

# Digitilt Classic Inclinometer System



## Advantages

**Proven Performance:** The classic system features the time-tested Digitilt analog probe designed and manufactured by Slope Indicator.

**Repeatable Tracking:** The Digitilt probe is equipped with robust wheel carriages, sealed wheel bearings, and specially designed wheels to ensure consistent tracking in all types of casing.

**Reliable Control Cable:** Digitilt control cable is durable and easy to handle. The cable has excellent dimensional stability, and its rubber depth marks are vulcanized to the cable jacket and cannot slip.

**Ergonomic Operation:** Surveys require just one person, since the cable and hand switch can be gripped at the same time. The pulley also takes the weight of the cable while the reading stabilizes.

**Versatile:** The Digitilt Classic system includes a horizontal probe, a spiral probe, a portable tiltmeter, slip-ring reels, and other accessories.

**DigiPro2 Software:** DigiPro2 makes short work of data management and plotting. Its advanced mode provides routines for identifying and correcting errors, reusable reports and many other features.

## Digitilt Classic System

Slope Indicator's classic inclinometer system has a world-wide reputation for durability, high precision, and rapid response.

The classic system includes the Digitilt probe, heavy-duty control cable, the DataMate II readout, and DigiPro2 software.

## Applications

Inclinometers are used to monitor subsurface movements in landslides, embankments, dams, and deep excavations.

Inclinometer casing is installed in a vertical borehole that passes through suspected zones of movement into stable ground.

The Digitilt Classic system is used to survey the casing. The first survey establishes the initial profile of the casing. Changes in the profile, revealed by comparing subsequent surveys to the initial, indicate that ground movement has occurred.

Plots of inclinometer data show the magnitude, direction, and rate of ground movement.

## Operation

To start a survey, the operator selects an inclinometer from a list stored in the DataMate. The DataMate displays a starting depth for the survey.

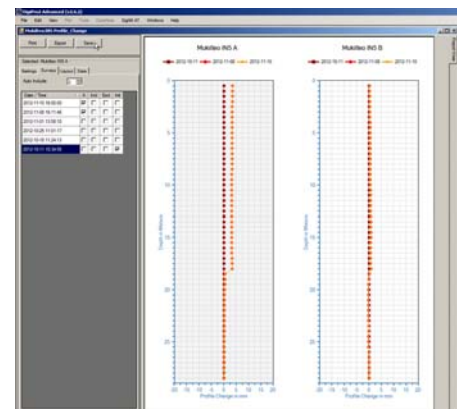
The operator positions the probe and watches the DataMate for a "ready" signal that indicates that the reading is stable. To record the reading, the operator clicks the hand switch. The DataMate confirms with a beep and displays the next depth.

The operator repositions the probe, watches for the ready signal, and records the reading, repeating these steps until the survey is complete.

If display depth and probe depth get out of sync, the operator can scroll to the required depth, reposition the probe, and continue the survey from that point.

When all readings have been taken, the operator can display checksum statistics to validate the survey.

On return to the office, the operator transfers surveys from the DataMate to the PC using DigiPro2 software. Afterwards, DigiPro2 can process and plot the surveys.



**DIGITILT INCLINOMETER PROBE**

**Metric-Unit Probe . . . . .50302510**  
**English-Unit Probe . . . . .50302500**

Probe includes stainless steel carrying case. Control cable, reel, pulley, and DataMate are ordered by separate part numbers.

	Metric	English
Sensor Type	Analog force-balanced servo-accelerometers x 2	
Wheel Base	500 mm	24 inch
Cal Range*	±30°	±30°
Sys Resolution*	0.01 mm	0.0006"
Sys Accuracy*	±6 mm / 25m	±0.3" / 100'
Precision	±0.01% FS	
Temp	-20 to +50 °C	-4 to +122 °F
Material	Stainless Steel	

**Calibrated Range:** Metric and English unit probes are calibrated to ±30° and have an over-range to ±53° and ±42° respectively.

