

Fiber Bragg Grating Sensor Array | os1200

Applications

Long-term Monitoring, Risk and Damage Assessment of:

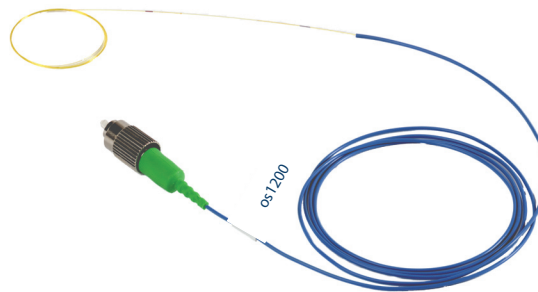
- Civil Structures/Civionics (bridges, dams, tunnels, buildings)
- Energy (wind turbines, pipelines, nuclear reactors)
- Aerospace Vehicles (composite structures, wind tunnels, dynamic tests)
- Oil & Gas (platform structural health monitoring)
- Marine Vessels (hull, mast, rudder, submarine pressure tests)
- Transportation (railways, roadways)

Features

- Multi-Sensor Arrays: Easily facilitates many sensors on a single optical connection
- Remote Sensing: Long distances between sensors or between sensors and instrument
- Easy to Install: In most cases, can be mounted directly to concrete or composite structures
- Simple, Low Cost Installation: Due to multi-sensor array feature
- Non-Electrical Sensor Design: Eliminates ESD and spark hazard, and immune to electromagnetic interference
- Ideal for Harsh Environments. Small in size, made of optical fiber, uses lightwaves not visible to the naked eye, no electromagnetic field generation by the sensor

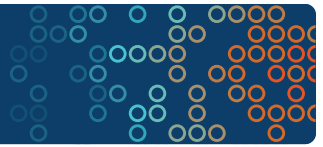
Description

The os1200 Fiber Bragg Grating (FBG) Sensor Array is a series of five FBG sensors in polyimide coated fiber and without any splices. It can be mounted directly on to a structure to provide an optical alternative to conventional strain or temperature sensors (see Features). Installation of an os1200 is easy as it is mounted using conventional techniques and is designed for use as a single sensor or in series as part of a FBG array of sensors.



All Micron Optics sensors demonstrate excellent compatibility with Micron Optics sensing instruments and the combination is shown to be as accurate and linear as conventional sensing systems.

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Specifications

os1200

Physical Properties	
Number of Sensors	5
Sensor Spacing	1 m ± 50 mm
Strain Limits	5,000 µε
Strain Sensitivity	~ 1.2 pm/µε
Operating Temperature Range	- 40 to 120°C
Thermal Response	~ 9.9 pm/°C
Fiber Lead Length	1 m ± 100 mm, each end
Fiber Type	SMF28-Compatible
Fiber Coating	Polyimide
Fiber Re-Coating Diameter	145 - 165 µm
Buffer Tube	0.9 mm loose tube included with optional FC/APC connector
Fiber Bend Radius	12 mm

Optical Properties	
Center Wavelengths	1526, 1536, 1546, 1556 and 1566 nm (±1 nm)
Peak Reflectivity (Rmax)	> 70%
FWHM (-3 dB point)	0.25 nm (± .05 nm; apodized grating)
Isolation	> 12 dB (@ ± 0.4 nm around center wavelength)
FBG Length	< 10 mm

Ordering Information

os1200 -1xx - 1yy (Example: os1200 -1FC- 1UT)

1xx: Cable 1, Length & Connector 1 Standard Cable Length, 1m UT Underminated FC FC/APC Connector	1yy: Cable 2, Length & Connector 1 Standard Cable Length, 1m UT Underminated FC FC/APC Connector
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