EMC-shielded wind turbine converter & VFD drive cable

# VFD 2XL WTTC 1000V / 2kV RHW-2

## VFD 2XL 1,000 V UL WTTC / 2,000 V RHW-2 Extra-Thick XLPE Foil + 85% TC

UL 2277 WTTC / UL 44 RHW-2 · 1,000 V WTTC / 2,000 V RHW-2 · Emc-shielded wind turbine




UL 2277 WTTC / UL 44 RHW-2 | 1,000 V WTTC / 2,000 V RHW-2 (-40 to | Cold-Resistant TPE Elastomeric Outer

## Application

VFD 2XL 1,000 V UL WTTC / 2,000 V RHW-2 Extra-Thick XLPE Foil + 85% TCWB Double-Shielded Wind VFD Motor Cable (UL 2277 WTTC / UL 44 RHW-2, 1,000 V WTTC / 2,000 V RHW-2, -40 to +90 °C, min. bend radius 6 × OD).

**Typical uses:** Wind Turbine Main Power Converter & Generator Drives, Electric Yaw Drive & Blade Pitch Servo VFD Motors, Nacelle Hydraulic Pump, Cooling Fan & Auxiliary VFDs, UL 2277 WTTC 1,000 V & 2,000 V Renewable Drive Systems

## Construction






Cross-section, not to scale

1. Class 5 Tinned Copper Conductors (4 Core
2. Extra-Thick 2XL XLPE (XHHW-2 / RHW-2) In
3. 100% Al/PET Foil + 85% Tinned Cu Braid S
4. Cold-Resistant TPE Elastomeric Outer Jac

## Technical data

Typical values

| | |
|---|---|
| **Rated voltage / operating system** | 1,000 V WTTC / 2,000 V RHW-2 (UL Subject 2277 WTTC 1,000 V & UL 44 RHW-2 2,000 V Extra-Thick 2XL XLPE Double-Shielded VFD Specification) |
| **Primary dielectric / insulation** | Extra-Thick 2XL XLPE (XHHW-2 / RHW-2) Insulation — Heavy-wall XLPE withstanding high dV/dt PWM VFD voltage spikes |
| **Low-temperature torsion & cold bend** | Verified cold-flex and torsion endurance across −40…+90 °C per UL Subject 2277 WTTC 1,000 V & UL 44 RHW-2 2,000 V Extra-Thick 2XL XLPE Double-Shielded VFD Specification |
| **Outer jacket / sheath protection** | Cold-Resistant TPE Elastomeric Outer Jacket — Flexible -40 °C TPE sheath for yaw, pitch and pump VFD motors |
| **Intermediate screen / separator / core layer** | 100% Al/PET Foil + 85% Tinned Cu Braid Shield — Dual 100%-coverage foil and braid shield for full-spectrum EMC |
| **Flame retardancy & smoke/halogen emission** | Flame-retardant and environmental performance verified per UL Subject 2277 WTTC 1,000 V & UL 44 RHW-2 2,000 V Extra-Thick 2XL XLPE Double-Shielded VFD Specification |
| **Standards** | UL Subject 2277 WTTC 1,000 V & UL 44 RHW-2 2,000 V Extra-Thick 2XL XLPE Double-Shielded VFD Specification |
| **Core / conductor construction** | Class 5 Tinned Copper Conductors (4 Cores) — Finely stranded tinned copper (3 phase cores + 1 green/yellow ground) |
| **Continuous operating temperature** | −40…+90 °C (wind turbine nacelle, hub & tower duty) |
| **Storage & transport temperature** | −40…+80 °C on export wooden/steel cable drum |
| **Minimum bending radius** | 6 × OD |
| **Oil, grease, ozone & UV resistance** | Resistant to wind turbine gearbox oil, hydraulic fluid, ozone and UV weathering per UL Subject 2277 WTTC 1,000 V & UL 44 RHW-2 2,000 V Extra-Thick 2XL XLPE Double-Shielded VFD Specification |
| **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant |

## 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 |
|---|---|---|---|---|---|---|
| **VFD 2XL WTTC 1000V / 2kV RHW-2 Construction Schedule (−40…+90 °C)** 3 sizes | | | | | | |
| ☐ **VFD 2XL WTTC 1000V 4G16 / 3×16+3G2.5** | **4G16 mm² (or 3×6 AWG + 3G10 AWG)** | **IEC 60228 Class 5 / Class K Cu** | **21.8** | **790** | **9.5** | **130** |
| ☐ **VFD 2XL WTTC 1000V 4G50 / 3×50+3G10** | **4G50 mm² (or 3×1 AWG + 3G6 AWG)** | **IEC 60228 Class 5 / Class K Cu** | **31.4** | **2,140** | **22.5** | **190** |
| ☐ **VFD 2XL WTTC 1000V 3×150+3G25 VFD** | **3×150 + 3G25 mm² (or 3×350 kcmil)** | **IEC 60228 Class 5 / Class K Cu** | **47.2** | **5,480** | **58.0** | **285** |

– Custom conductor cross-sections, core counts, pre-lugged tower kits and drum lengths available per UL Subject 2277 WTTC 1,000 V & UL 44 RHW-2 2,000 V Extra-Thick 2XL XLPE Double-Shielded VFD Specification.

## Electrical & thermal parameters

3 sizes

| Configuration | Max. DC $R_{20}$ Ω/km | Rating / Impedance | Operating temp. |
|---|---|---|---|
| **4G16 mm² (or 3×6 AWG + 3G10 AWG)** | **1.15** | **1,000 V WTTC / 2,000 V RHW-2 (98 A VFD)** | **−40…+90 °C** |
| **4G50 mm² (or 3×1 AWG + 3G6 AWG)** | **0.39** | **1,000 V WTTC / 2,000 V RHW-2 (195 A VFD)** | **−40…+90 °C** |
| **3×150 + 3G25 mm² (or 3×350 kcmil)** | **0.13** | **1,000 V WTTC / 2,000 V RHW-2 (395 A VFD)** | **−40…+90 °C** |

– Every production length undergoes routine conductor DC resistance, AC high-voltage spark/dielectric and dimensional verification.

## Standards and approvals

- UL 2277 WTTC / UL 44 RHW-2 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/vfd-2xl-wttc-1000v-2kv-rhw-2-double-shielded-cable**

Typical values for this cable type, based on UL Subject 2277 WTTC 1,000 V & UL 44 RHW-2 2,000 V Extra-Thick 2XL XLPE Double-Shielded VFD Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.