Belden



Product: 29512

VFD 300% Gnd, 3C+G #12 Str TC, XLPE Ins+PVC Gnd, OS+TC Brd, 1 Pr #16 Str TC XLPE IS, Blk PVC Jkt, 600V TC-ER 90C Dry/Wet 1000V Flexible Motor Supply Cable

Request Sample

Product Description

Belden 300% Ground Flexible VFD, 3 Conductor 12AWG (65x30) Tinned Copper, XLPE Insulation M4 Color Code+PVC Insulated Ground, Overall Beldfoil®+Tinned Copper Braid(85%) Shield, 1 Pair 16AWG (26x30) Tinned Copper XLPE Beldfoil, Black PVC Outer Jacket, 600V TC-ER 90C Dry/Wet 1000V Flexible Motor Supply Cable 1000V CSA AWM I/II A/B 600V CIC TC SUN RES DIR BUR Oil Resistant -- Shielded Pair is Outside the Power Group Braid Shield for Isolation

Technical Specifications

Product Overview

Suitable Applications:	Variable Frequency Drives (VFD); AC Motor and Drive Systems; Class 1 Division 2 Hazardous Locations

Construction Details

Conductor

Element	No. of Elements	Size	Stranding	Material	Notes
Conductor(s)	3	12 AWG	65x30	TC - Tinned Copper	
Pair(s)	1	16 AWG	26x30	TC - Tinned Copper	Used as control or brake pair
Ground Wire	1	12 AWG	65x30	TC - Tinned Copper	

Insulation

Element	Material	Nom. Thickness	Nom. Insulation Diameter	Color Code
Conductor(s)	XLPE - Cross-Linked Polyethylene (Thermoset)	0.046 in (1.2 mm)	0.187 in (4.75 mm)	ICEA Chart M4
Pair(s)	XLPO - Crosslink Polyolefin	0.032 in (0.81 mm)	0.123 in (3.12 mm)	Black & White
Ground Wire	PVC - Polyvinyl Chloride	0.047 in (1.2 mm)	0.187 in (4.75 mm)	Green/Yellow Stripe

Inner Shield

Element	Shield Type	Material	Coverage	Drainwire Type	Notes
Pair(s)	Tape	Bi-Laminate (Alum+Poly)	100%	18 AWG (19x30) TC	Foil-In, Shorting fold

Outer Shield

Shield Type	Material	Coverage	Drainwire Type
Tape	Tri-Laminate (Alum+Poly+Alum)	100%	12 AWG (65x30) TC
Braid	Tinned Copper (TC)	85%	

Outer Shield Table Notes:	Foil+braid shield on power conductors & Ground only; extra pair has own foil shield.

Outer Jacket

Material	Nom. Thickness	Nom. Diameter	Ripcord
PVC - Polyvinyl Chloride	0.080 in (2.0 mm)	0.895 in (22.7 mm)	Yes

Overall Cable Diameter (Nominal):	0.895 in (22.7 mm)

Electrical Characteristics

Electricals

Element	Nom. Conductor DCR	Nom. Inner Shield DCR	Nom. Capacitance Cond-to-Cond	Nom. Capacitance Cond-to-Shield	Nom. Capacitance Cond-to-Other (Conds + Shield)	Nom. Characteristic Impedence	Nom. Inductance	Nom. Velocity of Prop.	Max. Current
Conductor(s)	1.569 Ohm/1000ft (5.148 Ohm/km)		46 pF/ft (150 pF/m)	47 pF/ft (150 pF/m)	83 pF/ft (270 pF/m)	37 Ohm	0.197 µH/ft (0.646 µH/m)	55%	30 Amps per Conductor at 30°C

Pair(s)	4.0 Ohm/1000ft (13 Ohm/km)	4.99 Ohm/1000ft (16.4 Ohm/km)	34 pF/ft (110 pF/m)						18 Amps per Conductor at 30ºC (per NEC)
Ground	1.6 Ohm/1000ft (5.2 Ohm/km)		26 pF/ft (85 pF/m)	47 pF/ft (150 pF/m)			0.197 µH/ft (0.646 µH/m)		

Nom Outer Shield DCR:	0.9 Ohm/1000ft (3.0 Ohm/km)

Voltage

UL Voltage Rating	Voltage Rating
1000 V (UL Flexible Motor Supply Cable), 600 V (TC, C(UL) TC)	1000 V (AWM I/II A/B)

Mechanical Characteristics

Temperature

UL Temperature	Operating
90°C Dry, 90°C Wet	-40°C To +90°C

Bend Radius

Stationary Min.	Installation Min.
10.7 in (272 mm)	10.7 in (272 mm)

Max. Pull Tension:	597 lbs (271 kg)
Bulk Cable Weight:	373 lbs/1000ft (555 kg/km)

Standards and Compliance

Environmental Suitability:	Indoor, Outdoor, Sunlight Resistance, Burial
Sustainability:	CA Prop 65
Flammability / Reaction to Fire:	UL 1685 UL Loading, FT4, IEEE 1202 FT4
NEC / UL Compliance:	Article 336, Article 310, TC-ER, RHW-2, UL Flexible Motor Supply Cable
AWM Compliance:	AWM I/II A/B
CEC / C(UL) Compliance:	CIC, TC
ICEA Compliance:	S-95-658
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2), EU Directive 2012/19/EU (WEEE)
APAC Compliance:	China RoHS II (GB/T 26572-2011)
Other Standard Compliance(s):	P-07-KA070003-MSHA

History

Update and Revision:	Revision Number: 0.724 Revision Date: 04-01-2026

Part Numbers

Variants

Item #	Color	Putup Type	Length	UPC	Footnote
29512 010100	Black	Reel	100 ft	612825137542	C
29512 010500	Black	Reel	500 ft	612825137573	C
29512 0101000	Black	Reel	1,000 ft	612825137559	C
29512 0104000	Black	Reel	4,000 ft	612825137566	C

Footnote:	C - CRATE REEL PUT-UP.

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