

# FBG-Displacement Gauge

## Applications

- Continuous monitoring of construction joints and crack/fissure growth in rock, concrete, and structural members.
- Long-term measurement across key expansion joints in bridges, buildings, and tunnels.

## Features

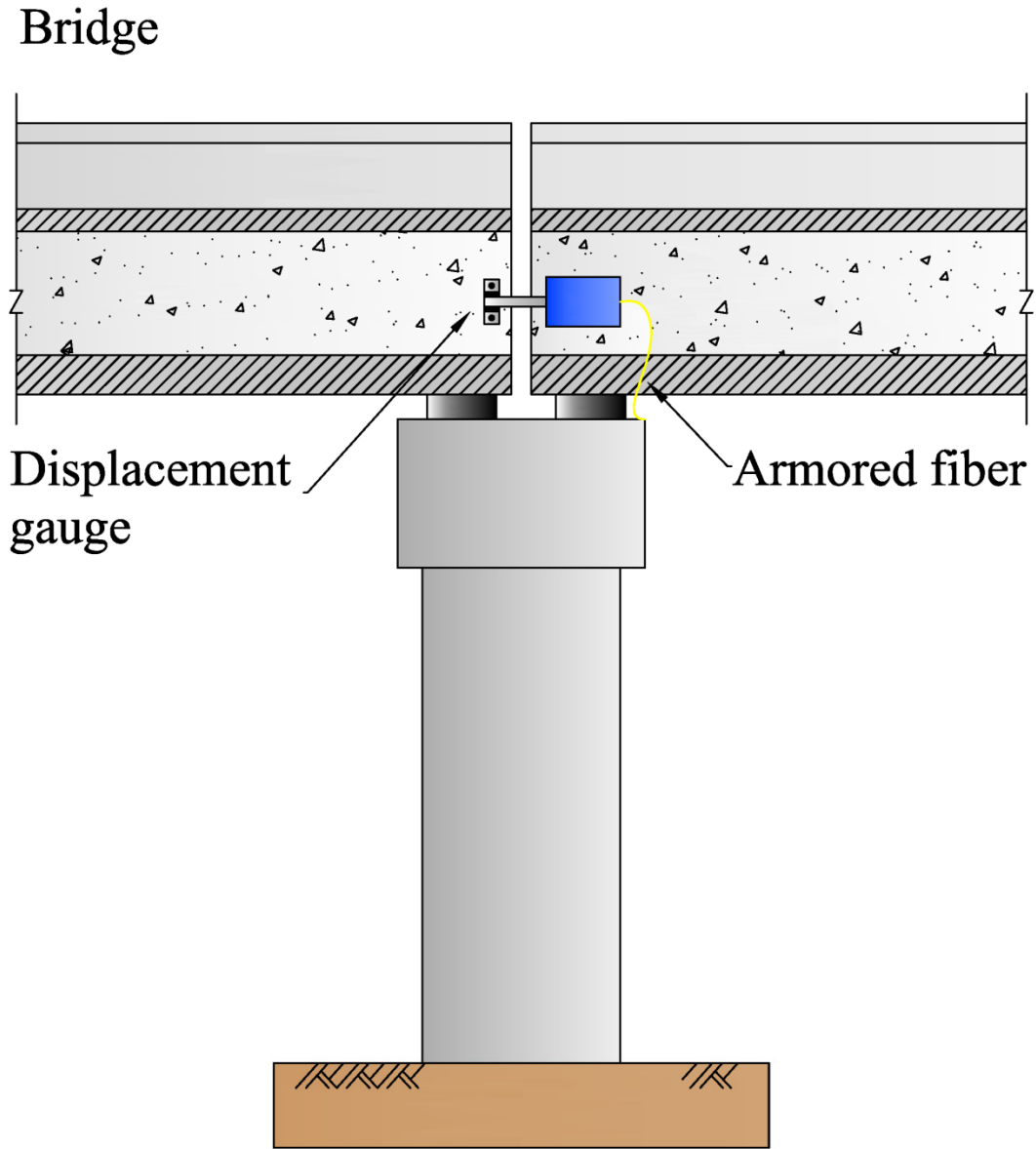
- Immune to EMI and short circuits
- Low noise long distance signal transmission
- Connecting multiple sensors to a common optical fiber



## Description

Linear motion is measured by spring leaf moving against a wedge mechanism. The spring leaf is equipped with a roller at its tip. Relative movement between roller and wedge created bending to the spring leaf. A pair of FBG attached to the two opposite sides of the spring leaf measured the spring leaf bending and compensated temperature effects. FBG peak wavelength is linearly related to the amount of movement between roller and wedge. The device provides stable readings on a long term basis.

# FBG-Displacement Gauge



**FBG310 bolted to surface of a bridge.**

# FBG-Displacement Gauge

Specifications	FBG-Displacement Gauge
<b>Physical Properties</b>	
Operating Temp. Range	0 to 80°C
Displacement range	50mm, 100mm
Resolution <sup>1</sup>	<0.04% Full scale range
Accuracy	±0.4% Full scale range
Connectors	FC/APC, SC/APC or customer specified
Dimensions	mm
Weight	~550g
<b>Optical Properties</b>	
Peak Reflectivity (Rmax)	>70%
FWHM (-3dB point)	0.25nm(±0.05nm)

#### Notes:

1. Dependent on FBG interrogator.

## Ordering Information

**FBG3100-XXX-15YY**

**XXX:** Displacement range

050: 50mm

100: 100mm

**YY:** FBG Wavelength

Standard: 12, 18, 24, 30, 36, 42, 48, 54, 60,

66, 72, 78, 84