



Tilt Meter (Bussed version) shown with Universal Mounting Bracket.



PRODUCT CATEGORY:
INCLINOMETERS + TILT SENSORS



In-Place Tiltmeter / Submersible Tiltmeter (MEMS)

RST's Tilt Meters measure tilt in two axial planes perpendicular gravity vector. The tilt meter is intended to be permanently installed to provide long term observation with maximum resolution and sensitivity, and conveniently accommodates for manual monitoring or remote data acquisition.

The system consists of an adjustable universal mounting bracket that can be installed vertically, horizontally, or at an angle, an interconnecting cable, and a data logger or readout instrument. The housing is IP68 rated up to 2 MPa. for maximum resistance against water ingress. The cables are securely encapsulated inside the housing with water-proof connectors to provide watertight performance at depths up to 200 meters submersion. Bussed and non-bussed versions are available to accommodate daisy chained and single point installations.

> 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, 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.
Installation of submerged pipelines.	Monitoring of offshore structures.

> FEATURES

Biaxial sensor.	High accuracy and repeatability.
Easy to install adjustable mounting bracket.	Cost effective.
Data logger and/or manual readout compatible.	Digital bus output.
Stainless steel housing.	Ingress Protection IP68 (2MPa).
Submersible.	

SPECIFICATIONS

Range	±30°
Resolution	±0.0002° (0.004 mm/m) ¹
Sensor Precision	±0.0013° (0.02 mm/m) ¹
	±0.0005° (0.01 mm/m) ²
Sensor 24hr Stability	±0.03 mm/m ¹
	±0.01 mm/m ²
Sensor	MEMS Accelerometer
Temperature Dependent Uncertainty	±0.016 mm/m/°C (±0.001°/°C), for ±5° from vertical
	±0.033 mm/m/°C (±0.002°/°C), for ±15° from vertical
Temperature Accuracy	±0.5 °C (0 °C to 60 °C)
	±1.0 °C (-40 °C to 60 °C)
Temperature Resolution	0.06 °C
Operating Temperature	-40 to 80 °C (-40 to 175°F)
Dimensions	ø28.6mm x 211mm (ø1.125" x 8.31")

1: 99% Confidence Interval
2: 68% Confidence Interval

ORDERING

NON-BUSSED		PART #
MEMS Biaxial Tiltmeter-digital non-bussed -5m (bare leads)	IC8161-5m	
MEMS Biaxial Tiltmeter-digital non-bussed-10m (bare leads)	IC8161-10m	
MEMS Biaxial Tiltmeter-digital non-bussed-15m (bare leads)	IC8161-15m	
MEMS Biaxial Tiltmeter-digital non-bussed-20m (bare leads)	IC8161-20m	
MEMS Biaxial Tiltmeter-digital non-bussed-25m (bare leads)	IC8161-25m	
MEMS Biaxial Tiltmeter-digital non-bussed-Xm (bare leads) Vertical surfaces only	IC8161-V-Xm	
Custom cable lengths available on request		
BUSSED		PART #
MEMS Biaxial Tiltmeter-digital bussed-3m (connectors)	IC8160	IC8160-V (vertical surfaces only)
MOUNTING		PART #
Universal Bracket for MEMS Biaxial Tiltmeter		IC8180
Protective Cover for MEMS Biaxial Tiltmeter		IC8185
READOUTS & DATA LOGGERS		PART #
Rugged Handheld PC		IC32000-NAUTIZ
Digital Interface for Rugged Handheld PC with software		ELGL4010
RSTAR DT2485 DT-BUS Data Logger		DT2485
FlexDAQ Dataloggers and RSTAR Affinity Data Loggers		

ACCESSORIES

ITEM	DESCRIPTION
IC8060	Bottom of Hole Dummy Plug
IPICBL5PIN-MXF5M	Extension Cable-5m
IC8051	Communication Cable-5m
IC8052	Communication Cable-10m
IC8053	Communication Cable-20m
IC8050	Communication Cable-Custom length