

# CABLE ORDERING GUIDE

Wilcoxon offers custom cable assemblies built to fit the requirements of your application. Our application support team is here to help in selecting the right assembly.

Wilcoxon cable assemblies use the following part number configuration:

**R** **a** - **b** - **c** - **xx** - **d**

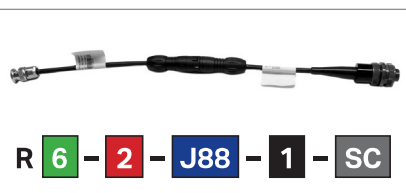
<b>R</b>	Designates cable assembly
<b>a</b>	Mating connector (see <a href="#">page 28</a> )
<b>b</b>	Termination connector (see <a href="#">page 28</a> )
<b>c</b>	Cable type (see <a href="#">page 29</a> and table at right)
<b>xx</b>	Cable length (ft or m), including connectors
<b>d</b>	Optional: -A: armor -S: stainless steel braid -SC: safety connector



**R** **6WP** - **2** - **J88C** - **6**

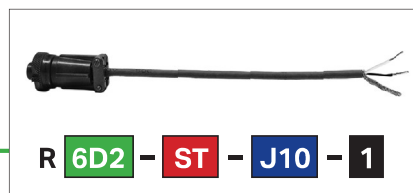
Model 6WP mating connector, model 2 BNC termination connector, J88C cable, 6 ft. length

Connector/cable compatibility		
	Connector	Compatible cables
Coaxial	1	J1, J2, J3, J4, J93
	1A	J1, J2, J3
	2	J1, J2, J3, J4, J5A, J6, J9, J93, J9F, J9T, J9T2A, J9T2AS, J9T2B, J9T3A, J9T4, J10, J10S, J61, J81, J88, J88C
	2F	J5A, J6, J9, J9F, J9T, J9T2A, J10, J61, J81, J93
MIL-C-5015 style	6	J3, J4, J5A, J6, J9, J9F, J9T, J9T2, J9T2S, J9T2A, J9T2AS, J9T2B, J10, J51, J61, J81, J88, J93
	6D2	J9T2A, J9T2AS, J9T2B, J10, J88C
	6Q / 6QI	J5A, J9T, J9T2, J9T2A, J9T2AS, J9T2B, J10, J10S, J51, J61, J88, J88C
	6QA / 6QAI	J9F
	6QN / 6QNI	J9T2, J9T2S
	6GD2	J9T3A, J12
	6GQ / 6GQI	J9T3A
	6GSL / 6GSLI	J9T3, J9T3A
	6GW	J9T3A
	6H / 6HI	J3, J9T2A, J9T2AS, J10
	6HD2	J9T2A, J10
	6SL / 6SLI	J5A, J9, J9T, J9T2, J9T2S, J9T2A, J9T2AS, J9T2B, J10, J61
	6W	J5A, J9F, J9T2, J9T2S, J9T2A, J9T2AS, J9T2B, J10
	6WP	J88, J88C
	6WR	J5A, J9F, J9T2A, J9T2B, J10
9W	J9T2S, J9T4, J9T4A, J9T4B, J84	
19SL / 19SLI	J9T3PS, J9T4, J9T4A, J95	
M12 style	M12P	J9T4A, J9T4B, J10, J84, J84C, J88
	M12S	J9T2S, J9T2A, J9T4A, J10, J12, J84, J84C
	45	J10, J12, J84, J84C, J88, J88C
	75S	J9T2A, J9T2S, J9T4A, J10, J12, J84, J84C



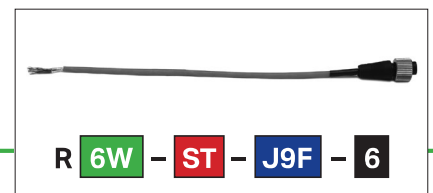
**R** **6** - **2** - **J88** - **1** - **SC**

6 mating connector, 2 termination connector, J88 cable, 1 ft. length, safety connector



**R** **6D2** - **ST** - **J10** - **1**

M12 mating connector, stripped and tinned at other end, J10 cable, 1 ft. length



**R** **6W** - **ST** - **J9F** - **6**

6W mating connector, stripped and tinned at other end, J9F cable, 6 ft. length

## STANDARD CABLE ASSEMBLIES

Our most popular cable assemblies are kept in stock, ready to ship. With several standard lengths, connectors with a variety of IP ratings and pinouts, and high temperature Teflon jacketed cables with optional cable protection, our standard assemblies make it simple to get the job done.

