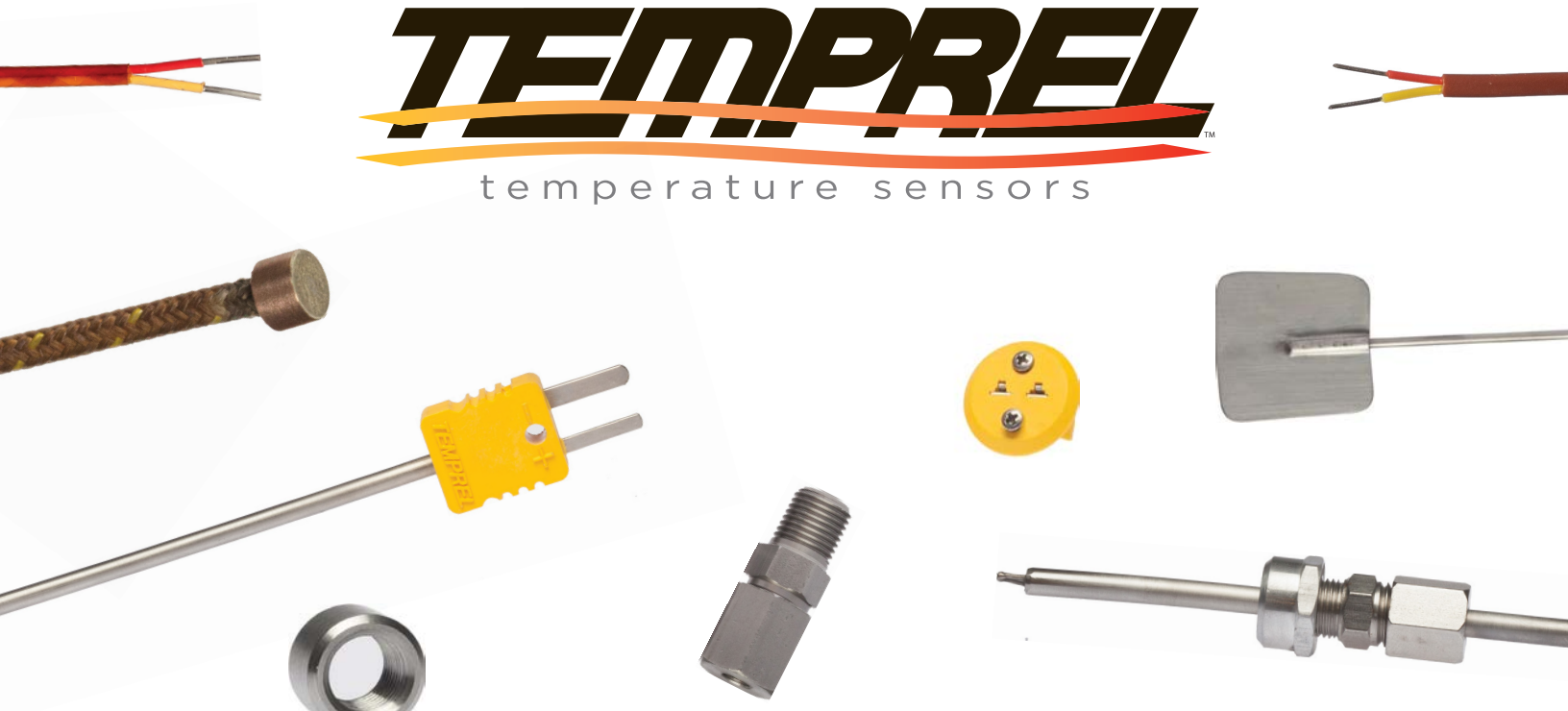





Made in Michigan
ISO 9001 REGISTERED

TEMPREL

temperature sensors



A man with dark hair and a beard, wearing clear safety glasses and a white t-shirt, is shown in profile, looking down and to the right. He appears to be working in a workshop or factory setting, with blurred machinery and equipment in the background. The lighting is warm and focused on the man's face and arms.

“It’s not about making something that meets expectations. It’s about creating something that changes them.”



Why? Temprel

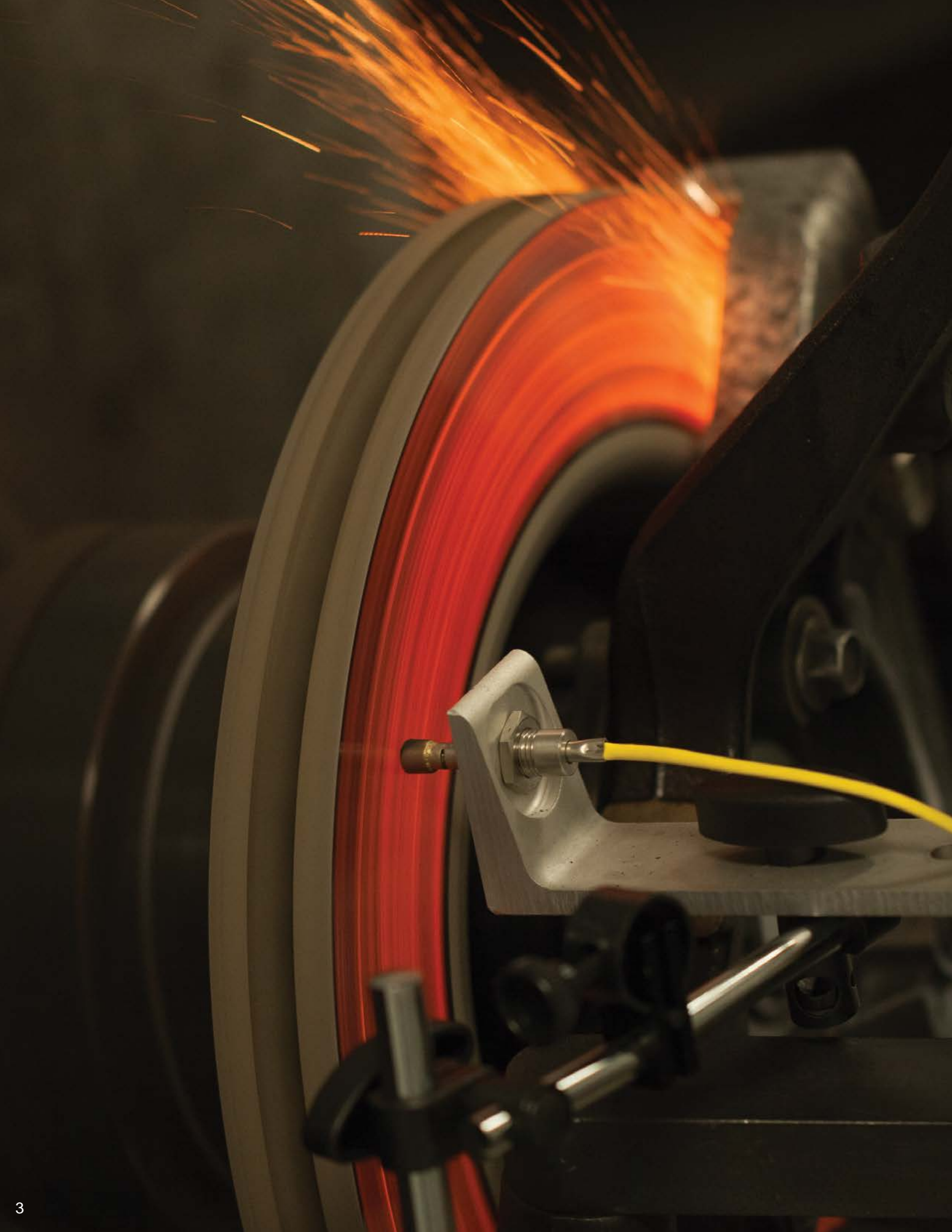
Temprel (an ISO 9001 registered company) specializes in custom applications.

Working with customers, we can manufacture temperature sensing equipment to meet your custom applications. Temprel offers high quality, fast turnaround and a tremendous value.

Founded in 1968 and located in Boyne City, Michigan, the company has an experienced staff of well-trained craftspeople that take pride in being a "Made-in-Michigan" producer of high quality temperature sensors.

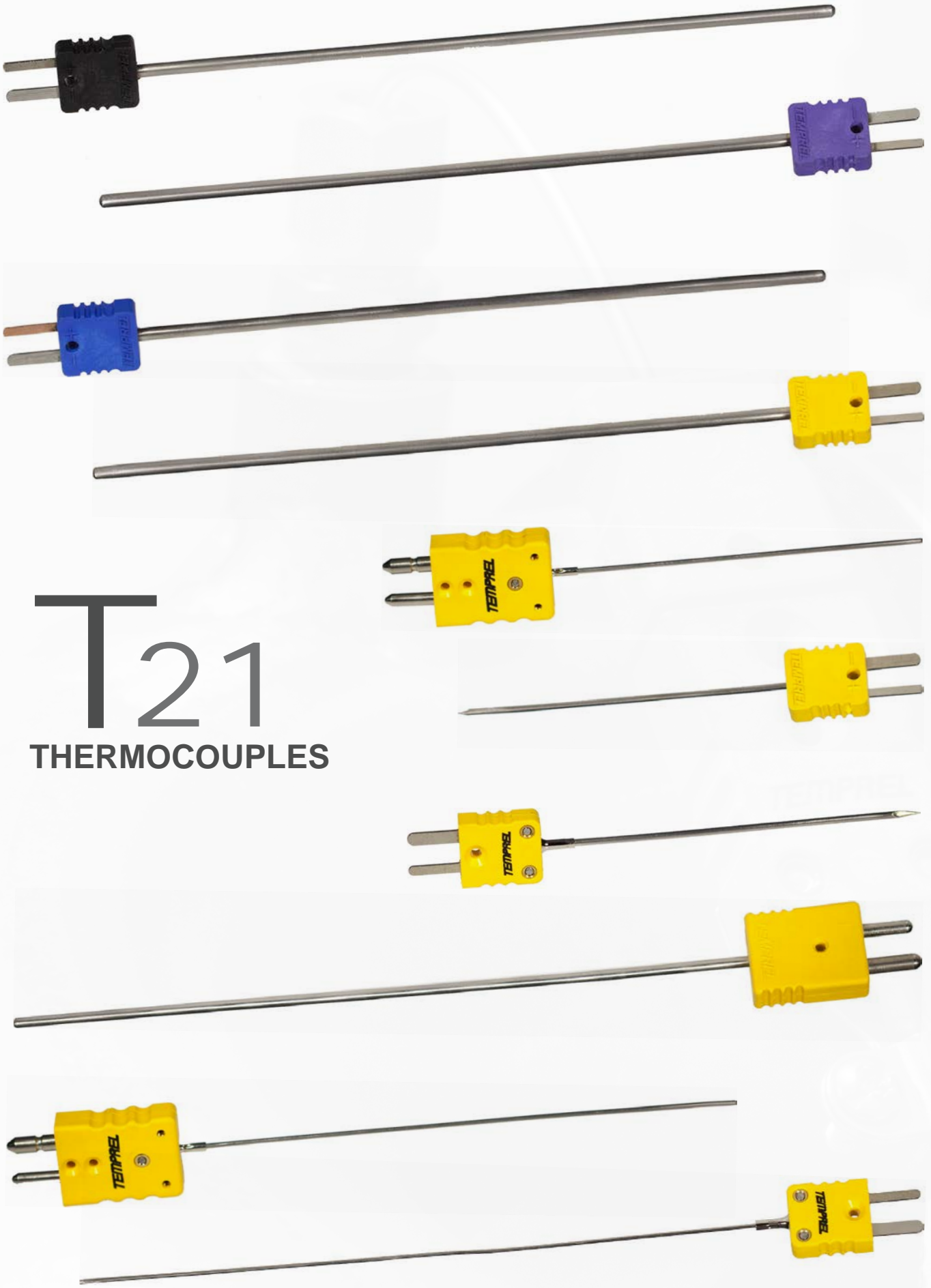
Temprel has continuously innovated and improved its manufacturing, assembly and customer service capabilities. The results of this forward-thinking approach are improvements in product quality, better delivery times, expanded product development capabilities and better-trained, more accessible sales personnel.

Temprel's website (Temprel.com) offers customers the ability to view stock levels and purchase products on-line as well as offering thermocouple information and technical support.



