

29511 Composite - 1000V UL Flexible Motor Supply Cable



Description

1 pr.(Signal)-16 AWG stranded (26x30) TC cond., XLPE insul., Beldfoil® shield (100% c), drain; 3 cond.(VFD) plus 1 ground wire-14 AWG stranded (41x30) TC cond., XLPE insul., Duofoil® and TC braid Shield (100% a85% c), drain, PVC jacket.

Uses (Overall Cable):

Suitable Applications AC Motor Drive, VFD, Variable Frequency Drive

Twisted Pair:

Physical Characteristics:

Conductor:

AWG

# Pairs	AWG	Stranding	Conductor Material
1.000	16	26x30	TC - Tinned Copper

Insulation:

Insulation Material

Insulation Material	Wall Thickness (in.)
XLPE - Cross Linked Polyethylene	0.030

Twisted Pair Color Code Chart

Number	Color
1	Black and White

Inner Shield:

Inner Shield Material

Inner Shield Trade Name	Type	Inner Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100

Inner Shield Drain Wire AWG

AWG	Stranding	Conductor Material
18	19x30	TC - Tinnecc Copper

Electrical Characteristics:

Nom. Capacitance Conductor to Conductor

Capacitance (pF/ft)
34.000

Nom. Conductor DC Resistance

DCR @ 20°C (Ohm/1000 ft)
4.000

Nom. Inner Shield DC Resistance

DCR @ 20°C (Ohm/1000 ft)
4.990

Multi Conductor:

Physical Characteristics:

Conductor:

AWG

# Conductors	AWG	Stranding	Conductor Material
3	14	41x30	TC - Tinned Copper

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Ground Wire:

Ground Wire (Y/N) Yes

Ground Wire Material

AWG	Stranding	Conductor Material	Insulation Material
14	41x30	TC - Tinned Copper	PVC - Polyvinyl Chloride

Insulation:

Insulation Material

Insulation Material	Wall Thickness (in.)
XLPE - Cross Linked Polyethylene	0.045

Insulation Color Code Chart

Number	Color
1	Black #1
2	Black #2
3	Black #3
4	Green/Yellow

Individual Shield:

Outer Shield:

Outer Shield Material

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Duofoil®	Tape	Aluminum Foil-Polyester Tape-Aluminum Foil	100.000
2		Braid	TC - Tinned Copper	85.000

Outer Shield Drain Wire AWG

AWG	Stranding	Drain Wire Conductor Material
14	41x30	TC - Tinned Copper

Electrical Characteristics:

Nom. Inductance

Inductance (µH/ft)
0.213

Nom. Capacitance Conductor to Shield

Capacitance (pF/ft)
42.000

Nom. Capacitance Conductor to Conductor

Capacitance (pF/ft)
23.000

Nom. Conductor DC Resistance

DCR @ 20°C (Ohm/1000 ft)
2.520

Physical Characteristics (Overall Cable):

Conductor:

Outer Jacket:

Outer Jacket Material

Outer Jacket Material	Nom. Wall Thickness (in.)
PVC - Polyvinyl Chloride	0.075

Outer Jacket Ripcord Yes

Overall Cabling:

Overall Nominal Diameter: 0.82 in.

Mechanical Characteristics (Overall Cable):

Max. Recommended Pulling Tension: 368 lbs.

Min. Bend Radius (Install)/Minor Axis: 8.200 in.

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Applicable Specifications and Agency Compliance (Overall Cable):

Applicable Standards:

NEC/(UL) Specification	RHW-2 Singles,TC-ER,XHHW-2
NEC Articles	335 - ER
CSA Specification	1000 V AWM I/II A/B
EU CE Mark (Y/N)	Yes
EU Directive 2002/95/EC (RoHS) (Y/N)	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	09/21/2006
PMSHA Specification	P-07-KA070003
Other Specification	1000V UL Flexible Motor Supply Cable

Flame Test:

UL Flame Test	UL1685 UL Loading
CSA Flame Test	FT4
IEEE Flame Test	1202,IEEE 383 Vertical Tray Flame Test (70,000 BTU)

Suitability:

Suitability - Indoor	Yes
Suitability - Outdoor	Yes
Suitability - Burial	Yes
Sunlight Resistance	Yes

Plenum/Non-Plenum:

Plenum (Y/N)	No
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Electrical Characteristics (Overall Cable):

Max. Operating Voltage - UL

Voltage

1000 V RMS (Flexible Motor Supply Cable)

Max. Operating Voltage - Other

Voltage

1000 V RMS (CSA AWM I/II A/B)

PUT UPS AND COLORS:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
29511 010100	100 FT	67.500 LB	BLACK	C	COMPOSITE CABLE SH PVC BLK
29511 0101000	1,000 FT	340.000 LB	BLACK	C	COMPOSITE CABLE SH PVC BLK
29511 010500	500 FT	177.500 LB	BLACK	C	COMPOSITE CABLE SH PVC BLK
29511 0105000	5,000 FT	1,565.000 LB	BLACK	C	COMPOSITE CABLE SH PVC BLK

Notes:

C = CRATE REEL PUT-UP.

