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Industrial Probe Accessories

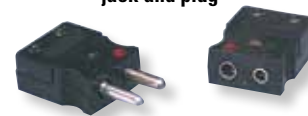
A Thermocouple Connectors

Connectors withstand continuous temperature of 350°F (177°C) and maximum temperature of 400°F (204°C). Feature glass-filled nylon casing with finger grips and polarity indicators; negative terminals are marked with red discs for easy identification. Miniconnectors accept miniature cable clamps and cable up to 20 gauge; standard connectors accept standard cable clamps and cable up to 16 gauge.

Type	Connection	Color	Miniconnectors				Standard connectors			
			Pack of 10		Pack of 100		Pack of 10		Pack of 100	
			Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
J	Plug	Black	TW-93840-50		TW-93841-50		TW-93840-60		TW-93841-60	
J	Jack	Black	TW-93840-51		TW-93841-51		TW-93840-61		TW-93841-61	
K	Plug	Yellow	TW-93840-52		TW-93841-52		TW-93840-62		TW-93841-62	
K	Jack	Yellow	TW-93840-53		TW-93841-53		TW-93840-63		TW-93841-63	
T	Plug	Blue	TW-93840-54		TW-93841-54		TW-93840-64		TW-93841-64	
T	Jack	Blue	TW-93840-55		TW-93841-55		TW-93840-65		TW-93841-65	



Type K miniconnector jack and plug



Type J standard connector plug and jack

B Compression Fittings

Fittings let you adjust the depth your probe extends into a system for temperature readings. Use fittings for straight-shaft probes and metal tubing only. Tighten compression nut to secure and completely seal probe.



316 SS compression fitting
08539-36

Replacement ferrules let you reuse a compression fitting when replacing a worn out probe. Simply disassemble fitting, discard probe and old ferrule, install replacement ferrule over probe sheath, and retighten fitting.

Cat. no.	Probe dia	NPT(M)	Working pressure ¹	Price
Brass fittings for temperatures to 425°F (218°C)				
TW-08539-04	1/8"	1/8"	2800 psi	/ea
TW-08539-08	3/16"	1/8"	2060 psi	/ea
TW-08539-12	1/4"	1/8"	1650 psi	/ea
TW-08539-30	1/4"	1/4"	1650 psi	/ea
TW-08539-33	3/8"	3/8"	1110 psi	/ea
316 stainless steel fittings for temperatures to 1200°F (649°C)				
TW-08539-02	1/8"	1/8"	3270 psi	/ea
TW-08539-06	3/16"	1/8"	2260 psi	/ea
TW-08539-35	3/16"	1/4"	2260 psi	/ea
TW-08539-36	1/4"	1/4"	1810 psi	/ea
TW-08539-39	3/8"	3/8"	1170 psi	/ea
TW-08539-41	1/2"	1/2"	860 psi	/ea

¹Maximum pressure at 72°F (22°C).

C Wire Stripper/Terminal Crimper

Crimper offers all of the functions of a wire stripper, terminal crimper, wire cutter, and small bolt cutter.

Cat. no.	Description	Price
TW-93785-90	Wire stripper/terminal crimper	



93785-90

D Thermocouple Feedthroughs

Use these two-wire feedthroughs to make connections inside vessels or chambers. Use with probes with miniconnectors. Feedthroughs withstand vacuum conditions or pressures to 100 psi. Stainless steel and epoxy construction. Temperature range: -40 to 250°F (-40 to 121°C). Feedthroughs have a 1/2" NPT(M) fitting. Include 48" L, PTFE-insulated, 24-gauge (0.0201" wire dia) lead wires.



93870-02

Cat. no.	Type	Price
TW-93870-00	J	
TW-93870-02	K	
TW-93870-04	T	

E Thermocouple Attachment Pads

Use self-adhesive attachment pads to affix small-diameter wire thermocouples to surfaces. Temperature range: -58 to 392°F (-58 to 200°C).