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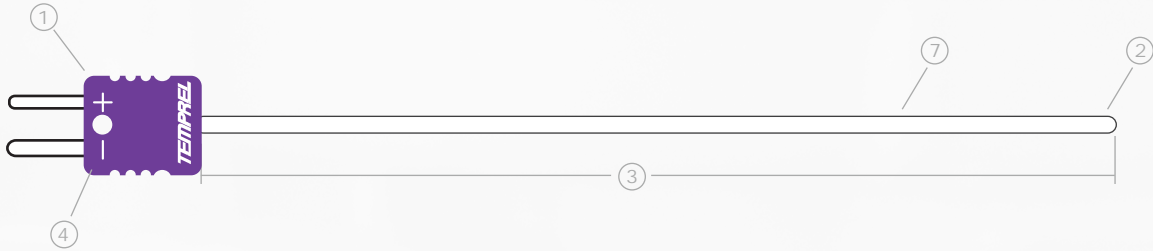


T21

THERMOCOUPLES

T21 CONFIGURATOR

Quick disconnect thermocouple with compacted MgO insulation employing a glass-filled, nylon connector directly on the sheath.



Sample shown: T21-MU-6E-CI

T21 : - - -





1 2 3 4 5 6 7

(Prefix T21 Changes to D21 for Dual Element)

#1 Connectors see page # 29-30

- J - Put On Standard-Jack
- M - Molded on Mini-Plug
- MJ - Put On Mini-Jack
- MP - Put on Mini-Plug
- P - Put on Standard-Plug
- S - Molded on Standard-Plug

#2 Junction Type see page # 37-38

- E - Exposed 
- G - Grounded 
- S - Semi-Shielded 
- U - Ungrounded 
- U2 - Ungrounded Separate for Dual Element

#3 Specify Probe Length in Inches

** Probe lengths may vary +/- .125" unless otherwise specified.

_____ - Probe length is measured from the tip of the probe to the first fixed attachment.

#4 Calibration E K T J

#5 Probe Diameter





- | | |
|-------------------------------|-------------------------------|
| AAA - .032" (34 AWG wire) | C - .125" 1/8" (22 AWG wire) |
| AA - .040" (32 AWG wire) | D - .188" 3/16" (19 AWG wire) |
| A - .062" 1/16" (28 AWG wire) | E - .250" 1/4" (16 AWG wire) |
| B - .090" (25 AWG wire) | |

#6 Probe Material see page # 37-38

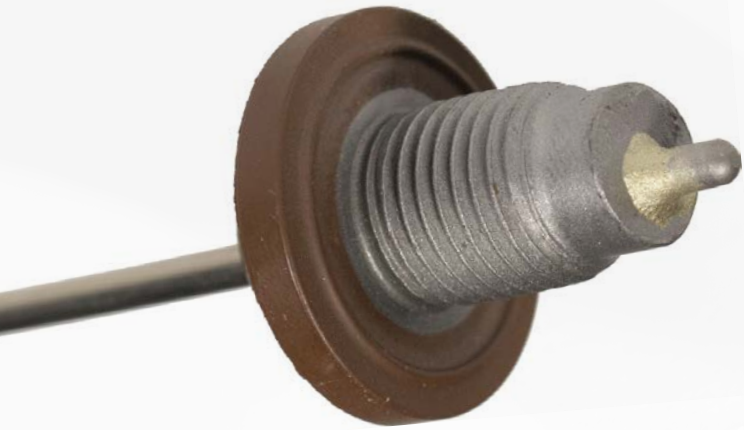
- | | |
|---------------------------|------------------|
| S - 304 Stainless Steel | I - Inconel® |
| S10 - 310 Stainless Steel | H - Hastelloy X® |
| S16 - 316 Stainless Steel | |

#7 Available Options

** Leave blank if none of the options listed below are needed.

- BP - Bullet Point 
- CP - Cone Point 
- HPT - Hypodermic Point (Sharpened to needle point) 
- RT - Reduced Tip (.125" to .062" diameter) 





T23

THERMOCOUPLES



T23 CONFIGURATOR

Quick disconnect thermocouple with compacted MgO insulation with a fixed mount threaded fitting mounted directly on the sheath.



Sample shown: T23-MU-6J-CS-14PP





T23 : - - -

(Prefix T23 Changes to D23 for Dual Element)

#1 Connectors see page # 29-30

- J - Put On Standard-Jack
- M - Molded on Mini-Plug
- MJ - Put On Mini-Jack
- MP - Put on Mini-Plug
- P - Put on Standard-Plug
- S - Molded on Standard-Plug

#2 Junction Type see page # 37-38

- E - Exposed 
- G - Grounded 
- S - Semi-Shielded 
- U - Ungrounded 
- U2 - Ungrounded Separate for Dual Element

#3 Specify Probe Length

**Probe lengths may vary +/- .125" unless otherwise specified.

 - Inches

#4 Calibration E K T J

#5 Probe Diameter






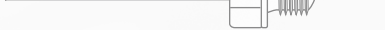

- | | |
|-------------------------------|-------------------------------|
| AAA - .032" (34 AWG wire) | C - .125" 1/8" (22 AWG wire) |
| AA - .040" (32 AWG wire) | D - .188" 3/16" (19 AWG wire) |
| A - .062" 1/16" (28 AWG wire) | E - .250" 1/4" (16 AWG wire) |
| B - .090" (25 AWG wire) | |

#6 Probe Material see page # 37-38

- S - 304 Stainless Steel
- S10 - 310 Stainless Steel
- S16 - 316 Stainless Steel
- I - Inconel®
- H - Hastelloy X®

#7 Available Options

** Custom fittings options available. Call Temprel to learn more.
Leave blank for standard probe tip.

- BP - Bullet Point 
- CP - Cone Point 
- HPT - Hypodermic Point (Sharpened to needle point) 
- 18PP - 1/8" Pipe Plug 
- 14PP - 1/4" Pipe Plug 
- 38PP - 3/8" Pipe Plug 
- RT - Reduced Tip (.125" to .062" diameter) 





T24

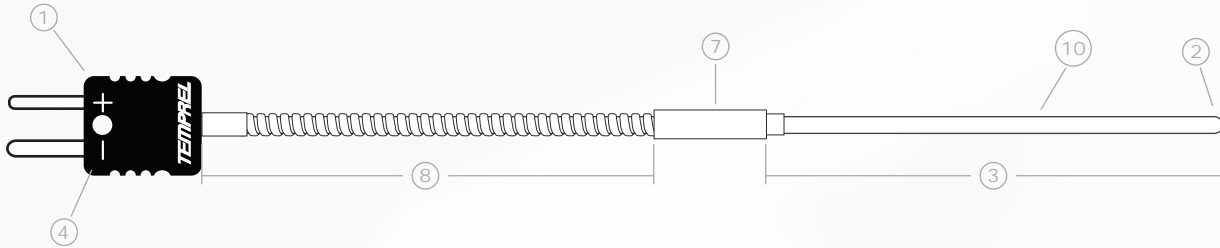
THERMOCOUPLES



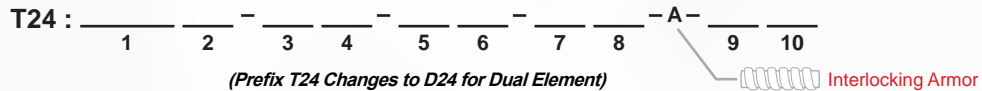
T24 CONFIGURATOR

A sheathed thermocouple with compacted MgO insulation, utilizing a heavy duty transition fitting and lead protected by stainless steel interlocking armor.

(Stainless steel interlocking armor comes standard with T24.)







Sample shown: T24-MU-4J-CS-LC4-A-2F



#1 Connectors see page # 29-30

- J - Put On Standard-Jack
- M - Molded on Mini-Plug
- MJ - Put On Mini-Jack
- MP - Put on Mini-Plug
- O - Open Wire end, No Connector Option
- OC - Open Wire *(wire blunt cut)*
- P - Put on Standard-Plug
- S - Molded on Standard-Plug
- S3 - Molded on 3 Prong Standard-Plug
- T - Terminals *(Specify type & size when placing your order)*

#2 Junction Type see page # 37-38

- E - Exposed 
- G - Grounded 
- S - Semi-Shielded 
- U - Ungrounded 
- U2 - Ungrounded Separate for Dual Element

#3 Specify Probe Length in Inches

** Probe lengths may vary +/- .125" unless otherwise specified.

_____ - Probe length is measured from the tip of the probe to the first fixed attachment.

#4 Calibration E K T J

#5 Probe Diameter

- AAA - .032" (34 AWG wire)
- AA - .040" (32 AWG wire)
- A - .062" 1/16" (28 AWG wire)
- B - .090" (25 AWG wire)
- C - .125" 1/8" (22 AWG wire)
- D - .188" 3/16" (19 AWG wire)
- E - .250" 1/4" (16 AWG wire)

#6 Probe Material see page # 37-38

- S - 304 Stainless Steel
- S10 - 310 Stainless Steel
- S16 - 316 Stainless Steel
- I - Inconel®
- H - Hastelloy X®

#7 Transition

- LA - Stainless Steel with High Temperature Epoxy (600 °F)
- LC - Stainless Steel with High Temperature Ceramic Potting (2800 °F)
- LE - Stainless Steel with Epoxy Potting (500 °F)

#8 Specify Wire Length in Inches










_____ - Length as measured from transition to the connector.

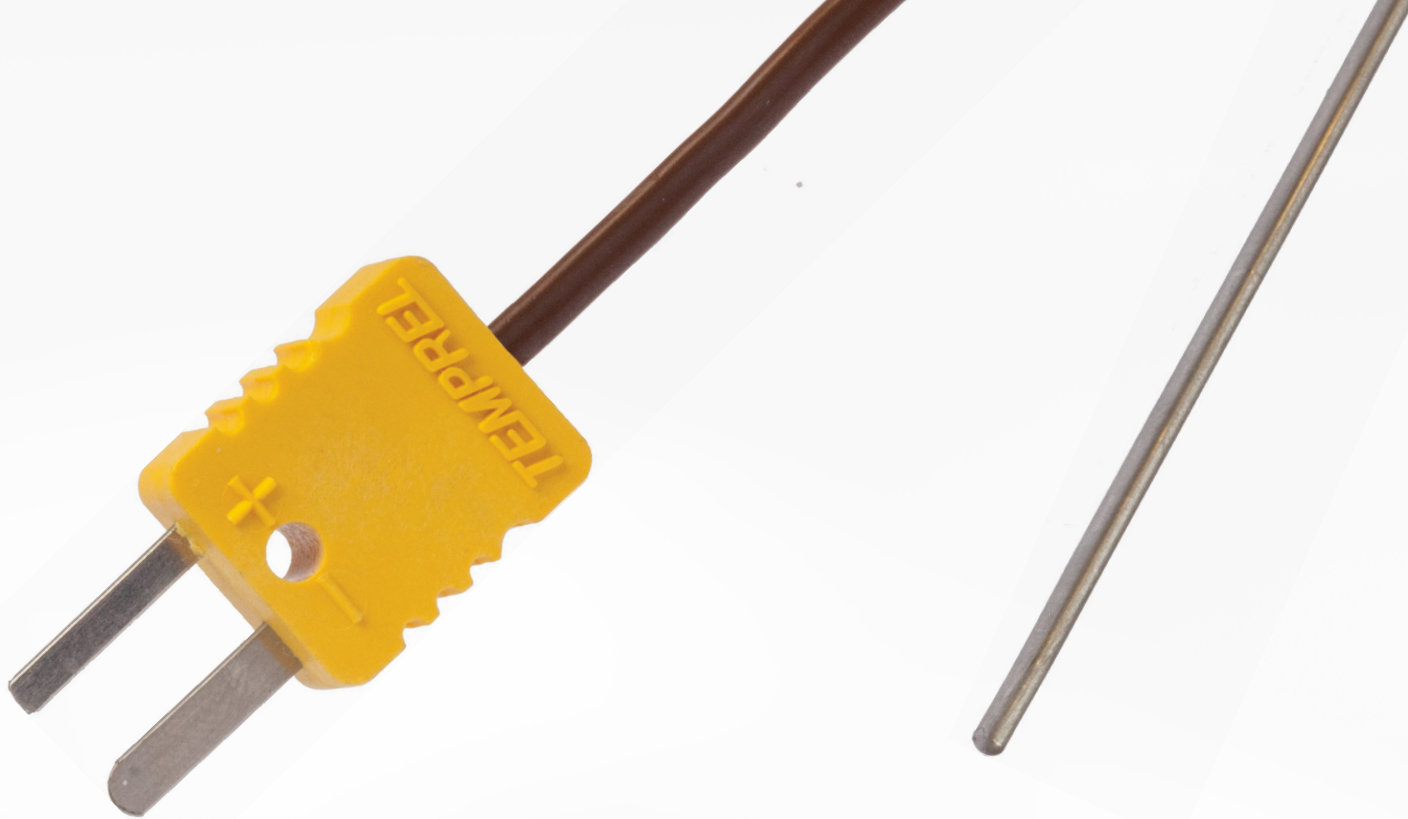
#9 Wire Insulation

- 2F (solid wire) 4F (stranded wire) - Fiberglass
- 2G (solid wire) 4G (stranded wire) - High Temp Fiberglass
- 2K (solid wire) 4K (stranded wire) - Polyimide
- 2P (solid wire) 4P (stranded wire) - PVC
- 2T (solid wire) 4T (stranded wire) - Fluoropolymer FEP