Wilcoxon model	R6Q-0-J9T2A-XX	R6WP-2-J88C-XX	R6W-0-J9F-XX	RM12W-0-J10-XX
<b>Mating connector</b>	2 socket MIL-C-5015, high temp Viton B	2 socket MIL-C-5015, molded	2 socket MIL-C-5015, molded	5 socket M12, molded
<b>Connector IP rating</b>	IP68	IP65	IP67	IP67
<b>Termination connector</b>	Blunt cut	BNC	Blunt cut	Blunt cut
<b>Cable shielding</b>	Twisted, shielded pair	Twisted, shielded pair	Foil shielded, drain wire	Twisted, shielded pair
<b>Cable jacket</b>	Yellow Teflon	Black polyurethane, coiled	Red Teflon	Gray Enviroprene
<b>Cable jacket covering</b>	none	none	none	none
<b>Max cable temperature</b>	200°C	80°C	200°C	125°C
<b>Cable lengths</b>	10, 16, 32, 64 ft. (3, 5, 10, 20 m)	6, 10, 16 ft. (2, 3, 5 m)	10, 16, 32, 64 ft. (3, 5, 10, 20 m)	16, 32, 64 ft. (5, 10, 20 m)

Wilcoxon model	R6W-0-J9T2A-XX	R6W-0-J9T2AS-XX	R6WR-0-J9T2A-XX	R6WR-0-J9T2AS-XX
<b>Mating connector</b>	2 socket MIL-C-5015, molded	2 socket MIL-C-5015, molded	2 socket MIL-C-5015, molded, right angle	2 socket MIL-C-5015, molded, right angle
<b>Connector IP rating</b>	IP67	IP67	IP67	IP67
<b>Termination connector</b>	Blunt cut	Blunt cut	Blunt cut	Blunt cut
<b>Cable shielding</b>	Twisted, shielded pair	Twisted, shielded pair	Twisted, shielded pair	Twisted, shielded pair
<b>Cable jacket</b>	Yellow Teflon	Yellow Teflon	Yellow Teflon	Yellow Teflon
<b>Cable jacket covering</b>	none	Stainless steel overbraid	none	Stainless steel overbraid
<b>Max cable temperature</b>	200°C	200°C	200°C	200°C
<b>Cable lengths</b>	10, 16, 32, 64 ft. (3, 5, 10, 20 m)	10, 16, 32, 64 ft. (3, 5, 10, 20 m)	10, 16, 32, 64 ft. (3, 5, 10, 20 m)	10, 16, 32, 64 ft. (3, 5, 10, 20 m)



# CONNECTORS

R **a** - **b** - **c** - **xx** - **d**

CABLING

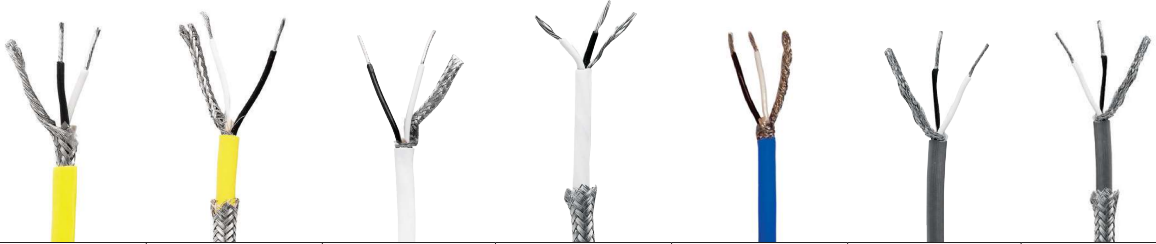


Model	Connector	Description	Max temp	Field assembly	IP rating
6	2 socket MIL-C-5015	Amphenol, metallic	125°C	Yes	50
6D2		Class I, Div 2 suitable	125°C	No	67
6GD2	3 socket MIL-C-5015		Viton® B boot	125°C	No
6GQ / GQI*		200°C		Yes	68
6GSL / GSLI*		125°C	Yes	67	
6H / 6HI*	2 socket MIL-C-5015	Potted backshell, HART-compatible	125°C	No	67
6HD2 / 6HD2I*		HART-compatible, Class I, Div 2 suitable	125°C	No	67
6Q / 6QI*		High temp Viton® B boot	200°C	Yes	68
6QN / QNI*		Radiation resistant, Neoprene boot	105°C	Yes	68
6SL / SLI*		Viton® B boot	125°C	Yes	67
6W		Isolated shield, molded	125°C	No	67
6WR		Right angle, isolated shield, molded	125°C	No	67
6WP	Isolated shield, molded, improved strain relief	125°C	No	65	
1	Microdot 10-32 coaxial	Straight plug	200°C	No	50
1A		Right angle	200°C	No	50
2 / 2F	BNC	Male / female	165°C	No	50
M12W	M12	5 socket, molded	125°C	No	67
M12S		5 socket	85°C	No	67
45		5 pin, Turck	85°C	No	67
75S		5 socket	85°C	No	67
9W	4 socket MIL-C-5015	Threaded, waterproof Bendix	125°C	No	50

