

# Portable Tiltmeter

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## Applications

The portable Tiltmeter is used to monitor the rotation by manual measurements of structures such as buildings, walls of containment.

it can be used in the following situations:

- Monitoring buildings damaged by landslides or earthquakes
- retaining walls, bridges and docks
- Towers, bell

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## Technical features

The portable Tiltmeter is used to measure the inclination of an horizontal or vertical surfaces. The tiltmeter is composed by a stainless steel container for the tilt sensor with MEMS technology or Servo-accelerometer. The mechanics allows perfect positioning of the instrument on the measuring plate which is anchored to the surface under control. For the execution of the measures tiltmeter is placed on the measuring plate in all directions. Measures are obtained in the two directions orthogonal to each other simply by rotating the instrument 90° degree. Any systematic errors of the instrument or assembly errors of the measuring plate are eliminated by performing opposite measures.

## Use and Measures

The plate must be anchored to the surface under control . The reading is done by positioning the instrument on the calibrated plate. Zero error of the instrument is eliminated making opposite measures.

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## Technical specifications

Code	OTILTMSE15	OTILTMEMS15
Description	Tiltmeter Servo-accelerometer monoaxial	Tiltmeter MEMS sensor Monoaxial
Principle of functioning	Servo-accelerometer	MEMS
Range	+/- 10°	+/- 10°
Risoluzione	100.000 sin $\alpha$ (0.01 mm/m)	25.000 sin $\alpha$ (0.04 mm/m)
Power supply	+/-12 Vdc	+/-12 Vdc
Cross axis	<0.2°	<0.2°
Output signal	+/- 5.0 Vdc +/-14.5°	+/- 4.0 Vcc +/-10.0°
Consumption	+/- 15 mA	+/- 15 mA
No linearity	< 0.02% F.S.	< 0.5% F.S.
F.S. Thermal drift	<100 ppm/°C	<150 ppm/°C
Zero thermal drift	<0.001/°C	<0.002/°C
Operating temperature	from -20°C to +60°C	from -20°C to +60°C
Sensor encloser	Stainless steel	Stainless steel
Degree of protection		IP 65
Connector		Lemo
Centering system forced in Stainless Steel		

## Accessories

Code	
OTILTM00002	Portable readout unit 16 bit
OTILTMCABLE	Cable connection Tiltmeter/Readout unit
OTILTMPLTBZ	Bronze tilt plate $\Phi$ 135 mm with calibrated seats
OTILTMPLTIX	Tilt plate stainless steel with calibrated seats



Portable readout unit 16 bit  
(Code OTILTM00002)



Bronze tilt plate 135 mm  
with calibrated seats  
(Code OTILTMPLTBZ)



Professional tilt plate Stainless steel  
with calibrated seats  
(Code OTILTMPLTIX)