

# SST-500 Ultra High Sensitivity Fiber Bragg Grating Inclinator

Aniber's SST-500 Fiber Bragg Grating based ultra-high sensitivity inclinometer is designed for high precision inclination measurement with an accuracy of 0.01 degree\* under wide temperature operation range of -20 °C to 60 °C. This sensor is particularly suitable for tilt angle measurement in civil and structure engineering applications. Sensor design of SST-500 employs two FBGs, the wavelength changes of these FBGs follow the inclination in opposite direction. Thermal effect can therefore be completely isolated with this differential output configuration. Wavelengths of 850nm and 1550nm with standard operational measurement ranges of +/- 1.5 degree and +/- 3 degree are available.

\* Depends on interrogator wavelength measurement accuracy

## SPECIFICATIONS

PERFORMANCE PROPERTIES		
Operation Wavelength	815 – 875 nm	1510 – 1590 nm
Measurement Range	+/- 1.5 degree	+/- 3 degree
Resolution	0.01 degree	0.01 degree
Operation Temperature	-20 °C – 60 °C	
Sensitivity <sup>1</sup>	1.3 nm/degree typ.	2.1 nm/degree typ.
PHYSICAL PROPERTIES		
Dimension (W x D x H)	150 mm x 70 mm x 233 mm	
Weight	3 kg	
Material	Body – Steel; Case – Aluminium	
Fastening Method	2 x M6 Screws	
OPTICAL PROPERTIES		
FBG Peak Reflectivity	>70 %	
FBG FWHM (-3 dB)	0.25 nm (+/- 0.05 nm)	
FBG Isolation <sup>2</sup>	>15 dB	
Optical Fiber Type	HI780 compatible	SMF-28e compatible
Cable Length <sup>3</sup>	1 m (other on request)	
Cable Type <sup>3</sup>	3 mm armored cable	
Optical Connector	2 x FC/APC (others on request)	

1 Sensitivity defined as the change of the wavelength difference of the two embedded FBGs.

2 At +/- 0.4 nm of center wavelength.

3 Tilt sensor version with cable

### Key Features

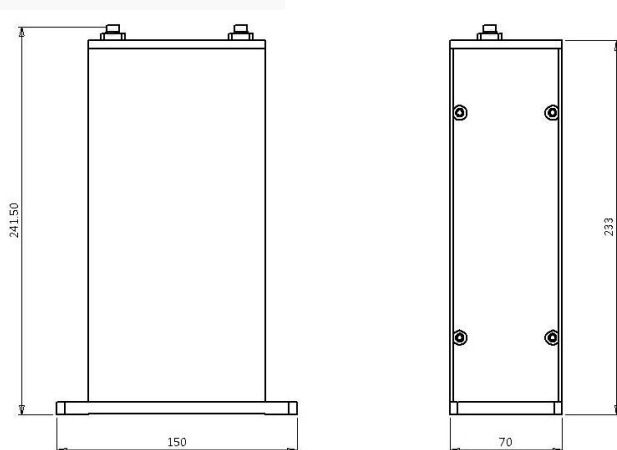
- Ultra-high Sensitivity
- Wide Operational Temperature Range
- Self Temperature Compensated
- Custom Measurement Range Available

### Other Sensors Available!

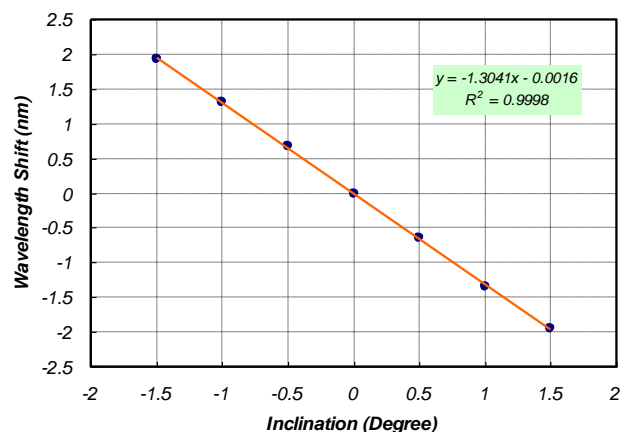
- Displacement
- Temperature
- Vibration
- Acceleration
- Strain

**PLEASE CONTACT FOR SPECIFICATIONS!**

### DIMENSIONS



### TYPICAL PERFORMANCE (850 FBGs)



Specifications are subjected to change with a view of enhancing system performance without prior notice.  
Design and specifications can be customized to suit a range of customer requirements.

