

Safety notes

- ▶ INCLINEO is a package designed to be used in industrial environments only for measuring inclination and angularity on surfaces, rolls and shafts. Care must be taken to ensure that the system is not subjected to mechanical knocks. INCLINEO must be operated only by properly trained personnel. No liability will be assumed when components or operating procedures as described in this manual are altered without permission of the manufacturer.

Storage

When not in use, store INCLINEO in such a manner that the display lies in parallel with the red handle and the mounting base. Also ensure that the display axis remains horizontal within $\pm 5^\circ$. INCLINEO should be stored at temperatures between $15^\circ\text{C} - 30^\circ\text{C}$ ($59^\circ\text{F} - 86^\circ\text{F}$). These measures should prevent against premature damage of the high precision electronic inclinometer.

Notes regarding data storage

- ▶ With any data processing software, data may be lost or altered under certain circumstances. PRÜFTECHNIK strongly recommends that you keep a backup or printed record of all important data.
- ▶ PRÜFTECHNIK assumes no liability for data lost or altered as a result of improper use, repairs, defects, battery replacement/ failures or any other cause.
- ▶ PRÜFTECHNIK assumes no responsibility, directly or indirectly, for financial losses or claims from third parties resulting from the use of this product and any of its functions, such as loss or alteration of stored data.

Service and care

Although INCLINEO is essentially maintenance free, the calibration accuracy of the system should be checked every six months as indicated by the calibration label located on the back of the rotatable inclinometer assembly.

Technical data

Measurement range	$\pm 10^\circ$
Resolution	0.0003° [1 arc second]
Limits of error at calibration [Ta = 22°C/72°F]	0.005% full scale 0.03% read out
Limits of error at measurement [Ta = 22°C/72°F]	0.005% full scale 0.06% read out
8-hour zero-point drift	0.04% full scale
Digital Filter/Average	3rd order with 0.3 / 1 / 3 Hz options
Temperature range	Storage: -40°C to 85°C (-40°F to 185°F) Operation: -10°C to 60°C (14°F to 140°F)
Display	LCD display, 132 x 32 pixel with LED backlight
User interface	Three key operation
Wireless communication	Embedded RF module with LED indicator
External interface	RS-232 (serial) for computer and sensor Connector for dial gauge
Power supply	2 AA batteries
Battery status indicator	3 LEDs
Data storage	Up to 999 measurements



Contact

Fluke Deutschland GmbH
Freisinger Str. 34
85737 Ismaning
Germany
+49 89 99616-0
www.pruftechnik.com

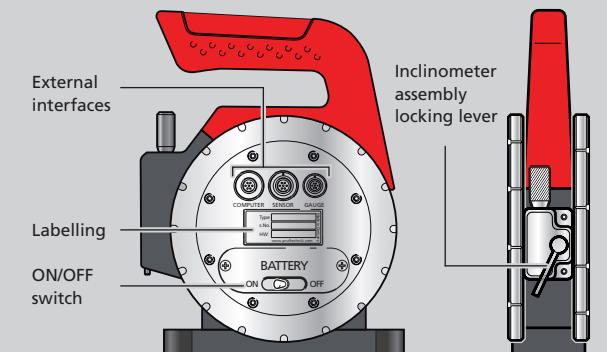
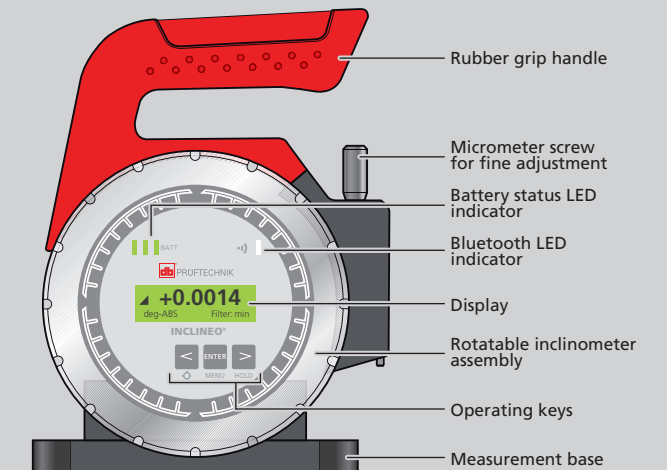

FLUKE®
Reliability

INCLINEO® Pocket guide

© Copyright 2018 by Fluke Corporation



Know your INCLINEO®



Switch INCLINEO on using the ON/OFF switch.

After being turned on the system stays in the measurement mode. The menu items are accessed by pressing the 'ENTER/MENU' button. The left and right arrows are used to select the submenu items which are then confirmed by pressing enter.



Hold function (used to freeze the displayed reading)

Backlight switch (used to turn the backlight on or off)

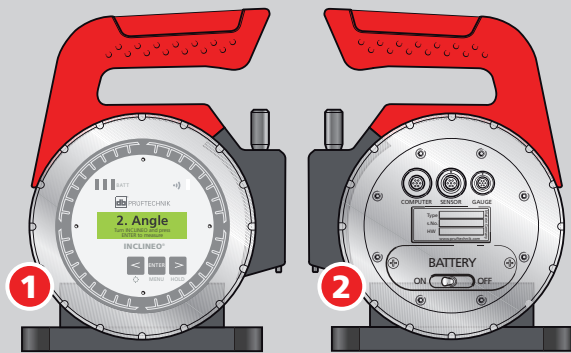
Absolute measurement

To carry out absolute inclination measurements, INCLINEO needs to be levelled. For high precision, the measurement process demands that the object to be measured and INCLINEO be at the same temperature.

