



SC-SWLT4-FRNC Sensor cable

FibroLaser™

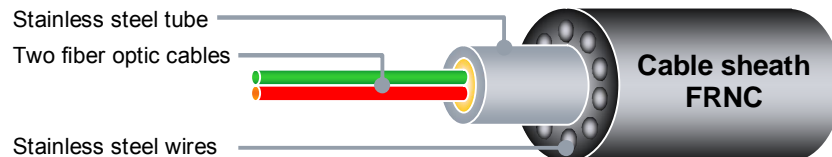
- Detects hot gases and radiant heat using linear temperature measurement
- Flame retardant and non corrosive sheath (FRNC)
- Consistent sensitivity throughout the entire sensor cable length
- Extended mechanical properties
- Redundancy due to double optical fibers – for safety on the highest level
- Infrared absorbing cable insulation (FRNC)
- No electronic parts – immune to electromagnetic interferences
- Robust construction – resistant to environmental influences
- Easy installation
- No maintenance required
- High durability (up to 30 years)
- VdS approval (G211076)

Sensor cable setup

The sensor cable comprises an infrared absorbing cable insulation FRNC (Flame Retardant Non Corrosive (HM4)). FRNC is a halogen-free, flame-retardant material. During the combustion of FRNC, no acids are released.

The fiber optic cables are multimode waveguides with the gradient 62.5/125 μm as well as international standard dimensions and properties.

Cross-section through a sensor cable



Application-dependent advantages

Road tunnels:

- Early fire detection in spite of exhaust gases, dirt and moisture
- No operational interruptions for maintenance purposes

Railway tunnels:

- Early fire detection in spite of dirt and moisture
- No operational interruptions for maintenance purposes

Recycling facilities:

- No false alarms caused by dust and dirt

Conveyor belts:

- Early fire detection even in changing climatic conditions

Optical fiber characteristics

Fiber type	graded index 62.5 / 125 μm
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Das Sensorkabel erfüllt die herstellerepezifischen Richtlinien der Systemkalibrierung für den störungsfreien Betrieb als faseroptisches Temperatursystem.

Mechanical characteristics

Cable diameter	4.0 mm
Outer sheath color	black
Outer sheath material	FRNC (HM4)
Number of fibers	2
Cable weight	44 kg / 1000 m
Max. tensile strength long- / short term	1100 N / 2000 N
Min. bending radius without- / with tensile loading	40 mm / 80 mm
Repeating bending (radius 80mm)	500
Impact resistance (number impacts with 1Nm)	20
Max. crush resistance	10000 N/dm
Max. distance between fixations / recommended	4 m / 1 m

Electrical characteristics

Sheath insulation	DC 5000 V _{eff}
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Temperature range

Operating and storage temperature	-25...+85 °C
Installation temperature	-5...+50 °C
Short term temperature (max. 60 min)	-50...+150 °C

Standards

Flame propagation	IEC 60332-1-2
Smoke density	IEC 61034-2
Content of halogen acid gas	IEC 60754-1, IEC 60754-2
Temperature cycling	EN 50200 – PH 90 (90 min, 830°C, $\Delta\alpha < 3 \text{ dB @ } 1300 \text{ nm}$)
Cable Standard	IEC 60794
Fiber Standard	IEC 60793

Ordering information

Designation	NKT Photonics part number
SC-SWLT4-FRNC	28030504

Transportation on cable drum (weight = 15 kg / width = 520 mm, diameter = 800 mm)

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