93785-50

Cat. no.	Quantity	Price/pk
TW-93785-50	Five sheets of 20 pads each (100 pads/pk)	

F Thermal Transfer Compound

Nonsilicone compound helps improve heat transfer to sensor, greatly improving sensor response. Compound will not harden or dry out. Use over temperature range of -43 to 390°F (-40 to 200°C). Meets physical properties of MIL-C-47113.



93785-61

Cat. no.	Description	Price
TW-93785-61	4 oz. thermal transfer compound	

G Cable Clamps

Cable clamps secure and stabilize wire/connector junctions. Pack of 12.



08509-81

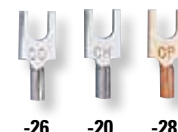
Cat. no.	Description	Price/pk
TW-08509-81	Cable clamp, miniature	
TW-08509-82	Cable clamp, standard	



08509-82

H Spade Lugs

Choose spade lugs that match the composition of your thermocouple wires. Pack of 20.



-26 -20 -28

Catalog number	Thermocouple type; material	Price/pk
TW-08539-20	E, K; Chromel K; Alumel J; Iron	
TW-08539-22		
TW-08539-24		
TW-08539-26	J, T, E; Constantan T; Copper	
TW-08539-28		



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Industrial Probe Accessories (continued)

I Thermocouple Switch Boxes

Connect multiple probes to your thermocouple thermometer with these switch boxes. (**Caution:** Voltage present at any probe may also be present at the instrument.)

Ten-input boxes include a 15" (38 cm) long cord with miniconnector for meter connection. Switch boxes accept ANSI miniconnectors.



Catalog number	Inputs	Type	Dimensions (W x H x D)	Price
TW-08498-00	Ten	J	6" x 2 1/2" x 6 1/4" (15.2 x 6.4 x 15.9 cm)	
TW-08498-10		K		
TW-08498-20		T		

J Extension Cables

All extension cables are 20-gauge (0.032" dia) thermocouple wire with PVC/PVC insulation. Maximum temperature: 221°F (105°C).



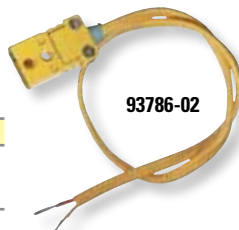
Extension cables with miniconnectors

Type	Miniconnector		Standard connector	
	Catalog number	Price	Catalog number	Price
10-ft length cable				
J	TW-08517-30		TW-08517-32	
K	TW-08516-30		TW-08516-32	
T	TW-08505-30		TW-08505-32	
25-ft length cable				
J	TW-08517-35		TW-08517-37	
K	TW-08516-35		TW-08516-37	
T	TW-08505-35		TW-08505-37	
50-ft length cable				
J	TW-08517-50		TW-08517-52	
K	TW-08516-50		TW-08516-52	
T	TW-08505-50		TW-08505-52	

K Cable Adapter

Attach cable adapter to your probe to provide easy connection to screw terminals. Leads measure 12" (30.5 cm) L.

Cat. no.	Description	Type	Price
TW-93786-00	Cable adapter	J	
TW-93786-02		K	
TW-93786-04		T	



L Coiled Extension Cables

Each coiled extension cable is ANSI color-coded with miniconnector on each end. Measure 5 ft (1.5 m) long when fully extended. Maximum temperature: 221°F (105°C).

Cat. no.	Type	Connections	Price
TW-93785-00	J	Male to female (plug to jack)	
TW-93785-02	K		
TW-93785-04	T		
TW-93785-10	J	Male to male (plug to plug)	
TW-93785-12	K		
TW-93785-14	T		



M Panel Jacks

Type J miniature round panel jacks 08509-36



Electrical box not included

Type K standard round panel jacks 08509-46

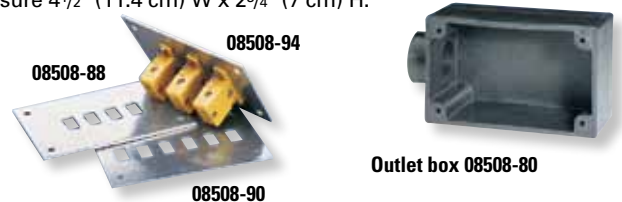
Panel jacks let you connect probes to mounting panel or standard outlet box for convenient input switching or multiplexing; or for your own customized probe installation. ANSI color-coded jacks come in miniature and standard sizes. Panel jacks are rated to 350°F (177°C).

