# Thermocouple Wire and Thermocouple/RTD Extension Wire

# **Helpful Hints**

- 1. Use thermocouple wire to make thermocouple elements or to connect thermocouples to instrumentation. Extension wire should be used only to connect thermocouples to instrumentation. Match the wire with the thermocouple to be used.
- 2. Select wire insulation compatible with the application environment. For applications requiring moisture resistance, use Teflon, PVC, Kapton, and Tefzel. For applications requiring high temperature insulations, use fiberglass, Vitreous Silica, and ceramic fiber.
- 3. Use stranded conductor wire to connect thermocouples where continuous or frequent flexing of the leadwire occurs.
- 4. Use metal overbraids and leads in flexible armor to provide protection against physical abuse to wiring.
- 5. Use leadwire with aluminum Mylar shields and drain wires to connect sensors to computers and protect against EMF stray signals.



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THERMOCOUPLE

WIRE

- 6. Do not run thermocouple leads in conduits that carry power wiring. Do not run conduit carrying thermocouple leads parallel to electric buss bars or heavy power-carrying conduits. Cross them at right angles.
- 7. When connecting these wires to instrumentation, red is always negative. The other color-coded wire is always positive.

\*Standard lengths are 50, 100, 250, 500, and 1000 feet.

# We reserve the right to ship $\pm 10\%$ of the length ordered, unless an exact requirement is clearly specified on the order.

#### Thermocouple Wire and Thermocouple Extension Wire

			Continuous			Price per Foot			
Wire Gauge	Wire Type	Each Conductor	ations Exterior Cover	Temp. Rating	Abrasion Resistance	Moisture Resistance	Catalog Number	Std.* Length	Non-Std. Length
Thermo	couple	Vire Type J ANSI Color Code: N	egative Wire = Red, Positive V	Vire = White, Ov	/erall = Brown				
20 20 20	Solid Solid Strd.	Glass Braid Teflon (FEP) Extruded Teflon (FEP) Extruded	Glass Braid Teflon (FEP) Extruded Teflon (FEP) Extruded	900° F 400° F 400° F	Fair Very Good Very Good	Good Excellent Excellent	J20-1-304 J20-1-507 J20-3-507	\$0.40 0.58 0.79	\$0.43 0.61 0.81
Thermo	couple E	Extension Wire Type JX ANSI Co	lor Code: Negative Wire = Re	d, Positive Wire	e = White, Ove	rall = Black		1	
16 20 20 20 <b>Thermo</b>	Solid Solid Solid Strd. Solid	Dild Polyvinyl Polyvinyl   Dild Polyvinyl Polyvinyl   Dild Polyvinyl Twisted, Alum. Mylar PVC   prd. Polyvinyl Polyvinyl   ple Wire Type K ANSI Color Code: Negative = Red: Positive = Yelle   polid Glass Braid Glass Braid		-20 to 221° F -20 to 221° F -20 to 221° F -20 to 221° F -20 to 221° F <b>ow, Overall = B</b> 900° F	Good Good Good Fown Fair	Excellent Excellent Excellent Excellent Good	J16-5-502 J20-5-502 J20-5-510 ☑ J20-7-502 K20-1-304	0.58 0.29 0.31 0.38	0.63 0.32 0.35 0.35 0.68
20 Thermo		Tenon (FEP) Extruded	lor Code: Negative Wire - R	d Positive Wir			K20-1-507	0.78	0.85
16 20	Solid Solid	Polyvinyl Polyvinyl	Polyvinyl Polyvinyl	-20 to 221° F -20 to 221° F	Good Good	Excellent Excellent	K16-5-502 K20-5-502	0.98 0.50	1.03 0.55
Thermo	couple E	xtension Wire Type SX and RX	ANSI Color Code: Negative W	/ire = Red, Posit	ive Wire = Bla	ck, Overall =	Green		
16 20	Solid Solid	TFE Tape/Heavy Glass Braid Glass Braid	ServTex Braid Glass Braid	Up to 550° F Up to 900° F	Good Fair	Good Good	S16-5-157 S20-5-304	1.24 0.43	1.29 0.48

### Special Construction RTD Extension Wire

Inculation	Inculation	Tomn		Outer	Catalog	Prico*	
Standard length	3 are 50, 100, 250,	500, and 10	boo leet. See Lesii		istanuaru lengt	in pricing.	

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Wire Type	Construction Style	Each Conductor	Insulation Inner Jacket	Insulation Outer Jacket	Temp. Rating	Color Code	Outer Jacket	Catalog Number	Price* per Ft.
Triplex	24-Stranded (Silver-Plated Copper)	TFE Teflon	None	FEP Teflon	400° F	Red, Red, Wht.	White	🖪 RT24-3-527	\$0.88

# **Plugs and Jacks**



	Pin	Temp	Plu	ıgs	Jacks		
Description	Spacing	Rating	Catalog No	Price	Catalog No	Price	
Two Hollow Pins	7/16″	392° F	81_	\$4.30	82_	\$4.40	
Three Hollow Pins	7/16″	392° F	813	7.30	823	10.00	
Two Jab-In Solid Pins, 14Ga max.	7/16″	392° F	81J	10.30	82J	11.60	
Two Solid Pins	7/16″	662° F	81H	12.40	82H	14.70	
Two Pins	5/16″	392° F	83_	4.40	84_	4.20	
Three Pins	5/16″	392° F	833	5.70	843	5.10	

Insert calibration code in \_. Use thermocouple type (E, J, K, N\*, T, R, S) or U for RTD. \*Type N available in 61\_ and 63\_ only.

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