#10 Available Options

** Leave blank for standard probe tip.

- BP - Bullet Point 
- CP - Cone Point 
- HPT - Hypodermic Point *(Sharpened to needle point)* 
- 18PP - 1/8" Pipe Plug 
- 14PP - 1/4" Pipe Plug 
- 38PP - 3/8" Pipe Plug 
- RT - Reduced Tip (.125" to .062" diameter) 
- W - Washer *(Only available with .062" or 1/16" probe diameter)* 
- WP - Weld Pad *(Only available with .062" or 1/16" probe diameter)* 



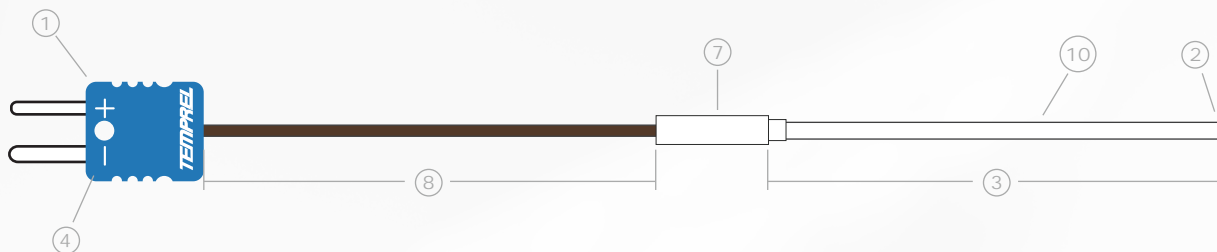
T25

THERMOCOUPLES



T25 CONFIGURATOR

Flexible lead wire transition joint sheathed thermocouple with compacted MgO insulation, utilizing a heavy duty transition fitting and lead protected by stainless steel wire overbraid.



Sample shown: T25-MU-4T-CS-LE4-4T

T25 : - - - - - - - -

(Prefix T25 Changes to D25 for Dual Element)

#1 Connectors





see page # 29-30

** Multiple connectors may be selected. Not all combinations available.

- J - Put on Standard-Jack
- JSR - Put on Standard-Jack with Strain Relief
- M - Molded on Mini-Plug
- MJ - Put on Mini-Jack
- MJSR - Put on Mini-Jack with Strain Relief
- MP - Put on Mini-Plug
- MPSR - Put on Mini-Plug with Strain Relief
- O - Open Wire end, No Connector Option
- OC - Open Wire (wire blunt cut)
- P - Put on Standard-Plug
- PSR - Put on Standard-Plug with Strain Relief
- S - Molded on Standard-Plug
- S3 - Molded on 3 Prong Standard-Plug
- T - Terminals (Specify type & size when placing your order)

#2 Junction Type

see page # 37-38

- E - Exposed 
- G - Grounded 
- S - Semi-Shielded 
- U - Ungrounded 
- U2 - Ungrounded Separate for Dual Element

#3 Specify Probe Length in Inches

** Probe lengths may vary +/- .125" unless otherwise specified.

 - Probe length is measured from the tip of the probe to the first fixed attachment.

#4 Calibration

E **K** **T** **J**

#5 Probe Diameter

- AAA - .032" (34 AWG wire)
- AA - .040" (32 AWG wire)
- A - .062" 1/16" (28 AWG wire)
- B - .090" (25 AWG wire)
- C - .125" 1/8" (22 AWG wire)
- D - .188" 3/16" (19 AWG wire)
- E - .250" 1/4" (16 AWG wire)

#6 Probe Material

see page # 37-38

- S - 304 Stainless Steel
- S10 - 310 Stainless Steel
- S16 - 316 Stainless Steel
- I - Inconel®
- H - Hastelloy X®

#7 Transition

- LA - Stainless Steel with High Temperature Epoxy (600 °F)
- LC - Stainless Steel with High Temperature Ceramic Potting (2800 °F)
- LE - Stainless Steel with Epoxy Potting (500 °F)
- GP - Overbraided Grounded to Transition
- P - Molded on Plastic Rated (525 °F)

#8 Specify Wire Length in Inches

 - Length as measured from transition to the connector.










#9 Wire Insulation

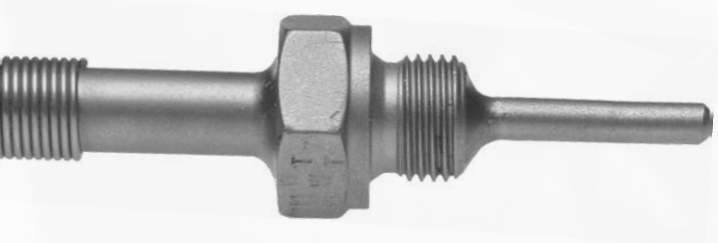
** Append prefix "R" to the beginning of any options listed below to call for Stainless Steel Overbraid on wire. Example "R4F"

- 2F (solid wire) 4F (stranded wire) - Fiberglass
- 2G (solid wire) 4G (stranded wire) - High Temp Fiberglass
- 2K (solid wire) 4K (stranded wire) - Polyimide
- 2P (solid wire) 4P (stranded wire) - PVC
- 2T (solid wire) 4T (stranded wire) - Fluoropolymer FEP

#10 Available Options

** Leave blank for standard probe tip.

- BP - Bullet Point 
- CP - Cone Point 
- HPT - Hypodermic Point (Sharpened to needle point) 
- 18PP - 1/8" Pipe Plug 
- 14PP - 1/4" Pipe Plug 
- 38PP - 3/8" Pipe Plug 
- RT - Reduced Tip (.125" to .062" diameter) 
- W - Washer (Only available with .062" or 1/16" probe diameter) 
- WP - Weld Pad (Only available with .062" or 1/16" probe diameter) 



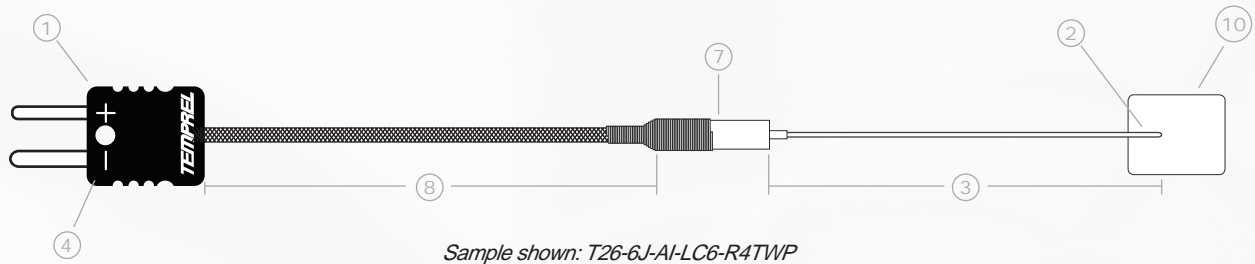
T26

THERMOCOUPLES



T26 CONFIGURATOR

Flexible lead wire thermocouple with integrated spring wire support on the heavy duty transition.



T26 :

(Prefix T26 Changes to D26 for Dual Element)





#1 Connectors

see page # 29-30

- J - Put on Standard-Jack
- JSR - Put on Standard-Jack with Strain Relief
- M - Molded on Mini-Plug
- MJ - Put on Mini-Jack
- MJSR - Put on Mini-Jack with Strain Relief
- MP - Put on Mini-Plug
- MPSR - Put on Mini-Plug with Strain Relief
- O - Open Wire end, No Connector Option
- OC - Open Wire (*wire blunt cut*)
- P - Put on Standard-Plug
- PSR - Put on Standard-Plug with Strain Relief
- S - Molded on Standard-Plug
- S3 - Molded on 3 Prong Standard-Plug
- T - Terminals (*Specify type & size when placing your order*)

#2 Junction Type

see page # 37-38

- E - Exposed 
- G - Grounded 
- S - Semi-Shielded 
- U - Ungrounded 
- U2 - Ungrounded Separate for Dual Element

#3 Specify Probe Length in Inches

**Probe lengths may vary +/- .125" unless otherwise specified.

 Inches

#4 Calibration

E **K** **T** **J**

#5 Probe Diameter

- AAA - .032" (34 AWG wire)
- AA - .040" (32 AWG wire)
- A - .062" 1/16" (28 AWG wire)
- B - .090" (25 AWG wire)
- C - .125" 1/8" (22 AWG wire)
- D - .188" 3/16" (19 AWG wire)
- E - .250" 1/4" (16 AWG wire)

#6 Probe Material

see page # 37-38

- S - 304 Stainless Steel
- S10 - 310 Stainless Steel
- S16 - 316 Stainless Steel
- I - Inconel®
- H - Hastelloy X®

#7 Transition

- GP - Overbraided Grounded to Transition
- LA - Stainless Steel with High Temperature Epoxy (600 °F)
- LC - Stainless Steel with High Temperature Ceramic Potting (2800 °F)
- LE - Stainless Steel with Epoxy Potting (500 °F)
- P - Molded on Plastic Rated (525 °F)

#8 Specify Wire Length in Inches

 - Length as measured from transition to the connector.



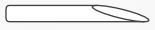





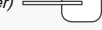
#9 Wire Insulation

** Append prefix "R" to the beginning of any options listed below to call for Stainless Steel Overbraid on wire. Example "R4F"

- 2F (solid wire) 4F (stranded wire) - Fiberglass
- 2G (solid wire) 4G (stranded wire) - High Temp Fiberglass
- 2K (solid wire) 4K (stranded wire) - Polyimide
- 2P (solid wire) 4P (stranded wire) - PVC
- 2T (solid wire) 4T (stranded wire) - Fluoropolymer FEP

#10 Available Options

** Leave blank for standard probe tip.

- BP - Bullet Point 
- CP - Cone Point 
- HPT - Hypodermic Point (*Sharpened to needle point*) 
- 18PP - 1/8" Pipe Plug 
- 14PP - 1/4" Pipe Plug 
- 38PP - 3/8" Pipe Plug 
- R - Stainless Steel Wire Overbraid on Lead Wires
- RT - Reduced Tip (.125" to .062" diameter) 
- W - Washer (*Only available with .062" or 1/16" probe diameter*) 
- WP - Weld Pad (*Only available with .062" or 1/16" probe diameter*) 



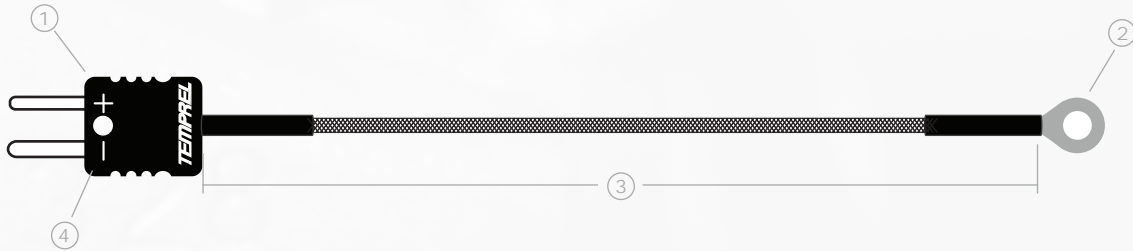
T52

THERMOCOUPLES

T52 CONFIGURATOR

Flexible insulated thermocouple with multiple options at sensing tip.

(Averaging thermocouples available upon request. Specify wire count from the connector when placing your order.)



