



Wire, Cable, and Accessories

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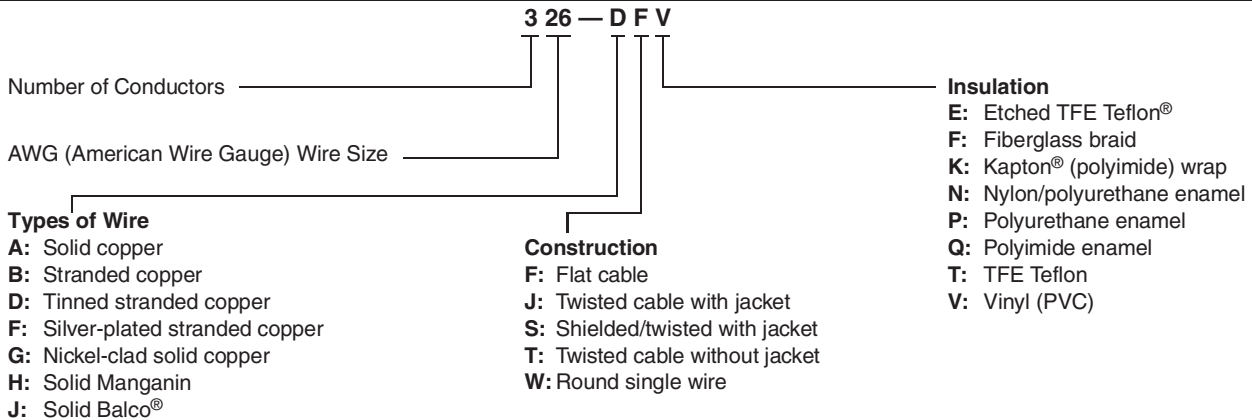
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General Information and Selection



Different strain gage installation conditions and test specifications often necessitate the use of different types or sizes of leadwires. For accurate, reliable strain measurements, it is important to use an appropriate type of leadwire for each installation. Micro-Measurements stocks a wide variety of wires and cables, cataloged in tabular form on the following pages. All wires and cables listed in the tables have been proven in the field to give excellent sensor performance when properly used in the specified environments. Special gage wiring problems may require the use of wires not listed here. In such cases, our Applications Engineering Department can recommend appropriate wire types and can suggest suppliers.

WIRE AND CABLE CODING SYSTEM

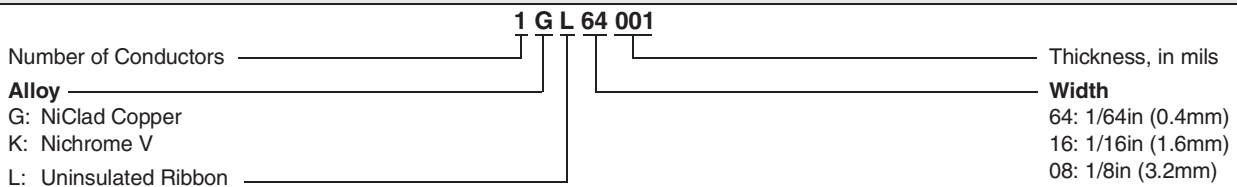


AWG	Diameter* (nominal)		AWG	Diameter* (nominal)	
	in	[mm]		in	[mm]
22	0.0253	0.643	34	0.0063	0.160
26	0.0159	0.404	36	0.0050	0.127
27	0.0142	0.361	37	0.0045	0.114
30	0.0100	0.254	42	0.0025	0.064

*Solid Core Wire

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RIBBON WIRE CODING SYSTEM



The Wire and Cable Coding System shown above gives the unique designation of each wire type for ordering purposes. The leadwire and cabling selection charts presented on the next three pages are organized according to the number of

conductors. All wires and cables are supplied on spools for user convenience. *Some styles may not be continuous length.*

References: Application Note TT-601, "Techniques for Bonding Leadwires to Surfaces Experiencing High Centrifugal Forces."
Application Note TT-604, "Leadwire Attachment Techniques for Obtaining Maximum Fatigue Life of Strain Gages."
Application Note TT-608, "Techniques for Attaching Leadwires to Unbonded Strain Gages."

