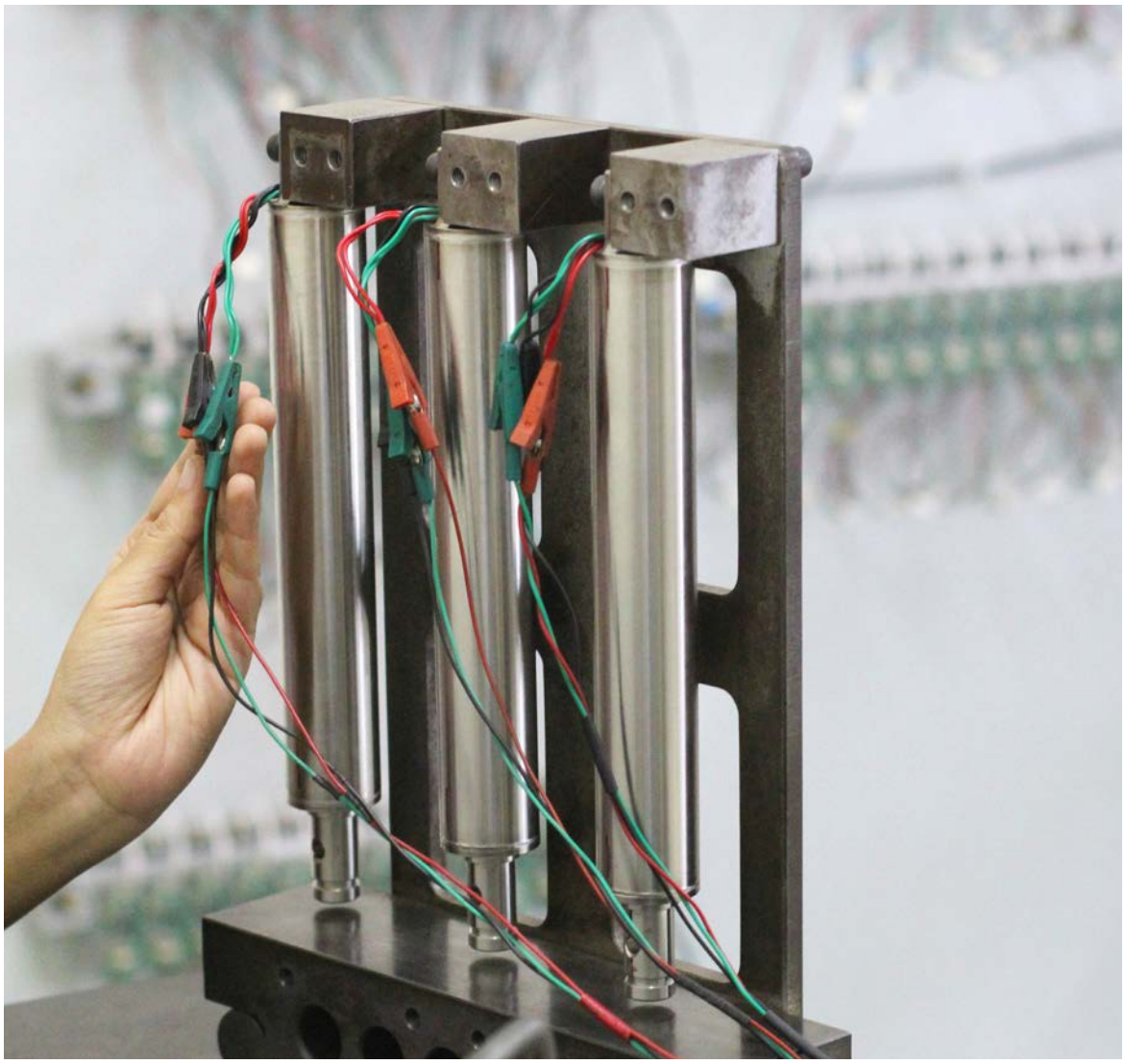
TILT METER



Model ESDL-30MT
Tilt Meter with Automatic Datalogger

ESDL-30MT tilt meter consists of one uniaxial or biaxial MEMS tilt sensor mounted inside an automatic SDI-12 digital interface datalogger. It is a complete unit in itself to monitor tilt at any location. It features a wide operating temperature range, dependable stand-alone operation, low power consumption, compatibility with many telecommunication options and flexibility to support a variety of measurement and control applications. All the measured data is stored, together with the current date, time and battery voltage, as data record in the internal non-volatile memory of the datalogger and can be transferred to a remote server/PC through GSM/GPRS service.

