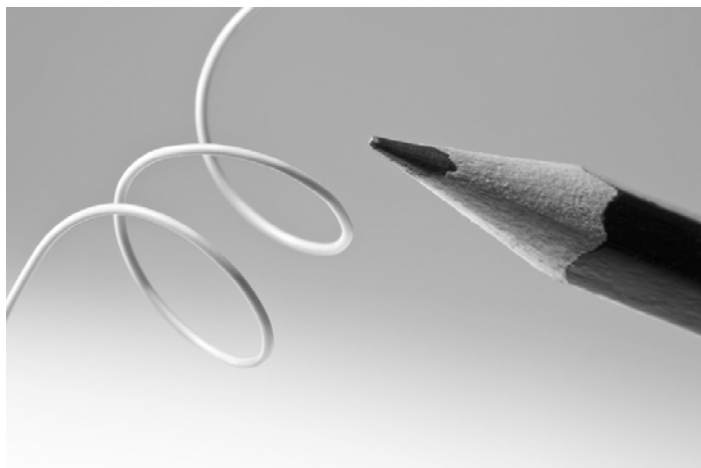


OptiMet-PKF

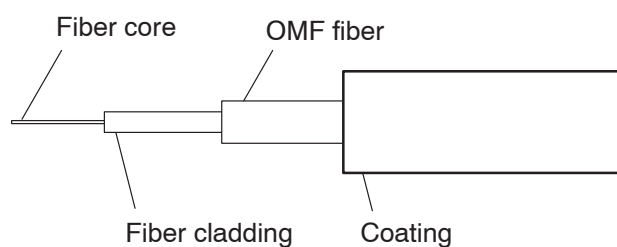
Coated strain
measuring fiber

Characteristic features



- Optical fiber based on fiber Bragg grating
- Standard version: 60cm distance between individual gratings, distance between Bragg wavelengths 5nm
- Simple installation
- Robust, resistant to most chemicals
- Strain transfer with defined gage factor
- Insensitive to electromagnetic interferences
- Application in Ex-areas possible
- Lower wiring outlay compared to electrical strain gauges
- Lower mass of glass fiber compared to standard connecting cables

Principal layout



Specifications

Design		OptiMet-OMF glass fiber embedded in coating with Bragg grating
Core diameter of glass fiber, approx.	μm	6
Diameter of fiber cladding, approx.	μm	125
External diameter of OMF fiber, approx.	μm	195
Outer diameter with coating, approx.	μm	700 ± 50
Connection (plug) ¹⁾		FC/APC
Available Bragg wavelengths ²⁾	nm	Bragg wavelength between 1515 nm and 1585 nm with 5 nm spacing
Bragg wavelength spacing tolerance	nm	± 1
Gage factor		Approx. 0.79 (stated on the packaging)
Gage factor tolerance	%	± 2
Reference temperature	°C	23
Operating temperature range	°C	-40 ... +80
Storage temperature range	°C	-40 ... +80
Temperature response ³⁾ (thermal expansion coefficient of measurement object 0 μm/m/K) Temperature response as function of wavelength variation $\Delta\lambda/\lambda_0$ per K	μm/m/K ppm/K	6.4 5.1
Tolerance of temperature response	μm/m/K	± 1
Maximum elongation at reference temperature when using X120 adhesive		
Strain in positive direction	μm/m	7000 (0.7%)
Strain in negative direction	μm/m	7000 (0.7%)
Smallest bend radius at reference temperature	mm	10
Preferred bonding material		X120

¹⁾ 1.5 m Pigtail spliced on one end.

²⁾ Standard configuration with 13 Bragg gratings, grating to grating distance 60 cm, 1.5 m Pigtail spliced on one end; available ex stock. Customer-specific configurations on request.

³⁾ The thermal expansion coefficient of the measurement object must be added after attaching the fiber.

Subject to modifications.

All product descriptions are for general information only. They are not to be understood as a guarantee of quality or durability.

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