

Data Sheet

OA-1

FEATURES

- All-Optical
- Metal-free
- Passive, i.e. no need for local power
- High Sensitivity
- ATEX zone 0 compatible
- Recalibration not needed
- Constant acc. measurement (DC)

APPLICATIONS

- Structural health monitoring
- Predictive maintenance
- Production optimization
- Large sensor networks
- Remote sensing



GENERAL Description

The OA series is a series of metal-free optical MEMS accelerometers with high bandwidth and ultra-high sensitivity for harsh and demanding environments. The technology is enabled by Refractive Index Modulation™ which surpasses FBG technology by more than 100 times in sensitivity and frequency range but can still be utilized by a standard FBG read-out systems.

The accelerometer is passive, i.e. no local power source is required, multiplexing compatible and well suited for remote sensing in areas with electromagnetic fields, lightning risk, volatile and explosive chemicals and where small sensor size and low weight is important.

Certifications

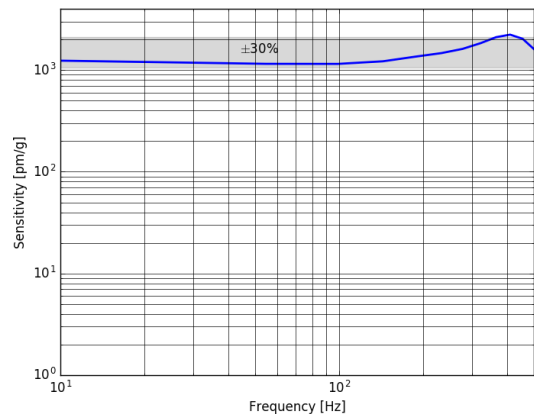
- EN61000-4-2: 25 KV electrostatic discharge
- EN61000-4-3: RF EMF immunity
- EN61000-4-8: Static magnetic field immunity

- EN61000-4-9: Pulsed magnetic field immunity
- EN68000-2-3: Stationary Humidity
- EN68000-2-30: Damp heat, cyclic

Parameter	Typ. Value	Unit
Center Wavelength	1510 to 1590	nm
Sensitivity	Up to 1.000	pm/g**
Frequency range*	Up to 10.000	Hz
Acceleration range	+/-5 to +/- 1.000	g**
Temperature sensitivity	10	pm/°C
Operating temperature	-40 to 80	°C
Connector	LC	-
Cable length	1	m
Connector	LC- UPC	-
Weight	5	gram
Dimensions	Ø27x7	mm

* (+/- 10%). An unpolarized light source or PM fiber is recommended for optimal performance.

** g is the gravitational field.



Example of frequency response