**System Resolution:** The resolution derived from a two-pass survey converted to mm and inches per standard interval.

**System Accuracy:** Specifications were derived empirically from the analysis of a large number of surveys and include errors introduced by casing, probe, cable, readout, and operator. Casing was installed within 3 degrees of vertical. Operators followed recommended survey practices. After correcting for systematic errors, the best accuracy obtainable is ±1.4 mm per 50 readings with metric systems and ±0.05 inch per 50 readings with English systems.

**CONTROL CABLE**

**30m Control Cable . . . . .50601030**  
**50m Control Cable . . . . .50601050**  
**100m Control Cable . . . . .50601100**

**100 ft Control Cable . . . . .50601002**  
**150 ft Control Cable . . . . .50601003**  
**300 ft Control Cable . . . . .50601004**

**Depth Marks:** Metric cable has 0.5m depth marks English cable has 2 foot marks. Marks are molded onto the cable jacket and cannot slip.

**Construction:** Cable is supplied with no splices or surface defects. Kevlar core provides tensile strength. Dacron torsion braid counters twist and provides dimensional stability. Polyurethane jacket resists chemicals and abrasions and stays flexible in cold temperatures.

**Custom Length Cables:** Lengths up to 300m (1000 ft) are available on special order. Extension cables are also available.

**DIGITILT DATAMATE READOUT**

**Digitilt DataMate II . . . . . 50310900**

Readout includes hand switch, battery charger with international plugs, and USB cable for PC.

**Compatibility:** Digitilt probes, both vertical and horizontal, Digitilt tiltmeters, and spiral sensors.

**Survey Types:** 2-pass surveys for inclinometer probes; 4-pass surveys for spiral sensors.

**Minimum Reading Interval:** 0.5 m for metric systems and 12 inches for English systems.

**Display:** Two line backlit LCD shows readings in traditional sine units: 25000 sine (angle) for metric systems and 20000 sine (angle) for English.

**Memory Capacity:** 160 installations and 32000 A & B axis readings.

**Battery:** 6 volt, 6 Ah, lead-acid gell cell powers readout and probe up to 16 hours per charge.

**Temp Rating:** -20 to 50°C (-4 to 122°F).

**Case:** Aluminum case is splash proof. Connectors are waterproof when capped or in use.

**Size & Weight:** 127 x 178 x 178 mm at 3 kg. (5 x 7 x 7" at 6.5 lb).

**DIGIPRO2 SOFTWARE**

**DigiPro2 Software . . . . . Download**  
**DigiPro2 License Key . . . . . 50310101**

DigiPro2 software is an essential component of the classic system. It has two modes, basic and advanced.

DigiPro2 Basic is free to use and provides all the functions necessary to retrieve surveys from the DataMate and make simple plots.

**DigiPro2 Advanced provides correction routines, reports, and many other features that enabled by purchase of a license key. Features are described in a separate datasheet and on the website.**

**DUMMY PROBE**

**Metric Wheel Base . . . . . 50304810**  
**English Wheel Base . . . . . 50304800**  
**Reel & Line for Dummy Probe . . . 50304900**

Dummy probe for testing continuity of casing and grooves and for detecting obstructions or severe distortions of casing that could hinder retrieval of Digitilt probe and control cable.

Dummy probe is stainless steel and has dimensions and wheels identical to those of Digitilt probe. Reel with 60 m (200') of nylon line is used to lower and retrieve dummy probe.

**PULLEY ASSEMBLY**



**Small Pulley . . . . .51104604**  
**Large Pulley . . . . .51104606**

Pulley assembly fits clamps onto top of casing. Cable hold serves as reference for depth marks. Wheel removes for easy insertion of probe. Order small pulley for 48 or 70 mm casing. Order large pulley for 70 or 85mm casing.

**CABLE STORAGE REEL**



**30m (100') capacity . . . . .50502030**  
**70 m (230') capacity . . . . .50502050**  
**100 m (360') capacity . . . . .50502110**

Sturdy storage reels with large diameter hubs keep cable neat when not in use.

**SLIP-RING REEL**



**200 m (650') capacity . . . . .50503100**  
**300 m (1150') capacity . . . . .50503300**

Slip-ring cable reel allows the readout to remain connected while the reel is operated. Includes jumper cable to connect reel to readout.