

Inclinometer – IMCM03-30

Inclinometer is an instrument by which any inclination from vertical direction can be measured with high accuracy. It consists of a probe, equipped with two pairs of spring loaded steel wheels, traveling along an ABS casing with two pairs of grooves normal to each other. The casing is initially grouted in a borehole in a vertical direction. Once in a while, the probe is lowered along the casing and measures the inclination at 0.5m intervals. Over time, any change in casing alignment is carefully measured by the probe in two vertical directions. The probe is sealed and can travel under water too. MEMS sensor technology enables angular change measurements with 0.001 Degrees accuracy.

Application

Some of the applications of this instrument are :

- Measuring inclination in tall buildings
- Recording any inclination in the concrete dams and bridge pylons
- Monitoring slope movement at open pit mines
- Landslide monitoring of embankments and surface excavations
- Tunnel deformation measurements

Operation and Installation

A vertical borehole is drilled to the required depth. A series of ABS casings containing two pairs of normal grooves are connected and grouted in the borehole. Once hardened, the inclinometer probe is lowered to the bottom of the casing and travels back towards the surface. At 0.5m intervals, the probe stops and records the inclination from the vertical line. This operation is repeated over time and graphs of horizontal displacement of the casing is plotted. If there is any horizontal movement between ground layers as a result of instability, it can be detected from the graphs.

Technical Spec

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|-----------------------|------------------------------|
| Inclination range | ±30 ° |
| Resolution | 0.01 mm/0.5m |
| Sensor type | MEMS |
| Probe seal | IP68 |
| Operating Temperature | -20 to 60 °C |
| Cable type | Ordinary / Kevlar strengthen |
| Reading method | Bluetooth with mobile |



Order information

- Borehole depth and diameter
- Casing section length (1.5 and 3 m)
- Casing diameter