All panel jacks feature glass-filled nylon construction. Use rectangular panel jack models 08509-55 through -57 and 08509-41 through -44 with mounting panels below. Round panel jacks do not require a custom mounting panel or cutout—simply insert and secure with screws (included). Round panel jacks fit 1/2" electrical knockouts (7/8" holes) for miniature size; 3/4" electrical knockouts (1 1/8" holes) for standard size.

Type	Color	Miniature panel jacks		Standard panel jacks	
		Catalog number	Price	Catalog number	Price
Rectangular panel jacks					
J	Black	TW-08509-55		TW-08509-41	
K	Yellow	TW-08509-56		TW-08509-42	
T	Blue	TW-08509-57		TW-08509-44	
Round panel jacks					
J	Black	TW-08509-36		TW-08509-45	
K	Yellow	TW-08509-37		TW-08509-46	
T	Blue	TW-08509-38		TW-08509-47	

N Mounting Panels and Outlet Box

Use mounting panels with rectangular panel jacks and outlet box 08508-80 or with your own installation. Box serves as a junction point for up to six probes—route all extension wires through a single 3/4" NPT(F) inlet. Molded, glass-reinforced nylon box includes four screws for attaching a mounting panel. Mounting panels measure 4 1/2" (11.4 cm) W x 2 3/4" (7 cm) H.



Panels for miniature jacks		Panels for standard jacks		Number of slots
Catalog number	Price	Catalog number	Price	
TW-08508-86		TW-08508-93		2
TW-08508-87		TW-08508-94		3
TW-08508-88		TW-08508-95		4
TW-08508-89		TW-08508-96		5
TW-08508-90		TW-08508-97		6

TW-08508-80 Outlet box.
Measures 4 1/2" (11.4 cm) W x 2 3/4" (7 cm) H x 1 1/2" (3.8 cm) D

O Rubber Boots for Probe Connections



Waterproof your thermocouple connections. Boots fit most detachable, general-purpose, penetration, and industrial probes. Order two boots for each connection.

Cat. no.	Description	Price
TW-93840-00	Rubber boot, standard. Accepts probe sheaths or wires to 1/4" OD	/ea
TW-93840-02	Rubber boot, miniature. Accepts probe sheaths or wires to 1/8" OD	/ea

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Thermocouple and RTD Wire

Make your own extension cables

Wire comes in 30, 24, 20, or 16 gauge for fabricating your own probes or extension cables (meets ANSI and ASTM standards). Choose from wire with polyvinyl chloride (PVC), fluorinated ethylene propylene resin (FEP/FEP), fiberglass, high-temperature fiberglass, or ceramic fiber outer/inner insulation.



Convenient
100- or 1000-ft
rolls in four gauges

08542-18

Specifications

Insulation type (outer/inner)	Temperature range	Advantages
Polyvinyl	-20 to 221°F (-28 to 105°C)	Good moisture and abrasion resistance
FEP/FEP	-328 to 400°F (-200 to 204°C)	Excellent chemical and moisture resistance; very good abrasion resistance
Glass braid	-100 to 900°F (-73 to 482°C)	Excellent chemical and flame resistance; fair moisture resistance; good abrasion resistance
High-temp fiberglass braid	0 to 1400°F (-18 to 750°C)	Higher temperatures than regular fiberglass insulation; fair moisture resistance; good abrasion resistance
Ceramic fiber braid	0 to 2200°F (-18 to 1427°C)	Intermittent temperatures to 3000°F (1649°C); fair moisture and abrasion resistance

