FutureNeuro™ FN-DTSS
Steel armored sensing cable for DFOS

Advantages

- Built-in two single-mode and one multimode optical fiber
  Strain, Acoustic and Temperature measurement by DTS are possible.
- No slippage with the object to be measured
- HIGH RELIABILITY CALIBRATED WITH NEUBRESCOPE HIGH-PRECISION MEASUREMENTS

The FN-DTSS is a strain, acoustic and temperature measurement sensing cable designed for optical fiber distribution measurement. It has excellent linearity with respect to mechanical and thermal loads, enabling highly accurate strain, acoustic and temperature distribution measurement. By incorporating two single-mode optical fiber and one multimode optical fiber in the cable, and connecting the multimode optical fiber to a DTS (Distributed Temperature Sensor) device, both strain measurement and temperature compensation can be realized with a single cable.

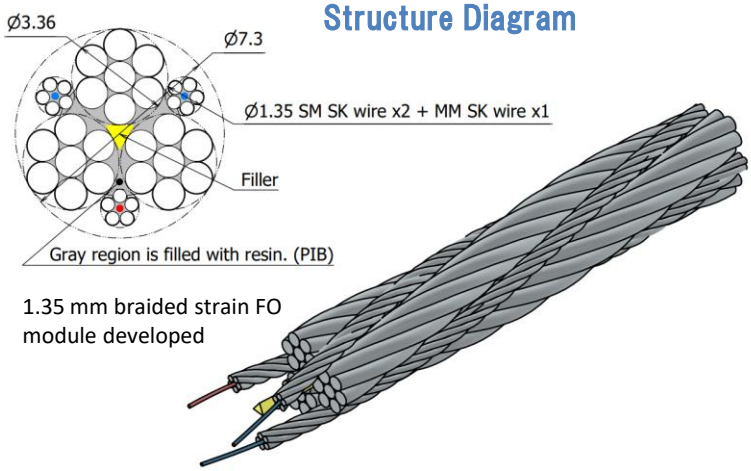
Main applications

- Strain and displacement distribution measurement
- BOTDR measurements
- TW-COTDR (Rayleigh frequency shift method)
- DAS (Distributed Acoustic Sensing)
- Temperature distribution measurement by DTS
- Measurement in environments requiring temperature compensation
- Embedding in concrete, installation on reinforcing bars
- Affixing to the surface of pipes and structural materials
- Installation in borehole
- Monitoring of floor slabs, shoring, piles, etc.
- Monitoring of the ground, seabed, etc.
- Feed through for packer and well head (seal with resin)

Supports NEUBRESCOPE's high-precision measurement

The FN-DTSS is calibrated, and It is a proven fiber optic sensor cable. In addition to Brillouin scattering measurement (BOTDR, BOTDA method), TGD-DAS and it has excellent characteristics that can follow high-precision Rayleigh scattering measurement (TW-COTDR method).

Structure Diagram



- The cable size is 0.288". Fit the proven Cannon clamp which is possible to fix 2 other 'conventional' cables or control lines.
- Proven centralizer and cable protector installation procedures.
- Fits through casing/tubing hangers and conventional well heads that keep the strength and reliability of the fibers in the cable.
- Standard size and installation hardware reduces the installation ops and provides cost control.
- FO is fully embedded inside silicon resin thus are chemically protected against acid and other downhole fluids and gases that may darken fibers.
- Conventional metal is GIP. However, user can choose stainless for high corrosion fluids such as Carbonic Acid with is crucial in CCUS.

Specification FN-DTSS

Optical fiber core wire	10 / 125 μm SMF (2x) 50 / 125 μm
MMF (1x)	
Number of optical fibers:	3
Transmission loss	< 0.5 dB/km SMF < 0.7 dB/km
MMF	
Strain measurement range*(Δε)	5000 με
Temperature measurement range	-20 to +80 ℃
Bending radius	> 150 mm
Tensile strength member	steel wires
Tensile strength	5000 kg-force
Dimensions diameter	7.3 mm
Weight	75kg /km
Operating temperature	-20 to +150 ℃
Storage temperature	-40 to +150 ℃

* Depends on the environment in which the cable will be installed. For more information please contact Neubrex for details.

Neubrex Corporation Ltd.
Sakaemachi-dori 1-1-24
Chuo-ku, Kobe, Hyogo, 650-0023 JAPAN
Tel: +81 (0) 78 335-3510
Mail: info@neubrex.com
URL: https://www.neubrex.jp

**All specifications above are subject to change without notice.