
IN-PLACE INCLINOMETER

Model 906 LITTLE DIPPER

APPLICATIONS

The LITTLE DIPPER in-place inclinometer is used to measure the lateral displacement of soil, rock and structures to determine:

- Stability of slopes
- Performance of dams and embankments
- Deformation of sheet piles and diaphragm walls
- Ground deformation due to tunneling
- Deflection of laterally loaded piles

The LITTLE DIPPER in-place inclinometer is used as an alternative to the portable inclinometer readout system for surveying inclinometer casing installations in hard-to-reach or remote locations, and when real-time data acquisition and alarm systems are required.

DESCRIPTION

The Model 906 LITTLE DIPPER in-place inclinometer is a biaxial gravity-referenced, electrolytic tilt transducer with signal conditioning electronics, housed inside a rugged plastic tube. Guide fins on the housing or a set of wheels locate the LITTLE DIPPER in the inclinometer casing.

Multiple units are attached together with flexible fiberglass rods to simplify installation and withdrawal.

The data from the string of sensors in a borehole provide a profile of the borehole with reference to vertical. By comparing profiles over time, deflection and rate of movement can be calculated. Built-in signal conditioning ensures that the effects of cable have no impact on performance.



FEATURES

- Wide range
- Good repeatability
- High resolution
- Built-in signal conditioning
- Low temperature coefficient
- Long-term reliability
- Rapid response time
- Low cost

SPECIFICATIONS

MODEL	HIGH-GAIN	STANDARD
Angular range	±12°	±30°
Resolution	0.005°	0.01°
Scale factor	4° / volt per channel	10° / volt per channel
Repeatability	0.01°	0.02°
Linearity	0.8% of F.S., typical	4% of F.S., 1% of half span, typical
Output channels	Two orthogonal tilt channels: ±3.0 volts per channel	
Power requirements	+8 to +24 VDC @ 8 mA, 250 mV peak-to-peak ripple max., reverse polarity protected	
Response time	150 milliseconds	
Thermal drift	0.03% / °C, typical	
Environmental	-25 to +70°C operating and storage. Submersible to 500 kPa	
Material	Cylindrical ABS housing. Delrin guide fins and wheel assemblies	
Dimensions	241 mm × 39 mm (length × diameter)	
Weight	0.35 kg	
Cable	5 mm diameter multiconductor cable, PVC jacket, overall shield	

Sensor module
Direct burial installation



With guide fins
Multiple-point installation



With balanced wheel set
Multiple-interval installation



ORDERING INFORMATION

Please specify:

- Installation type (direct burial, multiple-point, or multiple-interval)
- Standard or high-gain version
- Vertical or horizontal installation
- Set of four guide fins (specify casing size)
- Fiberglass connecting rods (specify sensor spacing)
- Cable length
- Installation kit (hanger and tensioning weight)
- Readout instruments: model 870, ADVisor, SENSLOG