Screened power & VFD / motor supply cables

TC-ER 600/1000V Tri-Ground VFD

TC-ER 600/1000 V Tri-Ground Symmetrical VFD Cable

3C + 3 symmetrical bare-copper ground TC-ER VFD motor cable

UL 1277 Type TC-ER | U0/U 600/1000 V · 4 kV AC | EMC Screened

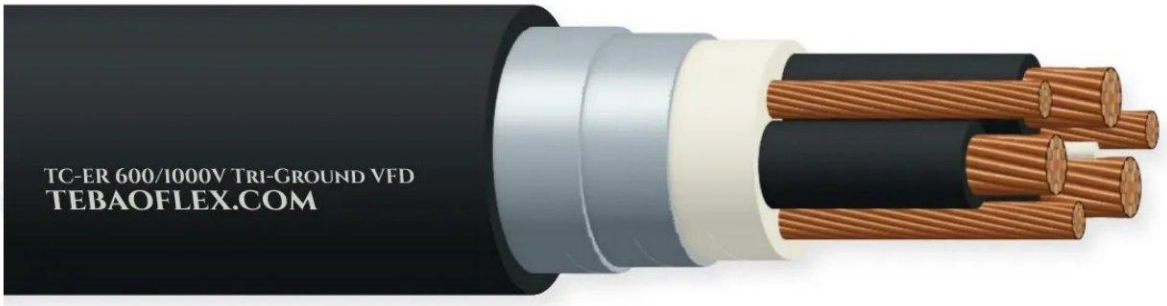


Application

TC-ER 600/1000 V Tri-Ground VFD uses stranded bare copper phases with three symmetrical interstitial bare grounds and dual EMC screening to balance ground impedance and protect AC motor bearings.

Typical uses: Variable frequency drive (VFD) motor bays, Industrial pumps, fans & compressor skids, Process plants, oil & gas & HVAC systems, Heavy manufacturing & plant MCC feeders

Construction





Cross-section, not to scale

1	Conductor	ASTM B8 Class B stranded bare annealed copper · ASTM B8 Class B / UL 44
2	Core insulation	UL 44 XHHW-2 thermoset XLPE (90 °C wet/dry) · UL 1277 Type TC-ER
3	Core assembly & separator	Concentric cabled assembly with low-friction fleece or polyester binder tape · UL 1277 Type TC-ER
4	EMC metallic screen	100% foil + ≥ 85% tinned copper braid + 3 symmetrical bare Cu grounds · EMC ≥ 85% / 100% foil
5	Outer sheath	Black UV- & oil-resistant PVC outer jacket · IEEE 1202 / FT4 Flame

Technical data

Typical values

Rated voltage U0/U	600/1000 V	AC test voltage	4 kV AC / 5 min
Conductor class	ASTM B8 Class B bare Cu	EMC screen	100% foil + ≥ 85% tinned copper braid + 3
Insulation resistance	≥ 1,000 MΩ·km at 20 °C	Temp. range (fixed)	-40 °C to +90 °C
Temp. range (flexing)	-20 °C to +90 °C	Short-circuit temp.	+250 °C (5 s)
Min. bending radius	10 × OD (fixed)	Flame retardance	IEEE 1202 / FT4 Flame
Oil & chemical perf.	UL Oil Res I/II	Environmental / EMC	Direct Burial & Sun Res
Outer sheath	Black UV- & oil-resistant PVC outer jacket		

Sizes

12 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Cores × AWG/kcmil	Outer Ø ≈ mm	Max. R20 Ω/km	Copper index kg/km	Weight ≈ kg/km	Min. bend R 10×D mm
☐ 3×14 AWG + 3×18 AWG	12.1	8.450	113	240	121
☐ 3×12 AWG + 3×16 AWG	13.1	5.310	163	320	131
☐ 3×10 AWG + 3×14 AWG	14.4	3.340	242	445	144
☐ 3×8 AWG + 3×14 AWG	17.7	2.100	336	634	177
☐ 3×6 AWG + 3×12 AWG	19.8	1.320	511	909	198
☐ 3×4 AWG + 3×12 AWG	23.4	0.832	738	1,301	234
☐ 3×2 AWG + 3×10 AWG	27.8	0.523	1,145	1,968	278
☐ 3×1/0 AWG + 3×6 AWG	32.0	0.329	1,923	3,127	320
☐ 3×2/0 AWG + 3×6 AWG	34.5	0.261	2,312	3,733	345
☐ 3×4/0 AWG + 3×4 AWG	41.1	0.164	3,640	5,757	411
☐ 3×350 kcmil + 3×2 AWG	50.3	0.099	5,930	9,235	503
☐ 3×500 kcmil + 3×2 AWG	57.5	0.070	8,039	12,439	575

- Max. conductor DC resistance R20 at 20 °C per ASTM B172 / B8 (bare copper).
- Minimum bending radius calculated at 10 × nominal outer diameter (OD). Custom core counts and lengths available on request.

Standards and approvals

- UL 1277 Type TC-ER
- UL 2277 Type WTTC
- ICEA S-95-658
- EN 10204 3.1 Factory Test Certificate
- CE, RoHS 2 (2011/65/EU) & REACH

Certifications

Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone
+86 185 9591 3361

Email
info@tebaoflex.com

Web
tebaoflex.com/cables/tc-er-600-1000v-tri-ground-symmetrical-vfd-cable

Typical values for this cable type, based on UL 1277 Type TC-ER · UL 2277 Type WTTC · ICEA S-95-658. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.