

CIR® Type VFD Power Cable Gexol® Insulated

Three Conductor • 2kV • Rated 90°C

Power Conductors (x3)

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

Insulation (2kV)

Gexol® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245. Color: Gray with printed phase I.D. (Black-White-Red)

Jacket

A black, flame retardant, oil, abrasion, chemical and sunlight resistant thermoplastic compound meeting UL 1309/CSA 245 and IEEE 1580.

Ground Conductors (x3)

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11. Gexol® insulation sized per UL 1277. Color: Green

Shield

Overall tinned copper braid plus aluminum/polyester tape providing 100% coverage.

Safe to Handle

CIR® has no sharp metal armor edges that imperil worker's hands during splicing and installation of connectors



Application

A flexible, braid and foil shielded, 2kV power cable specifically engineered for use in variable frequency AC motor drive (VFD) applications.

Features

- Specially engineered cable design produces a longer cable life in VFD applications.
- Overall braid and foil shield provides 100% coverage containing VFD EMI emissions.
- Symmetrical insulated ground conductors reduce induced voltage imbalances and carry common mode noise back to the drive.
- High strand count conductors and braid shield design is much more flexible, easier to install and more resistant to vibration than Type MC cable.
- Gexol's lower dielectric constant (standard XLPEs, EPRs and other Type P insulation materials have higher dielectric constants) reduces reflected wave peak voltage magnitudes. This allows for longer output cable distances and minimizes the effect of high frequency noise induced into the plant ground system.
- 2kV insulation thickness resists the repetitive 2x voltage spikes from 600V VFDs and reduces drive over current trip problems due to cable charging current.
- Passes the same stringent crush and impact testing required by UL 2225 for Type MC-HL
- Gas & vapor tight – impervious to water and air
- Smaller bend radius (up to 40% smaller) than Type MC
- Reduced tray fill (up to 35% less) compared to Type MC
- Considerably more flexible than Type MC
- Reduced installation time and cost compared to Type MC
- Glands for this product cost up to 50% LESS than those for Type MC

CIR® Ratings & Approvals

- 90°C temperature rating
- UL Listed as Marine Shipboard Cable (E111461)
- UL Listed as Type TC-ER (E123629)
- American Bureau of Shipping (ABS) (99-BT5905-X)
- Flame Retardant – IEEE 1202
- Suitable for use in Class I, Div 2 and Zone 2 environments

NOTE: Armored cables are required in Class I, Division 1 and Zone 1 environments.

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Size AWG/ kcmil	Part No. 37-102	Nominal Diameter Inches*	Weight Per 1000 Ft.	Green Insulated Grounding Conductor (x3) Size (AWG)	90°C NEC Ampacity	75°C NEC Ampacity
14	-508CIRVFD	0.745	194	18	15	15
12	-516CIRVFD	0.786	224	18	20	20
10	-308CIRVFD	0.877	308	14	30	30
8	-309CIRVFD	0.926	441	14	55	50
6	-310CIRVFD	1.093	570	12	75	65
4	-312CIRVFD	1.072	886	12	95	85
2	-314CIRVFD	1.215	1421	10	130	115
1/0	-316CIRVFD	1.443	1803	10	170	150
2/0	-317CIRVFD	1.572	2153	10	195	175
4/0	-319CIRVFD	2.053	3463	8	260	230
262	-320CIRVFD	2.193	4175	6	297	262
373	-322CIRVFD	2.501	5415	6	364	322
535	-324CIRVFD	2.972	7483	6	446	394
777	-327CIRVFD	3.388	10395	4	546	483

*See page 7 for
Stranding Profile*

*Cable diameters are subject to a +/- 5% manufacturing tolerance

Ampacities are based on Table 310.16 of the National Electrical Code (NEC) for conductors rate 90°C, in a multi-conductor cable, at an ambient temperature of 30°C. The 75°C column is provided for additional information. The ampacities shown apply to open runs of cable, installation in any approved raceway. Derating for more than three current carrying conductors within the cable is in accordance with NEC Table 310.15 (B) (2) (a). The ampacities shown also apply to cables installed in cable tray in accordance with NEC Section 392.11.



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