



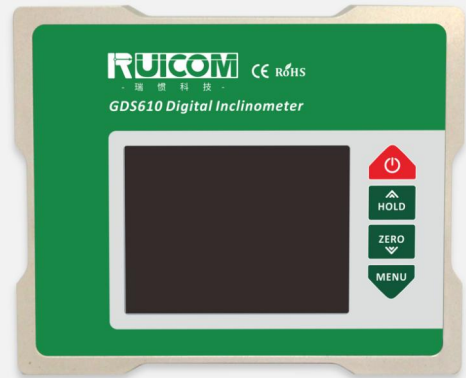
GDS610 High-Precision Electronic Level

Product manual

V2.4-20250918

Technical Highlights

- ❖ Optimal accuracy: $<0.02^\circ$;
- ❖ Repeatability: 0.004° ;
- ❖ Angular resolution: 0.001° ;
- ❖ Data storage function;
- ❖ Three-plane reference strong magnetic mounting;
- ❖ Automatic angle interpolation compensation function.



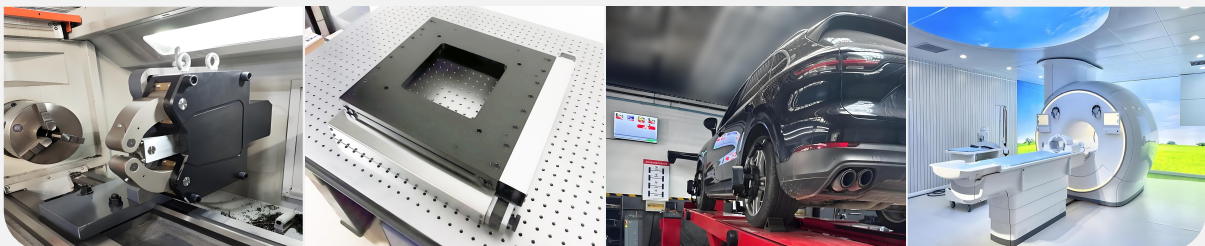
Product Introduction

The GDS610 is a high-precision industrial-grade digital tilt measuring instrument designed specifically for angle monitoring and control applications in industrial settings. It is utilizing advanced MEMS sensing technology, combined with a unique cross-axis compensation algorithm and temperature drift correction model, it fully leverages the computational power of MEMS to ensure excellent long-term stability and repeatability of measurement data.

The device boasts a single-axis measurement range of $\pm 90^\circ$, a high resolution of 0.001° , rapid response, and stable output. Its innovative three-dimensional magnetic mounting design (including strong magnetic adsorption structures on the sides and bottom) enables multi-reference surface measurement, significantly enhancing on-site installation flexibility. The GDS610 series integrates a data storage module, supports switching between three measurement units (degrees, minutes, seconds/decimal angles/mm per meter), and combines excellent system scalability, ease of operation, and reliability in industrial environments, maintaining strong competitiveness in the international market with its outstanding cost-performance ratio.

