



RST Portable MEMS Tilt Meter with Tilt Plate.

Portable MEMS Tilt Meter with Field PC<sup>2</sup> Readout



Analog Portable Tilt Meter shown with the IC6800S Readout

### TILT SENSOR SPECIFICATIONS

ITEM	DESCRIPTION
Range	±15° (other ranges upon request)
Resolution (digital)	±2 arc sec. (±0.0006°) (0.01 mm/m)
Resolution (analog)	±5 arc sec. (±0.025 mm/m) (10Hz BW) (or better, readout method dependent)
Non-linearity (digital)	±0.0125% F.S. (±0.002°) (0.03 mm/m)
Non-linearity (analog)	±0.05% F.S. (±0.0075°, 0.13 mm/m)
Repeatability (digital)	±0.0125% F.S. (±0.002°) (0.03 mm/m)
Repeatability (analog)	±0.025% F.S. (±0.004°, 0.06 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)

	<b>PRODUCT CATEGORY:</b>
	<b>INCLINOMETERS + TILT SENSORS</b>

## 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. Depending on the model, the output is an analog DC signal or 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 Portable Tilt Meter Readout, or with the Ultra-Rugged Field PC<sup>2</sup> for the Digital Tilt Meter model.

### > 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 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.

### ORDERING INFO

ITEM	PART #
Portable MEMS Tilt Meter - Digital Output (horizontal/vertical)	ICTS0005
Portable MEMS Tilt Meter - Analog (horizontal/vertical)	ICTS0004
Tilt Plate	ICTS0010
Ultra-Rugged Field PC <sup>2</sup> (Digital model)	IC32000-AR2-RSTS
IC6800S Readout (for Analog model)	IC6800-S
UHMW Plastic Protective Cover	ICTS0008

### OPTIONAL EQUIPMENT

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