S5MA

MEMS
TILT METERS

INCLINOMETERS
& PENDULUMS

SISGEO

S5MA_EN_00_12/2013

MEMS
TILT METERS

The measurement of inclinations is essential for the control and security of the civil structures in elevation during the construction phase and in operation.

MEMS tilt meters monitor tilt changes in either one or two axial planes perpendicular to the surface of the base plate.

MEMS tilt meters are permanently installed to provide long term observation and are designed for manual readings or remote data acquisition by OMNIAlog system.

APPLICATIONS

- Bridges and piers
- Hystorical buildings
- Concrete dams
- Structural load testing
- Landslide monitoring
- Building safety along adjacent excavations
- Berms in open pit mines
- Retaining walls
- Ground subsidence

FEATURES

- Vertical and horizontal
- Uniaxial and biaxial versions
- Easy to install
- High performances
- Negligible dependence to the thermal factors
- Long-term stability
- High dynamic range
- Precision and durability
- Small dimensions and low visual impact

Meet the essential requirements of the EMC Directive 2004/108/EC

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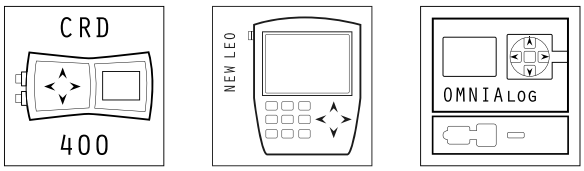
TECHNICAL SPECIFICATIONS

	S541MA	S542MA	S521MA	S522MA
Sensor type	self-compensated MEMS inclinometer		self-compensated MEMS inclinometer	
Number of axes	uniaxial	biaxial	uniaxial	biaxial
Measuring range	±2.5°, ±5°, ±10° (±15°, ±30° on request)		±5°, ±10°	
Sensor sensitivity	0.0013° (4.68 arc-sec)		0.0013° (4.68 arc-sec)	
Total accuracy (linearity + hysteresis + repeatability)	< 0.20% FS (with linear polynomial) <0.10% FS (with 3rd degree polynomial)		< 0.20% FS (with linear polynomial) <0.10% FS (with 3rd degree polynomial)	
Thermal drift	± 0.005% / °C		± 0.005% / °C	
Excitation voltage	from 18 to 30 Vdc		from 18 to 30 Vdc	
Signal output	4-20 mA (current loop)		4-20 mA (current loop)	
Temperature operating range	from -30°C to +70°C		from -30°C to +70°C	
BUILT-IN THERMISTOR				
Measuring range	from -50°C to +150°C		from -50°C to +150°C	
Accuracy	0.5 °C		0.5 °C	
SIGNAL CABLE	0WE104SG0ZH	0WE106IP0ZH	0WE104SG0ZH	0WE1060LSZH

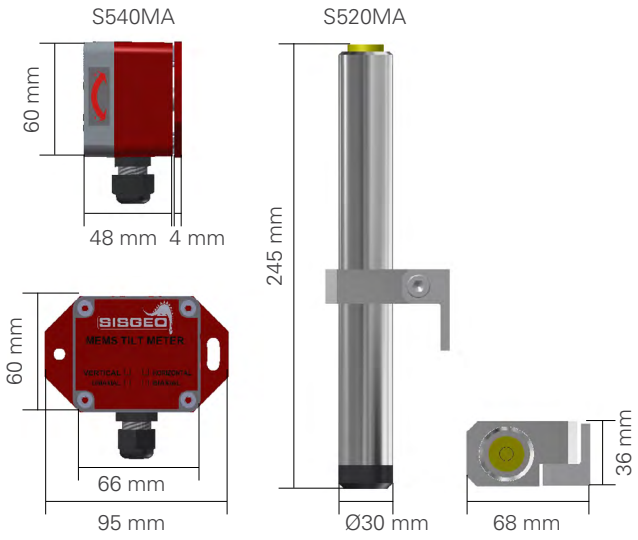
READABLE BY

MEMS tilt meters may be read individually or remotely by OMNIAlog as a part of automatic data collection system.