Wire type	Wire gauge	Wire temp rating (Max)	Inner insulation	Outer insulation	Stranded/Solid	Over-braid	Special features	Catalog number	Price/rl of 100 ft	Catalog number	Price/rl of 1000 ft
Thermocouple wire											
J	16	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-30	—	TW-08542-26	—
J	16	900°F	Enamel/glass braid	Glass braid	Solid	No	—	TW-08541-31	—	TW-08542-27	—
J	20	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-16	—	TW-08542-15	—
J	20	221°F	Polyvinyl	Polyvinyl	Solid	No	Mylar® shield and drain wire	TW-08541-49	—	TW-08542-42	—
J	20	400°F	FEP	FEP	Solid	No	—	TW-08541-17	—	TW-08542-16	—
J	20	400°F	FEP	FEP	Stranded	No	—	TW-08541-46	—	TW-08542-39	—
J	20	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-18	—	TW-08542-17	—
J	20	900°F	Glass braid	Glass braid	Solid	Yes	Stainless steel overbraid	TW-08541-38	—	TW-08542-35	—
J	20	900°F	Glass braid	Glass braid	Stranded	No	—	TW-08541-47	—	TW-08542-40	—
J	24	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-06	—	TW-08542-06	—
J	24	400°F	FEP	FEP	Solid	No	—	TW-08541-07	—	TW-08542-07	—
J	24	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-08	—	TW-08542-08	—
J	24	900°F	Glass wrap	Glass wrap	Solid	Yes	Stainless steel overbraid	TW-08541-35	—	TW-08542-32	—
J	30	400°F	FEP	FEP	Solid	No	—	TW-08541-00	—	TW-08542-00	—
J	30	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-01	—	TW-08542-01	—
K	16	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-32	—	TW-08542-28	—
K	16	900°F	Enamel/glass braid	Glass braid	Solid	No	—	TW-08541-33	—	TW-08542-29	—
K	20	1300°F	High temp glass braid	High temp glass braid	Solid	No	Special limits of error (±4%)	TW-08541-23	—	TW-08542-22	—
K	20	2200°F	Ceramic fiber braid	Ceramic fiber braid	Solid	No	—	TW-08541-24	—	TW-08542-23	—
K	20	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-20	—	TW-08542-19	—
K	20	221°F	Polyvinyl	Polyvinyl	Solid	No	Mylar shield and drain wire	TW-08541-48	—	TW-08542-41	—
K	20	400°F	FEP	FEP	Solid	No	—	TW-08541-21	—	TW-08542-20	—
K	20	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-22	—	TW-08542-21	—
K	20	900°F	Glass braid	Glass braid	Solid	Yes	Stainless steel overbraid	TW-08541-39	—	TW-08542-36	—
K	24	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-09	—	TW-08542-09	—
K	24	400°F	FEP	FEP	Solid	No	—	TW-08541-10	—	TW-08542-10	—
K	24	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-11	—	TW-08542-11	—
K	24	900°F	Glass wrap	Glass wrap	Solid	Yes	Stainless steel overbraid	TW-08541-36	—	TW-08542-33	—
K	30	400°F	FEP	FEP	Solid	No	Special limits of error (±4%)	TW-08541-02	—	TW-08542-02	—
K	30	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-03	—	TW-08542-03	—
T	16	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-34	—	TW-08542-30	—
T	20	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-25	—	TW-08542-24	—
T	20	400°F	FEP	FEP	Solid	No	—	TW-08541-26	—	TW-08542-25	—
T	20	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-27	—	TW-08542-44	—
T	20	900°F	Glass braid	Glass braid	Solid	Yes	Stainless steel overbraid	TW-08541-40	—	TW-08542-37	—
T	24	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-12	—	TW-08542-12	—
T	24	221°F	Polyvinyl	Polyvinyl	Solid	No	—	TW-08541-45	—	TW-08542-38	—
T	24	400°F	FEP	Glass braid	Solid	No	—	TW-08541-13	—	TW-08542-13	—
T	24	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-14	—	TW-08542-14	—
T	24	900°F	Glass wrap	Glass wrap	Solid	Yes	Stainless steel overbraid	TW-08541-37	—	TW-08542-34	—
T	30	400°F	FEP	FEP	Solid	No	Special limits of error (±4%)	TW-08541-04	—	TW-08542-04	—
T	30	900°F	Glass braid	Glass braid	Solid	No	—	TW-08541-05	—	TW-08542-05	—
RTD wire											
RTD	24	400°F	TFE	TFE	Stranded	No	—	TW-08542-31	—	—	—
RTD	24	900°F	Glass braid	Glass braid	Stranded	No	—	TW-08541-42	—	—	—
RTD	24	900°F	Glass braid	Glass braid	Stranded	Yes	Stainless steel overbraid	TW-08541-43	—	—	—
RTD	24	400°F	FEP	FEP / stainless steel overbraid	Stranded	Yes	FEP/stainless steel overbraid	TW-08541-44	—	—	—
RTD	28	400°F	TFE	FEP	Stranded	No	Duplex / 6 wires	TW-08541-41	—	—	—
RTD	20	400°F	FEP	FEP	Stranded	No	—	TW-08541-50	—	TW-08542-43	—



