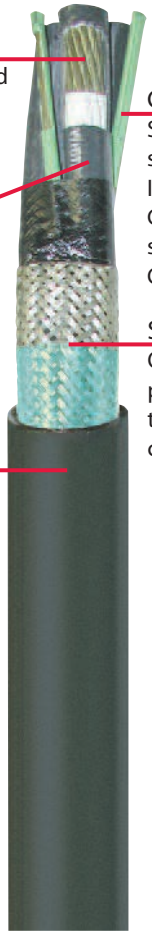
Standard VFD Power Cable
Gexol® Insulated

Three Conductor • 2kV • Rated 110°C

ELETTROTEKKABEL®
OFFICIAL DISTRIBUTOR | STOCK IN ITALY
MADE IN USA



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

Armor (Optional)
Tinned copper basket weave wire armor per IEEE 1580 and UL 1309/CSA 245.

Ground Conductors (x3)
Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11. Gexol® insulated and sized per UL 1277. Color: Green

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

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

Note: For armored versions the braid is placed between the inner jacket and outer sheath where it serves as both the EMI shield and armor.

Ratings & Approvals

- 110˚C Temperature Rating
- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE: 95/1696, FAL
- UL Listed as Marine Shipboard Cable: (E111461)
- Unarmored Cable is UL Listed as Type TC (E123629)
- United States Coast Guard: November 2, 1987 / 9304

Other certifications pending

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 plus foil shield is engineered with 100% coverage and a surface transfer impedance <50 milliohms at 10MHz to contain EMI.
- 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 is used to resist the potential 2-3x reflected voltages experienced in 600V VFD applications.
- 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.

Gexol® Flexible VFD Power Cable

		Unarmored			Armored & Sheathed (TS)								Ampacity			
Size AWG/ kcmil	mm²	Part No. 37-102	Nominal Diameter Inches*	Weight Lbs./ 1000 Ft.	Part No. 37-102	Nominal Diameter Inches*	Weight Lbs./ 1000 Ft.	DC Resist. at 25°C Ohms/ 1000 Ft.	AC Resist. at 90°C, 60 Hz Ohms/ 1000 Ft.	Inductive Reactance Ohms/ 1000 Ft.	Voltage Drop at 90°C Volts/Amp/ 1000 Ft.	Grounding Conductor** Size (AWG)	110°C	100°C	90°C	75°C
14	2.1	-508VFD	0.630	194	-508TSVFD	0.772	356	2.907	3.859	0.040	5.383	18	27	25	24	20
12	3.3	-516VFD	0.675	224	-516TSVFD	0.795	401	1.826	2.424	0.038	3.394	18	33	31	29	24
10	5.2	-308VFD	0.750	308	-308TSVFD	0.918	518	1.153	1.530	0.036	2.155	14	44	41	38	32
8	7.6	-309VFD	0.815	463	-309TSVFD	1.000	734	0.708	0.940	0.037	1.339	12	56	52	48	41
6	12.5	-310VFD	0.910	570	-310TSVFD	1.110	865	0.445	0.590	0.033	0.852	12	75	70	65	54
4	21	-312VFD	1.100	925	-312TSVFD	1.262	1138	0.300	0.399	0.031	0.584	10	99	92	83	70
2	34	-314VFD	1.235	1421	-314TSVFD	1.392	1512	0.184	0.244	0.029	0.368	10	131	122	111	93
1	43	-315VFD	1.340	1517	-315TSVFD	1.509	1851	0.147	0.195	0.029	0.301	10	153	143	131	110
1/0	54	-316VFD	1.450	1803	-316TSVFD	1.615	2136	0.117	0.156	0.029	0.246	10	176	164	150	126
2/0	70	-317VFD	1.580	2120	-317TSVFD	1.792	2660	0.093	0.125	0.028	0.202	8	201	188	173	145
3/0	86	-318VFD	1.750	2827	-318TSVFD	1.959	3269	0.074	0.100	0.028	0.167	8	234	218	200	168
4/0	109	-319VFD	1.900	3416	-319TSVFD	2.101	3864	0.058	0.080	0.027	0.139	6	270	252	232	194
262	132	-320VFD	2.130	4210	-320TSVFD	2.258	4661	0.048	0.067	0.027	0.120	6	315	294	273	228
313	159	-321VFD	2.275	5105	-321TSVFD	2.353	5325	0.040	0.056	0.026	0.105	6	344	321	298	249
373	189	-322VFD	2.130	5521	-322TSVFD	2.483	6674	0.034	0.047	0.025	0.092	6	387	361	332	277
444	227	-323VFD	2.425	6440	-323TSVFD	2.634	6994	0.028	0.041	0.025	0.083	4	440	411	382	319
535	273	-324VFD	2.643	7547	-324TSVFD	2.931	8477	0.024	0.035	0.026	0.075	4	498	443	407	340
646	326	-326VFD	2.920	8916	-326TSVFD	3.178	9888	0.020	0.030	0.026	0.068	4	553	516	474	396
777	394	-327VFD	3.102	10909	-327TSVFD	3.510	11803	0.016	0.026	0.025	0.062	4	602	562	516	431

*Cable diameters are subject to a +/- 5% manufacturing tolerance
**3 Grounding Conductors – Green Insulated

See page 29 for Stranding Profile

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

Standard VFD Cable Ampacity 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 ampacities should be multiplied by 0.8.