The surface where the level condition is to be set must be relatively even and rigid.

Place INCLINEO on the object to be measured and switch it on. The active measurement is displayed. It is recommended to set this value as close to zero as possible. Use the rotating inclinometer assembly and the micrometer screw.

Press **ENTER** to access the menu. Use **➤** or **➤** to select the menu item "Absolute Meas". With "Absolute Meas" appearing on the display, press **ENTER**. The message "1. Angle Press ENTER to measure" appears on the display. Press **ENTER** to start measuring. As soon as the measurement has stabilized, "ok" appears on the display below the registered value. Press **ENTER** to accept reading. The message "2. Angle Turn INCLINEO and press ENTER to measure" appears on the display. Before turning INCLINEO through 180° for the second measurement, mark the present location to enable INCLINEO be placed at exactly the same position for the reversal measurement. Now rotate INCLINEO through 180°.



For the second reading, INCLINEO is rotated through 180° and placed at exactly the same position as for the first reading

After aligning INCLINEO into place, press **ENTER** to start second measurement. "ok" appears on the display after measurement has stabilized. The system has now been set for absolute measurements. Press **ENTER** to confirm setting the level condition. The set-up is saved by pressing **ENTER** with the submenu item "save" displayed. Readings taken henceforth are absolute values.

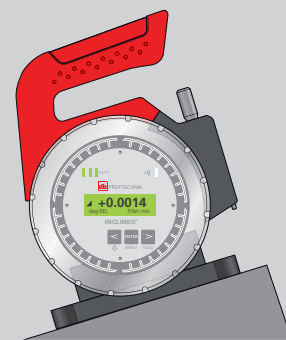
Relative measurement

It may be necessary to know the relative inclination of different surfaces. This is carried out using the relative measurement method. Place INCLINEO on the selected reference surface and switch the system on. Press **ENTER** to access the menu items. "Relative Meas" appears on the display (if not use **➤** or **➤** to select it). It is recommended that the displayed value be set as close to zero as possible. Press **ENTER** to access the submenu items. Use **➤** or **➤** to select "set zero". Press **ENTER** to proceed to set the reference value. After measurement, the collected value is displayed. Readings taken henceforth are relative to the reference value.

Measuring wide angles

It may be necessary to measure surface inclinations that are larger than the inclinometer capacity of 10°. Such measurements are carried out using the relative measurement method, and is made possible by the system's rotatable inclinometer assembly.

If INCLINEO is placed on a surface with an inclination greater than 10° and turned on, "overflow" is registered on the display. To be able to carry out relative measurements the rotatable assembly has to be rotated to display a near zero value. To rotate the assembly, loosen it by rotating the locking lever anti-clockwise. The assembly can now be freely rotated. Use can be made of the micrometer adjustment screw to attain the near zero value. The nearer to zero the higher the accuracy of measurement results.



Rotatable housing allows high precision measurements on surfaces with steep inclination.

After set-up is completed, the inclinometer assembly must never be rotated. All related measurements must be taken using only this set-up.

After attaining a near zero value, press **ENTER** then use **➤** or **➤** to select "Relative Meas". Press **ENTER** to access the submenu items and use **➤** or **➤** to select "set zero". Press **ENTER** to confirm selection.

Now proceed to carry out relative measurements. In this configuration, the system can be used to measure the relative inclination of surfaces with any inclination with an increased accuracy.

Accessories

Measurement bases

INCLINEO is supplied with different measuring bases for different applications.

Available is a specially fabricated base with grooves allowing better contact to smooth surfaces such as granite tables.



Grooved mounting base for smooth surfaces

Rolls and shafts can also be measured using a prism-shaped mounting base.



Prism-shaped mounting base for rolls and shafts

The three-point base is ideal for many surfaces.



Three-point base for different surfaces

Other optional mounting bases include INCLINEO magnetic foot ALI 18.500-M and the extend range mounting base ALI 18.500-L. (Contact your local PRÜFTECHNIK representative for details on these mounting bases.)

PC software (optional)

Refer to the supplied product operating handbook.

Menu items

Relative measurement

This menu item is used to set the offset. After selecting 'Relative Meas', press **ENTER** to access the submenu items "reset", "set zero", "edit" and "exit". Use **➤** or **➤** to cycle through the submenu items.

- ▶ "reset" is used to show the true inclination of the system.
- ▶ "set zero" is used to set the value to zero.
- ▶ "edit" is used to edit the offset value. After selecting "edit", press **ENTER**. A value appears on the display with a cursor appearing below the sign of the offset. This is either - / +. The sign is changed by pressing **➤** or **➤**. Each digit value increases by pressing **➤** and decreases by pressing **➤**. Press **ENTER** to cycle through the digits.

Absolute measurement

This menu item is used to set the absolute measurement mode. Readings taken after calibration are absolute inclination values.

Type of filter

This menu item is used to select the type of filter to be used. The available options are "max", "min", "mid" and "off".

Measurement units

This menu item is used to select the desired measurement unit. Available units are degrees (3 and 4 decimal places), gon, mm / m, mils / inch, inch / 10 inches, deg - arcmin - arcsec, arcsec, mrad, µrad, rel.

Memory

This menu item is used to save, display and cancel measurement values. The options used for these actions are "manual", "auto", "view" and "delete".

Backlight

This menu item is used to control the display backlight. Available options include "auto-off in 5 min.", "auto-off in 30 s", "on" and "off".

RF module

This menu item is used to turn the wireless communication on or off.

Device info

This menu item displays the device serial number, the software and hardware versions.