Bandweaver

DATASHEET

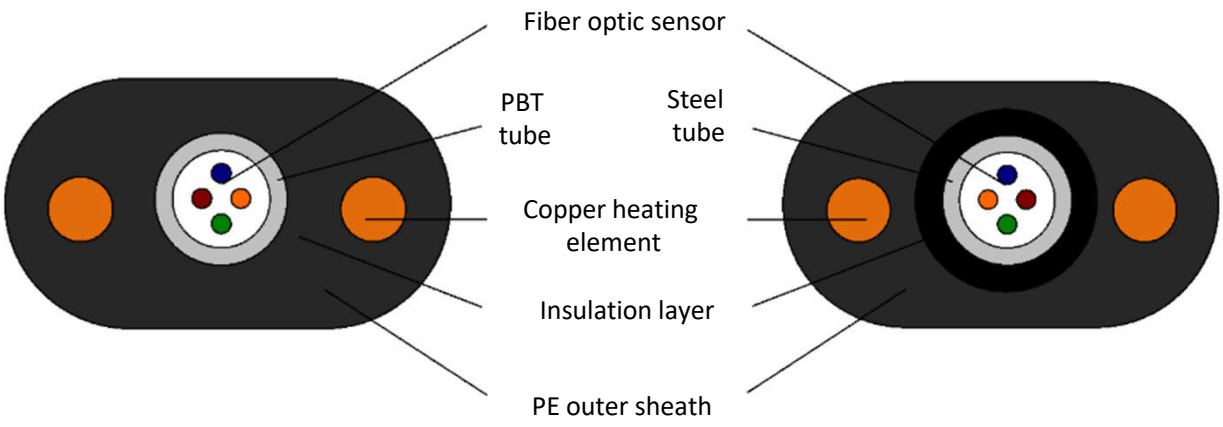
DTS Cable
Active Leak Detection Cable

The Bandweaver active leak detection cable is based on a hybrid design of fiber optic sensing elements and electrical conduction elements for heating the cable in order to amplify the temperature deviations caused by fluid leakage. The cable is often used in dam monitoring and pipeline monitoring applications.

The optical cable is composed of a high-strength central beam tube with built-in sensing optical fiber and water blocking filler, an insulating layer, and a PE outer sheath embedded with a copper heating elements. The optical cable is often installed directly during concrete pouring or direct burial and comes in 2 different levels of mechanical protection.

Standard (9.5mm) Version

Extra strength (8.5mm)



Features

- Excellent mechanical properties to ensure integrity of optical characteristics even in harsh environments
- Simple structure, with optimum balance between mechanical strength while maintaining a high level of thermal sensitivity
- Versatile cable easy to handle and install

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SPECIFICATIONS		
	Standard Version	**Extra Strength**
Dimensions	5 x 9.5 (± 0.5 mm)	5 x 8.5 (± 0.5 mm)
Standard Length	2000m Longer lengths available on request	
MATERIALS		
Outer Sheath	Medium Density Polyethylene (MDPE)	
Tube construction	Polybutylene Terephthalate (PBT) 1.8mm OD	Steel tube
Heating elements	2 x 1.8mm copper conductors	2 x 1.0mm copper conductors
Insulation layer	Teflon insulation layer	
OPTICAL		
Fiber type2 cores	2 x 62.5/125 Multimode (G651.a) cores 2 x 9/125 Single mode G652D cores	
Number of cores	4	
Attenuation	Multimode Singlemode	< 3.5 dB / km (850 nm) < 1.0 dB / km (1300 nm) < 0.4 dB / km (850 nm) < 0.3 dB / km (1300 nm)
MECHANICAL & ENVIRONMENTAL PROPERTIES		
Tensile Strength	Long term 300 N Short Term 600 N	Long term 400 N Short Term 800 N
Crush Resistance	Long term 1000 N / 10cm Short term 6000 N /10cm	Long term 1000 N / 10cm Short term 6000 N /10cm
Bending Radius (D = cable diameter)	Static = 10 x D Dynamic = 20 x D	
Operating Temperature	-40 °C to 85 °C	
OTHER		
Electrical Paremeters	Conductor area 2.5 mm2 Resistance 7.5 (±5) Ω/km	Conductor area 0.75 mm2 Resistance 130 (±5) Ω/km
Weight	60 kg / km	25 kg/km
Standards	IEC 60794-1-2:2003 (GB/T 7424.2-2008) – Optical fiber specifications and test procedures ISO 7240-5, NEQ; UL 521, NEQ (GB16280-2014)	
Packing Material	Wooden reel	