



VFD (Variable Frequency Drive) Cables

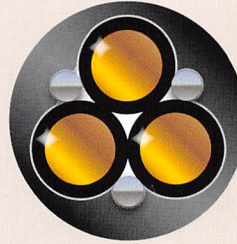
3 conductor plus 3 bare grounds
4 conductor (3 conductor with ground) plus 1 or 4 bare grounds
MCM Power VFD cable

VFD cables feature a black polyvinyl chloride PVC jacket that is sunlight, moisture, oil and abrasion resistant and direct burial rated, for use from -40C to 90C. The insulation on the inner conductors is cross-linked polyethylene XLP insulation.

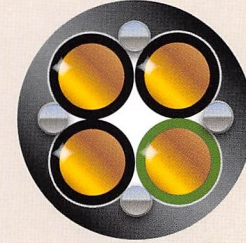
Three or Four Conductor Configurations

Three-conductor cables have three insulated conductors and three bare grounds or drains. They offer advantages in improved ground path that helps reduce both common mode and differential noise. This minimizes the potential of noise induced motor damage.

Four-conductor cables feature one insulated ground and one to four additional bare grounds or drain wires. The insulation isolates the ground wire from the shield so that transient currents will be blocked by the overall shield and nearby communication cables and other equipment won't be disrupted.



Three-conductor Cable



Four-conductor Cable with 1 to 4 bare grounds

MCM Variable Frequency Drive Cable 600V UL Type TC-ER

Application: MCM Variable Frequency Drive Cables are primarily used with VFD's. The three conductor construction is suitable for applications that are generally dry with one-phase fault conditions, where an insulated ground is not required.

Conductors: MCM Variable Frequency Drive Cable has stranded soft drawn bare copper conductors.

Ground(s): MCM Variable Frequency Drive Cable has stranded soft drawn bare copper grounds.

Insulation: MCM Variable Frequency Drive Cable has cross-linked polyethylene XLP insulation.

Shielding: MCM Variable Frequency Drive Cables have two .005" helical bare copper tape shield, with 50% overlaps.

Jacket: MCM Variable Frequency Drive Cable has a black polyvinyl chloride PVC jacket that is sunlight, moisture, oil and abrasion resistant and direct burial rated, for use from -40C to 90C.

Standards: UL 1277, Type TC-ER, Type XHHW-2
Meets UL 1202/1581 70,000 BTU flame test
Meets ICEA T-29-520 210,000 BTU flame test
Suitable for use in Class I Division II hazardous locations
RoHS II & REACH compliant

Part Number	Conductor Size (AWG)	Conductor Stranding	Ground Wire(s) Size (AWG)	Insulation Thickness (inches)	Jacket Thickness (inches)	Nominal O.D. (inches)	Ampacity @30C**
250-03VFD-3G	250	37	3#8	0.065	0.080	1.680	290
350-03VFD-3G	350	37	3#6	0.065	0.110	1.961	350
500-03VFD-3G	500	37	3#6	0.065	0.110	2.236	430

** Ampacity values based on NEC 2011, Table 310.15(B)(16), with values corrected to Table 310.15(B)(3)(a) for the number of conductors

All values are nominal and subject to correction

Three Conductor Variable Frequency Drive Cable

600V UL Type TC-ER / 1000V UL Type Motor Supply

- Application:** Three Conductor Variable Frequency Drive Cables are primarily used with VFD's. The three conductor construction is suitable for applications that are generally dry with one-phase fault conditions, where an insulated ground is not required.
- Conductors:** Three Conductor Variable Frequency Drive Cable has stranded soft drawn copper conductors. 14ga through 4ga are tinned copper. 2ga and larger are bare copper.
- Ground(s):** Three Conductor Variable Frequency Drive Cable has stranded soft drawn copper grounds. Conductor sizes 14ga through 4ga are tinned copper. 2ga and larger are bare copper.
- Insulation:** Three Conductor Variable Frequency Drive Cable has cross-linked polyethylene XLP insulation.
- Shielding:** Three Conductor Variable Frequency Drive Cables from 16 to 4 gauge they have aluminum polyester & 85% tinned copper braid shield. For cables 2 gauge & larger they have a .005" helical bare copper tape shield, with a 50% overlap.
- Jacket:** Three Conductor Variable Frequency Drive Cable has a black polyvinyl chloride PVC jacket that is sunlight, moisture, oil and abrasion resistant and direct burial rated, for use from -40C to 90C.
- Standards:** UL 1277, Type TC-ER, Type XHHW-2
 UL approved as 1000V flexible motor supply cable
 UL listed as VFD per UL 2277 for Flexible VFD Servo Motor Cables
 CSA FT-4 Vertical tray flame test
 CSA AWM I/II A/B singles
 Type C(UL) CIC-TC per CSA standard C22.2 No. 239-09 & 230-09
 Meets UL 1202/1581 70,000 BTU flame test
 Meets ICEA T-29-520 210,000 BTU flame test
 Suitable for use in Class I Division II hazardous locations
 RoHS II & REACH compliant

