EMC-shielded submersible pump & washdown VFD cable

TF-VFD 650 Hybrid

TF-VFD 650 Motor Power & Control Pair Cable

IEC 60502-1 / UL 1277 · 0.6/1 kV · Emc-shielded submersible pump & washdown vfd cable



IEC 60502-1 / UL 1277 | 0.6/1 kV (-40 to +90 °C) | Subsea / Marine Outer Protective She

Application

TF-VFD 650 Motor Power & Control Pair Cable featuring power supply conductors (4 cores) and subsea / marine outer protective sheath (IEC 60502-1 / UL 1277, 0.6/1 kV, -40 to +90 °C, min. bend radius 6 × OD).

Typical uses: Variable-Speed Submersible Aquaculture & Well Pumps, Recirculating Aquaculture System (RAS) Circulation Drives, ECOLAB / IP69K Seafood Processing Conveyor & Mixer VFDs, Offshore Seawater Intake & Desalination Booster Pumps

Construction





Cross-section, not to scale

1. Power Supply Conductors (4 Cores)
2. Shielded Data Twisted Pairs (4×2)
3. Subsea / Marine Outer Protective Sheath

Technical data

Typical values

Rated voltage / operating system	0.6/1 kV (IEC 60502-1 & UL 1277 Hybrid VFD Power & Control Pair Specification)	**Core / conductor construction**	Power Supply Conductors (4 Cores) — Stranded copper power cores with Cross-linked polyethylene (XLPE) insulation
Primary dielectric / optical buffer	Shielded Data Twisted Pairs (4×2) — Impedance-controlled twisted pairs for Ethernet / RS-485 / DMX	**Continuous operating temperature**	−40…+90 °C (submerged seawater & topside deck service)
Hydrostatic & thermal cycling endurance	Verified cold-bend and wet dielectric stability across −40…+90 °C per IEC 60502-1 & UL 1277 Hybrid VFD Power & Control Pair Specification	**Storage & transport temperature**	−40…+80 °C on export wooden/steel cable drum
Outer jacket / sheath protection	Subsea / Marine Outer Protective Sheath — Black heavy-duty submersible elastomeric outer sheath	**Minimum bending radius**	6 × OD
Reinforcement / screen / bedding layer	Shielded Data Twisted Pairs (4×2) — Impedance-controlled twisted pairs for Ethernet / RS-485 / DMX	**Seawater, hydrolysis & oil resistance**	Resistant to permanent seawater immersion, hydrolysis, hydraulic oil and bio-fouling per IEC 60502-1 & UL 1277 Hybrid VFD Power & Control Pair Specification
Hydrostatic pressure & water blocking	Radial and longitudinal water-blocking integrity verified per IEC 60502-1 & UL 1277 Hybrid VFD Power & Control Pair Specification	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	IEC 60502-1 & UL 1277 Hybrid VFD Power & Control Pair Specification		

Sizes

3 standard constructions

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

Order designation	Configuration	Core / stranding	Outer Ø ≈ mm	Net weight ≈ kg/km	Max. pulling kN ≈	Min. bend R mm
TF-VFD 650 Hybrid Construction Schedule (−40…+90 °C) 3 sizes						
☐ **TF-VFD 650 Hybrid 4G4 / 3×4+3G0.75**	**4G4.0 mm² (or 3×4+3G0.75 + 2×1.0)**	**IEC 60228 Class 5 Cu + Foil/TCWB Shield**	**14.6**	**365**	**3.8**	**90**
☐ **TF-VFD 650 Hybrid 4G16 / 3×16+3G2.5**	**4G16 mm² (or 3×16+3G2.5 + 2×1.5)**	**IEC 60228 Class 5 Cu + Foil/TCWB Shield**	**21.8**	**860**	**9.6**	**135**
☐ **TF-VFD 650 Hybrid 4G50 / 3×50+3G10**	**4G50 mm² (or 3×50+3G10 mm² VFD)**	**IEC 60228 Class 5 Cu + Dual EMC Shield**	**31.6**	**2,190**	**24.0**	**190**

– Custom core counts, optical fiber channels, wet-mate terminations and continuous winch lengths available per IEC 60502-1 & UL 1277 Hybrid VFD Power & Control Pair Specification.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} Ω/km	Rating / Impedance / Load	Operating temp.
4G4.0 mm² (or 3×4+3G0.75 + 2×1.0)	**4.95**	**0.6/1 kV (34 A Subsea VFD)**	**−40…+90 °C**
4G16 mm² (or 3×16+3G2.5 + 2×1.5)	**1.21**	**0.6/1 kV (98 A Subsea VFD)**	**−40…+90 °C**
4G50 mm² (or 3×50+3G10 mm² VFD)	**0.39**	**0.6/1 kV (195 A Subsea VFD)**	**−40…+90 °C**

– Every production length undergoes routine conductor DC resistance / OTDR optical attenuation, AC dielectric and dimensional verification.

Standards and approvals

- IEC 60502-1 / UL 1277 Compliant
- 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/tf-vfd-650-vfd-motor-power-control-pair-cable

Typical values for this cable type, based on IEC 60502-1 & UL 1277 Hybrid VFD Power & Control Pair Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.