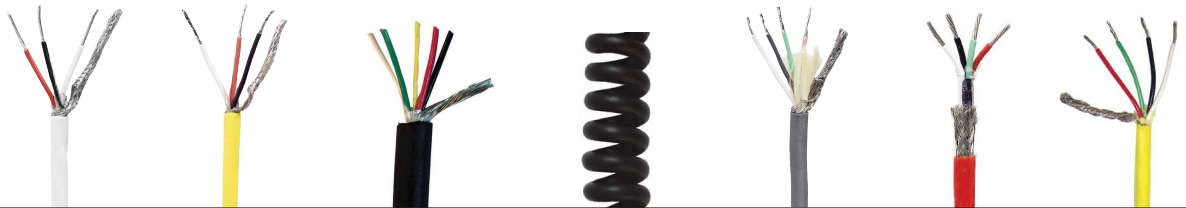
\* I indicates electrical isolation between shield and transducer housing.

# CABLES

R a - b - c - xx - d



Model	J9T2A	J9T2AS	J9T2	J9T2S	J9T2B	J10	J10S
<b>Conductors</b>	twisted, shielded pair						
<b>Description</b>	Yellow Teflon® jacket	Yellow Teflon jacket, stainless steel braid	White Tefzel® jacket	White Tefzel jacket, stainless steel braid	Blue Teflon jacket for IS wiring requirements	Gray Enviro-prene® jacket	Gray Enviro-prene jacket, stainless steel braid
<b>Max temp.</b>	200°C	200°C	150°C	150°C	200°C	125°C	125°C
<b>Diameter</b>	0.190 in.	0.210 in.	0.190 in.	0.210 in.	0.190 in.	0.190 in.	0.210 in.
<b>Capacitance</b>	27 pF/ft	27 pF/ft	27 pF/ft	27 pF/ft	27 pF/ft	30 pF/ft	30 pF/ft



Model	J9T3	J9T3A	J84	J84C	J12	J9T4	J9T4A
<b>Conductors</b>	3 conductor		4 conductor				
<b>Description</b>	White Tefzel jacket	Yellow Teflon jacket, stainless steel braid	Black polyurethane jacket, Kevlar® reinforced	Black polyurethane jacket, coiled, Kevlar reinforced	Gray Enviro-prene jacket	Red Teflon jacket	Yellow Teflon jacket
<b>Max temp.</b>	150°C	200°C	80°C	80°C	125°C	200°C	200°C
<b>Diameter</b>	0.190 in.	0.190 in.	0.210 in.	0.210 in.	0.190 in.	0.190 in.	0.190 in.
<b>Capacitance</b>	27 pF/ft	27 pF/ft	44 pF/ft	44 pF/ft	30 pF/ft	30 pF/ft	27 pF/ft



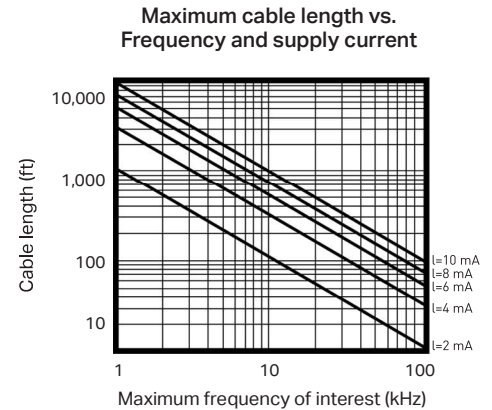
Model	J95	J88	J88C	J9F	J1	J3	J5A
<b>Conductors</b>	5 conductor	twisted, shielded pair			coaxial		
<b>Description</b>	Shielded, black polyurethane jacket	Black polyurethane jacket	Black polyurethane, coiled with 6" straight ends	Red Teflon jacket, foil shielded with drain wire	Orange PVC jacket, low noise	Red Teflon jacket, low noise, high temp	Black PVC jacket, RG 58
<b>Max temp.</b>	90°C	80°C	80°C	200°C	80°C	260°C	105°C
<b>Diameter</b>	0.240 in.	0.175	0.175 in.	0.174 in.	0.088 in.	0.085 in.	0.190 in.
<b>Capacitance</b>	22 pF/ft	60 pF/ft	60 pF/ft	51 pF/ft	30 pF/ft	30 pF/ft	30 pF/ft

