

FBG Strain Rosette

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.

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

Features

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



Specification

Strain	Unit	Specification
FBG Strain Rosette Angle	degree	45 or 60
Strain Sensitivity k_ϵ	pm/ $\mu\epsilon$	~1.3
Strain Range	$\mu\epsilon$	± 3000
Linearity	%	99.9
Temperature	Unit	Specification
Temperature Sensitivity k_T	pm/ $^{\circ}\text{C}$	~28
Temperature Range	$^{\circ}\text{C}$	-40~+85
Optics	Unit	Specification
Central Wavelength	nm	1510-1590
Reflectivity	%	≥ 10
SMSR	dB	≥ 15

Machinery	Unit	Specification
Dimension	L(mm)×W(mm) ×T(mm)	~47×44×0.7 (45°) ~56×44×0.7 (45°)
Connector Type	-	FC/SC/LC/MT
Pigtail Length	m	1.0
Fiber Bending Radius	mm	10
Pigtail Protection Type	-	Optical fiber ribbon +0.9mm tube
Reliability	-	Conform to GR-1221-Core