

FBG Strain Rossette (45° / 60°)

Description

FBG strain rosette is a three-dimensional strain measuring sensor based on fiber Bragg grating. It can monitor the main strain value and its direction of the measured object by measuring the spectral shifts of FBG. FBG strain rosette has some advantages including short gauge length, free from electromagnetic interference, long service life, convenient serial and parallel networking, and high stability.

Features

- Free from electromagnetic interference
- Convenient serial and parallel networking
- Good linearity
- No obvious hysteresis
- Good repeatability



Applications

- Suitable for application scenarios where traditional resistance strain gauges used
- Suitable for application scenarios where traditional surface-mounted resistance strain gauges used
- Suitable for harsh environments with the requirements of high anti-electromagnetic interference and explosion-proof

Specification

Strain	Unit	Specification
FBG Strain Rosette Angle	degree	45 or 60
Strain Sensitivity k_g	$\mu\text{m}/\mu\epsilon$	~1.3
Strain Range	$\mu\epsilon$	± 2500
Strain Accuracy	$\mu\epsilon$	5
Strain Resolution	nm	1
Linearity	%	99.9

Temperature	Unit	Specification
Temperature Sensitivity k_t	$\mu\text{m}/^\circ\text{C}$	~28
Temperature Range	$^\circ\text{C}$	-40 to +85

Optical Parameters	Unit	Specification
Central Wavelength	nm	1510-1590
Reflectivity	%	≥10
SMSR	dB	≥15

Mechanical Parameters	Unit	Specification
Dimension	mm	~47×44×0.7 (45°); ~56×44×0.7 (60°)
Connector Type	-	FC/APC or Customized
Pigtail Length	m	1.0 or Customized
Fiber Bending Radius	mm	10
Pigtail Protection Type	-	Optical fiber ribbon +0.9mm tube
Pigtail Type	-	Ø 3mm Armored Cable or Indoor Cable
Reliability	-	Conform to GR-1221-Core