Sample shown: T52-MGW-12J-4F


T52 : - -

1 2 3 4 5

#1 Connectors see page # 29-30

- J - Put on Standard-Jack
- JSR - Put on Standard-Jack with Strain Relief
- M - Molded on Mini-Plug
- MJ - Put on Mini-Jack
- MJSR - Put on Mini-Jack with Strain Relief
- MP - Put on Mini-Plug
- MPSR - Put on Mini-Plug with Strain Relief
- O - Open Wire end, No Connector Option
- OC - Open Wire *(wire blunt cut)*
- P - Put on Standard-Plug
- PSR - Put on Standard-Plug with Strain Relief
- S - Molded on Standard-Plug
- S3 - Molded on 3 Prong Standard-Plug
- T - Terminals *(Specify type & size when placing your order)*

#2 Junction Type see page # 37-38

- E - Exposed 
- EC - Cement Adhesive Pad
- EPD - 1 1/16" Polyimide Adhesive Disc
- EGD - 1 1/16" Glass Adhesive Disc
- ETW - Exposed with 1" Twisted and Welded Junction
- GW - Grounded Washer
- UW - Ungrounded Washer

#3 Specify Wire Length

 - Inches

#4 Calibration E K T J

#5 Wire Insulation

** Append prefix "R" to the beginning of any options listed below to call for Stainless Steel Overbraid on wire. Example "R4F"

- | | |
|-----------------|---|
| 2F (solid wire) | 4F (stranded wire) - Fiberglass |
| 2G (solid wire) | 4G (stranded wire) - High Temp Fiberglass |
| 2K (solid wire) | 4K (stranded wire) - Polyimide |
| 2P (solid wire) | 4P (stranded wire) - PVC |
| 2T (solid wire) | 4T (stranded wire) - Fluoropolymer FEP |



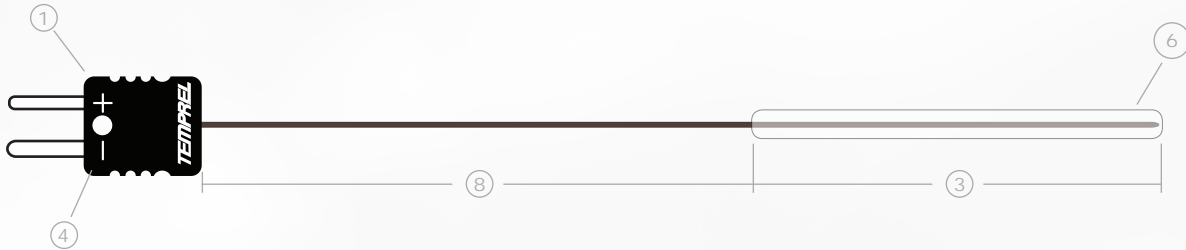
T54

THERMOCOUPLES



T54 CONFIGURATOR

A sheathed thermocouple which has a continuous run of wire from the junction to wire termination.



Sample shown: T54-MU-3J-EG-8-2T

T54 :
 1 2 3 4 5 6 7 8 9
 (Prefix T54 Changes to D54 for Dual Element)

#1 Connectors see page # 29-30

- J - Put on Standard-Jack
- JSR - Put on Standard-Jack with Strain Relief
- M - Molded on Mini-Plug
- MJ - Put on Mini-Jack
- MJSR - Put on Mini-Jack with Strain Relief
- MP - Put on Mini-Plug
- MPSR - Put on Mini-Plug with Strain Relief
- O - Open Wire end, No Connector Option
- OC - Open Wire (*wire blunt cut*)
- P - Put on Standard-Plug
- PSR - Put on Standard-Plug with Strain Relief
- S - Molded on Standard-Plug
- SR - Strain Relief (*Only can be used with options MJ, MP, P, J*)
- T - Terminals (*Specify type & size when placing your order*)

#2 Junction Type see page # 37-38

- E - Exposed 
- G - Grounded 
- U - Ungrounded 

#3 Specify Sheath Length in Inches

** Sheath lengths may vary +/- .125" unless otherwise specified.

_____ Sheath length is measured from the tip of the sheath to the first fixed attachment.

#4 Calibration **E** **K** **T** **J**

#5 Sheath Diameter

** Glass tube only in .250" 1/4"

- C - .125" 1/8"
- D - .188" 3/16"
- E - .250" 1/4"

#6 Sheath Material

- B - Bowden Cable (close wound spring)
- G - Glass Tube (1/4" x 3" ungrounded junction with solid wire)
- S - 304 Stainless Steel
- Y - Bayonet Adaptor (comes with 1" tube sheath)

#7 Transition

- S - 1" Shrink Tube

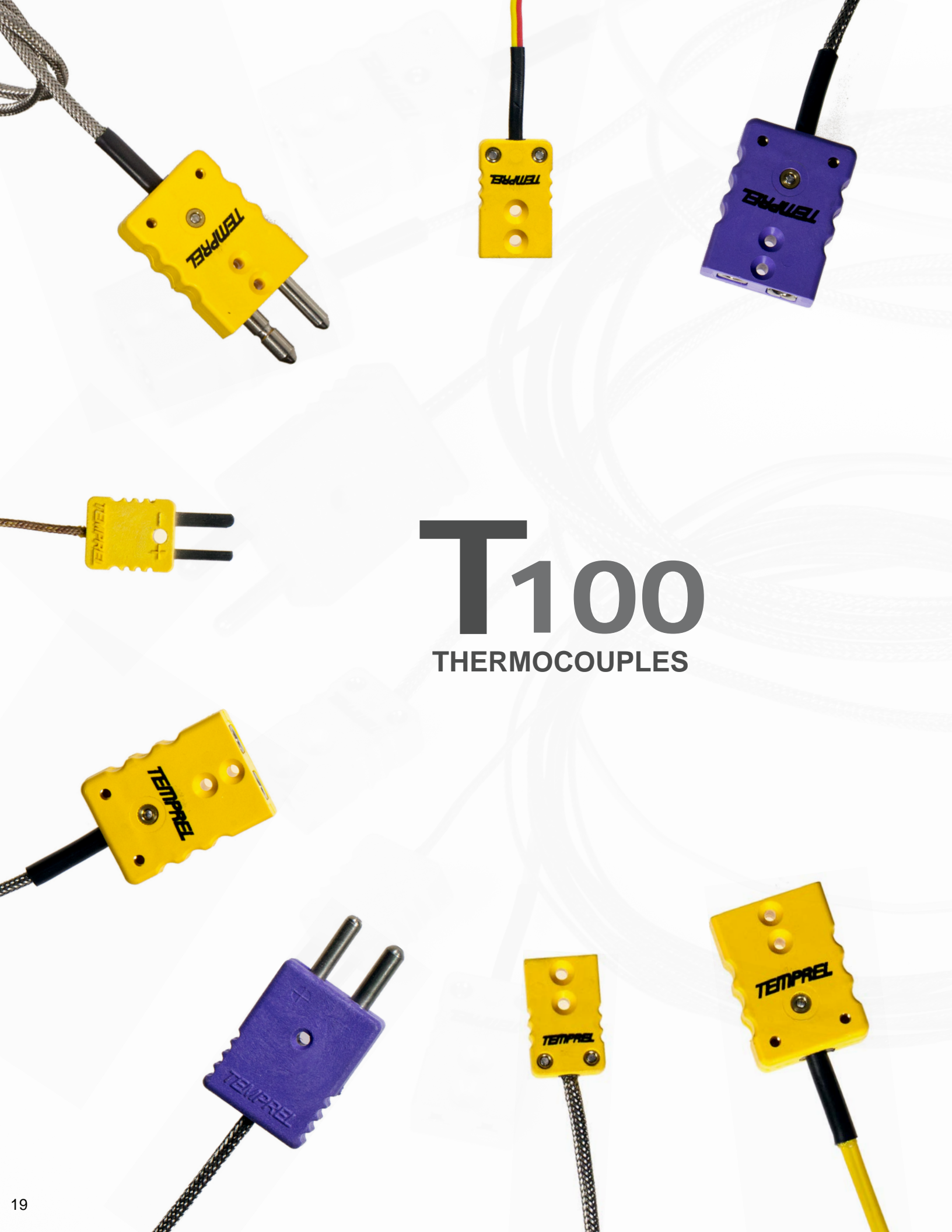
#8 Specify Wire Length in Inches

_____ - Length as measured from transition to the connector.

#9 Wire Insulation

** Append prefix "R" to the beginning of any options listed below to call for Stainless Steel Overbraid on wire. Example "R4F"

- 2F (*solid wire*) 4F (*stranded wire*) - Fiberglass
- 2G (*solid wire*) 4G (*stranded wire*) - High Temp Fiberglass
- 2K (*solid wire*) 4K (*stranded wire*) - Polyimide
- 2P (*solid wire*) 4P (*stranded wire*) - PVC
- 2T (*solid wire*) 4T (*stranded wire*) - Fluoropolymer FEP



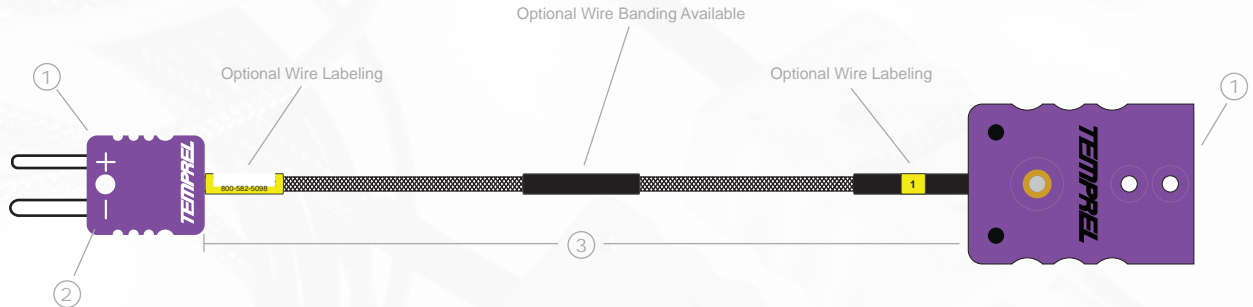
T100

THERMOCOUPLES

T100 CONFIGURATOR

An insulated wire thermocouple extension harness.

(Channel marking available upon request for orders of multiple harnesses.)



Sample shown: T100-M/J-E6-WLBNR4T

T100 : _____ / _____ - _____ - _____ - _____ - _____
left 1 right 2 3 4 5

#1 Connectors see page # 29-30

** Multiple connectors may be selected. Not all combinations available.

- J - Put on Standard-Jack
- JSR - Put on Standard-Jack with Strain Relief
- M - Molded on Mini-Plug
- MJ - Put on Mini-Jack
- MJSR - Put on Mini-Jack with Strain Relief
- MP - Put on Mini-Plug
- MPSR - Put on Mini-Plug with Strain Relief
- O - Open Wire end, No Connector Option
- OC - Open Wire *(wire blunt cut)*
- P - Put on Standard-Plug
- PSR - Put on Standard-Plug with Strain Relief
- S - Molded on Standard-Plug
- S3 - Molded on 3 Prong Standard-Plug
- T - Terminals *(Specify type & size when placing your order)*



#2 Calibration **E K T J**

#3 Specify Wire Length in Inches

_____ Length as measured from first connector
 _____ option to the second connector option.

#4 Available Options

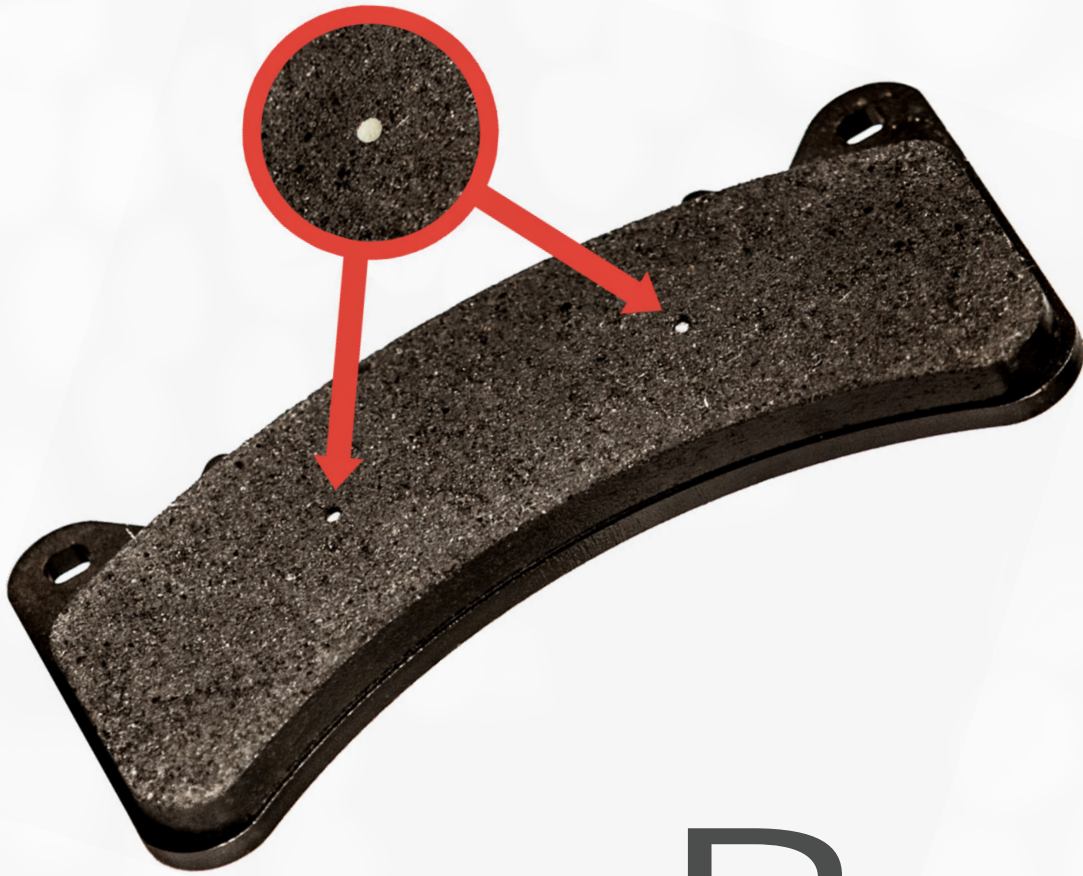
** Leave blank for standard probe tip.
 Multiple options can be selected.

