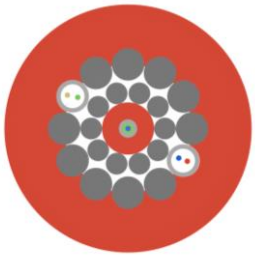
BRUsense DSS Strain Sensing Cable

Metallic underwater sensing cable with optical fiber strain sensing element in one central stainless steel tube and two fiber optic loose tubes with hydrogen absorbing filling compound in the outer stranding layer. Outer sheath made of HDPE.



Construction and Description

1. BRUsens V4 strain sensing central element
2. Two layers of galvanized steel wires
3. Two gel-filled stainless steel loose tubes
4. 2 SM-fibers per loose tube
5. Hydrogen absorbing moisture barrier (compound)
6. HDPE outer sheath

Description

- Compact and flexible cable design
- Corrosion resistance
- High permissible tensile strength
- High crush resistance
- Torque optimized design
- Longitudinally and laterally watertight
- Excellent rodent protection

Application

- Suitable for underwater installation at 2000m depth
- Strain, acoustic and temperature sensing optimized
- Low attenuation data transmission

Temperature range

Operating temperature:	-10 °C … + 70 °C
Storage temperature:	-30 °C … + 70 °C
Installation temperature:	-5 °C … + 50 °C

Jacket color and marking

Sheath color: Red, similar RAL 3000
Jacket meter-marking: <cable ID><product order no><optical fiber type and quantity><vendor><year><meter>

Customization options:

- Loose tube fiber types
- Fiber color code
- Identification of loose tubes (ring marking)
- Jacket color
- Material grades

Technical data at 20°C:

Type	Max. no. of fibers	Cable ø mm	Weight kg/km	max. tensile strength short term N	max. tensile strength long term N
5F	5	12,0	280	40 500	13 500

Type	min. bending radius with tensile mm	min. bending radius without tensile mm	max. crush resistance N/cm
5F	20xD	15xD	-

Optical fiber data (cabled - loose tubes) at 20°C:

Fiber Type	Attenuation, dB/km 850 nm	Attenuation, dB/km 1300/1310 nm	Attenuation, dB/km 1550 nm	Modal Bandwidth, MHz*km 850 nm	Modal Bandwidth, MHz*km 1300nm
SMF-28 Ultra		≤ 0.34	≤ 0.20		

Optical fiber data (cabled - sensors) at 20°C:

Fiber Type	Attenuation at 1550nm dB/km	Typical Brillouin parameters BOTDR or BOTDA at 1550nm: Temperature sensitivity dfB/dT	Strain sensitivity dfB/dε	Center Frequency
SMF	≤ 0.5	2 MHz/°C	450MHz/%	10.8 GHz