

Mountable Strain Sensor MS-05

Description

The mountable strain sensor MS-05 makes use of the internal strain sensitivity of the FBG. The FBG is fixated inside a ruggedized housing, which makes it possible to measure both extension and compression after installation.



The sensor can be mounted on a structure using the two anchoring points with an outer thread M12 x 1,25. The sensor is configured so that the distance between both anchoring points will be about 60 mm. The sensor is connectorised at both ends to make series configurations possible.

Features

The mountable strain sensor MS-05 can measure the relative displacement between the two anchor points with a resolution of 0,05 μm and an accuracy of 1 μm . The total displacement range is 250 μm . Strain values can be obtained by dividing by the final fixation distance (after installation) between both anchor points. The sensor is also sensitive to temperature changes. In order to compensate for these influences a temperature sensor is recommended when large temperature variations are expected. The sensor can be used in harsh environments and is watertight according to IP68 BSEN60529.

Applications

The mountable strain sensor MS-05 can be applied for measuring small displacements, cracking or fissurisation of walls and structures.

Standard specifications

Parameter	Unit	Value
Displacement resolution ¹	μm	0.05
Displacement accuracy ¹	μm	1 μm
Displacement range	μm	250
Pigtail diameter	mm	3
Pigtail length	m	1,5
Pigtail material	-	LDPE
Housing material	-	SS316
Connector type	-	FC/APC
FBG Wavelength (in steps of 5 nm)	nm	1515-1585
Dimensions	mm	$\varnothing 12 \times 100$
Fixation type	-	M12 x 1,25
Water tightness ²	-	IP68 BSEN60529
Temperature range	$^{\circ}\text{C}$	-10 to +60

¹ Strain resolution/accuracy can be obtained by dividing by the distance between both fixation points after installation. ² 10 bar for 12 hours

Note: The reported resolution value assumes the use of a measurement unit with a resolution of 1 μm .