- A - Stainless Steel Armor 
- R - Stainless Steel Wire Overbraid Over Wire
- S - Shrink Tubing 
- WL - Wire Labels *(for multiple channels)*
- BN - BEND

#5 Wire Insulation

- | | |
|------------------------|--|
| 2F <i>(solid wire)</i> | 4F <i>(stranded wire)</i> - Fiberglass |
| 2G <i>(solid wire)</i> | 4G <i>(stranded wire)</i> - High Temp Fiberglass |
| 2K <i>(solid wire)</i> | 4K <i>(stranded wire)</i> - Polyimide |
| 2P <i>(solid wire)</i> | 4P <i>(stranded wire)</i> - PVC |
| 2T <i>(solid wire)</i> | 4T <i>(stranded wire)</i> - Fluoropolymer FEP |





B52

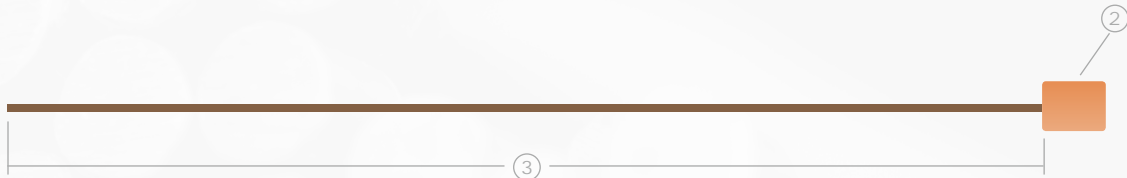
EMBEDDED BRAKE
THERMOCOUPLES



B52 CONFIGURATOR

This versatile design is used for measuring brake disc and drum temperatures, consisting of a 1/8" diameter X 1/8" long copper "slug" with silver brazed thermocouple wires inside. Available in K & J calibrations, typically with 22 AWG-stranded and insulated fiberglass wire. Special order sizes available, including 5.5mm diameter, that can be furnished and isolated from the copper tip to provide an ungrounded version for high noise applications.

(Connector will be packaged and shipped with probe but not installed.)



Sample shown: B52-OB-12K-4F

B52 : - -

1 2 3 4 5 6

#1 Connectors see page # 29-30

** Plugs & Jacks shipped along with probe.
Customer installation required.

- MJ - Put On Mini-Jack
- MP - Put On Mini-Plug
- O - Open Wire End, No Plug Option
- P - Put On Standard-Plug
- J - Put On Standard-Jack

#2 Cap Type/Size

- B - 1/8" Brake Cap
- BX - 1/8" Brake Cap x .250" Long
- B2 - 1/16" Brake Cap (Only available with 30 AWG wire)
- B3 - 1/4" Brake Cap
- UB3 - 1/4" Brake Cap Ungrounded

#3 Probe Lead Wire Length in Inches

_____ - Measured from the open connection side of the probe to the cap.

#4 Calibration K J

#9 Wire Insulation

- | | | |
|-----------------|--------------------|------------------------|
| 2F (solid wire) | 4F (stranded wire) | - Fiberglass |
| 2G (solid wire) | 4G (stranded wire) | - High Temp Fiberglass |
| 2K (solid wire) | 4K (stranded wire) | - Polyimide |
| 2T (solid wire) | 4T (stranded wire) | - Fluoropolymer FEP |





Egt

THERMOCOUPLES

EXHAUST GAS TEMPERATURE PROBES

Inconel probes come standard in 4 inch lengths with 72 inch open wire leads with stainless steel overbraid. Other lengths available upon request.

(If connector is needed refer to page # 29-30.)

DIAMETER	PART NUMBER	JUNCTION
.125 or 1/8 K	EGT-0001	EXPOSED
	EGT-0002	GROUNDING
	EGT-0003	UNGROUNDING
	EGT-0001-B	EXPOSED
	EGT-0002-B	GROUNDING
	EGT-0003-B	UNGROUNDING

DIAMETER	PART NUMBER	JUNCTION
.188 or 3/16 K	EGT-0004	EXPOSED
	EGT-0005	GROUNDING
	EGT-0006	UNGROUNDING
	EGT-0004-B	EXPOSED
	EGT-0005-B	GROUNDING
	EGT-0006-B	UNGROUNDING

DIAMETER	PART NUMBER	JUNCTION
.250 or 1/4 K	EGT-0007	EXPOSED
	EGT-0008	GROUNDING
	EGT-0009	UNGROUNDING
	EGT-0007-B	EXPOSED
	EGT-0008-B	GROUNDING
	EGT-0009-B	UNGROUNDING





Cht

SPARK PLUG
THERMOCOUPLES



SPARK PLUG THERMOCOUPLES

The cylinder head spark plug temperature sensor (CHT Sensor) is designed for surviving high vibration and temperatures, with a washer thickness of 1.5 mm. Our sensors will fit most 8 mm, 10 mm, 12 mm, 14 mm or 18 mm spark plugs. The sensor comes standard with 72 inch (1.8 meters) open wire leads with stainless steel overbraid. Install between the cylinder head and spark plug hex. Designed to deliver high performance temperature measurements with consistent reliability in the most extreme operating conditions. Custom lengths available upon request.

(If connector is needed refer to page # 29-30.)



	3 INCH PROBE P/N#	6 INCH PROBE P/N#	GROUND
8mm	CHT-0001-8G	CHT-0001-8G-6	YES
	CHT-0001-8U	CHT-0001-8U-6	NO
10mm	CHT-0002-10G	CHT-0002-10G-6	YES
	CHT-0002-10U	CHT-0002-10U-6	NO
12mm	CHT-0003-12G	CHT-0003-12G-6	YES
	CHT-0003-12U	CHT-0003-12U-6	NO
14mm	CHT-0004-14G	CHT-0004-14G-6	YES
	CHT-0004-14U	CHT-0004-14U-6	NO
18mm	CHT-0005-18G	CHT-0005-18G-6	YES
	CHT-0005-18U	CHT-0005-18U-6	NO





RT

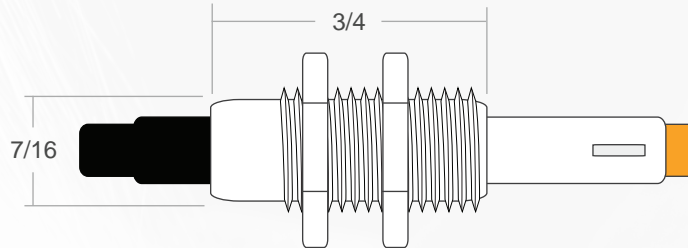
RUBBING
THERMOCOUPLES



RUBBING THERMOCOUPLES

A spring-loaded thermocouple used for many applications including rotor temperature testing. Temprel's 7/16" diameter stainless steel threaded body comes with double nuts for mounting and a 36" lead wire. Can rub against any moving part to provide surface temperatures. Available in J or K calibrations and can be manufactured as either a grounded or ungrounded junction.

Standard Series



Head Diameter: .200"

Head Height: ± .070"

Material: Brass / Softer Rockwell

Spring: Med. Tension, 2.8 lbs.

Body and Nut Material: 300 Stainless Steel

Overall length: 1.0"

Threaded Length: 3/4" or .750"

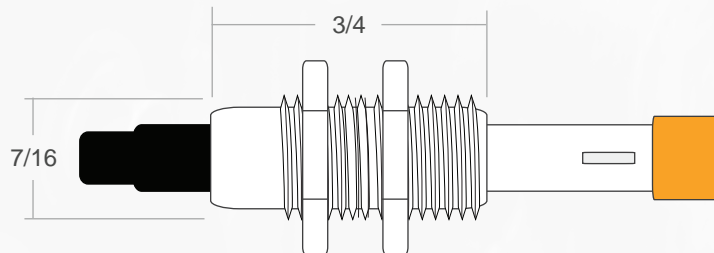
Diameter: 7/16" or .437"

Part Numbers

K *RUBBING-TC-K-U (ungrounded)*
RUBBING-TC-K (grounded)

J *RUBBING-TC-J-U (ungrounded)*
RUBBING-TC-J (grounded)

High Performance Series



Head Diameter: .312" / 5/16"

Head Height: .250"

Head Material: HP. Bronze / Harder Rockwell

Spring: Lighter Tension, 1.3 lbs.

Body and Nut Material: 300 Stainless Steel

Overall length: 1.0"

Threaded Length: 3/4" or .750"

Diameter: 7/16" or .437"

Part Numbers

K *RUBBING-TC-K-HP-U (ungrounded)*
RUBBING-TC-K-HP (grounded)

J *RUBBING-TC-J-HP-U (ungrounded)*
RUBBING-TC-J-HP (grounded)

MINIATURE JACK & PLUG

Dual cap screw design with dual hold-down screws. ANSI approved. Glass-filled thermoplastic nylon. Rated to 392 °F / 204 °C. Polarized, polished pin design. Accepts wire sizes 30 to 20 AWG solid or stranded. Choice of wire strain relief grommet sizes: 0.5 mm, 1.5 mm, and 3.0 mm. (1.5 mm most common.)



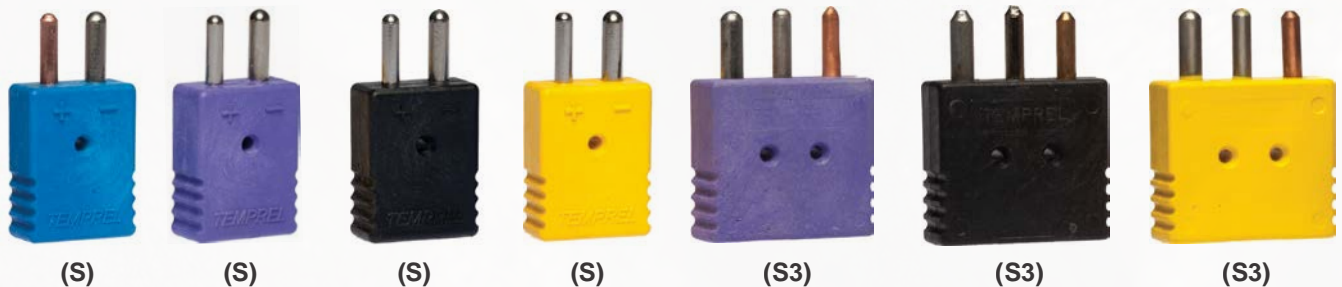
STANDARD SERIES JACK & PLUG

ANSI approved. Glass-filled thermoplastic nylon construction. Rated to 394 °F / 204 °C. Polarized, polished pin design. Single combo cap screw design. Accepts wire sizes up to 30 to 14 AWG solid or stranded. (Maximum wire diameter 5/16") Choice of wire strain relief grommet sizes: 1.5 mm, 2.5 mm, and 4.5 mm. (2.5mm most common.)