General Information and Selection





		SINGLE-CONDUCTOR TYPES: SOLID WIRE		
		Type Note 1	Packaging Foot [Meter]*	Description
<p>AWP AWN</p> <p>AWQ GWF</p> <p>HWN JWN</p>	134-AWP 136-AWP	500ft [150m] 500ft [150m]	Solid copper wire, polyurethane enamel: General-purpose intragage hookup wire. Useful from -100° to +300°F [-75° to +150°C]. Enamel coating easily removed by applying heat from soldering iron.	
	127-AWN 130-AWN 134-AWN	500ft [150m] 500ft [150m] 500ft [150m]	Solid copper wire, nylon/polyurethane enamel: Identical in use and specifications to Type AWP above, but with superior abrasion resistance and slightly reduced insulation resistance at elevated temperatures. 134-AWN is available in four colors; specify: -R (red), -W (white), -B (black), -G (green).	
	127-AWQ 130-AWQ 134-AWQ	500ft [150m] 500ft [150m] 500ft [150m]	Solid copper wire, polyimide enamel: Intragage hookup wire. Temperature range -452° to +600°F [-269° to +315°C] short term. Enamel is extremely tough and abrasion resistant, with excellent electrical properties; generally removed by mechanical scraping or sanding.	
	126-GWF 126-GWF	100ft [30m] 1000ft [300m]	Solid nickel-clad copper wire, fiberglass braid insulation: Useful from -452° to +900°F [-269° to +480°C]. Recommended for use with WK-Series gages when silver solder is used for lead attachment.	
	137-HWN	200ft [60m]	Solid manganin wire, nylon/polyurethane enamel: Used for bridge balance and span set in transducer circuits. Nominal resistance: 14 ohms/ft [50 ohms/m]. Temperature range: +10° to +125°F [-10° to +50°C].	
	142-JWN	500ft [150m]	Solid Balco® wire, nylon/polyurethane enamel: Used for bridge temperature compensation of zero shift or span. Nominal resistance: 19 ohms/ft [65 ohms/m]. Temperature coefficient of resistance: +0.25%/°F [+0.45%/°C]. Temperature range: +10° to +300°F [-10° to +150°C].	
	SINGLE-CONDUCTOR TYPES: STRANDED WIRE			
	Type	Packaging Foot [Meter]*	Description	
	<p>DWV FWK FWT</p>	126-DWV	100ft [30m]	Stranded tinned-copper wire, vinyl insulation: General-purpose leadwire. Useful to +180°F [+80°C]. Vinyl insulation becomes brittle at low temperature; not normally used below -60°F [-50°C]. Specify red, white, black, or green.
		126-FWK	25ft [7.5m]	Stranded silver-plated copper wire, Kapton® polyimide insulation: High-performance. Recommended for unusually severe service from -452° to over +600°F [-269° to +315°C] short term. Excellent resistance to abrasion, radiation, and outgassing in high vacuum. Treated for bondability.
130-FWT		100ft [30m]	Stranded silver-plated copper wire, Teflon® insulation: Wide temperature range. Useful from -452° to +500°F [-269° to +260°C]. When bonding to Teflon-insulated wire, insulation must be treated with Tetra-Etch® compound (see "Special-Purpose Materials.") Specify red, white, black, or green.	

*Some types may not be continuous length.

Note 1: Products shown in bold are RoHS compliant.

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General Information and Selection