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OAKTON® Industrial Thermowells

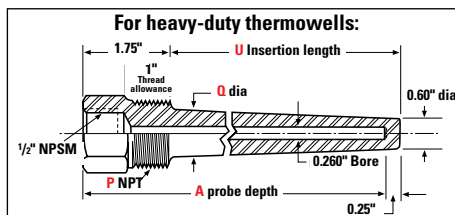
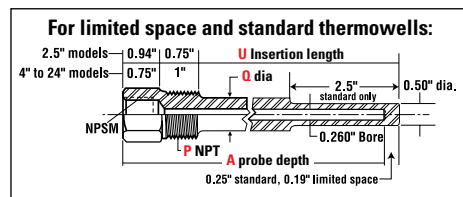
Designed for easy replacement of your industrial probe without shutting the operation down

To match your probe to a thermowell, first measure the distance from the probe's tip to the top of the thread (typical thread length is 0.5" for 1/2" NPT fittings). Next, match this length to the probe depth of the thermowell ("A" dimension). Other thermowell sizes and materials are available—call our Application Specialists for details.

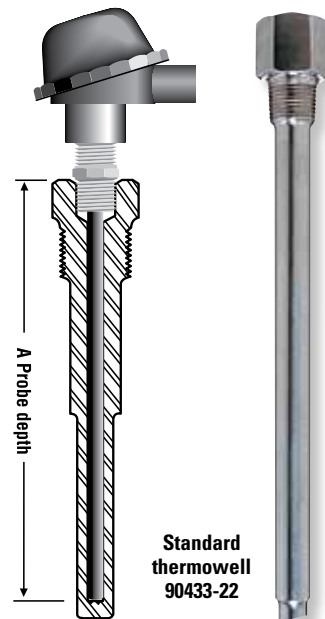
Choose a limited-space thermowell when you need a shorter insertion depth; a standard thermowell for general-purpose applications; or a heavy-duty thermowell for higher fluid velocity ratings.

Pressure Ratings (psig)

Material	Temperature						
	70°F	200°F	400°F	600°F	800°F	1000°F	1200°F
304 SS	7000	6200	5600	5400	5200	4500	1650
316 SS	7000	7000	6400	6200	6100	5100	2500
Brass	5000	4200	1000	—	—	—	—



Match the probe length (the tip of the probe to the top of the thread) to the thermowell's probe depth ("A" dimension).



