

## SAT-03, Highly Sensitive Single Axis Tiltmeter

### Basic characteristic

- ▲ Fiber Bragg Grating-based single-axis tilt meter, specifically designed to measure long-term angular variations of large structures.
- ▲ The highly sensitive fiber optic tiltmeter has an angular measurement range of 3° ( $\pm 1.5^\circ$ ) and is temperature compensated to ensure high stability.



### Benefits

- ▲ Robust stainless steel housing
- ▲ Double-ended
- ▲ Temperature-compensated
- ▲ Optimized angular range
- ▲ Extremely sensitive

### Applications

- ▲ Tilt changes detection
- ▲ Can be mounted on different surfaces including walls, etc.

### Performance properties

Measurement range	-1.5deg. to +1.5deg.
Accuracy (typical) <sup>1)</sup>	0,1% F.S. <sup>2)</sup>
Sensitivity	2100 pm/deg. $\pm$ 150 pm/deg.
Response time	<3 sec.
Operating Temperature range	-30°C to +80°C <sup>3)</sup>
Number of FBGs	2
Occupied bandwidth	~12nm
Ingress Protection rating	IP 67

<sup>1)</sup> Accuracy is established for each sensor under laboratory conditions and it includes hysteresis, non-linearity, and repeatability of the sensor

<sup>2)</sup> FS: full-scale range

<sup>3)</sup> The temperature operational range considers the sensor only, and thus the cabling solution needs to be chosen accordingly to meet the desired temperature range.

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### Physical properties

Housing material	1.4404 (SS 316L)
Anchoring bolts	M5 / 5Nm
Dimensions (without cable) <sup>1)</sup>	75 x 32 x 120 mm
Weight (without cable)	~2100g
Cable type	3mm reinforced cable
Cable length <sup>2)</sup>	1mtr
Cable Bend Radius (dynamic)	40mm
Cable Bend Radius (static)	30mm
Connector type <sup>3)</sup>	FC/APC
Mounting method	Screws or using a mounting block

<sup>1)</sup> For further dimensions details see the product drawing (Figure 2)

<sup>2)</sup> Cable length is extendable on request

<sup>3)</sup> Other connector types available on request

### Packaging

Cardboard box with dimensions: 370x290x45mm

### Quality statement

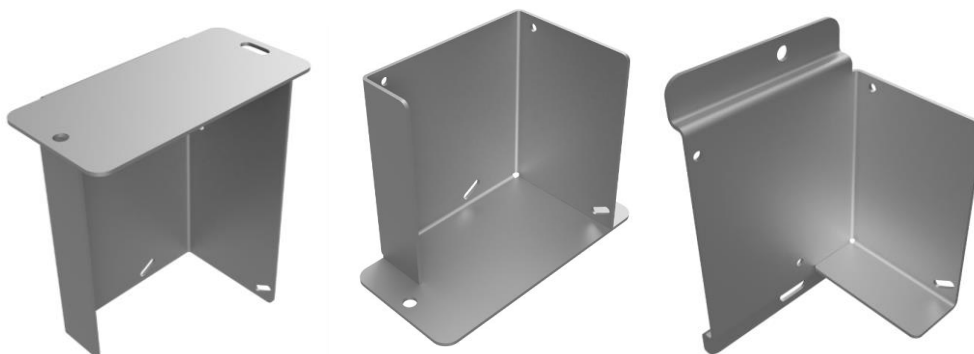
The sensor is compliant with IEC 61757-1-1:2020, IEC 61757-5-1:2021 and IEC 61757:2018

All sensors are 100% tested and calibrated at SYLEX

The sensor is manufactured according to ISO 9001:2008 and ISO 14001:2004

### Optional accessories

- ▲ **WCP-01 Watertight connector protection** – used for FC/APC connector protection during the installation against dust and water – IP67 rated.
- ▲ **LCP-03 Longer cable pigtails** – used to extend the cable lengths from 1mtr up to 20mtr.
- ▲ **Optional brackets** - wall, floor, and ceiling bracket (more information available on request, Figure 1).



**Figure 1:** Possible mounting bracket configuration (wall, floor, and ceiling).

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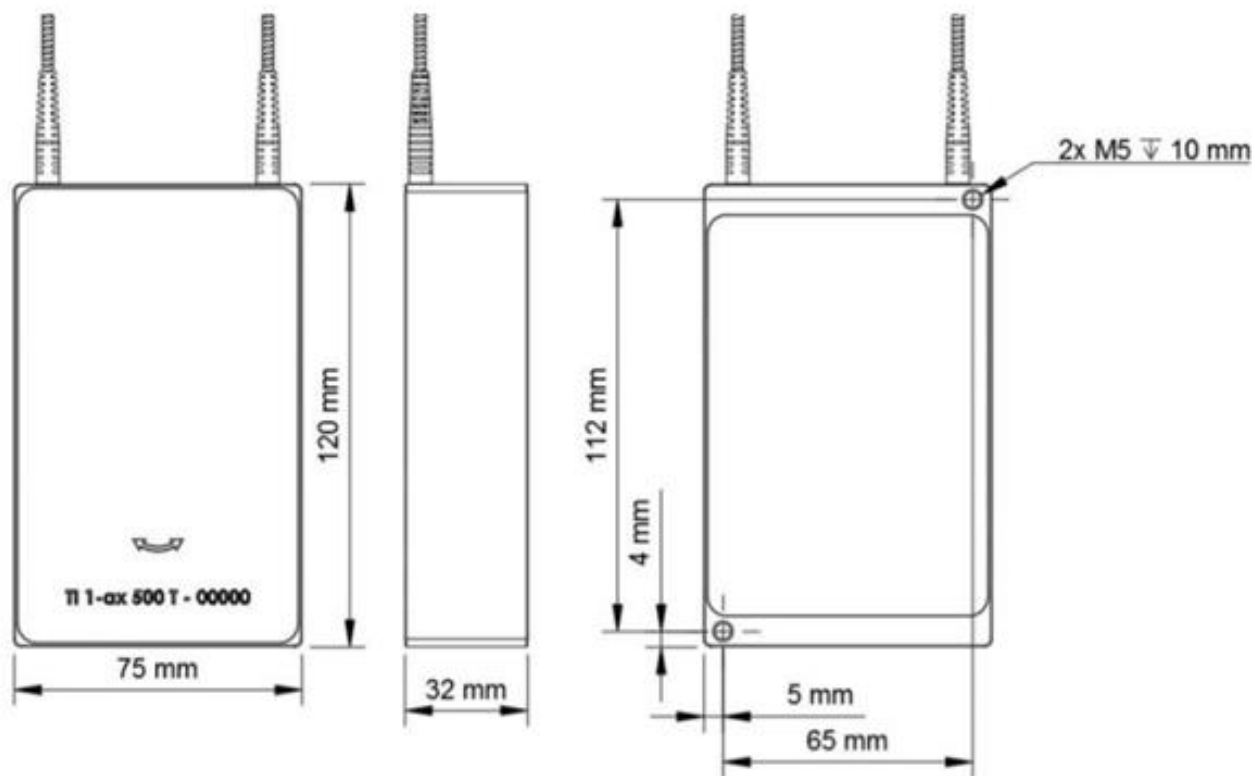


Figure 2: Dimensional drawing of the SAT-03.

For more information contact our sales team at [sales@sylex.sk](mailto:sales@sylex.sk)

\* Specifications are subject to change without notice