THREE-CONDUCTOR CABLE			
	Type Note 1	Packaging	Description
		Foot [Meter]*	
 <p>DJV DFV</p>	322-DJV	500ft [150m]	Stranded tinned-copper wire, 3-conductor twisted cable, chrome PVC vinyl jacket, vinyl insulation: Good choice for use with EGP-Series Embedment Strain Gages. Color-coded red/white/black.
	326-DFV 330-DFV 330-DFV	100ft [30m] 1000ft [300m] 100ft [30m] 1000ft [300m]	Stranded tinned-copper wire, 3-conductor flat cable, vinyl insulation: Convenient general-purpose cable. For use from -60° to +180°F [-50° to +80°C]. Flat construction requires minimum space. Color-coded red/white/black.
 <p>BSV DTV DSV</p>	326-BSV 326-BSV	100ft [30m] 1000ft [300m]	Stranded copper wire, 3-conductor twisted cable, PVC insulated, braided shield: For use from -60° to 180°F [-50° to +80°C].
	326-DTV 326-DTV 326-DSV 326-DSV	100ft [30m] 1000ft [300m] 100ft [30m] 1000ft [300m]	Stranded tinned-copper wire, 3-conductor twisted cable, vinyl insulation: Convenient general-purpose cable for low electrical noise pickup. For use from -60° to +180°F [-50° to +80°C]. Color-coded red/white/black. Stranded tinned-copper wire, 3-conductor twisted cable, vinyl insulation, braided shield, vinyl jacket: Special-purpose cable to minimize electrical noise interference. Useful from -60° to +180°F [-50° to +80°C]. Color-coded red/white/black.
 <p>FFE</p>	330-FFE 330-FFE	100ft [30m] 1000ft [300m]	Stranded silver-plated copper wire, 3-conductor flat cable, etched Teflon® insulation: For use from -452° to +500°F [-269° to +260°C]. Color-coded red/white/black. Insulation treated for bonding.
 <p>FJT FTE GJF</p>	330-FJT 330-FJT	100ft [30m] 1000ft [300m]	Stranded silver-plated copper wire, 3-conductor twisted cable, Teflon insulation, Teflon jacket: Small, flexible. For use from -452° to +500°F [-269° to +260°C]. Color-coded red/white/black. When bonding Teflon-insulated wire, insulation must be treated with Tetra-Etch® compound (see "Special-Purpose Materials.")
	336-FTE	50ft [15m]	Stranded silver-plated copper wire, 3-conductor twisted cable, etched Teflon insulation: Small, flexible cable. For use from -452° to +500°F [-269° to +260°C]. Color-coded red/white/black. Insulation treated for bonding.
	330-FTE 330-FTE	100ft [30m] 500ft [150m]	Stranded silver-plated copper wire, 3-conductor twisted cable, etched Teflon insulation: For use from -452° to +500°F [-269° to +260°C]. Color-coded red/white/black. Insulation treated for bonding.
	326-GJF 326-GJF	100ft [30m] 1000ft [300m]	Solid nickel-clad copper wire, 3-conductor twisted cable, fiberglass braid insulation and jacket: For use from -452° to +900°F [-269° to +480°C]. Recommended for use with WK-Series gages when silver solder is used for lead attachment. Color-coded red/white/black.






*Some types may not be continuous length.

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General Information and Selection

