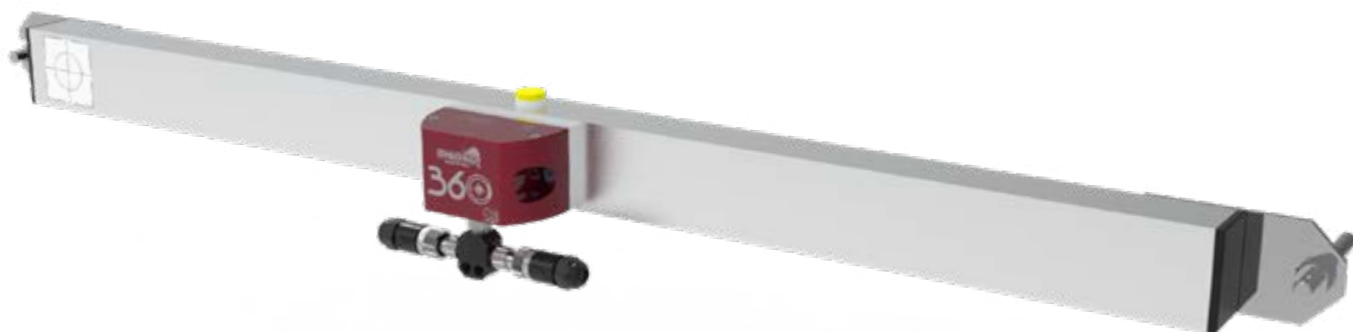


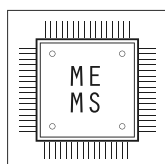
S700

TILT BEAM SENSORS

INCLINOMETERS
& PENDULUMS



TILT BEAM SENSORS



The Tilt Beam (TB) consists of a MEMS tiltmeter mounted on a rigid aluminium beam with a defined gauge length, typically 1, 2 or 3 metres. The tiltmeters are mounted on the beams on site and are available in a 360° digital version.

The most common application of the TB is the installation in horizontal chains on structures, to monitor differential settlements or heaves. The TB can also be installed horizontally, vertically or inclined, either in chains or as a stand-alone unit.

The innovative 360° technology allows each tiltmeter to be calibrated over the full 360° range on three axes. As a result, TB can be installed in any orientation in space with no effect on measurement quality, simplifying installation operations.

APPLICATIONS

- Structures
- Diaphragm walls
- Dams
- Tunneling
- Deep excavations
- Unstable slopes

FEATURES

- Removable and modular system for multiple installation
- Simple and fast installation through connectors
- Inclined installation allowed
- Nearly real-time monitoring



Meet the essential requirements of the EMC Directive 2014/30/UE

TECHNICAL SPECIFICATIONS

PRODUCT CODES	0S543HD3600
Measurement principle	Triaxial MEMS accelerometer
Measuring range	360° (±180°) on all three axes (see "WORKING PRINCIPLE")
Repeatability	<± 0.001°
Resolution	0.0001°
Sensor mechanical bandwidth	1 Hz
Stability @ 24 hours	<± 0.004°
Sensitivity ⁽¹⁾	see Calibration Report
MPE Accuracy ⁽²⁾	<±0.02° (<±0.0055% FSR @360°)
Offset temperature dependency	±0.002° / °C
Power supply	from 8 to 28 Vdc
Signal output and protocol	RS485, Modbus RTU ⁽³⁾
Average consumption	3.7 mA @ 24 Vdc, 7.0 mA @ 12 Vdc
Temperature operating range	from -30°C to +70°C
Internal temperature sensor	Embedded on electronic board
- measuring range	- 40°C to +125°C
- accuracy (resolution)	±1°C with temperature range -10°C to +85°C (res. 0.01 °C)
Internal humidity sensor ⁽⁴⁾	Embedded on electronic board
- measuring range	0 to 100% RH
- accuracy (resolution)	±5% RH with humidity range 0 to 95% RH (res. 0.025% RH)
On-board supply voltage monitor ⁽⁴⁾	Embedded on electronic board
- measuring range	0 to 36 V
- accuracy (resolution)	±5% FS (res. 0.01 V)
IP Protection class	IP65
Material	Gauge body: anodized aluminum
Fixing support	N.2 anchor bolts M6
Signal cable	OWE106IP0ZH
Cabling	M12 male connector on sensor body, 3-port T-shaped splitter with 2 female and 1 male connectors
Max. cable length to logger	1000 m (for more information see FAQ #073) ⁽⁷⁾

(1) Sensitivity is a specific parameter different for every gauge. The sensitivity is calculated during gauge calibration test and inserted into the Calibration Report.

