



DIGITAL MEMS PORTABLE INCLINOMETER SYSTEM



DIGITAL COMMUNICATION

DIGITAL MEMS TECHNOLOGY



DIGITAL MEMS INCLINOMETER SYSTEM

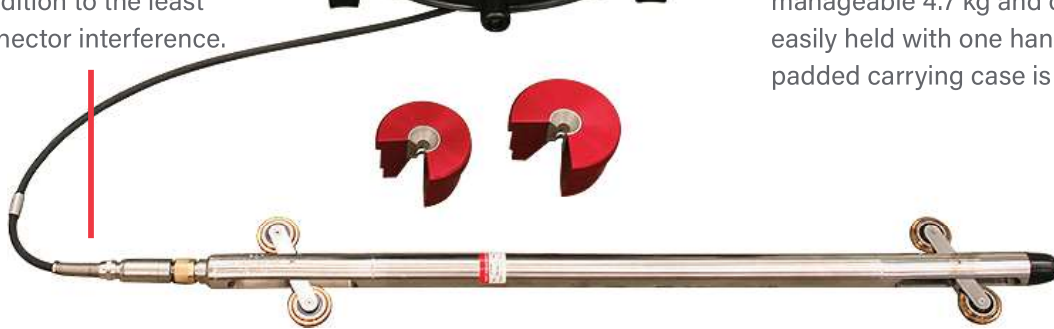
For measuring lateral deformation in earth and retaining structures using inclinometer casing, the Digital MEMS Inclinometer System from RST Instruments was the first, and is still the best, Digital MEMS Inclinometer System available.

The inclinometer reel can be charged without removing the battery and offers up to 30 hours of continuous use from a full charge.



RST provides the most robust cable on the market with a breaking strength of 1.8 kN (400 lbs.) Also, our new non-slip, swaged cable marks are unmatched in grip strength.

RST's newly developed connector is by far the industry leader for durability in addition to the least amount of connector interference.



The compact reel system with 50 m cable weighs a very manageable 4.7 kg and can be easily held with one hand. A padded carrying case is included.

Since 2003, RST's Inclinometer systems have the shortest overall length available for a given base length compared to competitive inclinometers. With a minimum negotiable casing radius of 1.93 m, RST's Digital MEMS Inclinometer can traverse a smaller radius bend than all other inclinometers available in the industry. A local microcontroller in the probe manages data collection, applies precision digital calibration, and provides a fast settling time which results in very efficient data collection.

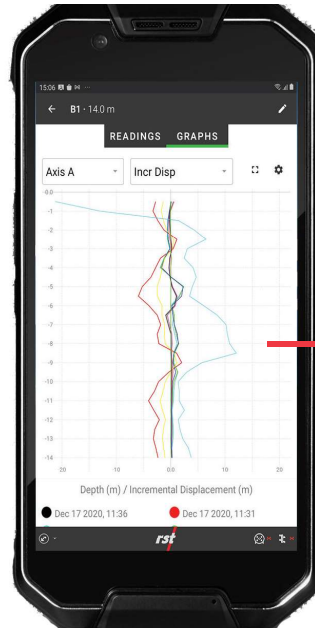


Digital Inclinometer App compatible with Android-enabled devices.

DIGITAL INCLINOMETER MOBILE APPLICATION

RST Instruments' digital inclinometer mobile application (available at no cost from RST's website and Google Play store) takes displacement readings from RST digital vertical inclinometer probes wirelessly. Powerful in-app data analysis tools allow you to visualise your readings on the fly, at the borehole.

The inclinometer data can then be exported via email or saved to your device in csv. or .rpp format for instant compatibility with Inclinalysis™, Slope Indicator's Digipro software, as well as GTilt and GTilt Plus. The application also displays information about the status of connected reels and probes to quickly locate hardware problems. The ability to organize your instruments by site and search for specific boreholes by name means that the information you need is always easy to find. Each borehole and site can be associated with unique contact information for operations that involve multiple stakeholders.



APPLICATIONS

On-site data collection

Compatible with RST Instruments' digital vertical inclinometer probes

RST Instruments recommends rugged devices designed harsh environments such as the Samsung Active 2, Juniper Mesa 3 and the Juniper CP3 mobile devices.

FEATURES

Manage Multisite Operations Data

Group the display of readings by site and individual borehole for easy access to the information you need. Create, delete, or modify entries as site conditions change.

Instantly Summarize Data

In-app graphs and readings histories provide summaries so you can see what the collected data means for your operations. Visually compare multiple readings on the same screen.

Read from Mobile Devices

Collect data in the field with your own existing Bluetooth-enabled Android mobile device.

Depth (m)	Face A+	Face A-
0.5	2.8815	-2.9114
1.0	3.1217	-3.1434
1.5	1.8894	-1.8876
2.0	0.6715	-0.6893
2.5	-1.7807	1.6715
3.0	-0.6534	0.5653
3.5	0.6144	-0.7441
4.0	0.8404	-0.8776
4.5	3.7438	-3.8053
5.0	7.6677	-7.7078
5.5	7.4564	-7.5254
6.0	4.0473	-4.1238
6.5	3.0120	-3.0103
7.0	2.1881	-2.2721
7.5	3.2214	-3.3133
8.0	3.3859	-3.4127
8.5	-0.5744	0.4493

Take Advantage of the Flexibility of the Mobile Environment

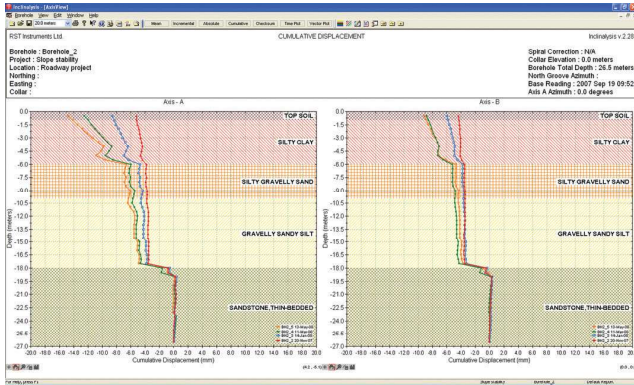
Readings taken in the RST application can be saved locally and exported to the RST Inclinalysis™ software.