		FOUR-CONDUCTOR CABLE		
		Type Note 1	Packaging Foot [Meter]*	Description
 <p>DFV DSV</p>	426-DFV 426-DFV 430-DFV 430-DFV	100ft [30m] 1000ft [300m] 100ft [30m] 1000ft [300m]	Stranded tinned-copper wire, 4-conductor flat cable, vinyl insulation: For use from -60° to $+180^{\circ}\text{F}$ [-50° to $+80^{\circ}\text{C}$]. Conductors easily separated for stripping and wiring. Color-coded red/white/black/green.	
	422-DSV 422-DSV	100ft [30m] 1000ft [300m]		Stranded tinned-copper wire, 4-conductor polypropylene insulated: Twisted shielded pairs (red/black and white/green) with a drain wire, PVC jacket. For use from -60° to $+180^{\circ}\text{F}$ [-30° to $+60^{\circ}\text{C}$].
 <p>DTV FST</p>	426-BSV 426-BSV	100ft [30m] 1000ft [300m]	Stranded copper wire, 4-conductor twisted cable, PVC insulated braided shield: For use from -60° to $+180^{\circ}\text{F}$ [-50°C to $+80^{\circ}\text{C}$].	
	426-DTV 426-DTV	100ft [30m] 1000ft [300m]		Stranded tinned-copper wire, 4-conductor twisted cable, vinyl insulation: For use from -60° to $+180^{\circ}\text{F}$ [-50° to $+80^{\circ}\text{C}$]. Color-coded red/white/black/green.
 <p>BSV FTT</p>	430-FST 430-FST	100ft [30m] 1000ft [300m]	Stranded silver-plated copper wire, 4-conductor twisted cable, Teflon® insulation, braided shield, Teflon jacket: Small, flexible cable. For use from -452° to $+500^{\circ}\text{F}$ [-269° to $+260^{\circ}\text{C}$]. Color-coded red/white/black/green. When bonding Teflon-insulated wire, insulation must be treated with Tetra-Etch® compound (see Special-Purpose Materials, document number 11008).	
	436-FTT 436-FTT	100ft [30m] 500ft [150m]		Stranded silver-plated copper wire, 4-conductor twisted cable, Teflon® insulation: Small, flexible cable. For use from -452° to $+500^{\circ}\text{F}$ [-269° to $+260^{\circ}\text{C}$]. Color coded red, white, black, green. When bonding Teflon insulated wire, insulation must be treated with Teflon etchant, such as TEC-1 (see Special-Purpose Materials, document number 11008).
 <p>FFT</p>	426-FFT 426-FFT	100ft [30m] 500ft [150m]	Stranded silver-plated copper wire, 4-conductor flat cable, Teflon® insulation: For use from -452° to $+500^{\circ}\text{F}$ [-269° to $+260^{\circ}\text{C}$]. Color coded red, white, black, green. When bonding Teflon insulated wire, insulation must be treated with a Teflon etchant, such as TEC-1 (see Special-Purpose Materials, document number 11008).	
		FLAT RIBBON LEAD (UNINSULATED)		
		Type	Packaging Foot [Meter]*	Description
	1-GL-64-001	50ft [15m]	Uninsulated flat ni-clad copper ribbon: 1/64in wide x 0.001in thick [0.4 x 0.025mm]. For use from -452 to 900°F [-269 to $+480^{\circ}\text{C}$]. Can be easily soldered or spot welded.	
	1-KL-16-002	50ft [15m]	Uninsulated Nichrome V: 1/16in wide x 0.002in thick [1.6 x 0.05mm]. For use from -452 to $+2000^{\circ}\text{F}$ [-269 to $+1100^{\circ}\text{C}$].	
	1-KL-08-003	50ft [15m]	Uninsulated Nichrome V: 1/8in wide x 0.003in thick [3.2 x 0.08mm]. For use from -452 to $+2000^{\circ}\text{F}$ [-269 to $+1100^{\circ}\text{C}$].	
	1-KL-08-005	50ft [15m]	Uninsulated Nichrome V: 1/8in wide x 0.005in thick [3.2 x 0.127mm]. For use from -452 to $+2000^{\circ}\text{F}$ [-269 to $+1100^{\circ}\text{C}$].	

*Some types may not be continuous length.

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General Information and Selection

HST-1 HEAT-SHRINKABLE WIRE SPLICE SEALANT



Fast, easy-to-use method for protecting wire splice connections. Constructed of irradiated polyolefin plastic tubing with a heat-flowable inner liner sealant. Forms an immediate and tight seal to splice connection at a shrink temperature of +275°F [+135°C]. Inside diameter before heating is 0.125in [3.2mm]; after heating, 0.023in [0.6mm]. Large range of shrinkage allows use with leadwire insulation diameters from 0.03 to 0.11in [0.75 to 2.8mm]. The operating temperature range is -65° to +230°F [-55° to +110°C]. Package of eight 6-in [150-mm] lengths.

THERMAL WIRE STRIPPER



The ease and simplicity of operation of the Thermal Wire Stripper make it ideal for most strain gage leadwire stripping. The variable heat control allows stripping of all thermoplastic insulations, including Teflon®, in sizes No. 18 to No. 36 AWG [1 to 0.1mm diameter]. The foot switch and tweezer handpiece give excellent operator control over the stripping operation. Includes power unit and foot switch, both with 3-wire NEMA plugs, and tweezer handpiece.

WTS-1: 110Vac

WTS-2: 220Vac

WTS-A Replacement Elements

Set of two.

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