(2) MPE is the Maximum Permitted Error on the measuring range (FSR). In the Calibration Report, the accuracies of the gauge are calculated using the linear regression; the error reported is the maximum residual error on the FSR on the three axis

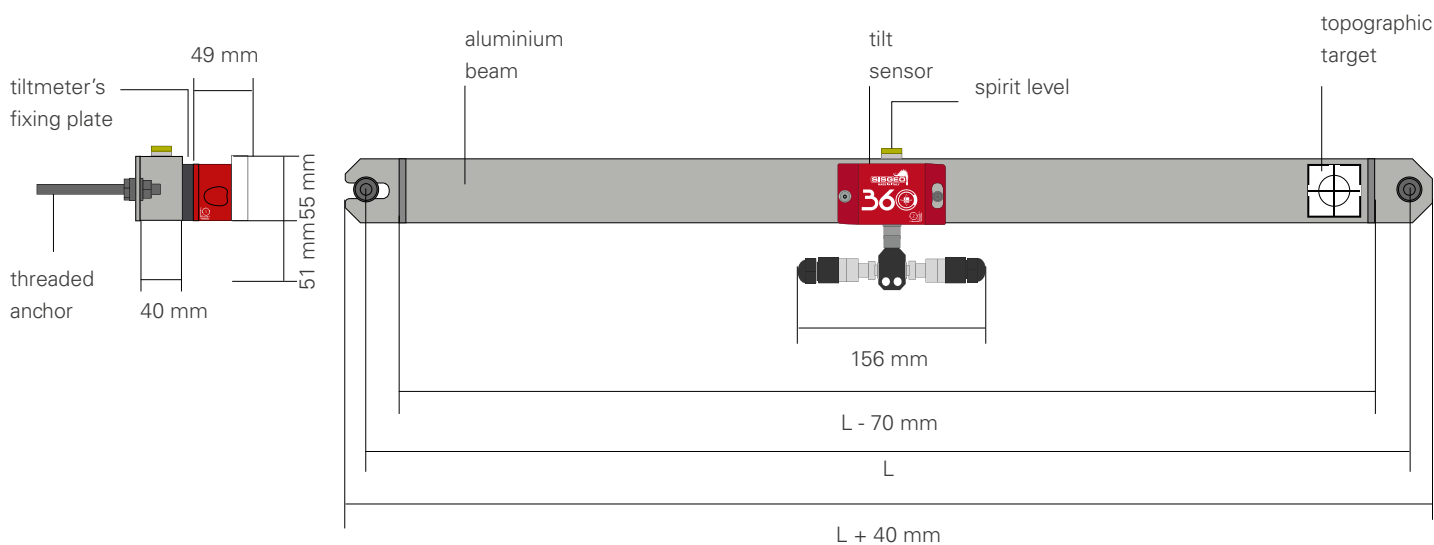
(3) RS485 not-optoisolated Modbus communication with RTU Protocol. Default output is degree. Sisgeo Modbus protocol manual is available for download on Sisgeo web site.

(4) These sensors are installed on the internal electronic board to give information in the event of probe malfunction.

(7) Refer to FAQ section on Sisgeo website: www.sisgeo.com/faq

PHYSICAL FEATURES

	BEAM	TILT SENSOR
Length	1000, 2000 or 3000 mm (L)	99 mm
Width	44 mm	49 mm
Height	60 mm	55 mm (connector not included)
Material	aluminium	anodized aluminum



ACCESSORIES AND SPARE PARTS

ALUMINIUM BEAM 0S7BM000002

Aluminium beam for both analogue or digital sensors, available in different length: 1000, 2000 or 3000 mm. Supplied with topographic target, wall mounting supports at the ends and anchor bolts.