# CABLE CONSIDERATIONS

## Cable length

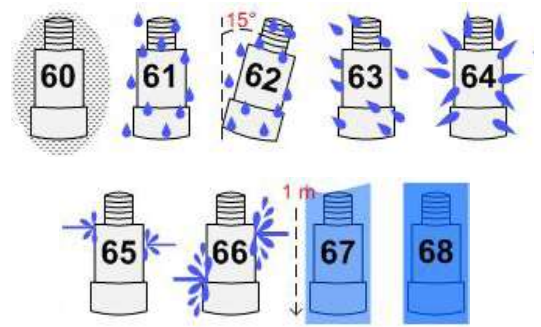
An accelerometer cable can be run 100 feet without losing signal content. The maximum length is a function of supply current and the highest frequency of interest. The graph at right helps determine maximum cable lengths.

Note: Graph values assume cable capacities of 30 pF/ft and an available swing of 5 V p-p. The current available is represented by I.



## IP ratings

Protection against solids		Protection against liquids	
No protection	0	No protection	0
Objects >50 mm	1	Vertically dripping water	1
Objects >12.5 mm	2	Angled dripping water	2
Objects >2.5 mm	3	Sprayed water	3
Objects >1.0 mm	4	Splashed water	4
Dust-protected	5	Water jets	5
Dust-tight	6	Pressure jets	6
		Immersion to 1 meter	7
		Indefinite immersion	8



IP ratings – protection against liquids

## Avoiding ground loops

Ground loops develop when a common line (signal return/shield) is grounded at two points of differing electrical potential. For sensors using two-conductor shielded cable, the signal and power are carried on one lead and the signal common on the other. The cable shield serves to protect the signal from electrostatic discharge (ESD) and electromagnetic interference (EMI). The shield should be grounded at only one point, normally at the readout equipment.

In all cases, it's crucial that the cable shield terminations be properly grounded to avoid damage to sensor electronics from high ESD/EMI environments. Choosing a single point for your ground also greatly increases the ability of the shield to protect against RF interference.

Visit [wilcoxon.com/resources](http://wilcoxon.com/resources) for more tech tips.

# MOUNTING ACCESSORIES

Wilcoxon offers a wide range of mounting hardware and accessories for both permanent and temporary sensor installations. Evaluation of the mounting location of each sensor must be based on the specific machine and vibration source to be monitored. The mounting configuration depends primarily upon dynamic measurement requirements, such as frequency and amplitude range.

## 5 things to consider for sensor mounting

### 1 Permanent or temporary installation

For permanent installations, stud mounting or cementing pads are the preferred options, and also provide better frequency response. For temporary installations, magnets for both flat and curved surfaces are available.

### 2 Dynamic measurement requirements

The closer the contact between sensor and machine, the better the ability to couple and measure high frequencies. Adhesives, cementing pads, or stud mounting are best for high frequency or high amplitude vibrations.

### 3 Mounting locations

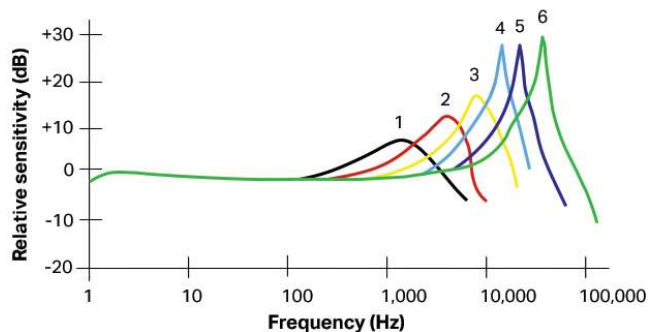
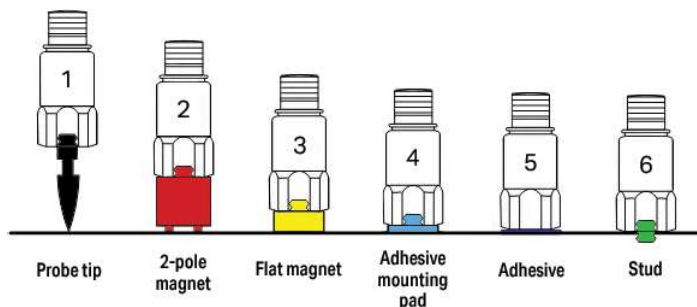
Determine where sensors should be mounted on the machine to capture the data you want. Choose a location that minimizes the vibration transmission route through the machine.

