



FOR TEMPERATURES UP TO 150°C  
DISTRIBUTED FIBER OPTIC TEMPERATURE SENSOR  
(DTS) FOR CIVIL, GEOTECHNICAL MONITORING AND  
LEAK DETECTION

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

### Description

The Medium Temperature Sensing cable is a unique sensor for the evaluation of distributed temperature over several kilometers and up to 150° C.

The Medium 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 DiTemp Medium Temperature Sensing cable is a small fiber optic cable, armored with stainless steel loose tube gel filled, stainless steel strength members and TPE outer sheath. The central loose tube, with optimized fiber excess length, is hermetically sealed and contains 2 mid temperature dual layer acrylate fibers 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 Medium Temperature Sensing cable offers high tensile strength, crush resistance, lateral water tightness, chemical and abrasion resistance and excellent rodent protection.

The Medium Temperature Sensing cable is fully compatible with the DiTemp system and all its accessories.

### Key Features

- DiTemp compatible (DTS)
- Up to 150°C
- Fast temperature response
- High tensile strength
- 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
- Chemical Plants
- Power cables
- Oil&Gas applications
- Distributed temperature sensing

### Temperature range

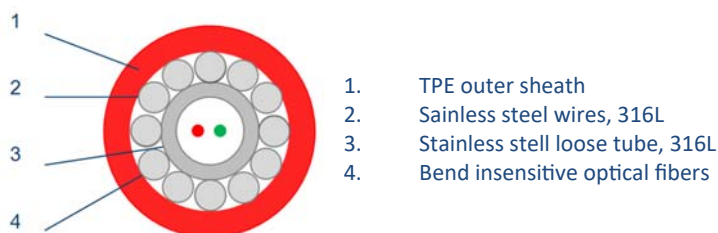
Operating temperature:	-40 °C to +150 °C
Storage temperature:	-40 °C to +150 °C
Installation temperature:	-10 °C to +150 °C
Short-term temperature (max 1 h):	-50°C to +180°C

### Technical Data

Outer diameter:	3.8 mm
Weight:	28 kg/km
Max crush resistance:	900 N/cm
Max tensile strength:	1500 N (installation)
Max tensile strength:	1100 N (operation)
Min bending radius:	80 mm (with tensile)
Min bending radius:	60 mm (without tensile)
Hydrostatic pressure:	300 kPa (bar)

### Fiber Types

Fiber support:	MMF 50 / 125 µm ITU-T G.651 compliant
Fiber attenuation (cabled @ 20 °C):	≤ 3.0 dB @ 850 nm ≤ 1.0 dB @ 1300 nm
Number of fiber:	2



### Certification and compliance

Cable tests complying with IEC 60794-1-2

### Accessories and ordering information

14.1411 DiTemp Medium Temperature Sensing Cable

Accessories:

- Cable termination with connectors
- Junction box
- Splice box

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Smartec SA reserves the right to make any changes in the specifications without prior notice