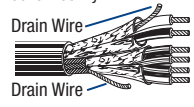


Variable Frequency Drive Cable – Classic Design with Signal Pair

16 to 10 AWG with Foil/Braid Shield Plus Signal Pair for Brake[^]

Description	Part No.	AWG	Cond. Stranding	Standard Lengths		Standard Unit Wt.		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs.	kg	Inch	mm	Lbs.	N	Inch	mm

Three Stranded TC Circuit Conductors + (1) Full-sized PVC Ground* • Overall Beldfoil + 85% TC Braid Shield • Full Sized TC Drain Wire* + (1) 16 AWG Shielded Signal Pair for Brake with drain wire. (ICEA Method 4 Color Code: Black and Numbered, Green/Yellow Ground) + Black, White Signal Pair

XLPE Insulated Circuit Conductors • Black Sunlight- and Oil-resistant PVC Jacket													
1000V UL Flexible Motor Supply Cable 600V UL 1277 Type TC-ER per 2005 NEC Article 336 1000V CSA AWM I/II A/B FT4 IEEE 1202/383 UL Direct Burial XHHW-2, RHW-2 rated circuit conductors** 90°C Wet/Dry  MSHA P-07-KA070003	29510	Circuit Cond	26x30	100	30.5	34.5	15.7	.75	19.05	272	1210	7.5	190.5
				500	152.4	136.0	61.7						
	Signal Pair	26x30	1000	304.8	309.0	140.2	5000 ^{††}	1524.0	1415.0	641.8			
			29511	Circuit Cond	41x30	100		30.5	67.5	30.6	.82	20.83	368
	500	152.4	177.5			80.6							
	Signal Pair	26x30	1000	304.8	340.0	154.2	5000 ^{††}	1524.0	1565.0	709.9			
			29512	Circuit Cond	65x30	100		30.5	77.3	35.1	.90	22.86	527
	500	152.4	226.5			102.8							
	Signal Pair	26x30	1000	304.8	438.0	198.7	4000 ^{††}	1219.5	1680.0	762.0			
			29513	Circuit Cond	105x30	100		30.5	89.3	40.5	.99	25.15	718
	500	152.4	286.5			130.1							
	Signal Pair	26x30	1000	304.8	490.0	222.3	3000 ^{††}	914.6	1452.0	658.6			

See footnotes on page 4.

Variable Frequency Drive Cable – Symmetrical Design

16 to 4/0 AWG with Dual Copper Tape Shield

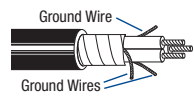
Belden's symmetrical ground design combines the benefits of our classic line of VFD cables with additional features for use on larger, more powerful AC motor drives. Its highly effective shielding provides a low resistance path to

ground, which improves common mode current containment. The spirally applied dual copper tapes provide improved flexibility and highly effective radiated and conducted noise protection. Three symmetrical bare ground wires provide a

balanced ground system. This reduces AC motor shaft voltage, which in turn, reduces the likelihood of premature motor bearing or motor insulation failure.

Description	Part No.	AWG	Cond. Stranding	Standard Lengths		Standard Unit Wt.		Nominal OD		Maximum Pull Tension		Minimum Bend Radius	
				Ft.	m	Lbs.	kg	Inch	mm	Lbs.	N	Inch	mm

Three Stranded TC Circuit Conductors + 3 Symmetrical BC Grounds • 2 Spiral Copper Tape Shields (100% Coverage) (ICEA Method 4 Color Code: Black and Numbered)

XLPE Insulation • Black Sunlight- and Oil-resistant PVC Jacket													
1000V UL Flexible Motor Supply Cable 600V UL 1277 Type TC-ER per 2005 NEC Article 336 600V CSA AWM I/II A/B FT4 IEEE 1202/383 UL Direct Burial XHHW-2 rated circuit conductors** 90°C Wet/Dry  MSHA P-07-KA070003	29520	16	7x24	100	30.4	17.0	7.7	0.40	10.11	107	476	4.0	101.6
				500	152.4	68.5	31.1						
	Signal Pair	7x22	1000	304.8	139.0	63.1	5000 ^{††}	1524.0	710.0	322.3			
			29521	Circuit Cond	7x22	100		30.4	19.2	8.7	0.42	10.74	162
	500	152.4	81.0			36.8							
	Signal Pair	7x20	1000	304.8	161.0	73.1	5000 ^{††}	1524.0	800.0	363.2			
			29522	Circuit Cond	7x20	100		30.4	24.2	11.0	0.48	12.19	258
	500	152.4	108.5			49.3							
	Signal Pair	7x18	1000	304.8	213.0	96.7	5000 ^{††}	1524.0	1080.0	490.3			
			29523	Circuit Cond	7x18	100		30.4	25.2	11.4	0.56	14.22	444
	500	152.4	111.5			50.6							
	Signal Pair	7x16	1000	304.8	216.0	98.1	5000 ^{††}	1524.0	1505.0	683.3			
29524			Circuit Cond	7x16	100	30.4		37.8	17.2	0.66	16.76	576	2562
500	152.4	194.0			88.1								
Signal Pair	7x14	1000	304.8	439.0	199.3	5000 ^{††}	1524.0	2045.0	928.4				
		29525	Circuit Cond	7x14	100		30.4	55.5	25.2	0.76	19.30	915	4070
500	152.4	339.5			154.1								
Signal Pair	7x14	1000	304.8	645.0	292.8	5000 ^{††}	1524.0	3000.0	1362.0				