

## GFA-01 GFRP fiber array sensor

### Basic characteristic

- ▲ GFA-01 is a fiber array with configurable number of FBG elements and their spacing over the fiber length. The outer layer is Glass Fiber Reinforced Polymer (GFRP) coat which protects the FBG sensors and ruggedizes the construction.
- ▲ GFA-01 is typically used for direct embedding or gluing to the measured surface to capture strain changes of the monitored structure.



### Benefits

- ▲ Embeddable or surface-mountable using dedicated glues.
- ▲ Effectively replacing numbers of individual sensors with multiple sensors in one-fiber-array design.

### Applications

- ▲ Strain changes detection
- ▲ Vibration monitoring
- ▲ Material deformation monitoring

### Customization options

- ▲ Number of FBG elements
- ▲ Length spacing of FBG elements
- ▲ Spectral characteristic of FBG's
- ▲ Connectors, protection tubing

### Performance properties

Strain range	±2500µε
Accuracy (guaranteed)	<0.5% FS
Accuracy (typical)	<0.23% FS
Precision (guaranteed)	<0.25% FS
Precision (typical)	<0.15% FS
Temperature compensation	External
Operating Temperature range	-20°C to +60°C
Ingress Protection rating	N/A

## GFA-01 GFRP fiber array sensor

Grating properties	Typical (standard)	Optional
FBG wavelength range	1510 - 1590 nm	1460 - 1620 nm
Nominal (central) wavelength tolerance	± 200 pm	--
Reflectivity	around 40%	1 - 99 %
FWHM between (3dB bandwidth)	450 - 550 pm	0,1 - few nm
SLSR (side lobe suppression)	> 15 dB	up to 20 dB
PDFS (polarization depended WL shift)	< 5pm	--
FBG length	< 5 mm	5-12 mm
Fiber coating	GFRP	----

### Physical properties

Active FBG element length <sup>1)</sup>	5-12mm
Connector type <sup>2)</sup>	FC/APC
Installation method	Embedding or direct surface gluing

<sup>1)</sup> Depends on the selected spectral shape

<sup>2)</sup> Other connector types available on request

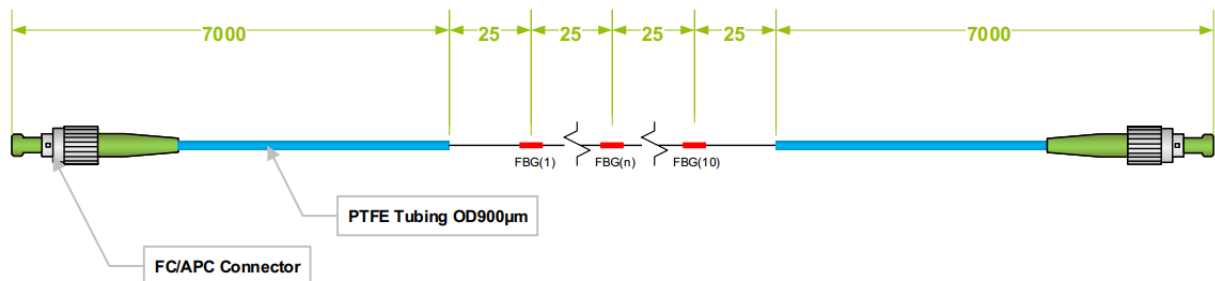
### Packaging

Cardboard box with dimensions: 370x290x45mm

### Quality statement

All sensors are 100% tested and calibrated at SYLEX  
 Sensor is manufactured according to ISO 9001:2008 and ISO 14001:2004  
 Sensor is compliant with IEC 61757-1-1:2016/Ed1.0 and IEC 61757:2018

### Product example



For more information contact our sales team at [sales@sylex.sk](mailto:sales@sylex.sk)

\* Specifications are subject to change without notice