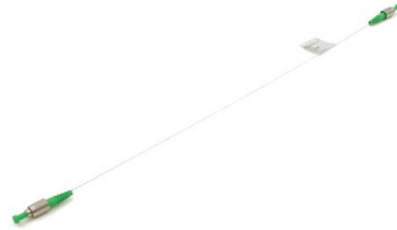


GFA-01 GFRP fiber array sensor

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 a 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/K
Ingress Protection rating	n/a

GFA-01 GFRP fiber array sensor

Grating properties	Typical (standard)	Note
FBG wavelength range	1510 - 1590nm	[Optional] 1460 - 1620nm
Nominal (central) wavelength tolerance	±1000pm	----
Reflectivity	>70%	----
FWHM between (3dB bandwidth)	<400pm	----
SLSR (side lobe suppression)	>10dB	----
PDFS (polarization-dependent WL shift)	<5pm	----
FBG length	~5mm	----
Minimum Bend Radius	100mm	----
Fiber coating	HT Acrylate, color blue	Strip & Recoat

Physical properties

Active FBG element length ¹⁾	~5mm
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