MEMS Tilt Beam

MEMS TILT & INCLINATION SERIES

MEMS Tilt Beams measure differential movements in structures and consist of a MEMS sensor mounted on a rigid, fibreglass beam. The beam is mounted on anchor bolts set into the structure. They can be installed on any structure by joining together lengths of beams and are extremely accurate in generating movement profiles over long distances. Readings are taken with a manual readout (requiring access to each sensor) or with a datalogger at a remote monitoring station. Site specific, near-real time monitoring software is available.

rst INSTRUMENTS

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specifications

ITEM	DESCRIPTION
Range	±15° (other ranges upon request)
Resolution (analog)	±5 arc sec. (±0.025 mm/m) (10Hz BW)
Resolution (digital)	±2 arc sec. (±0.0006°) (0.01 mm/m)
Non-linearity (analog)	±0.05% F.S. (±0.0075°) (0.13 mm/m)
Non-linearity (digital)	±0.0125% F.S. (±0.002°) (0.03 mm/m)
Repeatability (analog)	±0.025% F.S. (±0.004°) (0.06 mm/m)
Repeatability (digital)	±0.0125% F.S. (±0.002°) (0.03 mm/m)
Sensor	MEMS (Micro-Electro-Mechanical Systems) Accelerometer
Excitation (analog)	8 - 15V DC
Operating Temp.	-40 to 85°C (-40 to 185°F)
FIBREGLASS BEAM (MOUNTING BRACKETS INCL.)	
Beam Dimensions	51 X 51 mm (2 X 2 in.)
Gauge Length	1, 2 or 3 m (3, 5, 10 ft.)

ordering info

ITEM	PART #
MEMS HORIZONTAL TILT BEAM MODULE	
Analog Voltage - requires beam	IC6015
4-20mA - requires beam	IC6016
Digital Output - requires beam	IC6017
Digital Bus Output - requires beam	IC6018
Frequency - requires beam	IC6019
MEMS VERTICAL TILT BEAM MODULE	
Analog Voltage - requires beam	IC6080
4-20mA - requires beam	IC6081
Digital Output - requires beam	IC6082
Digital Bus Output - requires beam	IC6083
Frequency - requires beam	IC6084
MEMS BEAMS	
0.5 m - requires a tilt beam module	IC6060
1 m - requires a tilt beam module	IC6061
2 m - requires a tilt beam module	IC6062
3 m - requires a tilt beam module	IC6063
READOUTS & DATALOGGERS	
MEMS Analog Readout (analog systems)	IC6800-V
Ultra Rugged Field PC (digital bus systems)	IC32000-14803
Digital Interface for Ultra Rugged Field PC with software	ELGL4010
flexDAQ Dataloggers (analog and digital systems)	

WORKS WITH

flexDAQ DATALOGGERS
custom, turn-key datalogger systems shipped "ready to run"

applications

Monitoring the effects of tunneling and excavating on nearby buildings and other structures.

Monitoring the movement of tunnel walls and railway tracks.

Monitoring the stability of structures where slope instability is occurring.

Monitoring the deflection of bridges and beams under load.

features

Simple construction with no moving parts to damage.

Convenient to install on any structure and easy to use.

Beams can be linked together to provide detailed movement data over long distances.

Analog, digital and frequency outputs available.

Easily adaptable to datalogging.

Integral temperature sensor.

Fibreglass composite beams minimize thermal effects.

accessories

Terminal stations.

'GeoViewer' Monitoring Software, near real time.

additional ordering info

Number of beam modules required.

Horizontal or vertical beam.

Groutable or expansion shell type anchors.

Portable readout or datalogger.

Biaxial versions also available.

GEOTECHNICAL · MINING · ENVIRONMENTAL · STRUCTURAL

ICB0008M

Certified System
ISO 9001