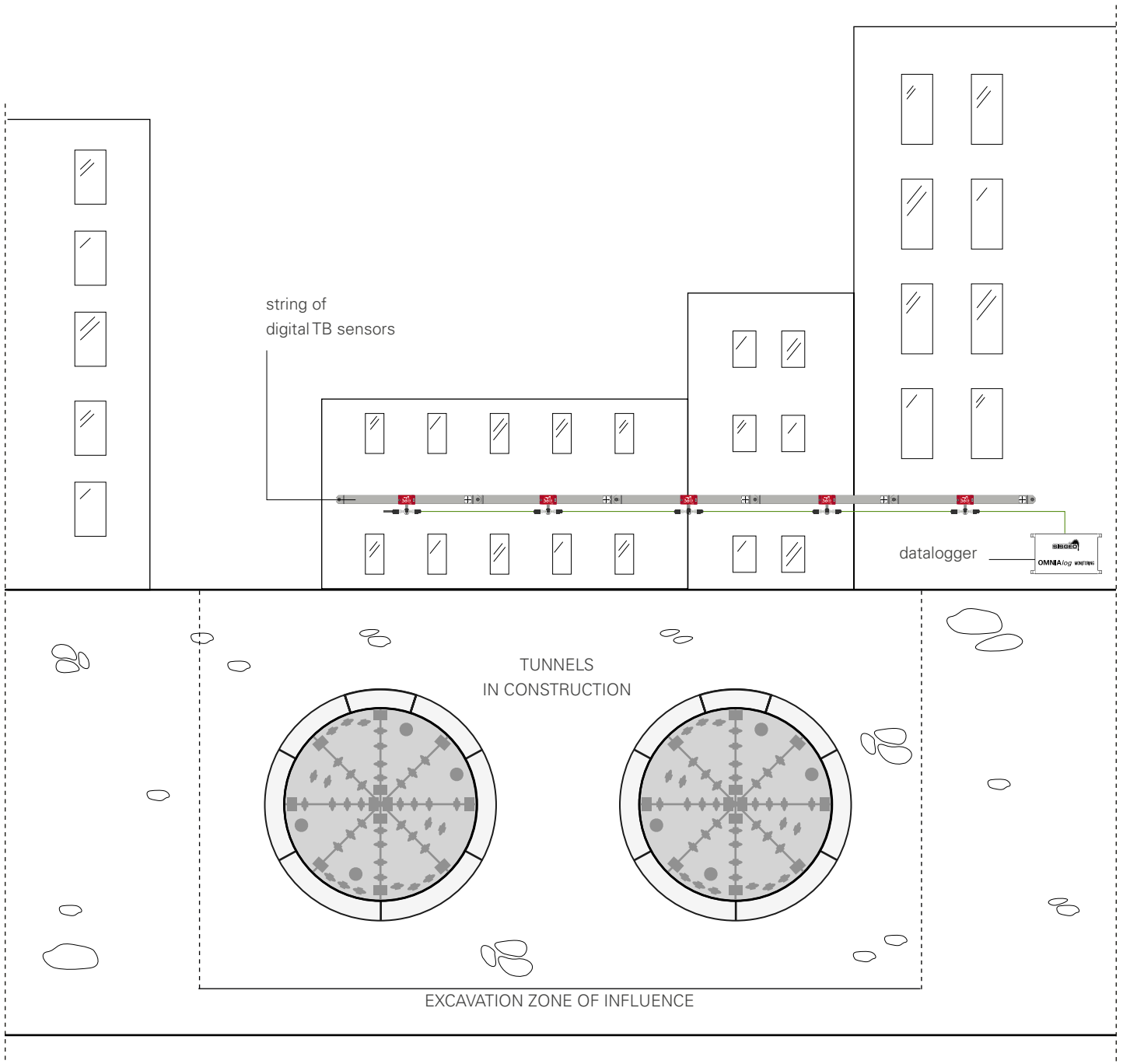
TERMINATION RESISTANCE 0ETERMRESIO

Resistance ending device with connector, needed to close every digital tilt meter chain. The value of resistor depends on the layout of each monitoring system. For more detail see [FAQ#076](#).