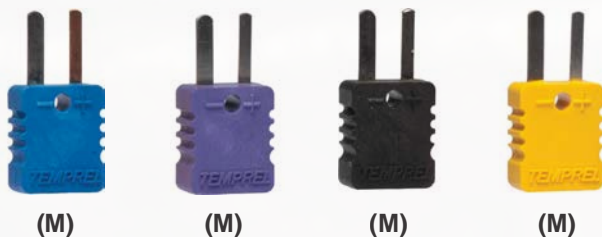
MOLDED ON ROUND PIN PLUG

ANSI approved. Glass-filled thermoplastic polyester nylon construction. Rated to 525 °F / 274 °C. Polarized, solid-alloy pin design. Molded component option (S, S3) only available on manufactured thermocouple.



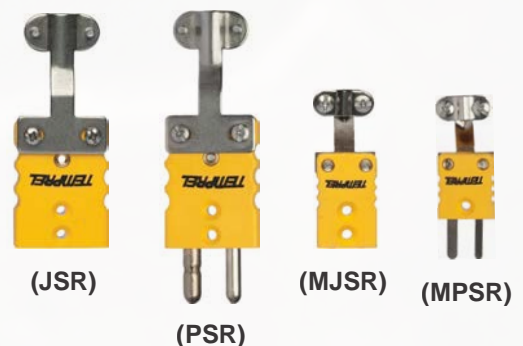
MINIATURE MOLDED ON PLUG

ANSI approved. Glass-filled thermoplastic polyester nylon construction. Rated to 525 °F / 274 °C. Polarized, polished pin design. Molded component option (M) only available on manufactured thermocouple.



STRAIN RELIEF OPTIONS

Not available with molded on jack & plug options.



500 SERIES MINIATURE JACK & PLUG

Single cap captive screw design. **No internal wire hold-down screws required.** ANSI approved. Glass-filled thermoplastic polyester nylon construction. Rated to 525 °F / 274 °C. Polarized, polished pin design. Accepts wire sizes 30 to 20 AWG solid or stranded. Durable fixed elastomer built-in wire strain relief. Phillips #1 screw.

Available Calibrations



MJ500

MP500

CONVERSION ADAPTERS

Thermocouple conversion adapters allow quick and easy connections between standard and mini connector systems. Any combination of adapter is available to transition between male / female and mini / standard connections. ANSI approved.

Glass-filled thermoplastic polyester nylon construction. Rated to 392 °F / 204 °C. No assembly required.

Available Calibrations



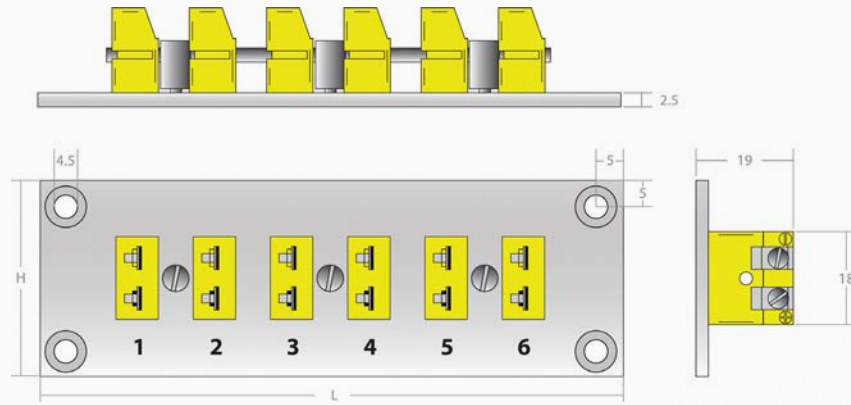
LTMP/J500

LTM/J500

LTP/J500

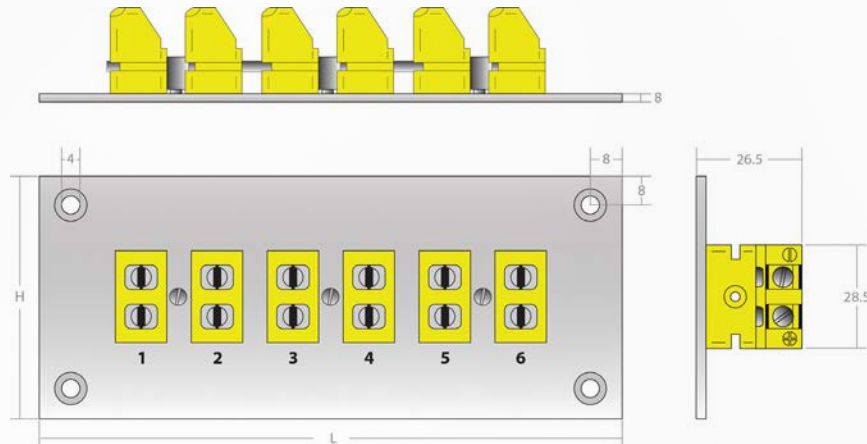
LTM/J500

MINI-CONNECTOR PANEL



PART NUMBER	CALIBRATION	CIRCUITS	ROWS	PANEL FACE PLATE	PANEL CUT-OUTS
TIMJA/PAM-1	T E J K	1	1	38 mm x 38 mm	23 x 0
TIMJA/PAM-2	T E J K	2	1	53 mm x 38 mm	30 x 22
TIMJA/PAM-3	T E J K	3	1	76 mm x 38 mm	53 x 22
TIMJA/PAM-4	T E J K	4	1	83 mm x 38 mm	60 x 22
TIMJA/PAM-5	T E J K	5	1	98 mm x 38 mm	75 x 22
TIMJA/PAM-6	T E J K	6	1	113 mm x 38 mm	90 x 22
TIMJA/PAM-8	T E J K	8	1	143 mm x 38 mm	120 x 22
TIMJA/PAM-12	T E J K	12	1	203 mm x 38 mm	180 x 22
TIMJA/PAM-18	T E J K	18	1	293 mm x 38 mm	270 x 22
TIMJA/PAM-24	T E J K	24	2	203 mm x 76 mm	180 x 60

STANDARD CONNECTOR PANEL



PART NUMBER	CALIBRATION	CIRCUITS	ROWS	PANEL FACE PLATE	PANEL CUT-OUTS
TISJA/PAS-1	T E J K	1	1	38 mm x 38 mm	31 mm x 0 mm
TISJA/PAS-2	T E J K	2	1	70 mm x 67 mm	40 mm x 40 mm
TISJA/PAS-3	T E J K	3	1	89 mm x 67 mm	49 mm x 40 mm
TISJA/PAS-4	T E J K	4	1	108 mm x 67 mm	78 mm x 40 mm
TISJA/PAS-5	T E J K	5	1	127 mm x 67 mm	97 mm x 40 mm
TISJA/PAS-6	T E J K	6	1	146 mm x 67 mm	116 mm x 40 mm
TISJA/PAS-8	T E J K	8	1	184 mm x 67 mm	154 mm x 40 mm
TISJA/PAS-10	T E J K	10	1	222 mm x 67 mm	192 mm x 40 mm
TISJA/PAS-12	T E J K	12	1	260 mm x 67 mm	230 mm x 40 mm
TISJA/PAS-18	T E J K	18	1	374 mm x 67 mm	344 mm x 40 mm
TISJA/PAS-24	T E J K	24	2	260 mm x 115 mm	230 mm x 40 mm

BRASS HOSE COUPLINGS

When you need to insert a thermocouple or pressure transducer in a fluid or coolant line. Available OD sizes from 1/2 inch to 2 1/2 inch with either one or dual 1/8 inch FNPT ports. Simply cut the hose, insert Temprel's Brass Hose Coupling and secure with 2 hose clamps on both sides. For simple repairs, a bridge tube is available without the 1/8 inch fitting for a secure leak free connection. Please contact Temprel for pricing and bridge tube information.



SINGLE PORT PART NUMBER	DUAL PORT PART NUMBER	HOSE COUPLING O/D SIZE	OVERALL LENGTH
T54OG12-1X18PP	-NA-	1/2 in	3 in
FT54OG12-1X18PP	-NA-	1/2 in	65 mm
T54OG58-1X18PP	T54OG58-2X18PP	5/8 in	2-1/2 in
FT54OG58-1X18PP	FT54OG58-2X18PP	5/8 in	65 mm
T54OG34-1X18PP	T54OG34-2X18PP	3/4 in	3 in
FT54OG34-1X18PP	FT54OG34-2X18PP	3/4 in	65 mm
FT54OG78-1X18PP	FT54OG78-2X18PP	7/8 in	65 mm
T54OG1-1X18PP	T54OG1-2X18PP	1 in	3 in
FT54OG1-1X18PP	FT54OG1-2X18PP	1 in	65 mm
T54OG125-1X18PP	T54OG125-2X18PP	1-1/4 in	3 in
FT54OG125-1X18PP	FT54OG125-2X18PP	1-1/4 in	65 mm
T54OG138-1X18PP	T54OG138-2X18PP	1-3/8 in	3 in
FT54OG138-1X18PP	FT54OG138-2X18PP	1-3/8 in	65 mm
T54OG150-1X18PP	T54OG150-2X18PP	1-1/2 in	3 in
FT54OG150-1X18PP	FT54OG150-2X18PP	1-1/2 in	65 mm
T54OG175-1X18PP	T54OG175-2X18PP	1-3/4 in	3 in
FT54OG175-1X18PP	FT54OG175-2X18PP	1-3/4 in	65 mm
FT54OG158-1X18PP	FT54OG158-2X18PP	1-5/8 in	65 mm
T54OG200-1X18PP	T54OG200-2X18PP	2 in	3 in
FT54OG200-1X18PP	FT54OG200-2X18PP	2 in	65 mm
T54OG225-1X18PP	T54OG225-2X18PP	2-1/4 in	4 in
FT54OG225-1X18PP	FT54OG225-2X18PP	2-1/4 in	65 mm
T54OG250-1X18PP	T54OG250-2X18PP	2-1/2 in	4 in
FT54OG250-1X18PP	FT54OG250-2X18PP	2-1/2 in	65 mm

THERMOCOUPLE COMPRESSION FITTINGS



Stainless Steel 1/16" NPT

P/N

.062" Sheath SS Ferrule	116SF-062
.125" Sheath SS Ferrule	116SF-125

Stainless Steel 1/8" NPT

P/N

.040" Sheath SS Ferrule	18SF-062
.040" Sheath Fluoropolymer FEP Ferrule	18ST-125
.062" Sheath SS Ferrule	18SF-062
.062" Sheath Fluoropolymer FEP Ferrule	18ST-062
.062" Sheath Lava Ferrule	18SL-062
.125" Sheath SS Ferrule	18SF-125
.125" Sheath Fluoropolymer FEP Ferrule	18ST-125
.125" Sheath Lava Ferrule	18SL-125
.188" Sheath SS Ferrule	18SF-188
.188" Sheath Fluoropolymer FEP Ferrule	18ST-188
.188" Sheath Lava Ferrule	18SL-188
.250" Sheath SS Ferrule	18SF-250
.250" Sheath Fluoropolymer FEP Ferrule	18ST-250
.250" Sheath Lava Ferrule	18SL-250

Stainless Steel 1/4" NPT

P/N

.125" Sheath SS Ferrule	14SF-125
.125" Sheath Fluoropolymer FEP Ferrule	14ST-125
.125" Sheath Lava Ferrule	14SL-125
.188" Sheath SS Ferrule	14SF-188
.188" Sheath Fluoropolymer FEP Ferrule	14ST-188
.188" Sheath Lava Ferrule	14SL-188
.250" Sheath SS Ferrule	14SF-250
.250" Sheath Fluoropolymer FEP Ferrule	14ST-250
.250" Sheath Lava Ferrule	14SL-250

Brass 1/16" NPT

P/N

.040" Sheath Brass Ferrule	116BF-040
.062" Sheath Brass Ferrule	116BF-062
.062" Sheath Fluoropolymer FEP Ferrule	116BT-062
.125" Sheath Brass Ferrule	116BF-125
.125" Sheath Fluoropolymer Ferrule	116BT-125

Brass 1/8" NPT

P/N

.062" Sheath Brass Ferrule	18BF-062
.062" Sheath Fluoropolymer FEP Ferrule	18BT-062
.125" Sheath Brass Ferrule	18BF-125
.125" Sheath Fluoropolymer FEP Ferrule	18BT-125
.188" Sheath Brass Ferrule	18BF-188
.188" Sheath Fluoropolymer FEP Ferrule	18BT-188
.250" Sheath Brass Ferrule	18BF-250
.250" Sheath Fluoropolymer FEP Ferrule	18BT-250

Brass 1/4" NPT

P/N

.125" Sheath Brass Ferrule	14BF-125
.125" Sheath Fluoropolymer FEP Ferrule	14BT-125
.250" Sheath Brass Ferrule	14BF-250
.250" Sheath Fluoropolymer FEP Ferrule	14BT-250

Replacement Caps & Ferrules



DIRECT WELD THERMOCOUPLE COMPRESSION FITTINGS

All components are manufactured from 316 stainless steel. Direct weld compression fittings available for probe diameters of 1/16", 1/8", 3/16" & 1/4".