Application Scope

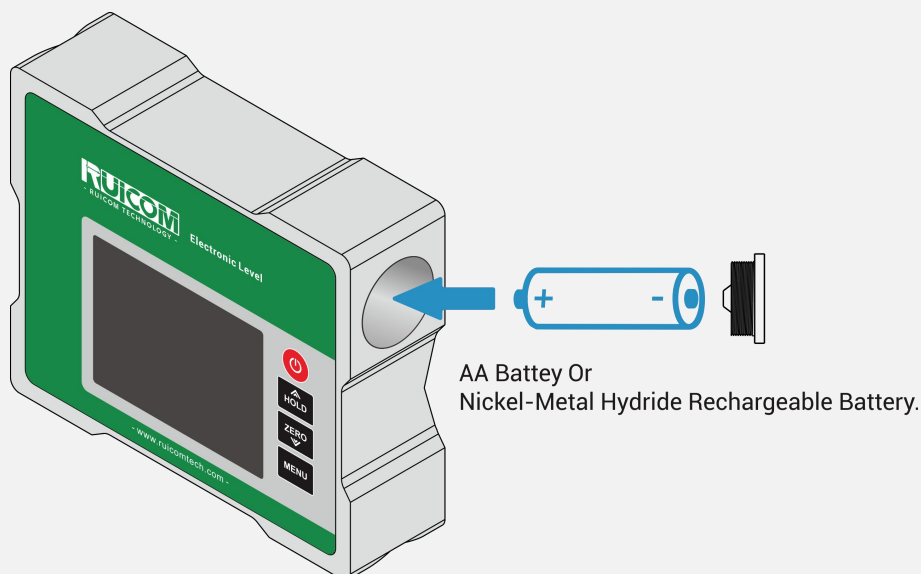
- | | |
|---|---|
| ❖ Architectural engineering surveying | ❖ Roadbed and pavement slope monitoring |
| ❖ Vehicle positioning and suspension leveling | ❖ Industrial equipment level control |
| ❖ Heavy equipment leveling and calibration | ❖ Rotary platform accuracy testing |
| ❖ Precision machining fixture positioning | ❖ Medical equipment posture correction |



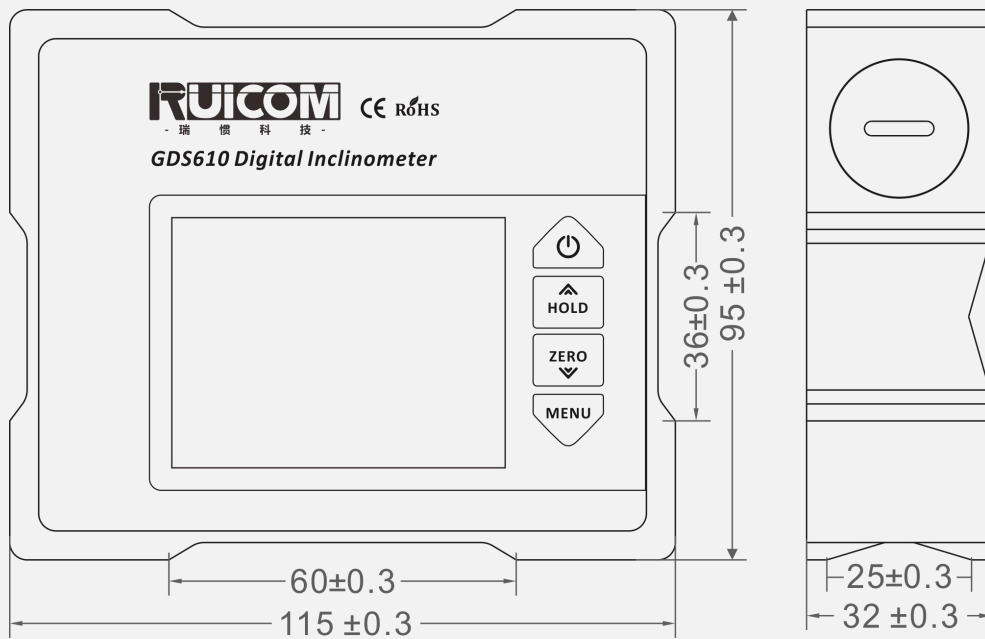
Specifications

GDS610	Parameter	
Angle Measurement Range	$\pm 90^\circ$	$\pm 30^\circ$
Measuring Axis	Single-axis	Dual-axis
Accuracy (RMS)	$<0.02^\circ$ (Full range)	$<0.005^\circ$ (Full range)
Angle Measurement Resolution	0.001°	0.001°
Repeatability	0.004°	0.004°
Measurement Mode	Degrees, minutes, seconds, angles, and mm/m modes are settable.	
LCD Display	64-color true-color luminous display screen	
LCD Viewable Area Size	L60.5mm*W45mm	
Operating Temperature	$-10^\circ\text{C} \sim +70^\circ\text{C}$	
Operating Humidity	85%RH	
Battery Specifications	One 2A AA battery or AA NiMH rechargeable battery	
Battery Continuous Operating Time	6 hours (2000mAh battery)	
Vibration Resistance	10g@11ms, triaxial (half-sine wave)	
Shock Resistance	10grms / 10~100Hz	
Weight	600g	
Waterproof Rating	IP54	
Material	Abrasion-resistant aluminum alloy	
Dimensions	L115*W95*H32mm	
Precautions	For the highest measurement accuracy, please set the latitude information of your local city. The settings will be automatically saved after completion. (Refer to point 3, sub-point 3 of point 3 in the main interface function introduction of this specification)	

