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ATHERMAL FIBER BRAGG GRATING STRAIN SENSOR (FRMS 12250)

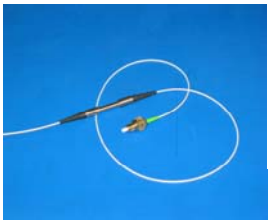
**Patents pending*

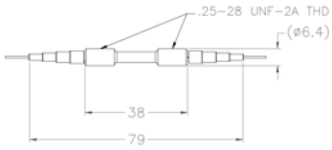
- **Reliable and Accurate**
- **Detachable and reusable when used with mounting brackets**
- **Athermal packaging, extremely stable from -20°C to 70°C**
- **EMI resistant**
- **Central wavelength adjustable**
- **Ruggedly packaged in mechanical housings; allows operation under harsh environments**
- **Compact design with flexible mounting scheme**

The Fibera **Athermal Fiber Bragg Grating Strain Sensor (FRMS 12250)** is extremely stable from -20 to 70°C, and is ruggedly packaged in a mechanical housing. When used with mounting brackets, the sensors are detachable and reusable, making the sensors very versatile in comparison to those based on conventional electrical or optical designs. These sensors can operate under harsh outdoor environmental conditions or to be embedded in reinforced concrete structures to detect minute tension or compression strain changes. The FRMS 12250's compact form factor allows users to install these sensors in places with stringent dimensional constraints. It also allows the user to daisy-chain as many as >20 units in a single channel for use in structural health monitoring. FRMS 12250 vastly improves structural health monitor's sensing capability by reducing the bandwidth requirement for each sensor and by eliminating the need for temperature sensing and calibration.

SPECIFICATIONS

Parameters	Specifications
Dimensions	79mm long x 6.4mm dia.
Operation Range	1520 – 1620nm
Center Wavelength	± 0.1nm
Bandwidth	≤ 0.2nm
Thermal Stability	< 80 pm (-5°C-70°C)
Contrast	> 30 dB
Frequency Shift / µStrain	0.18GHz(1.45pm) / µStrain
PDL	≤ 0.2dB
Adjacent Channel Isolation	> 25dB
Reflectivity	> 90%
Fiber Type	SMF – 28
Package	Loose tube or 3mm cable
Storage Temperature	-40°C to 85°C
Operating Temperature	-20°C to 70°C
Pigtail Length	1.5m





Mechanical Dimensions