Screened power & VFD / motor supply cables

# TP(OBS)-VFD 2kV Type P

## TP(OBS)-VFD 2 kV Type P Offshore Rig VFD Cable

125 °C irradiated XLPO mud-resistant offshore rig VFD cable



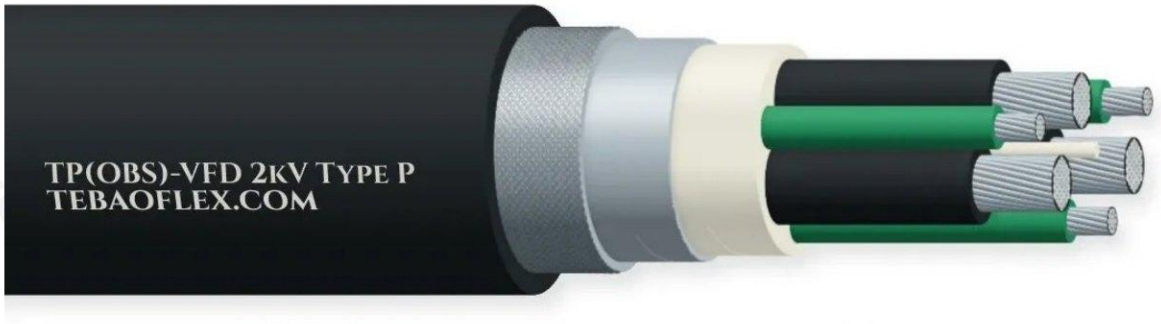

IEEE 1580 Type P · UL TC-ER | 2,000 V · 110/125 °C XLPO | OBS Dual Shield · Mud-Res XL-CPE

## Application

Unarmored 2,000 V IEEE 1580 Type P offshore rig VFD power cable with flexible tinned copper, 125 °C irradiated XLPO insulation, Al/PET plus overall tinned copper braid (OBS), and mud-resistant irradiated XL-CPE Type N sheath.

**Typical uses:** Offshore drilling rigs & drillships, Land rig SCR / VFD power houses, Top-drive, rotary & drawworks drives, Mud-pump & shale-shaker circuits, FPSOs & petrochemical offshore decks

## Construction





Cross-section, not to scale

| | | |
|---|---|---|
| 1 | **Conductor** | Extra-flexible stranded tinned annealed copper · IEEE 1580 Table 11 / ASTM B33 & B172 |
| 2 | **Insulation & core ID** | 125 °C irradiated cross-linked polyolefin (XLPO), black numbered · Black numbered phases + 3 × green XLPO grounds |
| 3 | **Separator tape** | Polyester barrier separator tape over 3+3 assembly |
| 4 | **Foil shield** | Aluminium/polyester foil tape (100% coverage) |
| 5 | **Overall braid shield (OBS)** | Overall tinned copper wire braid shield (OBS, ≥ 85%) |
| 6 | **Outer protective sheath** | Black mud- & oil-resistant irradiated XL-CPE (Type N) · IEEE 1580 / NEK 606 mud resistant |

## Technical data

Typical values

| | | | |
|---|---|---|---|
| **Rated voltage** | 2,000 V (2 kV) AC | **Conductor class** | IEEE 1580 Table 11 flex tinned Cu |
| **Dual EMI shield** | 100% Al/PET foil + OBS TCWB (≥ 85%) | **Max. conductor temp.** | +110 °C IEEE 1580 / +125 °C XLPO |
| **Cold bend / impact** | −40 °C bend / −35 °C impact | **Min. bending radius** | 6 × OD (unarmored flexible) |
| **Flame test** | IEEE 1202 / IEC 60332-3-22 Cat A | **Mud & oil resistance** | NEK 606 drilling-mud resistant XL-CPE |
| **Ratings** | IEEE 1580 Type P · UL 1309 · TC-ER | | |

## Sizes

15 standard constructions

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

| | Phase + 3× Ground (AWG) | Outer Ø ≈ mm | Max. R20 Ω/km | Copper index kg/km | Weight ≈ kg/km | Min. bend R 6×D mm |
|---|---|---|---|---|---|---|
| ☐ | 3×14 AWG + 3×18 AWG | 16.1 | 9.070 | 136 | 367 | 97 |
| ☐ | 3×12 AWG + 3×16 AWG | 17.2 | 5.710 | 187 | 460 | 103 |
| ☐ | 3×10 AWG + 3×14 AWG | 18.6 | 3.590 | 267 | 600 | 112 |
| ☐ | 3×8 AWG + 3×12 AWG | 21.5 | 2.260 | 396 | 853 | 129 |
| ☐ | 3×6 AWG + 3×12 AWG | 23.7 | 1.420 | 539 | 1,111 | 142 |
| ☐ | 3×4 AWG + 3×12 AWG | 27.5 | 0.892 | 769 | 1,551 | 165 |
| ☐ | 3×2 AWG + 3×10 AWG | 32.0 | 0.561 | 1,179 | 2,277 | 192 |
| ☐ | 3×1 AWG + 3×8 AWG | 34.1 | 0.445 | 1,513 | 2,810 | 205 |
| ☐ | 3×1/0 AWG + 3×8 AWG | 36.5 | 0.353 | 1,826 | 3,339 | 219 |
| ☐ | 3×2/0 AWG + 3×6 AWG | 39.1 | 0.280 | 2,352 | 4,162 | 235 |
| ☐ | 3×4/0 AWG + 3×4 AWG | 46.1 | 0.176 | 3,686 | 6,322 | 277 |
| ☐ | 3×262 kcmil + 3×4 AWG | 51.1 | 0.143 | 4,406 | 7,609 | 307 |
| ☐ | 3×373 kcmil + 3×2 AWG | 57.6 | 0.101 | 6,312 | 10,587 | 346 |
| ☐ | 3×535 kcmil + 3×1 AWG | 67.9 | 0.070 | 8,843 | 14,804 | 407 |
| ☐ | 3×777 kcmil + 3×2/0 AWG | 77.8 | 0.049 | 12,929 | 21,135 | 467 |

- Conductor max. DC resistance R20 follows IEEE 1580 Table 11 / ASTM B172 flexible tinned copper at 20 °C.
- Irradiated cross-linked polyolefin (XLPO) and XL-CPE Type N outer jacket provide superior drilling-mud and thermal overload endurance.

## Standards and approvals

- IEEE 1580 Type P (2,000 V / 110 °C–125 °C)
- UL 1309 Marine · UL 1277 Type TC-ER
- NEK 606 Mud Resistant · IEEE 1202 / FT4

## 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/tp-obs-vfd-2kv-type-p-offshore-rig-vfd-cable**

Typical values for this cable type, based on IEEE 1580 Type P · UL 1309 · UL 1277 TC-ER · NEK 606 Mud. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.