Battery installation diagram

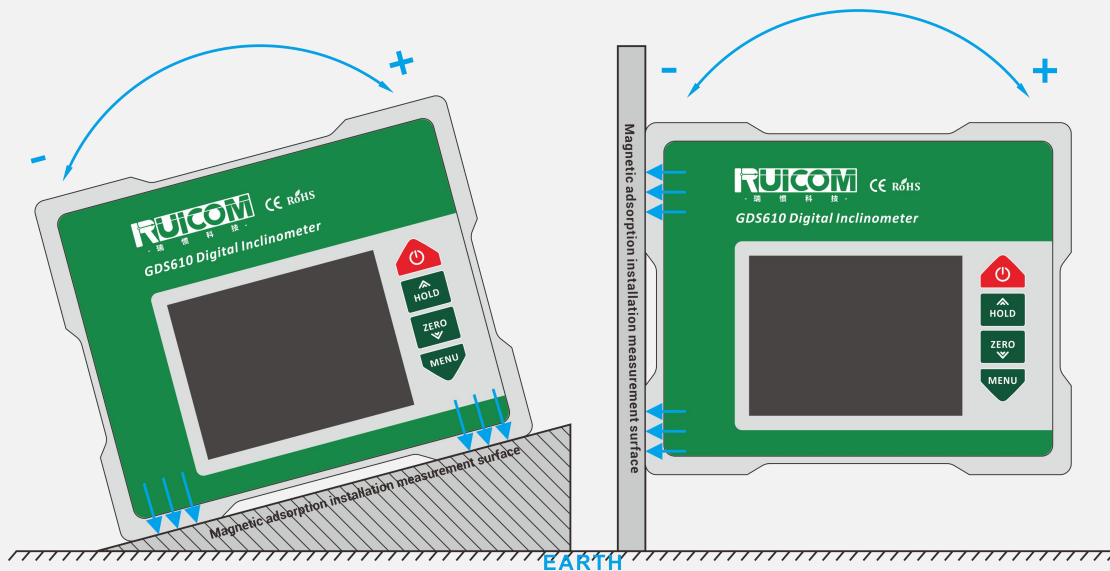


✔ Product Dimensions

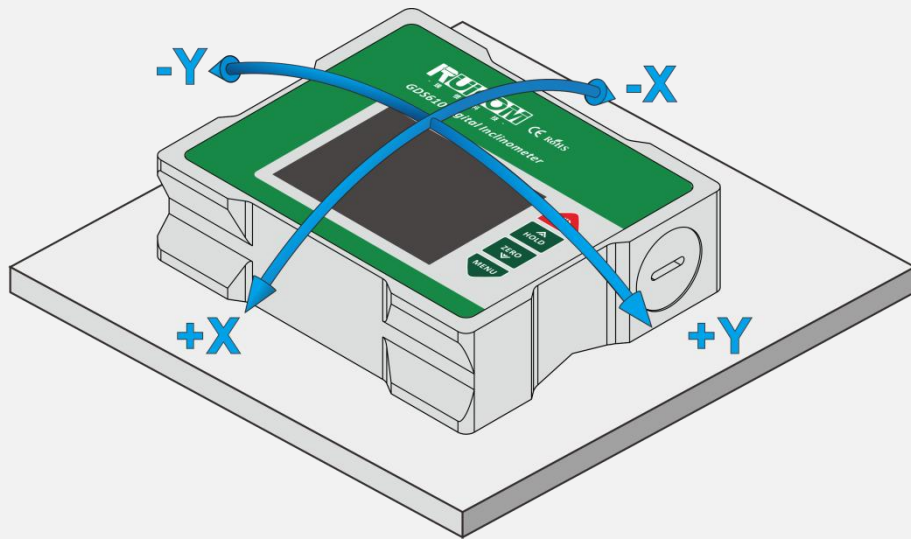