CONNECTORS KIT (SPARE) 0ECON05T3K0

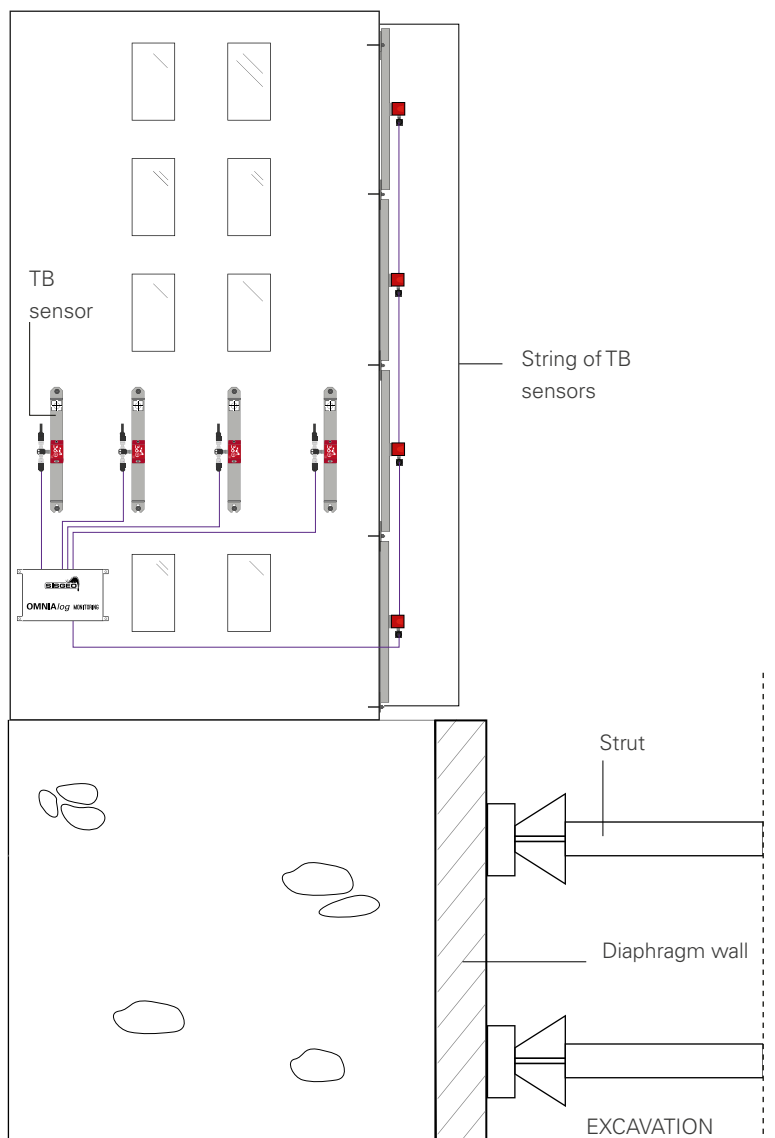
Spare connector kit for digital tiltmeters. The kit consists of three 3-port T-shaped splitter, three female connectors and three male connectors.

BUILDING SETTLEMENT MONITORING

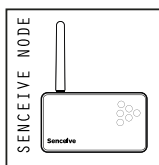
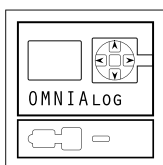
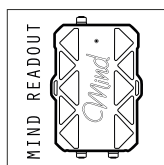


STRUCTURAL TILT/CANT MONITORING

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READABLE BY



For further information refer to their own datasheets

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SISGEO S.R.L.

VIA F. SERPERO 4/F1
20060 MASATE (MI) ITALY
PHONE +39 02 95764130
FAX +39 02 95762011
INFO@SISGEO.COM

ADDITIONAL SUPPORT

SISGEO offers on-line assistance service to the Customers in order to maximize the performance of the system and training on the correct use of the instrument/readout.

For more information contact mail: assistance@sisgeo.com