

DISTRIBUTED FIBER OPTIC TEMPERATURE SENSOR FOR CIVIL, GEOTECHNICAL MONITORING AND LEAK DETECTION

Reliable and versatile cable for easy installation.
Small size and fast reaction to temperature changes.

Description

The DiTeSt Ordinary Temperature Sensing cable is a unique sensor for the evaluation of distributed temperature over several kilometers.

The DiTeSt Ordinary Temperature Sensing cable is used in a wide range of applications that require distributed temperature sensing, such as temperature monitoring of concrete in massive structures, waste disposal sites, on- and off-shore sites in gas and oil industry, hot spots, cold spots and leakage detection of flow lines and reservoirs, building installations, just to name a few.

The DiTeSt Ordinary Temperature Sensing cable is a small fiber optic cable, armored with stainless steel loose tube gel filled, stainless steel strength members and PA outer sheath. The central loose tube is hermetically sealed and contains 4 bend insensitive fibers with a dual layer acrylate coating for increased micro bending performance.

This sensor is particularly suitable for outdoors and harsh environment applications with different methodology of installation: direct burial in the ground or concrete, clamped to a pipe, anchored or glued.

Thanks to the special package design, the DiTeSt Ordinary Temperature Sensing cable offers high tensile strength, crush resistance, lateral water tightness, chemical and abrasion resistance and excellent rodent protection. This design also shields the sensing fibers from outside strain.

The DiTeSt Ordinary Temperature Sensing cable is fully compatible with the DiTeSt system and all its accessories.

Key Features

- DiTeSt compatible
- Fast temperature response
- High tensile strength
- Strain-free fiber
- High crush resistance
- Excellent rodent protection
- High chemical resistance
- Robust abrasion resistant cable sheath
- Laterally watertight
- Compact and flexible
- Halogen free

Applications

- Pipeline leak detection
- Dam and Levee seepage monitoring
- Smart buildings
- Distributed temperature sensing

Temperature range

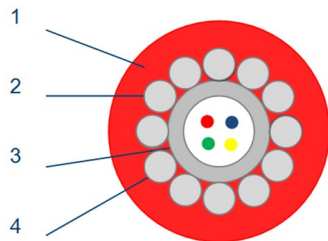
Operating temperature:	-40 °C to +85 °C
Storage temperature:	-40 °C to +85 °C
Installation temperature:	-10 °C to +50 °C
Short-term temperature (max 1 h):	-50°C to +150°C

Technical Data

Outer diameter:	4.8 mm
Weight:	46 kg/km
Max crush resistance:	800 N/cm
Max tensile strength:	3000 N (installation)
Max tensile strength:	2000 N (operation)
Min bending radius:	100 mm (with tensile)
Min bending radius:	75 mm (without tensile)
Hydrostatic pressure:	30 MPa (300 bar)

Fiber Types

Fiber support:	SMF 9 / 125 µm ITU-T G.652.D compliant
Fiber attenuation (cabled @ 20 °C):	≤ 0.36 dB @ 1310 nm ≤ 0.25 dB @ 1550 nm
Number of fiber:	4



- 1 PA outer sheath
- 2 Stainless steel wires, 316L
- 3 Stainless steel loose tube, 316L
- 4 Bend insensitive optical fibers

Certification and compliance

Cable tests complying with IEC 60794-1-2

Accessories and ordering information

11.1010 DiTeSt Ordinary Temperature Sensing Cable

Accessories:

- Cable termination with connectors
- Junction box
- Splice box
- SMF ITU-T G.657 compliant upon request