WELD ON BUNGS



Part Number	Thread	Material	Height ± .020"	Thread Starts	
A	WB1/16HESS	1/16" FNPT	304 SS	.400" Including Hex	Hex End
B	WB1/16HEAL	1/16" FNPT	ALUM	.400" Including Hex	Hex End
C	WB1/8HEAL-KNU	5/8" Hex x 1/8"-27- FNPT	ALUM	.625" + Knurl 0.110"	Opposite of Knurl End
D	WB1/8HEAL	5/8" Hex x 1/8"-27 FNPT	ALUM	.382" Including Hex	Hex End
E	WB1/8HDSS	5/8" Hex x 1/8"-27 FNPT	304 SS	.382" Including Hex	Non Hex End
F	WB1/8HESS	9/16" Hex x 1/8"-27 FNPT	304 SS	.400" Including Hex	Hex End
G	WB1/8RSSS	15.5 MM Dia. X 7.5 MM x FNPT	304 SS	.295" Including .075" Insert Flange	Insert Flange
H	02WB-STEEL	1" Diameter / 18.0 MM x 1.5 Metric Thread	12L14	.440" Including .100" Insert Flange	Opposite Insert Flange
I	WB1/8RDFFCSS	5/8" Round stk. x 1/8"-27 FNPT	304 SS	1"	Both Ends
J	WB1/8RDHCSS	5/8" Round stk. x 1/8"-27 FNPT	304 SS	11/32"	Chamfer Side

USEFUL OPERATING RANGE

	Operating Range	Special Limits of Error	Each Conductor	ANSI Color Coding Extension Wire	T/C Wire
E	0 - 900 °C (32 - 1650 °F) -200 - 0 °C (-200 - 32 °F)	± 1.0 °C or ± .4% of Reading ± 1.7 °C or ± .1% of Reading	Pos. Purple Neg. Red	Purple	Brown
J	0 - 750 °C (32 - 1380 °F)	± 1.1 °C or ± .4% of Reading	Pos. White Neg. Red	Purple	Brown
K	0 - 1250 °C (32 - 2280 °F) -200 - 0 °C (-325 - 32 °F)	± 1.1 °C or ± .4% of Reading ± 2.2 °C or ± .2% of Reading	Pos. Yellow Neg. Red	Yellow	Brown
T	0 - 350 °C (32 - 660 °F) -200 - 0 °C (-325 - 32 °F)	± .5 °C or ± .4% of Reading ± 1.0 °C or ± 1.5% of Reading	Pos. Blue Neg. Red	Blue	Brown

INTERNATIONAL COLOR CODES

Compared to ANSI Standards

	T/C TYPE	ANSI T/C	ANSI EXTENSION	UK BS1843	Germany DIN 43714	Japan JIS C1610-1981	IEC 584-3
E	Overall	Brown	Purple	Brown	Black	Purple	Violet
	EP+	Purple	Purple	Brown	Red	Red	Violet
	EN+	Red	Red	Blue	Black	White	White
J	Overall	Brown	Black	Black	Blue	Yellow	Black
	JP+	White	White	Yellow	Red	Red	Black
	JN+	Red	Red	Blue	Blue	White	White
K	Overall	Brown	Yellow	Red	Green	Blue	Green
	KP+	Yellow	Yellow	Brown	Red	Red	Green
	KN+	Red	Red	Blue	Green	White	White
T	Overall	Brown	Blue	Blue	Brown	Brown	Brown
	TP+	Blue	Blue	White	Red	Red	Brown
	TN+	Red	Red	Blue	Brown	White	White

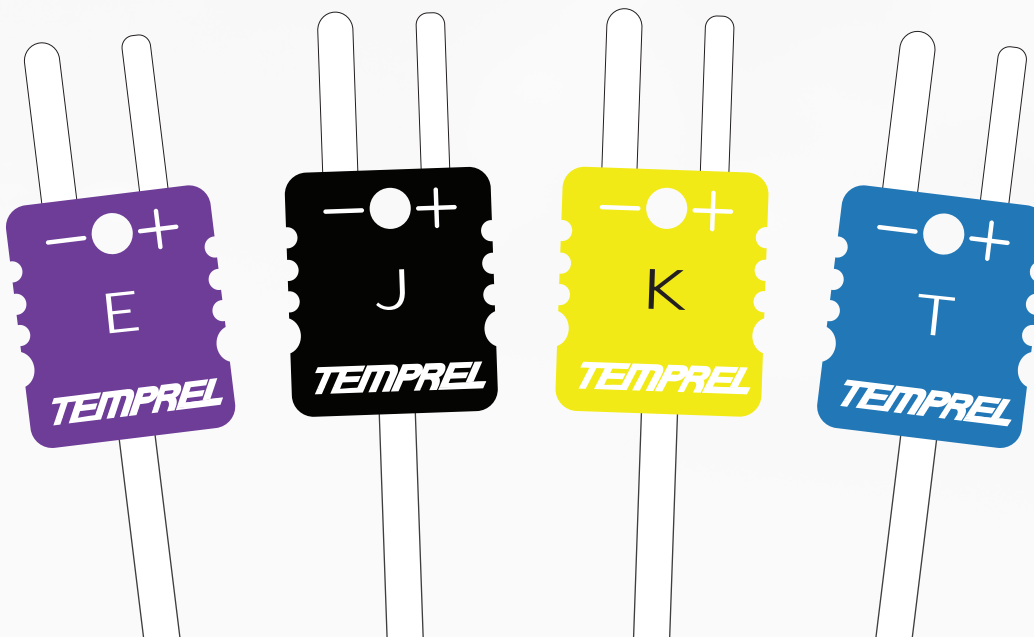
NOMINAL THERMOCOUPLE RESISTANCE

Ohms Per Double Foot @ 20 °C

Wire GA. B & S	Diameter	E	J	K	T
14	.064	.176	.089	.147	.074
18	.040	.450	.229	.377	.109
20	.032	.702	.357	.588	.297
22	.025	1.129	.584	.937	.483
24	.020	1.795	.928	1.490	.768
26	.016	2.853	1.476	2.369	1.221
28	.013	4.537	2.347	3.767	1.942
30	.010	7.214	3.731	5.990	3.088
34	.006	18.239	9.434	15.145	7.808
36	.005	29.000	15.000	24.080	12.415
20 Stranded	.038	.648	.335	.538	.277
22 Stranded	.030	1.031	.533	.856	.441
24 Stranded	.024	1.639	.848	1.361	.701

AVAILABLE THERMOCOUPLE CALIBRATIONS

High temperature connectors available upon request.



Compacted MgO Thermocouples

All Temprel MgO insulated thermocouples are made using the highest purity MgO for temperatures up to 2300 °F (1260 °C). The thermo-elements are all ANSI special limits of error to give your measurements the best possible results. The various sheath materials are dependent on the application and the following will help you make the best selection.

304 SS Maximum temperature of 1650 °F (900 °C) and is the most widely used low temperature sheath material. It offers good corrosion resistance but is subject to carbide precipitation in the 900 °F to 1600 °F (480 to 870 °C) range.

310 SS Maximum temperature of 2100 °F (1150 °C) and offers good mechanical and corrosion resistance similar to 304 SS. Very good heat resistance. Not as ductile as 304 SS.

316 SS Maximum temperature of 1650 °F (900 °C) and has the best corrosion resistance of the austenitic stainless steels. Subject to carbide precipitation in the 900 °F to 1600 °F (480 to 870 °C) range.

Inconel® Maximum temperature 2150 °F (1175 °C) and is the most widely used thermocouple sheath material. Good high temperature strength, corrosion resistance and is resistant to chloride-ion stress corrosion, cracking and oxidation. Do not use in sulfur bearing environments.


Hastelloy X® Maximum temperature 2200 °F (1205 °C) widely used in aerospace applications. Resistant to oxidizing, reducing and neutral atmospheric conditions. Excellent high temperature strength.


Standard Probe Diameters		Suggested Upper Temperature Limits
.032" + .001 - .0005"		1290 °F (700 °C)
.040" + .001 - .0005"		1290 °F (700 °C)
.063" ± .001"		1690 °F (920 °C)
.090" ± .001"		1830 °F (1000 °C)
.125" + .002 - .001"		1960 °F (1070 °C)
.188" + .002 - .001"		2100 °F (1150 °C)
.250" + .003 - .001"		2100 °F (1150 °C)


All MgO compacted thermocouples can be bent on a radius of twice the probe diameter.


*Inconel® is the registered trademark of INCO Alloys International.
Hastelloy X® is the registered trademark of Haynes International.*

Measuring Junctions

Grounded Junctions  The thermo-elements are welded into the end cap using the same weld rod as the sheath material. Fast time response. Recommended for high-pressure applications.

Ungrounded Junctions  The thermo-elements are welded together and are electrically isolated from the sheath. Recommended for applications where stray EMF's would affect the reading.

Exposed Junctions  The thermo-elements are welded together outside of the sheath. This provides the fastest time response but exposes the elements to contamination. Electrically isolated from the sheath.

Semi Shield Junctions  The thermo-elements are welded together outside of the sheath. This provides the fastest time response but exposes the elements to contamination. Electrically isolated from the sheath.

Approximate Response Time in Seconds

Values are for 2/3 of total temperature change from 0 to 100% as measured in water.
20-AWG bare wire junction measured in gas.

OUTSIDE DIAMETER	APPROXIMATE WIRE GAUGE	APPROXIMATE WALL THICKNESS	GROUNDING JUNCTION	UNGROUNDING JUNCTION
.020	38	.003	.02	.03
.032	34	.004	.02	.07
.040	32	.006	.04	.13
.062	28	.009	.22	.40
.090	25	.012	.33	.68
.125	22	.017	.50	1.10
.188	19	.025	1.00	2.30
.250	16	.033	2.20	4.10
20 AWG bare wire junction				.45

K TYPE

Wire Gauge	Insulation	Solid/Stranded	Nominal Size	Part Number
20	Fiberglass	Solid	.054 x .096"	K20-2-305
20	High Temp Fiberglass	Solid	.082 x .140"	K20-2-321
20	Fluoropolymer FEP	Solid	.072 x .124"	K20-2-507
20	Fluoropolymer TFE	Solid	.060 x .104"	K20-2-508
20	Fluoropolymer FEP / Shielded	Solid	.132"	K20-2-509
20	Polyimide	Solid	.084"	K20-2-511
20	Polyimide	Solid	.052 x .094"	K20-2-513
20	Fiberglass / SS Overbraid	Solid	.074 x .116"	K20-2-S-321
20	High Temp Fiberglass SS Overbraid	Solid	.102 x .140"	K20-2-302
20	Fiberglass	Stranded	.068 x .122"	K20-4-507
20	Fluoropolymer FEP	Stranded	.078 x .106"	K20-4-509
20	Fluoropolymer FEP / Shielded	Stranded	.144"	K20-4-513
20	Polyimide	Stranded	.058 x .106"	K20-4-302
20	Fiberglass / SS Overbraid	Stranded	.088 x .142"	K20-4-S-302
20	Polyimide / SS Oberbraid	Stranded	.078 x .126"	K20-4-S-513
22	Fiberglass	Stranded	.052 x .092"	K22-4-305
22	Fluoropolymer FEP	Stranded	.070 x .120"	K22-4-507
24	Fiberglass	Solid	.042 x .072"	K24-2-305
24	High Temp Fiberglass	Solid	.072 x .120"	K24-2-321
24	PVC Ripcord	Solid	.050 x .096"	K24-2-505
24	Fluoropolymer FEP	Solid	.060 x .100"	K24-2-507
24	Fluoropolymer TFE	Solid	.048 x .080"	K24-2-508
24	Polyimide	Solid	.054 x .076"	K24-2-513
24	Fluoropolymer PFA	Solid	.068 x .116"	K24-2-516
24	Fiberglass / SS	Solid	.068 x .100"	K24-2-S-305
24	Fluoropolymer FEP	Stranded	.060 x .100"	K24-4-507
24	Fluoropolymer TFE	Stranded	.052 x .088"	K24-4-508
24	Fluoropolymer FEP / SS Overbraid	Stranded	.084 x .128"	K24-4-S-507
28	Fiberglass	Solid	.040 x .062"	K28-2-305
30	Fiberglass	Solid	.036 x .046"	K30-2-305
30	Fluoropolymer FEP	Solid	.030 x .050"	K30-2-506
30	Polyimide	Solid	.044 x .056"	K30-2-513
36	Fluoropolymer FEP	Solid	.025 x .040"	K36-2-506

