fiber optic cable series

DTS AHFO

Distributed Temperature Sensing Fibre Cable



All-dielectric halogen-free flame-retardant distributed temperature sensing (DTS) cable

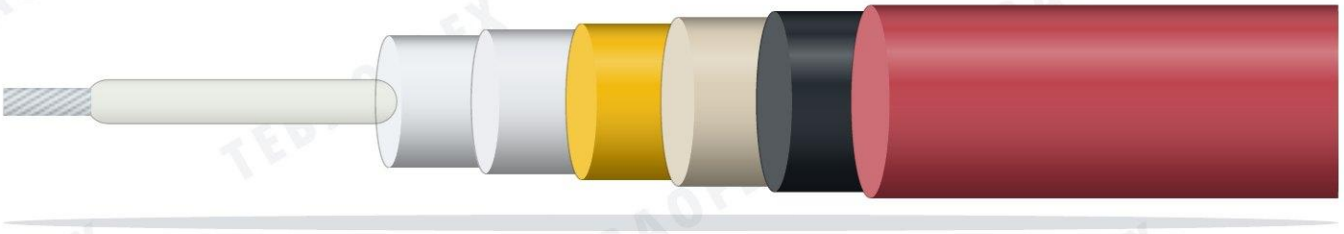
IEC 61757-2-2 DTS | 100 % Metal-Free | CPR Cca / IEC 60332-3

Application

DTS AHFO Distributed Temperature Sensing Fibre Cable featuring an all-dielectric (metal-free) aramid/FRP-reinforced construction and fast-thermal-response LSZH jacket for Raman/Brillouin temperature monitoring in HV cable.

Typical uses: HV/EHV Power Cable Real-Time Thermal Rating, BESS Lithium-Ion Battery Rack Fire Detection, MV Switchgear & Busduct Hot-Spot Monitoring, Semiconductor Cleanrooms & Data Centres, Road, Metro & Utility Cable Tunnels

Construction





Cross-section, not to scale

1. Strain-free DTS sensing fibres
2. High-thermal-conductivity buffer tube
3. All-dielectric aramid & glass yarn
4. Separator / barrier tape
5. Inner sheath
6. Halogen-free LSZH / TPEE outer jacket

Technical data

Typical values

Dielectric design	100 % metal-free all-dielectric (no grounding needed)
HV sheath strapping	Zero induced circulating current on 66–500 kV cables
Thermal response (τ_{63})	≤ 2.5 s in water · ≤ 8.0 s in moving air
Outer diameter	4.0 mm to 5.2 mm
Crush resistance	1,200 N / 100 mm
Multimode DTS fibres	50/125 µm OM3 bend-insensitive (IEC 60793-2-10 A1a.2)
Single-mode fibres	ITU-T G.657.A1 (≤ 0.35 / 0.21 dB/km @ 1310/1550 nm)
Halogen-free & smoke	IEC 60754-1/2 (pH ≥ 4.3) & IEC 61034-2 (≥ 60 %)
Standards	IEC 61757-2-2 & EN 54-22 Linear Heat Detection
Sensing principle	Raman OTDR (MM) & Brillouin BOTDA (SM)
Operating temperature	-40 °C to +85 °C (LSZH) · -40 °C to +125 °C (HT)
Installation temperature	-15 °C to +60 °C
Max. tensile load	800 N (standard) · 1,200 N (reinforced)
Min. bend radius	10 × OD static · 15 × OD dynamic
Attenuation (OM3)	≤ 2.4 dB/km @ 850 nm · ≤ 0.6 dB/km @ 1300 nm
Flame propagation	IEC 60332-1-2 & IEC 60332-3-24 Cat C
Water blocking	Dry water-swellable yarns per IEC 60794-1-22 F5B

Sizes

4 standard constructions

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

Order designation	Fibre compliment	Outer Ø mm	Weight ≈ kg/km	Max. pull N	Max. temp °C
All-Dielectric Halogen-Free DTS Cables 4 sizes					
☐ **DTS AHFO-02MM**	2 × 50/125 OM3 MM · LSZH	4.0	16	800	85
☐ **DTS AHFO-04MM**	4 × 50/125 OM3 MM · LSZH	4.5	21	1,000	85
☐ **DTS AHFO-02MM02SM**	2 × OM3 MM + 2 × G.657.A1 SM · LSZH	4.5	21	1,000	85
☐ **DTS AHFO-HT-04HYB**	2 × OM3 + 2 × SM · +125 °C TPEE	4.8	25	1,200	125

– All models are 100 % non-metallic and safe for direct contact with high-voltage power cables and busbars.

Standards and approvals

- IEC 61757-2-2 & EN 54-22 LHD
- IEC 60332-3-24 & IEC 60754-2 LSZH
- RoHS 2 & REACH Compliant

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/brusens-dts-ahfo-distributed-temperature-sensing-fibre-cable

Typical values for this cable type, based on IEC 60794-2-20 / IEC 61757-2-2 / EN 54-22. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.