

Pebble: Compact FBG Based Accelerometer

The Optilab Pebble is designed for Oak Creek Fiber Sensing System. A compact and lightweight Fiber Bragg Grating (FBG) based accelerometer, optimized for structural health monitoring (SHM) or machine condition monitoring (CMS). The Pebble can be attached to a machine (pump, compressor, generator or rotor ,etc.) Alternatively, Pebble can be incorporated to a structure such as bridge, dam, building, etc. Pebble's ruggedized sealed metallic body and armored cables allows it to be placed in a wide range of environments. Due to its unique design, the Pebble has a wide operating frequency range while maintaining an high level of sensitivity.

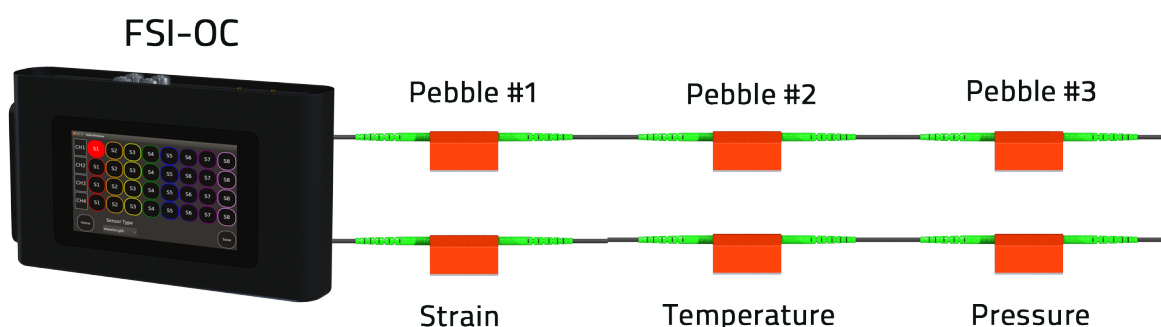
Features

- Sub Hz to 1000 Hz
- 30 pm/g Sensitivity
- Highly Reliable
- Compact, Lightweight
- Sealed Steel Casing with Armored Fiber
- EMI & RFI Immune, Intrinsically Safe

Applications

- Structural Health Monitoring (SHM)
- Condition Monitoring System (CMS)
- Energy Systems Monitoring
- Production Equipment Diagnostics
- Hazardous Environments

Application Diagram



PATENT PENDING

Pebble FBG Based Accelerometer

OPTIONS

P-X-YYYY

- X 1: 1 FC/APC connectors
2: 2 FC/APC connector
- Y Wavelength in nm

Performance Specifications	
Operation Temperature	-40°C to +80°C
Sensitivity	30 pm/g at 500 Hz
Operation Frequency Range	Sub Hz to 1000 Hz
Resonance Frequency	> 1100 Hz typ.
Transverse Sensitivity	<5% sensitivity
Maximum Acceleration	70 g peak

TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

Optical Specifications	
Wavelength Range	1500 to 1600 nm, customizable
Peak Reflectivity	> 85%
FWHM	0.25 nm typ.
Side Lobe Suppression Ratio	> 15 dB

WEB ORDER

To order, please visit OEQuest.com.



Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

Physical Specifications	
Dimensions (excluding cables)	33 x 37 x 28 mm
Weight (excluding cables)	135 g
Cable Length	1m ± 10 cm, customizable
Cable Bend Radius	≥ 15 mm
Cable Type	3 mm Armored Cable
Connectors	FC/APC, options available
Mounting Method	10-32 UNF

Mechanical Drawing