T TYPE

Wire Gauge	Insulation	Solid/Stranded	Nominal Size	Part Number
20	Fiberglass	Solid	.054 x .096"	T20-2-305
20	Fluoropolymer FEP	Solid	.072 x .124"	T20-2-507
20	Fluoropolymer TFE	Solid	.060 x .104"	T20-2-508
20	Polyimide / SS Overbraid	Stranded	.078 x .126"	T20-4-S-513
22	Fiberglass	Stranded	.052 x .092"	T22-4-305
24	Fiberglass	Solid	.042 x .072"	T24-2-305
24	PVC Ripcord	Solid	.050 x .096"	T24-2-505
24	Fluoropolymer FEP	Solid	.060 x .100"	T24-2-507
24	Fluoropolymer TFE	Solid	.048 x .080"	T24-2-508
30	Fluoropolymer FEP	Solid	.030 x .050"	T30-2-506
36	Fluoropolymer FEP	Solid	.025 x .040"	T36-2-506

THERMOCOUPLE WIRE

E TYPE

Wire Gauge	Insulation	Solid/Stranded	Nominal Size	Part Number
20	Fiberglass / SS Overbraid	Solid	.088 x .142"	E20-2-S-302
20	Fiberglass / SS Overbraid	Stranded	.088 x .142"	E20-4-S-302
20	Polyimide	Stranded	.070 x .112"	E20-4-513
20	Polyimide / SS Overbraid	Stranded	.090 x .132"	E20-4-S-513

J TYPE

Wire Gauge	Insulation	Solid/Stranded	Nominal Size	Part Number
20	Fiberglass	Solid	.054 x .096"	J20-2-305
20	Fiberglass / SS Overbraid	Stranded	.088 x .142"	J20-4-S-302
20	Fluoropolymer FEP	Solid	.072 x .124"	J20-2-507
20	Fluoropolymer TFE	Solid	.060 x .104"	J20-2-508
20	Fluoropolymer FEP / Shielded	Stranded	.144"	J20-4-509
20	Polyimide	Solid	.084"	J20-2-511
20	Polyimide	Stranded	.058 x .106"	J20-4-513
20	Polyimide / SS Overbraid	Stranded	.078 x .126"	J20-4-S-513
22	Fiberglass	Stranded	.052 x .092"	J22-4-305
22	Fluoropolymer FEP / Shielded	Stranded	.130"	J22-4-509
24	Fiberglass	Solid	.042 x .072"	J24-2-305
24	PVC Ripcord	Solid	.050 x .096"	J24-2-505
24	Fluoropolymer FEP	Solid	.060 x .100"	J24-2-507
24	Fluoropolymer TFE	Solid	.048 x .080"	J24-2-508
24	Fluoropolymer FEP / Shielded	Solid	.108"	J24-2-509
24	Polyimide	Solid	.060"	J24-2-511
24	Fluoropolymer FEP	Stranded	.060 x .100"	J24-4-507
28	Fiberglass	Solid	.040 x .062"	J28-2-305
30	Fluoropolymer FEP	Solid	.030 x .050"	J30-2-506
30	Fiberglass	Solid	.036 x .056"	J30-2-305

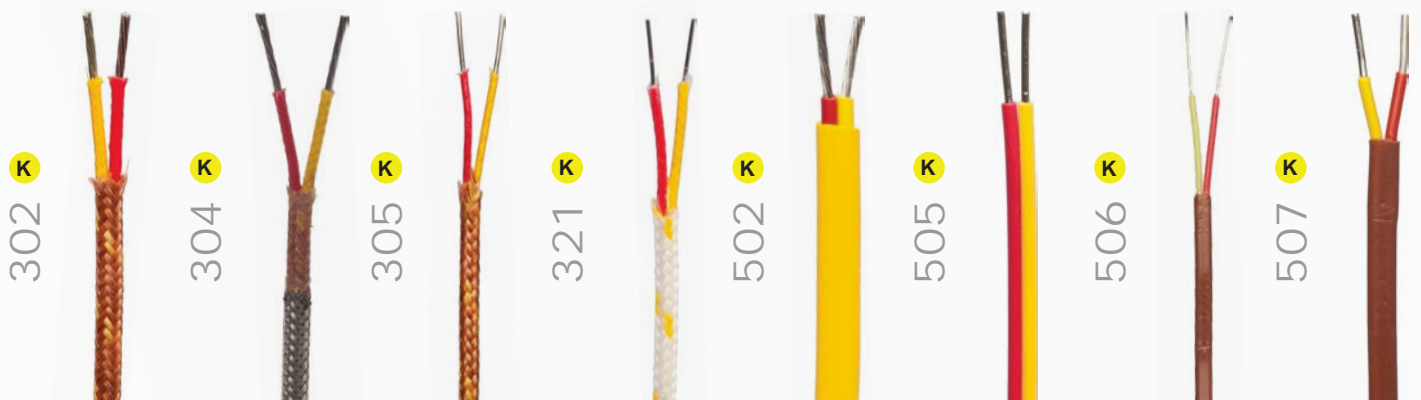
Thermocouple Extension Wire

Wire Gauge	Insulation	Solid/Stranded	Nominal Size	Part Number
20	PVC Type E	Solid	.092 x .154"	E20-6-502
20	PVC Type J	Solid	.092 x .154"	J20-6-502
20	PVC Type J	Stranded	.080 x .133"	J20-8-502-005
24	PVC Type J	Stranded	.050 x .091"	J24-8-502-005
20	PVC Type T	Solid	.092 x .154"	T20-6-502
20	PVC Type T	Stranded	.080 x .133"	T20-8-502-003
24	PVC Type T	Stranded	.050 x .091"	T24-8-502-003
20	PVC Type K	Solid	.092 x .154"	K20-6-502
20	PVC Type K	Stranded	.080 x .133"	K20-8-502-002
24	PVC Type K	Stranded	.050 x .091"	K24-8-502-002

Multi-pair extension cable available.

	SINGLE CONDUCTOR		DUPLEX CONDUCTORS		TEMPERATURE RATING**		ANSI	PHYSICAL PROPERTIES		
	Insulation	Impregnation	Insulation	Impregnation	Continuous	Single Reading	Color Coded	Abrasion Resistance	Moisture Resistance	Chemical Resistance
302	PFA	-	PFA	-	260 °C 500 °F	288 °C 550 °F	Yes	Good	Excellent	Excellent
304	Glass Braid	Silicone Modified Resin	Glass Braid	Silicone Modified Resin	482 °C 900°F	538 °C 1000 °F	Yes	Fair	Good	Good
305	Double Glass Wrap	Silicone Modified Resin	Glass Braid	Silicone Modified Resin	482 °C 900°F	538 °C 1000 °F	Yes	Fair	Good	Good
321	High Temp. Glass Braid	High Temp. Varnish	High Temp. Glass Braid	High Temp. Varnish	704 °C 1300°F	871 °C 1600 °F	Yes	Good	Good	Good
502	Polyvinyl	-	Polyvinyl	-	-29 to +105 °C -20 to +221°F	-	Yes	Good	Excellent	Good
505	Polyvinyl	-	Ripcord	-	-29 to +105 °C -20 to +221 °F	-	Yes	Good	Excellent	Good
506	FEP Extr.	-	FEP Extr.	-	204 °C 400 °F	260 °C 500 °F	Yes	Excellent	Excellent	Excellent
507	FEP Extr.	-	FEP Extr.	-	204 °C 400 °F	260 °C 500 °F	Yes	Excellent	Excellent	Excellent
508	TFE Tape Fused	-	TFE Tape Fused	-	260 °C 500 °F	316 °C 600 °F	Yes	Good	Excellent	Excellent
509	FEP Extr.	-	FEP Extr. Twisted	-	204 °C 400 °F	260 °C 500 °F	Yes	Excellent	Excellent	Excellent
510	Polyvinyl	-	Polyvinyl Twisted	-	-29 to +105 °C -20 to +221 °F	-	Yes	Good	Excellent	Good
511	Fused Polyimide Tape	-	None Twisted	-	316 °C 600 °F	427 °C 800 °F	Both Legs Have Tracer	Excellent	Excellent	Excellent
512	Fused Polyimide Tape	-	Fused Polyimide Tape	-	316 °C 600 °F	427 °C 800 °F	Both Legs Have Tracer	Excellent	Excellent	Excellent
513	Fused Polyimide Tape	-	Fused Polyimide Tape	-	316 °C 600 °F	427 °C 800 °F	Yes	Excellent	Excellent	Excellent
516	PFA	-	PFA	-	260 °C 500 °F	288 °C 550 °F	Yes	Good	Excellent	Excellent

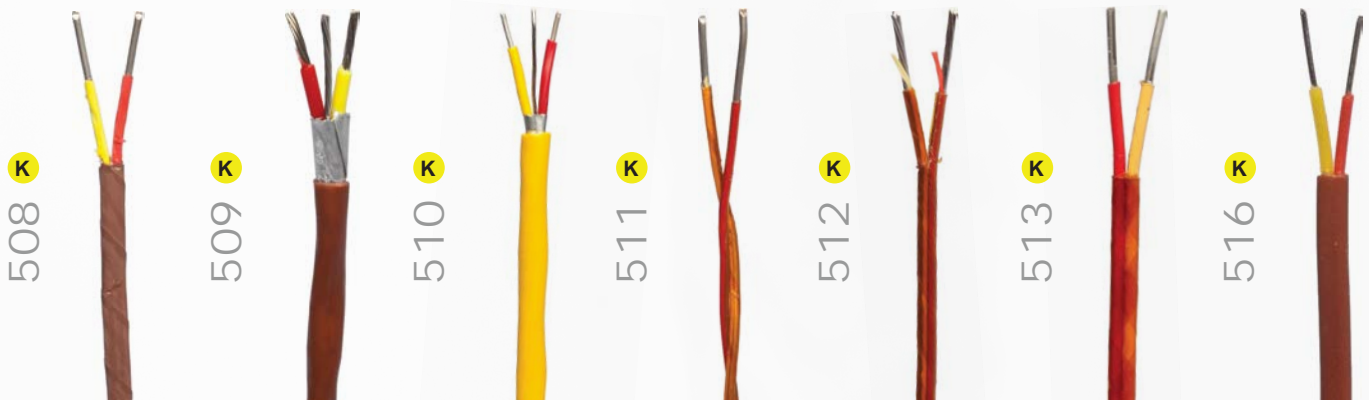
Wire Examples Below in K



WIRE CONSTRUCTION CHARACTERISTICS

EACH WIRE	OVERALL	COMMENTS	
Double Glass Braid	Glass Braid	Heavy-duty construction.	302
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Double Glass Wrap	Glass Braid	Light-duty applications small size.	305
High Temp Glass Braid	Glass Braid	White overall with yellow tracer.	321
PVC	PVC	Used for extension wire.	502
PVC	None	Individual wire insulated and fused.	505
Fluoropolymer FEP	Fluoropolymer FEP	Thin wall for small size wires.	506
Fluoropolymer FEP	Fluoropolymer FEP	Most economical fluoropolymer insulation.	507
Fluoropolymer TFE	Fluoropolymer TFE	High temperature fluoropolymer construction.	508
Fluoropolymer FEP	Fluoropolymer FEP	Twisted with Mylar shield and drain wire.	509
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Polyimide	None	Individual wire insulated and twisted.	511
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Polyimide	Polyimide	ANSI color-coded duplex construction.	513
Fluoropolymer PFA	Fluoropolymer PFA	High temperature extruded fluoropolymer.	516

Wire Examples Below in K.



CUSTOM APPLICATIONS

Did you know that Temprel also can help your design team develop custom thermocouples that will work with any of your application needs?

