



	PRODUCT CATEGORY:
	INCLINOMETERS + TILT SENSORS

Tilt Beam



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 by connecting at the end of the single cable linking all the bussed beams, or with a data logger at a remote monitoring station. Site specific, near-real time monitoring software is 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
Operating Temp.	-40 to 85°C (-40 to 185°F)
FIBREGLASS BEAM (MOUNTING BRACKETS INCLUDED)	
Beam Dimensions	51 X 51 mm (2 X 2 in.)
Gauge Length	1, 2 or 3 m (3, 5, 10 ft.)

> 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.

Digital and analog outputs available.

In-Place Tilt Meter or Tilt Logger can be mounted on beam.

Easily adaptable to data logging.

Integral temperature sensor.

Fibreglass composite beams minimize thermal effects.

> BENEFITS

- ✓ **Increase Safety**
- ✓ **High Reliability**
- ✓ **High Accuracy**
- ✓ **Custom Options**

ORDERING

ITEM	PART #
MEMS HORIZONTAL TILT BEAM MODULE	
Analog Voltage - requires beam	IC6015
Digital Output - requires beam	IC6017
Digital Bus Output - requires beam	IC6018
MEMS VERTICAL TILT BEAM MODULE	
Analog Voltage - requires beam	IC6080
Digital Output - requires beam	IC6082
Digital Bus Output - requires beam	IC6083
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 & DATA LOGGERS	
Ultra Rugged Field PC ² (digital bus systems)	IC32000-14803
Digital Interface for Ultra Rugged Field PC ² with software	ELGL4010
flexDAQ Dataloggers (analog and digital systems)	
MEMS IN-PLACE TILT METER OR DIGITAL TILT LOGGER* - MOUNTED ON A TILT BEAM	
*Tilt Meter or Tilt Loggers to be quoted separately.	
Horizontally Mounted Beam for In-Place Tilt Meter	IC6710
Vertically Mounted Beam for In-Place Tilt Meter	IC6715
Horizontally Mounted Beam for DTL201B or DTL202B Tilt Loggers	IC6720
Vertically Mounted Beam for DTL201B or DTL202B Tilt Loggers	IC6725
ADDITIONAL ORDERING INFO	
Quantity of beam modules	Portable readout or data logger
Horizontal or vertical beam	Terminal stations
Groutable or expansion shell anchors	
'GeoViewer' Monitoring Software, for near real-time viewing	