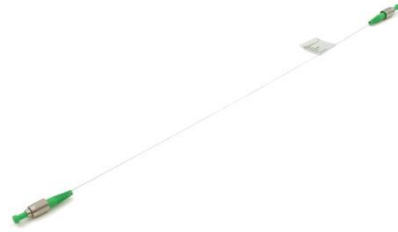


GFA-01 GFRP fiber array sensor

Basic characteristic

- ▲ GFA-01 is a fiber array with a 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 a one-fiber-array design.

Applications

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

Customization options

- ▲ Number of FBG elements and length spacing of FBG elements
- ▲ The 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
Strain sensitivity	1,2pm/µε
Temperature sensitivity	17pm/°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
Minimum Bend Radius	100 mm	----
Fiber coating	HT Acrylate	----

Physical properties

Active FBG element length ¹⁾	5-12mm
Connector type ²⁾	FC/APC
Installation method	The embedding or direct surface gluing

¹⁾ Depends on the selected spectral shape

²⁾ Other connector types available on request

Packaging

Cardboard box with dimensions: 370x290x45mm

Quality statement

GFA-01 sensor is compliant with IEC 61757-1-1:2016/Ed1.0 and IEC 61757:2018

All sensors are 100% tested and calibrated at SYLEX

The sensor is manufactured according to ISO 9001:2008 and ISO 14001:2004

For more information contact our sales team at sales@sylex.sk

* Specifications are subject to change without notice