SPECIFICATIONS

Sensor	Uniaxial or biaxial tilt meter
Measuring range	± 15°
Sensitivity	± 10 arc seconds
Accuracy[1]	± 0.1 % fs
Temperature limit	-20° to 80° C

[1]As tested under laboratory conditions.

Model EAN-90M/EAN-92M
Tilt Meter

EAN-90M is a MEMS tilt meter, suitable for monitoring inclination and vertical rotation in structures such as buildings, dams etc. It is a rugged, high resolution tilt meter. The tilt meter is fixed on a vertical or horizontal surface by means of an adjustable bracket and expandable anchor. The sensor is of stainless steel, electron beam welded with a vacuum of 1/1000 Torr inside it. The biaxial tilt meter option is also available in same enclosure. MEMS tilt meter has a voltage output, which can be read by model EDI-53UTM read-out logger or any indicator that measures differential voltage output, and can also be directly connected to our automatic data acquisition system. EAN-92M option is available with SDI-12 interface such that all sensors can be connected through single bus cable to our compact automatic datalogger.

SPECIFICATIONS

Sensor	Uniaxial or biaxial
Measuring range	± 15°
Output (nominal)	4 V at 15° proportional to sine of angle (EAN-90M)
Sensitivity	± 10 arc seconds
Accuracy[1]	± 0.1 % fs
Temperature limit	-20° to 80° C
Dimension	32 mm Ø x 260 mm L
Cable	6 core cable-2 m long, specify (EAN-90M) 3 core cable-2 m long, specify (EAN-92M)
Dimension (bracket)	65 x 65 x 40 mm, 8 mm (th)

[1]As tested under laboratory conditions.

Model EAN-91M/EAN-93M
Tilt Meter

EAN-91M tilt meter is similar to model EAN-90M tilt meter, with the only difference that it is housed in a compact, weatherproof enclosure (box type). The enclosure can be directly fixed on a wall/structure. Model EAN-93M tiltmeter (box type) is with SDI-12 digital interface such that all sensors can be connected through single bus cable to our compact automatic datalogger.

SPECIFICATIONS

Sensor	Uniaxial
Measuring range	± 15°
Output (nominal)	4 V at 15° proportional to sine of angle (EAN-91M)
Sensitivity	± 10 arc seconds
Accuracy[1]	± 0.1 % fs
Temperature limit	-20° to 80° C
Dimension (mm)	125 x 80 x 57

[1]As tested under laboratory conditions.

Model EAN-70M
Portable Tilt Meter

EAN-70M portable tilt meter is suitable for monitoring change in inclination of a structure. It is rugged in construction, and has excellent temperature stability. The tilt meter system includes tilt plates, a portable tilt meter and a readout unit. Tilt plates available from Encardio-rite are dimensionally stable and weather resistant. Tilt plates are mounted on the structure at specified locations. Tilt readings can be obtained quickly and easily by a single operator. For taking and storing readings, use model EDI-53UTM read-out unit/datalogger (to be separately ordered).

SPECIFICATIONS

Sensor	Uniaxial
Measuring range	± 15°
Sensitivity	10 arc seconds
Accuracy	± 0.1 % fs
Temperature limit	-20° to 80° C
Size l x b x h (mm)	162 x 90 x 145
Dimension (tiltplate)	142 mm Ø x 24 mm high aluminium alloy

MEMS Beam Sensors

The beam sensors are generally attached to structures for monitoring any differential movement and tilting of structures. For monitoring deflection and deformation of retaining walls, sheet piling, etc., the beam sensors are mounted in vertical strings. The beam sensor can also be installed in long horizontal strings to measure differential settlement along railway tracks, tunnels, pipelines, embankments, etc.

