

INCLINOMETER & IPI



Model EAN-26M Inclinator System

Encardio-rite model EAN-26M is one of the most advanced MEMS digital inclinometer system being produced anywhere in the world. It utilizes the capability of high computational power and a large high-resolution colour display of an Android OS based mobile phone as a readout and data storage unit. EAN-26M vertical inclinometer system is used to measure lateral movement and deformation of earth works or a structure. It provides magnitude of inclination or tilt and its variation with time in structures like retaining/diaphragm walls, piles etc. The inclinometer system basically consists of inclinometer casings with couplings, probe with operating cable and a mobile phone datalogger. Accessories like dummy probe and calibration check jig, are available on demand.

SPECIFICATIONS

System accuracy	± 4 mm/30 m
Cable	6 mm Φ , 2 core kevlar reinforced polyurethane sheathed
Cable reel upto 100 m	300 mm diameter (flange)
100-200 m	380 mm diameter (flange)



Model EAN-26M/2 Vertical Inclinometer Probe

EAN-26M digital inclinometer system consists of a traversing type digital biaxial tilt sensing probe that is connected to a reel unit kept at borehole top. The reel unit consists of a winding reel that holds the cable and a wireless Bluetooth relay unit that transmits the probe data to the data logger. A rechargeable battery in the reel unit supplies power to the whole system. Operating cable graduated at every 0.5 m includes a high tensile straining member and is supplied with an easy to carry reel.

Mobile Readout Unit

The mobile phone readout uses wireless Bluetooth connection to communicate with the inclinometer reel unit.

SPECIFICATIONS

Measuring range	$\pm 30^\circ$ of vertical
Resolution	± 0.008 mm/500 mm
Temperature limit	-20° to 70° C
Dist. between wheels	500 mm
Dimensions	25.5 mm \varnothing x 685 mm long (excluding wheel arm)
Probe Weight	1.4 kg



Model EAN-51MV/52MV Vertical In-Place Inclinometer System

EAN-51MV is used for real time monitoring of lateral movement and deformation of earth works or a structure. Each in-place sensor probe is fitted with a pair of pivoted sprung wheels. A string of sensors can be positioned inside a casing for a complete deflection profile, using a suspension kit and placement tube. A suspension wire rope is also available in case deflection profile of only part of casing is to be monitored.

EDI-52MV in-place inclinometer system provides a solution in which each sensor is equipped with SDI-12 interface. A single 3 conductor bus cable therefore needs to be threaded in a daisy chain fashion, connecting each sensor to its next immediate neighbour and finally to the top of the borehole and directly to the datalogger (without any multiplexer).

Several strings of EAN-52MV in-place inclinometer sensors in different boreholes can be terminated in a single automatic datalogger ESDL-30.

For IPIs using a large number of sensors, SDI-12 equipped in-place sensors are a good choice as it will not be possible to accommodate a large number of individual signal cables inside the borehole.

Uniaxial horizontal in-place inclinometer system model EAN-51MH/52 MH is also available on request.

SPECIFICATIONS

Measuring range	$\pm 15^\circ$
Sensor	Uniaxial or biaxial
Accuracy ¹	$\pm 0.1\%$ fs
Temperature limit	-20° to 80° C

¹ As tested under laboratory conditions