

VFD Power Cable

For low voltage variable frequency drives / 16 AWG to 500 KCMIL XLPE insulation / PVC jacket / 600V



Applications

These are three conductor, 600 volt, Variable Frequency Drive cables with cross-linked thermosetting polyethylene (XLPE) insulation, three bare grounding conductors (one in each interstice), a corrugated copper shield and an overall polyvinyl chloride (PVC) jacket. These cables are UL type TC rated.

The VFD Power Cables are designed for use with low voltage (600 volt) AC motors controlled for speed by modern PWM (pulse width modulated) inverters. These PWM inverters require properly designed power cables to prevent RF (radio frequency) electrical signals from causing stray electrical noise or malfunction of the motor.

Specifications and Ratings

- UL Standard 44
- UL Standard 1277
- IEEE 1202 (70,000 BTU/HR) Flame Test
- ICEA T-29-520 (210,000 BTU/HR) Flame Test
- CSA RW90 (-25°C) 600V or 1000V, TC available upon request



Special Installation Practices

It is highly recommended that proper cable fittings be used to terminate the cables at junction boxes, control centers, panel boards and enclosures. The recommended fittings are available from Crouse-Hinds with the TERMINATOR trademark.



Design Parameters

CONDUCTORS: Class B, soft drawn, bare copper per ASTM B3 and ASTM B8.

INSULATION: Heat and moisture resistant, cross-linked thermo-setting polyethylene (XLPE) meeting the requirements of UL 44. The insulation is suitable for use in wet or dry locations at a conductor temperature not exceeding 90°C for normal operation. The insulation thickness is in accordance with Table 15.3 of UL 44. Single conductors pass VW-1 flame test.

GROUNDING CONDUCTORS: Class B stranded, soft drawn, bare copper per ASTM B3 and ASTM B8. The grounding conductor is sectioned into three equal sections.

CIRCUIT IDENTIFICATION: Appendix E, Method 4 of ICEA S-73-532 (NEMA WC 57). Black conductors with number print: 1-ONE, 2-TWO & 3-THREE.

ASSEMBLY: The insulated circuit conductors and three bare grounding conductors are cabled together with non-hygroscopic fillers as needed. The cabled core is wrapped with a binder tape. A corrugated copper shield is applied to the taped core. A PVC jacket is applied to the shielded core.

SHIELD: Copper tape corrugated and longitudinally applied with a minimum overlap of 15%.

OVERALL JACKET: Heat and moisture resistant, black polyvinyl chloride (PVC) meeting the requirements of UL 1581. The thickness is in accordance with Table 11.3 of UL 1277.

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Part Number	Number of Conductors/Size	Uses Crouse-Hinds Terminator™ Part Number	Number of Ground/Size	Nominal Insulation Thickness in (mm)	Diameter Overall Shield in (mm)	Nominal Cable O.D. in (mm)	Approximate Cable Weight Lbs/Mft (Kg/Km)
382626	3 / 16 AWG	**	3 / 18 AWG	.030 (0.7)	0.32 (8.13)	0.43 (10.9)	92 (136)
382615	3 / 14 AWG	**	3 / 18 AWG	.030 (0.7)	0.35 (8.89)	0.46 (11.7)	156 (232)
382627	3 / 12 AWG	**	3 / 18 AWG	.030 (0.7)	0.39 (9.91)	0.51 (13.0)	193 (287)
382628	3 / 10 AWG	TMC 165	3 / 16 AWG	.030 (0.7)	0.45 (11.4)	0.59 (15.0)	273 (406)
382616	3 / 8 AWG	TMC 165	3 / 14 AWG	.045 (1.1)	0.58 (14.7)	0.73 (18.5)	408 (607)
382617	3 / 6 AWG	TMC 285	3 / 12 AWG	.045 (1.1)	0.66 (16.8)	0.78 (19.8)	558 (830)
382625	3 / 4 AWG	TMC 285	3 / 10 AWG	.045 (1.1)	0.76 (19.3)	0.93 (23.6)	818 (1217)
382618	3 / 2 AWG	TMC 3112	3 / 8 AWG	.045 (1.1)	0.89 (22.6)	1.11 (28.2)	1180 (1756)
382629	3 / 1 AWG	TMC 3112	3 / 8 AWG	.055 (1.4)	1.05 (26.7)	1.28 (32.5)	1396 (2077)
382619	3 / 1/0 AWG	TMC 4140	3 / 6 AWG	.055 (1.4)	1.10 (27.9)	1.32 (33.5)	1720 (2559)
382614	3 / 2/0 AWG	TMC 4140	3 / 6 AWG	.055 (1.4)	1.19 (30.2)	1.43 (36.3)	2085 (3102)
382614	3 / 2/0 AWG	TMC 4140	3 / 6 AWG	.055 (1.4)	1.19 (30.2)	1.43 (36.3)	2085 (3102)
382630	3 / 3/0 AWG	TMC 4140	3 / 4 AWG	.055 (1.4)	1.32 (33.5)	1.55 (39.4)	2599 (3847)
382620	3 / 4/0 AWG	TMC 5161	3 / 4 AWG	.055 (1.4)	1.43 (36.3)	1.66 (42.2)	3030 (4509)
382621	3 / 250 KCMIL	TMC 5161	3 / 4 AWG	.065 (1.7)	1.57 (39.9)	1.88 (47.8)	3735 (5557)
382612	3 / 350 KCMIL	TMC 6206	3 / 2 AWG	.065 (1.7)	1.79 (45.5)	2.00 (50.8)	5060 (7529)
382631	3 / 500 KCMIL	TMC 7247	3 / 1/0 AWG	.065 (1.7)	2.12 (53.8)	2.90 (73.7)	7100 (10565)

*Insulation thicknesses shown are 600 volt. 2000 volt insulation thicknesses can also be supplied as an alternative.

Optional features available are: 1) Ethylene propylene rubber (EPR) insulation, 2) CPE, LSZH or TPE jacket.

**Part numbers to be determined.

Information is subject to change without notice. Consult factory for a variety of alternate constructions for specific applications.