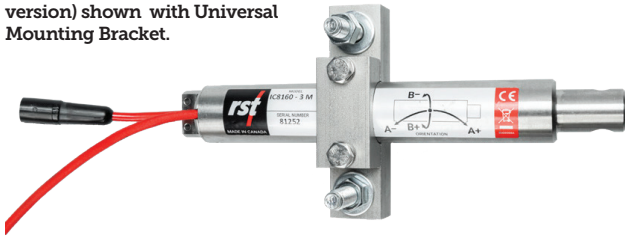


Submersible Tiltmeter (MEMS)

Submersible Tiltmeter (Bussed version) shown with Universal Mounting Bracket.



SUBMERSIBLE TILTMETER (MEMS)

RST's Submersible Tiltmeters measure tilt in two axial planes perpendicular gravity vector. The tiltmeter 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.

ORDERING

NON-BUSSED PART #	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

RSTAR Affinity Wireless Data Logger System

ACCESSORIES

ITEM	DESCRIPTION
IC8060	End of Chain Dummy Plug
IC8085	Extension Cable-5m Sensor to Sensor (Bussed)
IC8051	Communication Cable to Logger-5m
IC8052	Communication Cable to Logger-10m
IC8053	Communication Cable to Logger-20m
IC8050	Communication Cable to Logger-Custom length

Submersible Tiltmeter (MEMS)



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	$\pm 30^\circ$
Resolution	$\pm 0.0002^\circ$ (0.004 mm/m) ¹
Sensor Precision	$\pm 0.0005^\circ$ (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/ $^\circ\text{C}$ ($\pm 0.001^\circ/\text{C}$), for $\pm 5^\circ$ from vertical ± 0.033 mm/m/ $^\circ\text{C}$ ($\pm 0.002^\circ/\text{C}$), for $\pm 15^\circ$ from vertical
Temperature Accuracy	± 0.5 $^\circ\text{C}$ (0 $^\circ\text{C}$ to 60 $^\circ\text{C}$) ± 1.0 $^\circ\text{C}$ (-40 $^\circ\text{C}$ to 60 $^\circ\text{C}$)
Temperature Resolution	0.06 $^\circ\text{C}$
Operating Temperature	-40 to 60 $^\circ\text{C}$ (-40 to 140 $^\circ\text{F}$)
Dimensions	$\varnothing 28.6\text{mm} \times 211\text{mm}$ ($\varnothing 1.125" \times 8.31"$)

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