

Mountable Strain Sensor MS-01

Description

The mountable strain sensor MS-01 measures the deformation between its anchoring points. The fiber is fixed inside a ruggedized housing, which is mounted on a structure by using two anchoring points. The sensor is configured so that the distance between both anchoring points can be chosen between 70 and 100 mm. The sensor has a connector at both ends in order to make series configurations possible.



Features

- Detection of displacements with sub-micrometer precision
- Sensors can be placed in series and hereby reducing the cabling to a minimum
- The strain can be derived by dividing the displacement with the distance between the anchoring points.
- Monitoring compression as well as tension
- Watertight and ruggedized housing, applicable in harsh environments

Applications

The Mountable Strain sensor MS-01 can be applied for the detection of strain changes and for crack or fissure formation in various structures. The anchoring points can be bolted inside the concrete or welded against the structure in case of metallic construction. The sensor is fixed to these anchoring points using nuts. These nuts can be used to apply some pre-tension on the sensor in order to monitor besides elongation also compression. When temperature variations are expected, a temperature sensor is recommended for compensation purposes.

Standard specifications

Parameter	Value
Displacement resolution ¹	< 0.04 µm
Displacement precision ¹	< 0.08 µm
Displacement range ²	200
Temperature range ³	-20 °C to +60 °C
Housing material	SS316
Housing dimensions	Ø12 mm x 176 mm
Distance between anchoring points	70 to 100 mm
Fixation type	M12 x 1.25
Pigtail diameter	3 mm
Pigtail length ³	1.5 m
Pigtail material	LDPE
Connector type	FC/APC
Water tightness ⁴	IP68

¹ Taking into account a depolarized measurement device with a 1 pm wavelength resolution and precision.

² When compression measurements are required, the sensor needs to be installed with some pre-strain.

³ Extendable on request.

⁴ Watertight at 10 bar for 12 hours.

Ordering information

Example:

M	S	0	1	-	0	9	-	0	0	-	F	A	-	0	0	-	F	A
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Product	
MS-01	Mountable Strain

Nominal wavelength	
Standard	
01	1510 nm
02	1515 nm
03	1520 nm
04	1525 nm
05	1530 nm
06	1535 nm
07	1540 nm
08	1545 nm
09	1550 nm
10	1555 nm
11	1560 nm
12	1565 nm
13	1570 nm
14	1575 nm
15	1580 nm
16	1585 nm
Custom Contact sales department	

Connector type left	
Standard:	
FA	FC/APC
Custom: Contact sales department	

Connector type right	
Standard:	
FA	FC/APC
Custom: Contact sales department	

Pigtail length left	
Standard:	
00	1.5 m
Custom: length in XX meters	

Pigtail length right	
Standard:	
00	1.5 m
Custom: length in XX meters	