

# Standard Type VFD Power Cable

## Gexol® Insulated

Three Conductor • 2kV • Rated 110°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)

*Gexol is flexible and has a low capacitance for superior performance in VFD applications!*

### Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Aluminum or tinned copper available by request.



### 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.

### Jacket

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

### Sheath (Optional)

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

## 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.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C.
- Severe cold durability: exceeds CSA cold bend/cold impact (-40°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze, aluminum or tinned copper.

## Ratings & Approvals

- 110°C Temperature Rating
- American Bureau of Shipping (ABS): 99-BT5905-X
- Transport Canada: 8700-20-2
- Det Norske Veritas (DNV): E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS): 91/60333 (E6)
- NVE: 95/1696, FAL
- UL Listed as Marine Shipboard Cable: (E111461)
- UL Listed as Type TC (E123629) available by request
- United States Coast Guard: November 2, 1987 / 9304

*Other certifications pending*

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Unarmored				Armored			Armored & Sheathed (BS)			Green Insulated Grounding Conductor (x3) Size (AWG)	Ampacity				
Size AWG/ kcmil	Part No. 37-102	Nominal Diameter Inches*	Weight Per 1000 Ft.	Part No. 37-102	Nominal Diameter Inches*	Weight Per 1000 Ft.	Part No. 37-102	Nominal Diameter Inches*	Weight Per 1000 Ft.		110°C	100°C	95°C	90°C	75°C
14	-508VFD	0.540	194	-508BVFD	0.590	281	-508BSVFD	0.725	356	18	27	25	22	-	18
12	-516VFD	0.590	224	-516BVFD	0.646	321	-516BSVFD	0.772	401	18	33	31	27	-	24
10	-308VFD	0.633	308	-308BVFD	0.694	412	-308BSVFD	0.820	497	14	44	41	36	-	33
8	-309VFD	0.764	441	-309BVFD	0.820	565	-309BSVFD	0.988	702	14	56	52	48	-	43
6	-310VFD	0.865	570	-310BVFD	0.925	708	-310BSVFD	1.090	865	12	75	70	64	93	58
4	-312VFD	1.072	886	-312BVFD	1.125	1061	-312BSVFD	1.295	1243	12	99	92	85	122	79
2	-314VFD	1.215	1421	-314BVFD	1.271	1618	-314BSVFD	1.440	1822	10	131	122	113	159	105
1	-315VFD	1.340	1517	-315BVFD	1.395	1743	-315BSVFD	1.560	1966	10	153	143	131	184	121
1/0	-316VFD	1.443	1803	-316BVFD	1.493	2027	-316BSVFD	1.666	2327	10	176	164	152	211	145
2/0	-317VFD	1.572	2153	-317BVFD	1.622	2399	-317BSVFD	1.854	2840	10	201	188	175	243	166
4/0	-319VFD	2.053	3463	-319BVFD	2.103	3785	-319BSVFD	2.335	4347	8	270	252	235	321	223
262	-320VFD	2.193	4175	-320BVFD	2.243	4522	-320BSVFD	2.475	5120	6	315	294	267	365	254
313	-321VFD	2.370	4727	-321BVFD	2.420	5104	-321BSVFD	2.652	5747	6	344	321	299	408	287
373	-322VFD	2.501	5415	-322BVFD	2.551	5809	-322BSVFD	2.845	6674	6	387	361	334	451	315
444	-323VFD	2.670	6707	-323BVFD	2.721	7141	-323BSVFD	3.014	8059	6	440	411	372	499	350
535	-324VFD	2.972	7483	-324BVFD	3.022	2966	-324BSVFD	3.316	8981	6	498	443	418	-	390
646	-326VFD	3.164	8916	-326BVFD	3.214	9428	-326BSVFD	3.508	10504	4	553	516	470	-	431
777	-327VFD	3.388	10395	-327BVFD	3.438	10940	-327BSVFD	3.732	12088	4	602	562	529	-	473

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

## Standard VFD Cable Ampacity Ratings

### 110°C Ratings

Based on IEEE Std. 45 with a 45°C ambient and arranged in a single bank per hanger. For those instances where cable must be double banked, the 110°C ampacities should be multiplied by 0.8.

### 100°C Ratings

Based on IEEE Std. 45 with a 45°C ambient and arranged in a single bank per hanger. For those instances where cable must be double banked, the 100°C ampacities should be multiplied by 0.8.

### 95°C Ratings

Based on 4-3-4/Table 10 of the 2001 ABS MODU rules and a 45°C ambient.

### 90°C Ratings

Based on ICEA S-75-381 Table H-1 for a single isolated cable in air with a 40°C ambient. This ampacity is typically used for mining and other portable applications.

### 75°C Ratings

Based on Table B.310.1 of the 2005 NEC for cables in raceway and a 30°C ambient.

### Termination Kits

AmerCable Systems offers pre-sized and pre-formed termination kit packages specifically for VFD cable constructions



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