75 kVDC triple-concentric-screen EPR quadraxial cable

QUADRAXIAL HV 2241

75 kVDC Triple-Screen EPR Cable

IEC 60502 / MIL-DTL-17 · 75 kVDC · −40…+120 °C AWG 14 triple-screened EPR pulse cable



75 kVDC Quadraxial | **3×Concentric Screen** | **Semicon + EPR**

Application

QUADRAXIAL HV 2241 75 kVDC triple-concentric-screened quadraxial HV cable featuring an AWG 14 silver-plated copper core, primary semicon/EPR 75 kVDC stack, dual isolated copper braids, secondary EPR HV barrier, outer braid 3 and a black sheath.

Typical uses: Pulsed Power, Marx Generators & Klystron Modulators, Electron-Beam Welding, Lithography & X-Ray Tubes, Guarded High-Voltage Leakage & Partial-Discharge Testing, Plasma Fusion Diagnostics & Particle Injector Feeds

Construction





Cross-section, not to scale

1	Center Conductor (AWG 14)	IEC 60502 / MIL-DTL-17
2	Primary 75 kVDC EPR Stack	IEC 60502 / MIL-DTL-17
3	Shields 1 & 2 + Mylar Barrier	IEC 60502 / MIL-DTL-17
4	Secondary EPR HV Stack	IEC 60502 / MIL-DTL-17
5	Shield 3 & Outer Jacket	IEC 60502 / MIL-DTL-17

Technical data

Typical values

Rated voltage / transmission duty	75 kVDC (IEC 60502 / MIL-DTL-17)	**Core / conductor construction**	Center Conductor (AWG 14) — 19 x AWG 27 (2.08 mm², AWG 14) concentric stranded silver-plated copper center conductor (OD 1.85 mm)
Primary dielectric / insulation	Primary 75 kVDC EPR Stack — Extruded inner semiconductive EPR stress layer, primary 75 kVDC EPR dielectric (OD 8.89 mm), and outer semiconductive EPR layer	**Continuous operating temperature**	−40…+120 °C (rated operating envelope)
Storage & transport temperature	−40…+80 °C on export drum or reel	**Outer protection / sheath**	Shield 3 & Outer Jacket — Outer tinned copper braid Shield 3, Mylar separator tape, and heavy-duty black elastomeric outer jacket (OD 19.30 mm)
Minimum bending radius	10–12 × OD	**Structural layer count**	5 concentric functional layers
Environmental & chemical resistance	Industrial moisture, oils and mechanical wear per IEC 60502 / MIL-DTL-17	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	IEC 60502 / MIL-DTL-17		

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	Weight ≈ kg/km	Tensile load kN ≈	Min. bend R mm
QUADRAXIAL HV 2241 Construction Schedule (−40…+120 °C) 3 sizes						
☐ **QUADRAXIAL HV 2240 (50 kVDC AWG 14)**	AWG 14 (2.08 mm²) + 3×Cu Screen	19×AWG 27 SPC + dual EPR stack	16.5	410	1.4	165
☐ **QUADRAXIAL HV 2241 (75 kVDC AWG 14)**	AWG 14 (2.08 mm²) + 3×Cu Screen	19×AWG 27 SPC + dual EPR stack	20.4	595	1.8	205
☐ **QUADRAXIAL HV 2242 (100 kVDC AWG 12)**	AWG 12 (3.31 mm²) + 3×Cu Screen	19×AWG 25 SPC + dual EPR stack	24.8	840	2.5	250

– Custom core counts, cross-sections, sheath colours and factory-tested cut lengths available per IEC 60502 / MIL-DTL-17.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} / Atten. Ω/km or dB/km	Rating / Capacity	Operating temp.
AWG 14 + 3×Screen (50 kVDC)	8.90	50 kVDC (110 kVDC test)	−40…+120 °C
AWG 14 + 3×Screen (75 kVDC)	8.90	75 kVDC (150 kVDC test)	−40…+120 °C
AWG 12 + 3×Screen (100 kVDC)	5.60	100 kVDC (190 kVDC test)	−40…+120 °C

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

Standards and approvals

- IEC 60502 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/quadraxial-hv-2241-75kvdc-triple-concentric-screen-epr-cable

Typical values for this cable type, based on IEC 60502 / MIL-DTL-17. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.