### 4 Mounting surface

Correct surface preparation is crucial for accurate measurements. Always try to ensure flush mounting. SILGREASE can be used for improved frequency response. 2-pole magnets are for use on curved surfaces; use flat magnets on flat surfaces.


### 5 Effect on measurement results


Always aim for the closest possible contact between sensor and machine, and be consistent with placement when using magnets or probe tips. Proper mounting ensures the most reliable data.






# STUDS AND CEMENTING PADS

Threaded stud mounting allows the widest dynamic measurement range and is recommended for permanent monitoring systems, high frequency testing, and harsh environments.




Mounting studs					
	SF1	SF3	SF6	SF6M	SF6M-1
	0.26" length 10-32 UNF both ends Stainless steel	0.32" length 10-32 to 1/4-28 Stainless steel	0.375" length 1/4-28 UNF both ends Stainless steel	0.53" length 1/4-28 UNF to M8x1.25 Stainless steel with black oxide coating	0.39" length 1/4-28 UNF to M6x1 Stainless steel with black oxide coating

Isolator mounting bases				
	SF21	SF22	SF23	SF24
	1.0" hex across flats Mounting surface diameter: 0.82" Isolation protection up to 1,500 volts 1/4-28 to 1/4-28 integral stud	1.0" hex across flats Mounting surface diameter: 0.82" 1/4-28 to M8 integral stud	1.125" hex across flats Mounting surface diameter: 0.94" 1/4-28 to 1/4-28 integral stud	1.125" hex across flats Mounting surface diameter: 0.94" 1/4-28 to M8 integral stud

Cementing pads can approach the high frequency capabilities of stud mounts, without the need for drilling into the structure.

Cementing pads					
	SF8		SF8-2		SF8-8
	1/4-28 integral stud 1.0" diameter Stainless steel		1/4-28 tapped hole 1.0" diameter Stainless steel		10-32 hole, keyed for use with 993B triaxial sensors 1.0" diameter Stainless steel










Three accelerometers can be mounted to the TC series triaxial mounting cubes for simultaneous measurements along three orthogonal directions (x, y, z).

Triaxial mounting cubes					
	TC1		TC1B		TC2
	10-32 tapped holes, 1.00" each side		1/4-28 tapped holes, 1.00" each side		3/8-16 tapped holes, 2.60" each side

Go to [buy.wilcoxon.com](http://buy.wilcoxon.com) for our full range of mounting hardware and accessories.

# MAGNETIC MOUNTS

Magnetic bases are a quick and convenient option for portable walkaround applications and are often used on large machinery. They can be quickly attached and removed on both flat and curved surfaces. All Wilcoxon magnets are designed with corrosion-resistant stainless steel casings.

Two-pole magnetic mounting bases			
	<b>MD035</b> 1.00" diameter 35 lb force 1/4-28 tapped hole non-isolated		<b>MD055</b> 1.25" diameter 55 lb force 1/4-28 tapped hole non-isolated
			<b>MD130</b> 2.00" diameter 130 lb force 1/4-28 tapped hole non-isolated
Flat magnetic mounting bases			
	<b>MF040</b> 1.00" diameter 40 lb force 1/4-28 tapped hole, non-isolated		<b>MF075</b> 1.25" diameter 75 lb force 1/4-28 tapped hole non-isolated
			<b>MF120</b> 1.50" diameter 120 lb force 1/4-28 tapped hole non-isolated
Two-pole magnetic mounting bases for triaxial sensors			
	<b>MT075</b> 1.50" diameter, 75 lb force, 1/4-28 tapped hole, non-isolated		<b>MT075A</b> 1.50" diameter, 75 lb force, 10-32 tapped hole, non-isolated
Magnet landing pad			
	<b>SF11</b> 1.00" diameter provides surface for sensor attachment using a magnetic mounting base		

# MOUNTING ACCESSORIES

**VERSIL406 mounting epoxy**  
150°C max temperature, mounts approximately 5 sensors/mounting pads.

**SILGREASE**  
Non-toxic mounting grease, radiation-resistant and electrically insulating.

**ST101 spot face tool**  
1.25" diameter, pilot drill for 1/4-28 tapped hole, drill depth adjustable.

**PT2 probe tip**  
Stainless steel, connects to handheld vibration meter for quick readings in hard-to-reach areas.

