

## Description

The T510 is a high sensitivity sensor designed for monitoring the slow tilt / inclination of civil and geo structures as an equivalent to traditional vibrating wire electrical sensors. It is designed for mounting on walls or platforms.

The T510 optical sensor consists of two Fiber Bragg Grating (FBG) sensing elements embedded in a traditional industrial grade tilt sensor frame with protection for over tilting and shock. This self temperature-compensated sensor yields excellent wavelength to angle linearity. It can be daisy chained. IP67 protection.

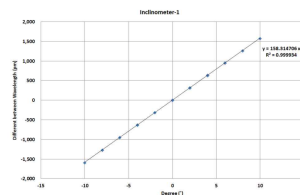
The T510 tilt sensor is designed to make handling and installation fast, easy and intuitive. It delivers the many advantages inherent to all FBG based sensors. The sensor's specifications listed herein represent the most popular configuration. The manufacturing process for the T510 allows for significant variations in sensor construction including other angle ranges, wavelengths, termination by other types of optical connectors, as well as cable availability in custom lengths. The sensors are shipped "mechanically locked" to ensure the sensitive angle measurement mechanism is not damaged during transport and installation.



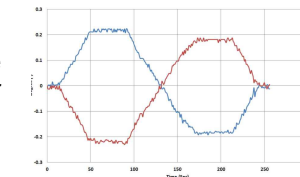
Sensor manufactured and sold by Technica under International Patent License from KAISEN Co. Ltd.

## Key Features

**Excellent linearity.** The proven opto-mechanical design of the T510 and the advanced fiber to steel bonding techniques used in producing this sensor yield a simple transducer configuration of high linearity and repeatability.

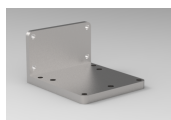


**Tilt /inclination angle monitoring.** Well suited for projects that include the need to monitor gradual tilt. Near zero cross-sensitivity effect. Produced in sizes to serve an expanding spectrum of applications.



**Long-term monitoring.** The FBG elements at the core of this sensor combined with the steel elements and frame create an ideal angle transfer mechanism from the test structure to the FBG core.

**Easy deployment.** The original design eliminates the high precision alignment and diligent surface preparation of the structures to be monitored that is normally required of other sensors targeting a similar measurement. Optional mounting plate available.



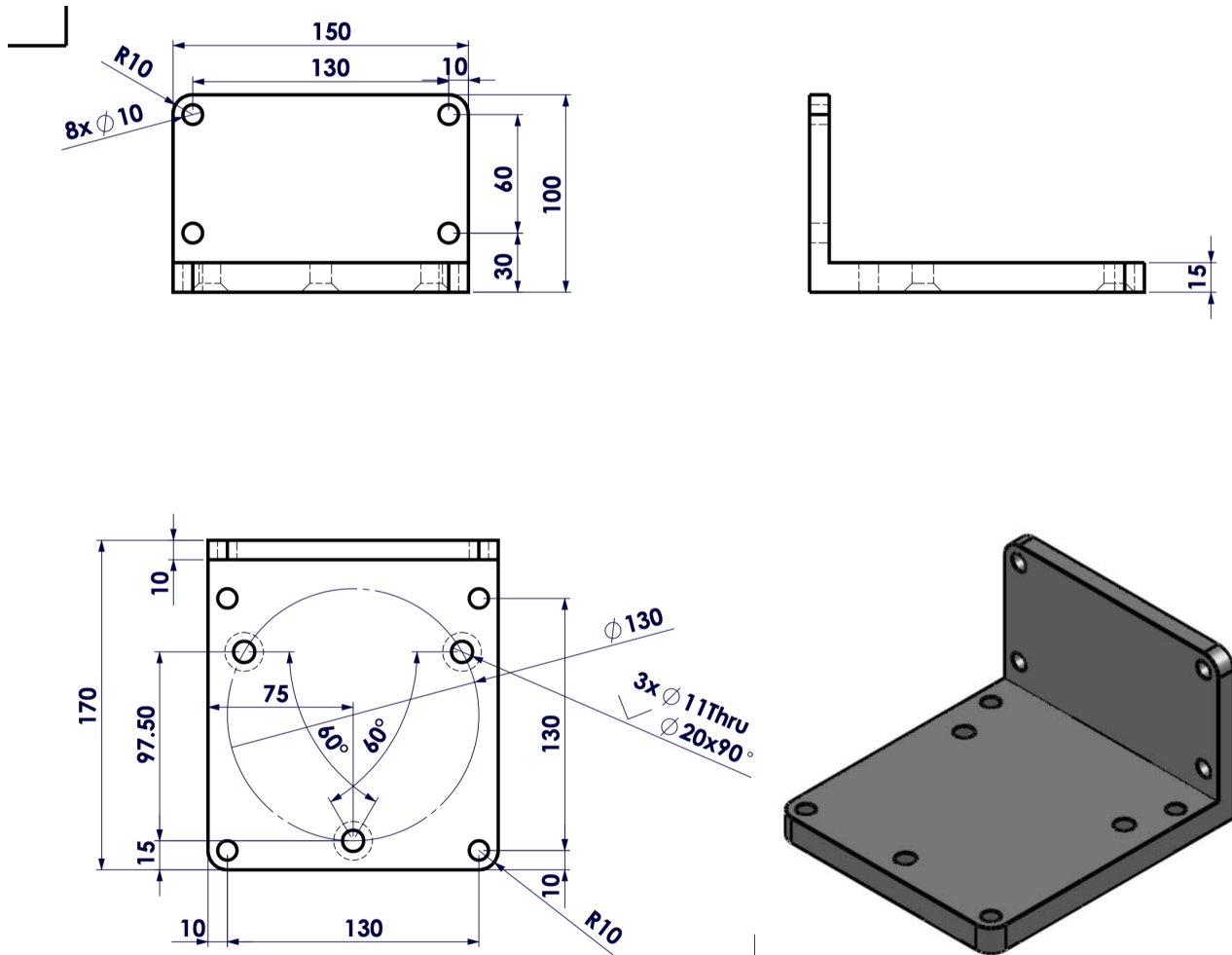
**Low cost and field proven.** The T510 sensor construction focuses on demanding projects that require both low cost per sensing point and stable operation over the long-term. Field deployed since 2010.

Parameter	Specifications
Angle / Tilt Range (1 Axis, near ZERO crossover)	+/- 10 Degrees (smaller angles yield higher sensitivity)
Sensitivity (at +/- 5° range)	160 pm / Degree
Resolution	0.01 Degree
Accuracy	+/- 0.5% F.S.
Wavelengths / Tolerance	1460 to 1620 nm, +/-0.5
FBG Length and SLSR	<10mm, >15 dB
Reflection BW (FWHM)	0.2 nm to 0.3 nm
Reflectivity %	>70%
Dimensions (L x W x H)	40mm x 40mm x 180mm
Weight	990 grams
Mounting Plate (optional)	Available with technical drawing
Optical Pigtail & Diameter	2 * SMF w 3mm armored cable
Optical Connector	FC/APC, or custom
Temperature Range (calibration file provided)	-20°C to +80°C

## Applications in Buildings, Tunnels, Bridges, Dams, Roads, Runways, Railways, Structures

Technica undertakes a rigorous development process before products release. The company is also firmly committed to continuous improvements after release to insure performance to the highest standards, hence, specifications are subject to update without notice.

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**T510 Tilt Sensor Mounting Plate**

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