DIMENSIONS AND MATERIALS

	S540MA	S520MA
Housing dimensions (LxWxH)	66x60x48 mm	Ø 30x245 mm
Fixing support	aluminium plate 95x60x4 mm	stainless steel 36x68x45 mm
Overall dimennsion (LxWxH)	95x60x52 mm	36x68x245 mm
Material	aluminium	stainless steel
Protection	IP67	IP68 (2.0 MPa)



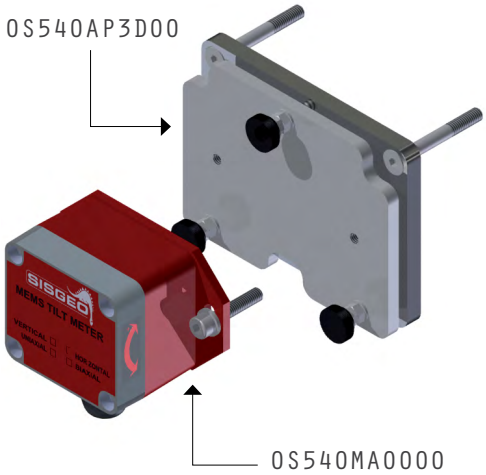
ACCESSORIES AND SPARE PARTS

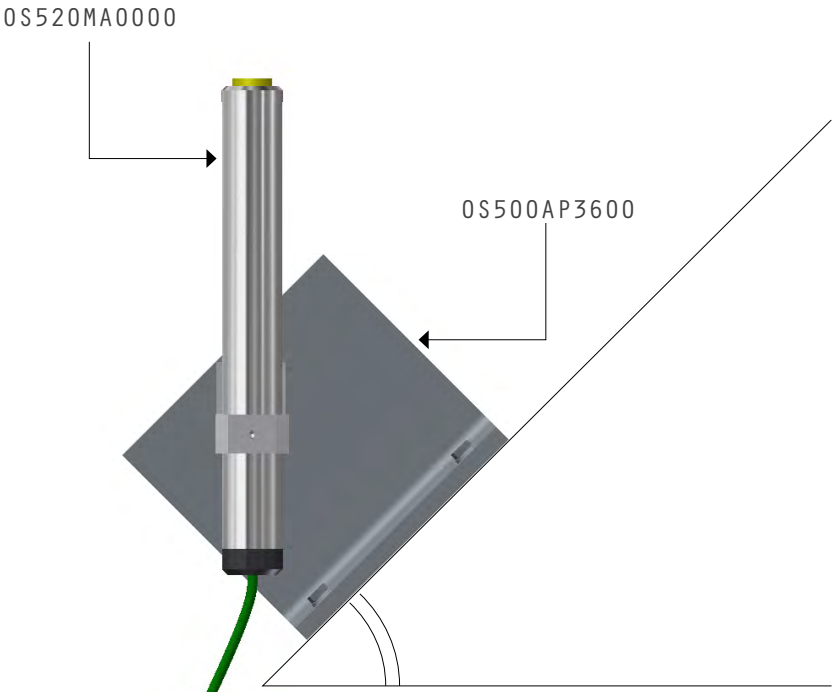
OS540AP3600

Adjustment plate for installation of the S540MA tilt meters onto sloped surface. It consists of a galvanized iron bracket with overall dimension 130x140x65 mm.

OS540AP3D00

Fine adjustment plate for S540MA tilt meters, especially recommended for the small ranges (±2.5° and ±5°). Working on three knobs, you can set the tilt meter at the vertical position. The adjustment plate may be used both verticallly and horizontally. Dimensions 120x90x19 mm.





OS500AP3600

Adjustment plate for installation of the S520MA tilt meters onto sloped surface.
It consists of a galvanized iron bracket with overall dimension 130x140x65 mm.

OS500PF1000

Stainless steel circular plate with three anchors for wall mounting.
Overall diameter: 100mm

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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*