Wireless Data Collection

Wireless Bluetooth technology allows you to collect data without the need for a physical connection between the inclinometer and the readout instrument. By removing the physical connection between the inclinometer control cable and the readout instrument there is no concern with fragile connectors, cable related failure and related reliability problems which means more reliable readings and fewer points of failure.

ANALYSIS SOFTWARE

The RST Digital MEMS Inclinometer System and Inclinalysis™ Software offer a powerful combination for quick and efficient reduction of large volumes of inclinometer data. Data can be analyzed and presented quickly in a variety of formats.



Plot

Plot data at the click of a button. View several plots simultaneously across the screen. Ability to save multiple reports for a single borehole.

Intuitive

Menu and plot functions are designed to be intuitive and easy to learn. Cascade windows to display multiple plots and tabular data on the same screen.

Customize

Create custom plot titles and change graph properties. Change reading units instantly to millimeters, metres, inches or feet. Specify top or bottom data reference. Correct for bias-shift.

RST Inclinalysis™ Software is powerful, yet easy to use. Plotting, manipulating data and printing are all only a few clicks away. Menu and plot functions are designed to be intuitive making the program very easy to learn. Designed to complement the Digital MEMS Inclinometer System, data is organized in a standard file structure which makes importing data seamless between Inclinalysis™ and the RST Digital Inclinometer App.

Assess

Create vector plots displaying change in magnitude and direction, and time plots to assess the rate of movement at a particular depth or in a specific movement zone. Instant visual data validation by plotting checksum data.

Import

Import inclinometer data in a variety of formats from different manufacturers including spiral data.

Compare

Display data in tabular format and compare directly to plots. Take direct measurements off any plot.



DIGITAL MEMS INCLINOMETER SYSTEM

SPECIFICATIONS

INCLINOMETER	METRIC SYSTEM	IMPERIAL SYSTEM
Wheelbase	0.5 m	2 ft
Probe diameter	25.4 mm	1.00 in
Probe length (including connector)	719 mm	32.6 in
Probe weight	1.06 kg	2.45 lbs
Probe material	Stainless steel	Stainless steel
Full-scale range (other ranges available)	±30 degrees	±30 degrees
Data resolution	0.005 mm per 500 mm	0.00002 ft per 2 ft
Memory	> 1,000,000 readings	> 1,000,000 readings
Repeatability	±0.002°	±0.002°
System accuracy	±2 mm per 25 m	±0.1 in. per 100 ft
Axis alignment	Digitally nulled	Digitally nulled
Temperature rating	-40 to +70°C	-40 to + 158°F
Sensor type	MEMS Accelerometer, Biaxial	

CABLE REELS

Up to 75 m cable reel diameter	310 mm	12.2 in
100 to 200 m cable reel diameter	380 mm	15 in
+225 m cable reel diameter	460 mm	18 in
Reel weight with 50 m (100 ft.) cable	4.7 kg	8.4 lbs

CABLE

Cable Diameter	6.40 mm (±0.1 mm)	0.25 in
Cable weight	2.3 kg/ 50 m	3.1 lbs/ 100 ft
Cable breaking strength	1.8 kN	400 lbs
Cable reinforcement	Kevlar [®] ‡	Kevlar [®] ‡
Cable jacket	Polyurethane	Polyurethane
Cable stretch (suspended in 50 m dry borehole)	7.0 mm	0.27 in

ORDERING INFO

SYSTEMS-METRIC

IC32003	30 m complete system with 0.5 m probe
IC32005	50 m complete system with 0.5 m probe
IC32075	75 m complete system with 0.5 m probe
IC32010	100 m complete system with 0.5 m probe
125, 150, 200, 250, 300 m and longer systems available	

SYSTEMS-IMPERIAL

IC32110	100 ft complete system with 2 ft probe
IC32115	150 ft complete system with 2 ft probe
IC32120	200 ft complete system with 2 ft probe
IC32130	300 ft complete system with 2 ft probe
400, 500, 600, 800, 1000 ft and longer systems available	

OPTIONAL SYSTEM ACCESSORIES

IC35805	Dummy probe 0.5 m wheelbase-METRIC
IC35802	Dummy probe 2 ft wheelbase-IMPERIAL
IC32705	Digital MEMS Inclinator Spiral Sensor (See separate brochure)
IC35600	RST Inclinalysis™ - Digital Inclinator Analysis Software
IC35650	Protective Aluminum Carrying Case - for Inclinator Probe

Horizontal MEMS Inclinator
(probe available in custom lengths in Metric and Imperial units
view separate brochure or contact sales at RST Instruments)

Included System Components

MEMS Digital Inclinator probe with protective case
Cable Reel with Wireless Communication System
Cable Reel Carrying Case
Silicone spray for probe/cable connectors
Data collection & transfer software
70 & 85 mm cable grips
AC Adapter for Reel Battery Charger
Android-enabled mobile device