

Mountable strain sensor LMSS-03



BASIC CHARACTERISTIC

- Short gauge strain sensor with 8-10cm measuring base (gauge length)
- LMSS-03 offers measuring of strain changes in $\mu\epsilon$ or μm units between its own anchoring points
- Pre-strain setup during installation up to $\pm 5000\mu\epsilon$
- LMSS-03 can be connected in series configuration

BENEFITS

- Can be both concrete embedded and surface mounted
- Adjustable pre-strain during installation
- Customizable gauge length

APPLICATIONS

- Strain monitoring
- Rebar strain or force monitoring (also embedded in concrete)
- Combined with a temperature sensor the LMSS-03 offers temperature compensated strain monitoring

PERFORMANCE PROPERTIES

| | | |
|---|-----------------------------|-------------------------------------|
| Strain range ¹⁾ | $\pm 5000\mu\epsilon$ | [$\pm 200\mu m$ or 0-400 μm] |
| Accuracy (guaranteed) ²⁾ | $< 0.50\% FS$ ⁴⁾ | $< 2\mu m$ |
| Accuracy (typical) ²⁾ | $< 0.23\% FS$ ⁴⁾ | $< 1\mu m$ |
| Precision (guaranteed) ³⁾ | $< 0.25\% FS$ ⁴⁾ | $< 1\mu m$ |
| Precision (typical) ³⁾ | $< 0.15\% FS$ ⁴⁾ | $< 0.6\mu m$ |
| Temperature compensation | External -20°C | |
| Operating Temperature range | to +60°C | |
| Ingress Protection rating ⁵⁾ | IP 67 | |

1) Calibrated in μm on demand

2) Accuracy is established for each individual sensor under laboratory conditions and it includes hysteresis, non-linearity and repeatability of the sensor.

3) Precision is established on a batch basis and it includes hysteresis, non-linearity, repeatability and reproducibility of the sensor.

4) FS: full scale range

5) On demand upgradable to IP68

PHYSICAL PROPERTIES

| | |
|--|-----------------------------------|
| Housing material | Stainless steel SS316L |
| Anchoring distance | 80 up to 100mm |
| Dimensions (without cable) ¹⁾ | Ø12 mm x 176 mm [Washer Ø24 mm] |
| Weight (without cable) | 600g |
| Cable type | 3mm PE (Dyneema) reinforced cable |
| Cable length ²⁾ | 1m |
| Cable Bend Radius (dynamic) | 40mm |
| Cable Bend Radius (static) | 30mm |
| Connector type ³⁾ | FC/APC |
| Mounting method | Mounting brackets |

1) For further dimensions details see the product drawing

2) Cable length is extendable on request

3) Other connector types available on request

PACKAGING

Cardboard box with dimensions: 370x290x45mm

QUALITY STATEMENT

- MS-01 sensor is compliant with IEC 61757-1-1:2016/Ed1.0 and IEC 61757:2018
- All sensors are 100% tested and calibrated
- Sensor is manufactured according to ISO 9001:2008 and ISO 14001:2004

OPTIONAL ACCESSORIES

- Mounting brackets – used for sensor mounting to the measured object. Brackets can be screwed, glued or welded to the surface
- Watertight connector protection – used for FC/APC connector protection during the installation against dust and water – IP67 rated
- Longer cable pigtailed – used to extend the cable lengths from 1m up to 20m



engionic Fiber Optics GmbH
Ernst-Lau-Straße 8 | 12489 Berlin
Phone +49 (0) 30 62 88 73 40
fiber-optics@engionic.de
www.engionic-fiber-optics.de