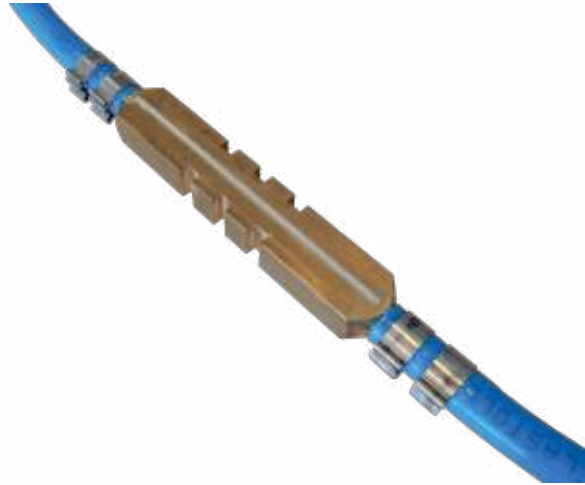




**Solutions, When the Conventional Ones
Run Out of Breath**



ANCHOR SENSOR

FBG SENSORS & DETECTORS

Long gauge strain sensor for structure behavior monitoring

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

The sensor is a fiber optic equivalent of an electrical strain gauge, which can be mounted directly on the surface or inside the structure. It is supplied with two specially designed anchors which facilitate a fixing to the structure. In this way, the fiber sensor makes direct contact with the construction and therefore accurately measures the strain of the monitored object. The strain changes are measured as elongation, compression or bending of a 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 tension and compression of any structure.

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.

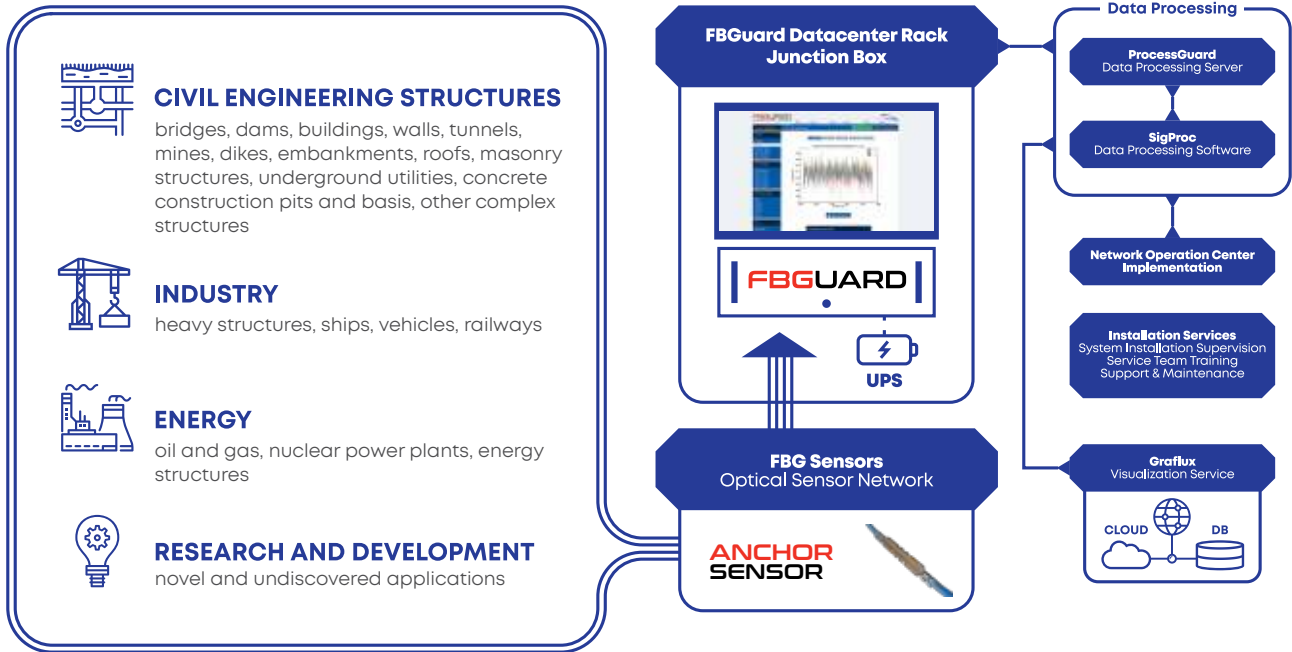
Leverage existing fiber optic network

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 typical
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	Ruggedized $\varnothing 6$ mm cable (protected against rough manipulation)
Lead in/out fiber length	1 m each side*
Fiber termination	Bare fiber (scissor cut for splicing) - default FC/APC - optional*

Mounting

Mounting surface	Any
Mounting anchors	Material: brass 90 mm x 16 mm x 10 mm size*

* 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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