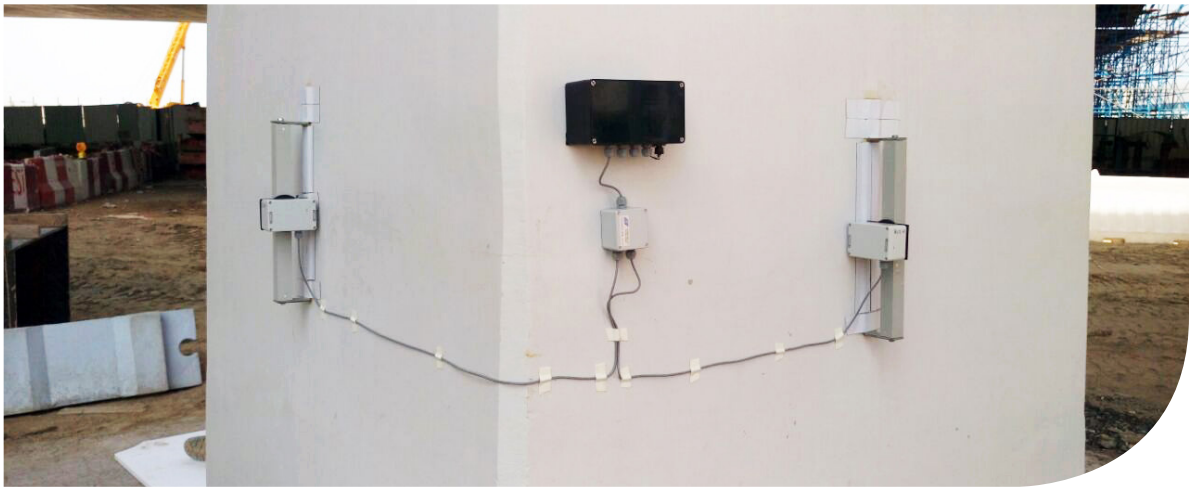
Model EAN-91M-B and model EAN-93M-B

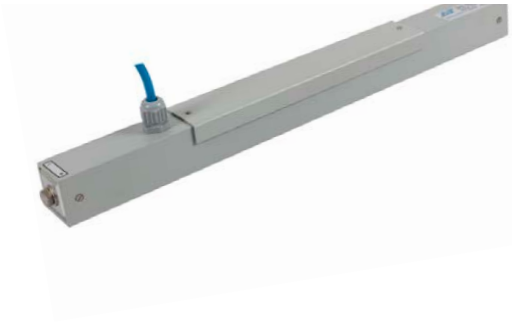
EAN-91M-B and EAN-93M-B beam sensors consists of model EAN-91M and EAN-93M tilt meter enclosures fixed on to a beam (1, 2 or 3 m long) respectively.

Model EAN-41M beam sensor and model EAN-42M(SDI-12)

Model EAN-41M/Model EAN-42M beam sensor consists of the MEMS sensor housed inside a beam (1, 2 or 3 m long and 38 x 38 mm, aluminium).

*Other specifications same as EAN-91M/EAN-93M





Model EAN-31EL/31EL-B/41EL-B
Series of Electrolytic Uniaxial Tilt Meters & Beam Sensors

Model EAN-31EL | Electrolytic Uniaxial Tilt Meters

EAN-31EL tilt sensor is designed to monitor rotation and deflection of structures such as buildings, retaining walls, etc. in a vertical plane. The sensor is housed in a compact weather proof enclosure. These are rugged and high-resolution tilt meters. The enclosure can be directly fixed on a wall/structure using adjustable mounting plate.

Model EAN-31EL-B | Electrolytic Uniaxial Beam Sensor

Model EAN-31EL-B beam sensor consists of model EAN-30EL sensor mounted on a beam (1, 2 or 3 m long) that is fixed on to the structure. The individual beam sensors are generally used in linked form to give a differential displacement profile.

Model EAN-41EL-B | Electrolytic Uniaxial Beam Sensor

EAN-41EL beam sensor also has the same application as the EAN-31EL-B. Only in EAN-41EL, the electrolytic tilt sensor is housed inside the beam (1, 2 or 3 m long). These individual beam sensors are fixed on to the structures, and can also be used in linked form to give differential displacement profile. The voltage output from sensor can be read with the EDI-53ELV read-out logger. The output can also be monitored or logged at a remote location by our automatic data acquisition system/ automatic dataloggers.

SPECIFICATIONS

Sensor	Electrolytic level type, Uniaxial
Measuring range**	± 1° (60 arc minutes)
Linear range	± 0.5° (30 arc minutes)
Sensor Output	± 1 Volt (nominal) at 0.5°
Excitation supply	12 Volt dc (nominal) (from data logger)
Resolution	1 arc second
Repeatability	± 3 arc seconds
Temperature limit	-20° to 50° C
Beam	38 x 38 mm, aluminium with 1 m, 2 m & 3 m options

** Note: Polynomial linearisation co-efficients are provided for utilizing full 0 measurement range of ± 1° .