



**Solutions, When the Conventional Ones  
Run Out of Breath**



# L-BRACKET SENSOR

**FBG SENSORS & DETECTORS**

## Strain sensor for constant structure behavior monitoring

The Strain Sensor (FBGS-01) is a fiber optic strain long gauge sensor specially designed for long term monitoring of structure behavior. It uses the state of the art optical FBG approach, allowing you the continuous structural health monitoring. This helps you keep the critical infrastructure under constant supervision.

The strain sensor can be mounted directly on the surface of a structure, which enables the most accurate measurements of strain. It is supplied with two aluminum L-brackets and fasteners which facilitate the mounting on a structure. The strain changes are then measured as elongation, compression or bending of fiber between two fixed points.

### 100% passive sensor

As the sensor doesn't need the power supply, it easily monitors places without electricity and hazardous or hard to reach areas.

### Tension and compression

The sensor is pre-strained by default enabling monitoring of structure tension and compression at the same time.

### Universal platform

Together with the strain sensor you can also use additional sensor types (temperature, inclination, vibration, displacement, etc.).

## KEY PRODUCT FEATURES & BENEFITS

### Protected as IP68 rated devices

The protection comparable to the international standard rating of IP68 guarantees complete dust-tightness and protection against the effects of long periods of immersion in water.

### Connectivity

The sensor can be used as a standalone sensor or in series as part of a larger sensing network regardless of sensor interconnections.

### Installation costs

Installation and cabling for such sensor networks is much less expensive and less cumbersome than comparable electronic gauge networks.

### Immune to EMI/RFI

The sensor enables operation even in harsh environments, as the technology is fully passive, explosion safe and immune to electro-magnetic/radio frequency interference.

### Leverage existing fiber optic network

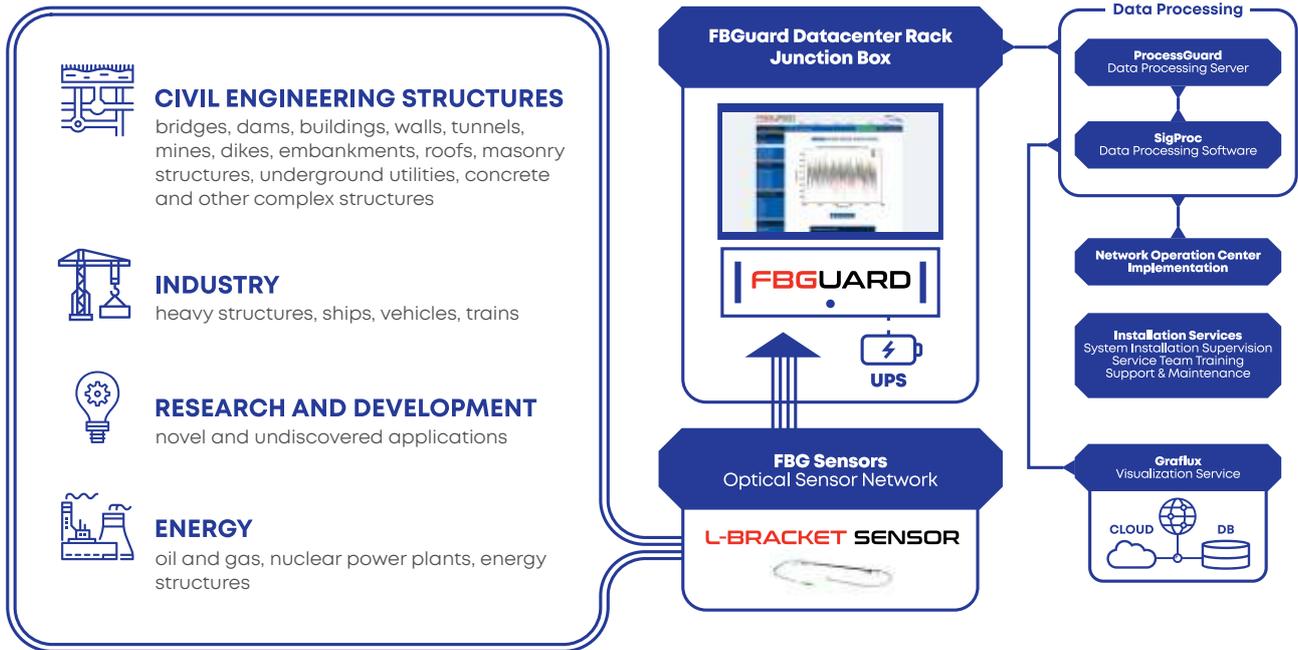
The connection between unit and sensors is ensured via standard telecommunication optical fibers (e.g. dark fibers), which is very economical even for a large area of monitored objects.

### Optional accessories

The strain sensor can be delivered with additional optional accessories like sensor protective cover, customized mounting anchors, connectors and many others.



# PROJECT REQUIREMENTS



# TECHNICAL PARAMETERS

## Optical, Environmental and Mechanical

Sensor length	0.250 m up to 2 m*
Strain range	-0.5 % shortening and +1 % elongation*
Strain sensitivity	1.2 pm/ $\mu\epsilon$
FBG central wavelength	1505 to 1590 nm @ FBGuard system typ.
Temperature sensitivity	10 pm/ $^{\circ}\text{C}$ The temperature compensation sensor FBGTC-01 is recommended.
Operational temperature range	-20 - +60 $^{\circ}\text{C}$
Waterproof design	IP68

## Fiber Optic Cable

Fiber type	SMF G.652
Fiber input/output	<b>Ruggedized</b> (protected against rough manipulation)
Lead in/out fiber length	1 m each side*
Fiber termination	<b>Bare fiber</b> (scissor cut for splicing) - default <b>FC/APC</b> - optional*

## Mounting

Mounting surface	Any
Mounting brackets	Aluminum L shaped brackets 60 mm x 45 mm x 31 mm size* Two mounting holes, 27 mm length Delivered together with the sensor

\* These parameters can be customized upon request.

**GET IN TOUCH WITH US**  
and we will recommend you the most suitable solution for your project.

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