



RST Portable
MEMS Tilt Meter
with Tilt Plate.

Portable MEMS
Tilt Meter with
Field PC² Readout

	PRODUCT CATEGORY:
	INCLINOMETERS + TILT SENSORS

Portable Tilt Meter

The RST Portable Tilt Meter utilizes a MEMS tilt meter to measure tilt in either one or two axial planes perpendicular the surface of the base plate. The output is a digital output and is directly proportional to the sine of angle of tilt. In the horizontal position the DC output is zero. Portable MEMS Tilt Meters require placing the tilt meter in a reproducible position on a reference plate attached to the surface being monitored. It is designed for applications where a large number of measuring points are to be observed.

Portable MEMS Tilt Meter systems consist of the tilt meter, interconnecting cable, stainless steel tilt plates, and the readout instrument. Tilt plates are bolted or bonded to the structure to accurately, and repeatedly, locate the sensor. When not in use, the plates should be shielded from damage with an optional, UHMW plastic protective cover. Readout is achieved with the Ultra-Rugged Field PC².

> APPLICATIONS

- Monitor tilt of retaining and building walls.
- Tilt of concrete dams.
- Landslide monitoring.
- Ground subsidence.
- Building safety along adjacent excavations.
- Bridge piers.
- Differential compression in earth dams and embankments.
- Observation of benches and berms in open pit mines.
- Applications where the failure mode is expected to have a rotational component.

> FEATURES

- Uniaxial or biaxial sensors available.
- Horizontal or vertical applications.
- Data logger compatible.
- High accuracy and repeatability.
- Readout units and portable sensor are lightweight and easy to use.
- Operational range and temperature coefficients exceed that of bubble sensor devices.

> BENEFITS

- ✓ **Increase Safety**
- ✓ **Increase Productivity**
- ✓ **High Reliability**
- ✓ **High Accuracy**

TILT SENSOR SPECIFICATIONS

ITEM	DESCRIPTION
Range	±15°
Resolution (digital)	±2 arc sec. (±0.0006°) (0.01 mm/m)
Non-linearity (digital)	±0.0125% F.S. (±0.002°) (0.03 mm/m)
Repeatability (digital)	±0.0125% F.S. (±0.002°) (0.03 mm/m)
Sensor	MEMS (Micro-Electro-Mechanical Systems) Accelerometer, Biaxial
Material	Stainless steel / Aluminum NEMA 4X (IP-65) weather proof enclosure
Weight	10.38 lbs (4.710 kg)

TILT PLATE SPECIFICATIONS

ITEM	SPECIFICATION
Material	316 stainless steel
Dimensions	5.5 in. OD x 2.5 ID x 0.95 (140 x 63 x 14 mm) 4 pegs equally spaced on 4 in. (102 mm) dia.
Weight	1.7 lbs (0.77 kg)
Installation	Epoxy or mechanical 4 x ¼ mounting holes on 4 in. (102 mm) dia.

OPTIONAL EQUIPMENT

- Protective cover for tilt plates.
- Bonding compound for tilt plates and in-place sensors.

ORDERING INFO	
ITEM	PART #
Portable MEMS Tilt Meter - Digital Output (horizontal/vertical)	ICTS0005
Tilt Plate	ICTS0010
Ultra-Rugged Field PC² (Digital model)	IC32000-AR2-RSTS
UHMW Plastic Protective Cover	ICTS0008