Part Number	Conductor Size (AWG)	Conductor Stranding	Ground Wire(s) Size (AWG)	Insulation Thickness (inches)	Jacket Thickness (inches)	Nominal O.D. (inches)	Ampacity @30C**
14-03VFD-3G	14	41	3#18	0.03	0.045	0.413	25
12-03VFD-3G	12	65	3#16	0.03	0.045	0.464	30
10-03VFD-3G	10	105	3#14	0.03	0.06	0.553	40
8-03VFD-3G	8	133	3#14	0.045	0.06	0.719	55
6-03VFD-3G	6	133	3#12	0.045	0.08	0.854	75
4-03VFD-3G	4	133	3#12	0.045	0.08	0.945	95
2-03VFD-3G	2	133	3#6	0.045	0.08	1.112	130
1-03VFD-3G	1	133	3#6	0.055	0.08	1.176	145
1/0-03VFD-3G	1/0	133	3#4	0.055	0.08	1.334	170
2/0-03VFD-3G	2/0	133	3#4	0.055	0.08	1.444	195
3/0-03VFD-3G	3/0	133	3#4	0.055	0.08	1.467	225
4/0-03VFD-3G	4/0	133	3#2	0.055	0.11	1.732	260

**Ampacity values based on NEC 2014, Table 310.15(B)(16), NEC 2014 Annexures B, C & D, Article 240, with values corrected to Table

310.15(B)(3)(a) for the number of conductors. All values are nominal and subject to correction

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Four Conductor Variable Frequency Drive Cable

600V UL Type TC-ER / 1000V UL Type Motor Supply

- Application:** Four Conductor Variable Frequency Drive Cables are primarily used with VFD's. The four conductor construction is more effective than the three conductor version to reduce the effects of EMI interference in the event of a component failure. The ground is isolated from shielding which blocks transient current and thus nearby equipment and cable will not be affected.
- Conductors:** Four Conductor Variable Frequency Drive Cable has stranded soft drawn tinned copper conductors.
- Drain(s):** Four Conductor Variable Frequency Drive Cable has a stranded soft drawn tinned copper ground(s).
- Insulation:** Four Conductor Variable Frequency Drive Cable has cross-linked polyethylene XLP insulation.
- Shielding:** Four Conductor Variable Frequency Drive Cable has aluminum polyester & 85% tinned braid shields.
- Jacket:** Four Conductor Variable Frequency Drive Cable has a polyvinyl chloride PVC jacket that is sunlight, moisture, oil and abrasion resistant and direct burial rated. The cable is 600V rated and for use from -40C to 90C.
- Standards:** UL 1277, Type TC-ER, Type XHHW-2
 UL approved as 1000V flexible motor supply cable
 UL list as Type VFD per UL 2277 for Flexible VFD Servo Motor Cables
 CSA FT-4 Vertical tray flame test
 CSA AWM I/II A/B singles
 C(UL) CIC-TC per CSA standard C22.2 No. 239-09 & 230-09
 Meets UL 1202/1581 70,000 BTU flame test
 Meets ICEA T-29-520 210,000 BTU flame test
 Suitable for use in Class I Division II hazardous locations
 RoHS II & REACH compliant

Part Number	Conductor Size (AWG)	Conductor Stranding	Drain Wire(s) Size (AWG)	Insulation Thickness (inches)	Jacket Thickness (inches)	Nominal O.D. (inches)	Ampacity @30C**
16-04VFD	16	26	16	0.030	0.045	0.401	18
14-04VFD	14	41	14	0.030	0.045	0.432	25
12-04VFD	12	65	12	0.030	0.045	0.601	30
10-04VFD	10	105	10	0.030	0.060	0.574	40
8-04VFD	8	133	4#14	0.045	0.060	0.774	55
6-04VFD	6	133	4#12	0.045	0.080	0.922	75
4-04VFD	4	133	4#10	0.045	0.080	1.040	95
2-04VFD	2	133	4#10	0.045	0.080	1.236	130

**Ampacity values based on NEC 2014, Table 310.15(B)(16), NEC 2014 Annexures B, C & D, Article 240, with values corrected to Table

310.15(B)(3)(a) for the number of conductors. All values are nominal and subject to correction

