



Contact RST for Details



In-place MEMS Tilt Meter shown with Vertical Mounting Bracket.

WORKS WITH



READY TO RUN

pre-assembled
pre-wired
pre-tested
pre-programmed

	PRODUCT CATEGORY:
	INCLINOMETERS + TILT SENSORS

In-Place Tilt Meter



RST's In-Place MEMS Tilt Meters measure tilt in either one or two axial planes perpendicular to the surface of the base plate. The unit is intended to be permanently installed to provide long term observation with maximum resolution and sensitivity, and is conveniently designed for manual monitoring or remote data acquisition.

The system consists of a tilt meter mounting plate, interconnecting cable, and data logger or readout instrument. The tilt meter may either be uniaxial or biaxial and is available in both horizontal and vertical versions. The electronics are housed in a NEMA 4X (IP-65) enclosure for environmental protection, and is typically bolted or bonded to the structure. For maximum resistance against water ingress, the cable is typically hard wired to the enclosure; however, connectors may be provided if required. The interconnecting cable is suitable for direct burial, and is available in an armoured version to suit demanding site conditions.

A variety of signal outputs are available: digital and digital bus allowing several tiltmeters to be daisy-chained on a single cable, and analog (+/-5 V, loop-powered 4-20 mA).

> APPLICATIONS

Monitor tilt of retaining and building walls.	Tilt of concrete dams.
Structural load testing.	Landslide monitoring.
Building safety along adjacent excavations.	Ground subsidence.
Various horizontal or vertical applications.	Bridge pier monitoring.
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.	High accuracy and repeatability.
NEMA 4X (IP-65) weather-proof enclosure.	Digital bus available.
Easy to install.	Cost effective.
Data logger and/or manual readout compatible.	Digital output (analog and 4-20mA available)

SPECIFICATIONS

ITEM	DESCRIPTION
Range	±15°
Resolution (digital)	±2 arc sec. (±0.0006°) (0.01 mm/m)
Resolution (analog)	±5 arc sec. (±0.025 mm/m) (10Hz BW)
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, Uniaxial or Biaxial
Sensor Offset	+/- 0.002 arc deg./deg. C
Sensor Sensitivity	+/- 0.013 % of reading/deg. C
Excitation (analog)	8 - 15V DC
Operating Temp.	-40 to 85°C (-40 to 185°F)
Dimensions	80 x 80 x 61mm (3.15 x 3.15 x 2.4 in.) Optional submersible unit's dimensions available upon request

ORDERING

UNIAXIAL	PART #
MEMS Uniaxial Tiltmeter - digital output	IC6554
MEMS Uniaxial Tiltmeter - digital bus output	IC6556
MEMS Uniaxial Tiltmeter - analog voltage	IC6550
MEMS Uniaxial Tiltmeter - 4-20mA	IC6552
BIAXIAL	PART #
MEMS Biaxial Tiltmeter - digital output	IC6654
MEMS Biaxial Tiltmeter - digital bus output	IC6656
MEMS Biaxial Tiltmeter - analog voltage	IC6650
MEMS Biaxial Tiltmeter - 4-20mA	IC6652
MOUNTING	PART #
MEMS Tiltmeter Horizontal Mounting Plate	IC6700
MEMS Tiltmeter Vertical Mounting Bracket	IC6705
TEMPERATURE MEASUREMENT	
Standard for digital, optional for analog and 4-20mA. (Contact RST for details)	
READOUTS & DATA LOGGERS	PART #
Ultra Rugged Field PC ² (digital bus systems)	IC32000-AR2-RSTS
Digital Interface for Ultra Rugged Field PC ² with software	ELGL4010
flexDAQ Dataloggers (digital and analog systems)	