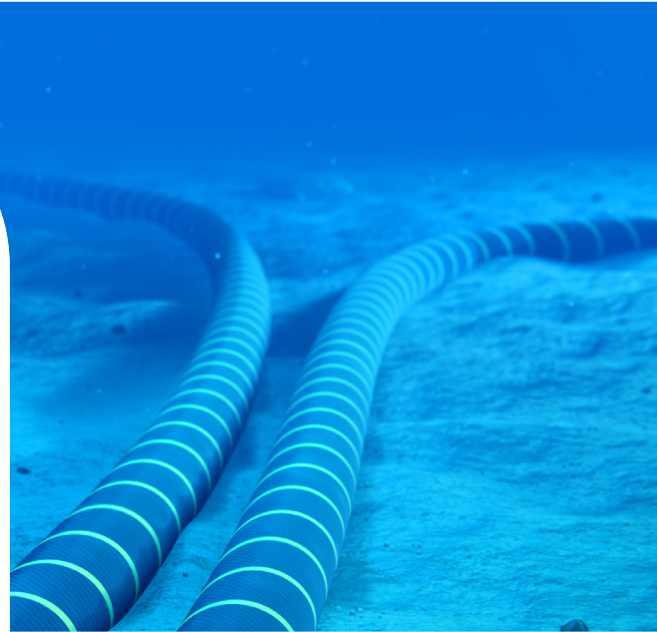


Armoured Subsea DTSS - Link

Technical Datasheet

The Strain Sensitive Cable powered by TriSens is a unique sensor for the evaluation of strain over several kilometers and can be used in a wide range of applications. The cable is quick and easy to install without special equipment or know how (embedded or surface mounted installation), therefore it is an ideal solution and can be used with any DTSS manufacturers' equipment.



Data transmission



Loop fiber



Acoustic sensing (DAS)



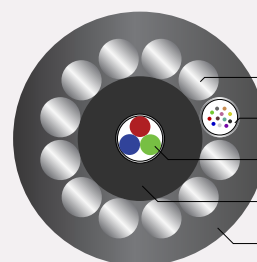
Strain sensing



Temperature sensing

Armoured Subsea DTSS - Link

The central element of the cable consists of a TriSens Core - three fibers tightly clamped into a steel tube to enable distributed strain sensing. Protective layers of HDPE and a stranding layer ensure proper protection and creates a high tensile strength rating. A FIMT is placed in the stranding layer and acts as temperature compensation. The FIMT can include MM and SM fibers.



Stranding wire

FIMT

Trisens

Polymer insulation

Polymer insulation

Alternative configurations and layers available upon request

Typical Applications

- Conveyor Belt Monitoring
- Pipeline Leakage Monitoring
- Seepage Monitoring
- Tunnel Monitoring
- Indoor monitoring in industrial production plants
- Reservoir Monitoring
- Tank Monitoring
- Fire Detection

Color codes

Trisens  Red  Green  Blue

FIMT  Red  Green

Different color code for FIMT available upon request



Product Specification

Values stated at room temperature
(+20°C/68°F)

General Characteristics (without polymer cladding)

Total cable weight	approx. 129 kg/km
Number of fibers (250µm)	3(TriSens), 2(FIMT)
Type of fiber	G.657 A1 (TriSens) G652D & G651 (FIMT)
Fiber buffer material TriSens	Acrylate
Operational temp. range	-10°C up to +50°C
Storage temp. range	-10°C up to +50°C
Short time max. temperature	+150°C
Strain measurement range	0.6%

Geometrical Characteristics

Outer diameter TriSens	1.30 mm (+/- 0.05 mm)
Outer diameter FIMT	1.20 mm (+/- 0.05 mm)
Material TriSens & FMT	Corrosive resistant steel

Polymer Sheathing

Inner sheath diameter	4.00 mm (+/- 0.20 mm)
Outer sheath diameter	8.90 mm (+/- 0.30 mm)
Material / Color	HDPE black

Other polymer materials available on request

Stranding Layer

Wires diameter / amount	11x1.2mm + 1x1.2mm FIMT
Material stranding wires / FIMT	Corrosive resistant steel

Mechanical Characteristics

Ultimate tensile strength*	> 8000 N
Typical Load at 0,6%	>5000 N
Bending Radius	>20xD

Optical Characteristics

Fiber atten. tight buffered G657A1 (1310/1550nm)	≤ 0.50 / 0.50 dB/km
Fiber attenuation loose tube G652D (1310/1550nm)	≤ 0.35 / 0.35 dB/km
Fiber attenuation G651 (850/1300nm)	≤ 2.45 / 0.65 dB/km
Bandwidth G651 fiber (850 / 1300 nm)	≥ 500 / 1000 Mhz. km
Central Brillouin frequency*	10.7 GHz
Strain sensitivity dfB/dε	497 MHz/%
Temperature sensitivity dfB/dT	1.7 MHz/°C
Strain measurement range	0.6%

- Connectors for both ends available on request
- Length based on customer request
- Meter marking on sheath printed
- Various sheath colors and marking options available upon request



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Packaging and single Length

Standard packaging consists of wooden reels in a standing position fixed on pallets. The outer layer is protected with bubble foil and flexible cardboard. Optionally, spools provided by customer can be used. Produced single lengths are tailored to meet customer requests.