Thermowell type	External thread (P)	Shank dia (Q)	Stem depth (A)	Insertion length (U)	304 stainless steel			316 stainless steel			Brass		
					Cat no.	Temp range	Price	Cat no.	Temp range	Price	Cat no.	Temp range	Price
Limited space	1/2" NPT(M)	5/8"	2.5"	1"	TW-90433-80	-32 to 1600°F (0 to 871°C)	—	TW-90433-93	-32 to 1600°F (0 to 871°C)	—	—	—	
			4"	2.5"	TW-90433-81	-32 to 1600°F (0 to 871°C)	—	TW-90433-94	-32 to 1600°F (0 to 871°C)	—	TW-90433-40	-32 to 600°F (0 to 315°C)	
6"	4.5"	TW-90433-82	TW-90433-95	TW-90433-41									
9"	7.5"	TW-90433-83	TW-90433-96	TW-90433-42									
12"	10.5"	TW-90433-84	TW-90433-97	TW-90433-43									
24"	22.5"	TW-90433-85	TW-90433-98	—									
Standard	1/2" NPT(M)	5/8"	4"	2.5"	TW-90433-86	-32 to 1600°F (0 to 871°C)	—	-32 to 1600°F (0 to 871°C)	—	TW-90433-44	-32 to 600°F (0 to 315°C)		
			6"	4.5"	TW-90433-87		TW-90433-99		TW-90433-45				
			9"	7.5"	TW-90433-88		TW-90434-00		TW-90433-46				
			12"	10.5"	TW-90433-89		TW-90434-01		TW-90433-47				
			15"	13.5"	TW-90433-90		TW-90434-02		—				
			18"	16.5"	TW-90433-91		TW-90434-03		—				
			24"	22.5"	TW-90433-92		TW-90434-04		—				
Heavy duty	3/4" NPT(M)	3/4"	4"	2.5"	TW-90433-86	-32 to 1600°F (0 to 871°C)	—	-32 to 1600°F (0 to 871°C)	—	—	-32 to 600°F (0 to 315°C)		
			6"	4.5"	TW-90433-87		TW-90434-00		—				
			9"	7.5"	TW-90433-88		TW-90434-01		—				
			12"	10.5"	TW-90433-89		TW-90434-02		—				
			15"	13.5"	TW-90433-90		TW-90434-03		—				
			18"	16.5"	TW-90433-91		TW-90434-04		—				
			24"	22.5"	TW-90433-92		TW-90434-05		—				

2-in-1 Dual Probe Thermometer

Measure both surface and internal temperatures—with just one unit!

- Spring-loaded cordless pipe clamp ensures repeatability
- 2.5" (63.5 mm) retractable general-purpose probe

This versatile instrument measures the surface temperature of a pipe and other round objects or the internal temperature of liquids and solids. The claw-like spring-loaded clamp probe is designed to accommodate round objects from 1/4" to 1 3/8" (6.4 to 35 mm) in diameter. The retractable stainless steel penetration probe is hidden in the handle of the unit and can be inserted into an object up to 2" (50.8 mm) deep. Temperature is conveniently shown on a built-in LCD. Other features include selectable units of measure, min/max and hold functions, and auto shut-off.

What's included: protective nylon belt pouch and LR44 button cell battery.

Specifications



Resolution: 0.1°F/°C
Accuracy
Clamp probe: ±3°F (±2°C) from -14 to 212°F (-10 to 100°C)
Penetration probe: ±3°F (±2°C) from -20 to 300°F (-30 to 150°C)

Display: 4-digit LCD, 0.25"H digits
Power: one button cell battery (included)
Battery life: 150 hours
Dimensions: 4"W x 6 3/4"H x 1"D (10.2 x 17.1 x 2.5 cm)

Response time
Clamp probe: 90 seconds
Penetration probe: 20 seconds



Catalog number	Range	Price
TW-90025-03	-20 to 300°F (-40 to 15°C)	—
TW-17000-10 NIST-traceable calibration with data for thermocouple meter		