Housing: 115×95×32mm

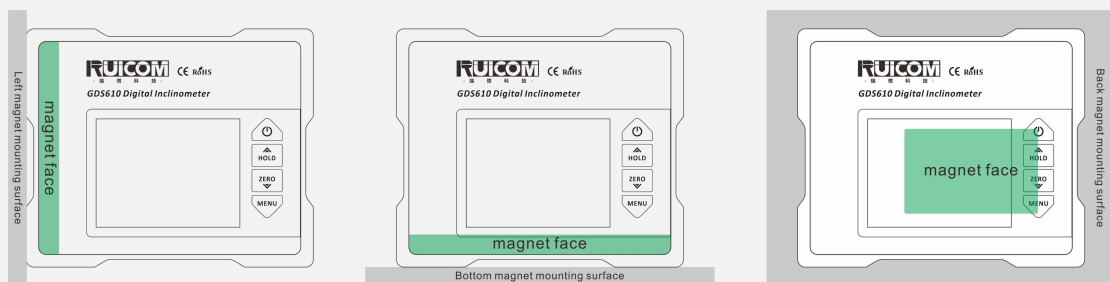
✔ Single-axis measurement



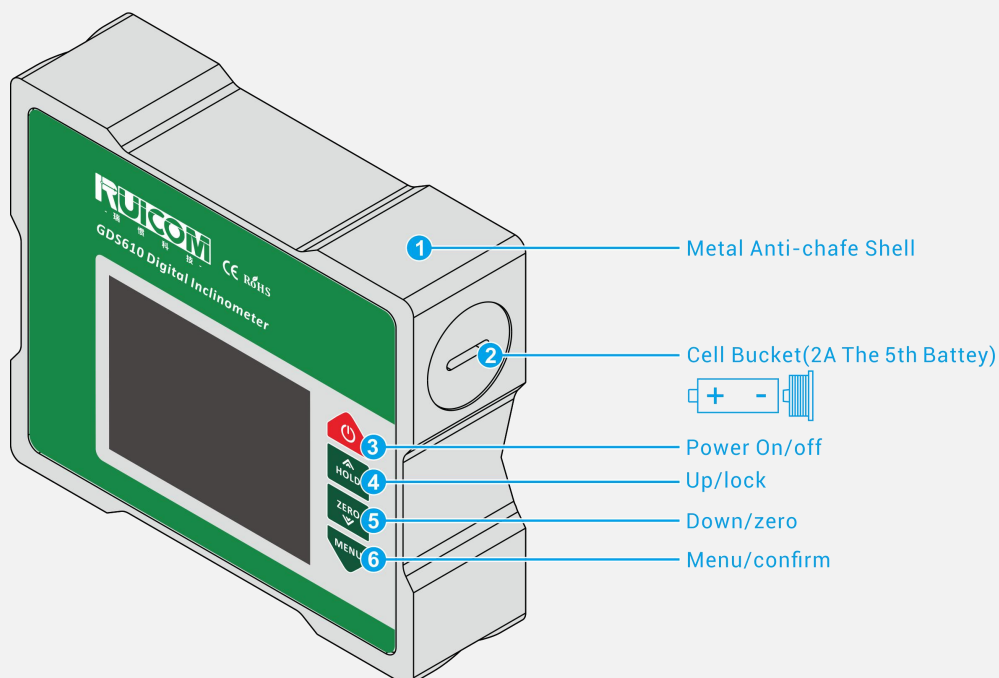
✓ Biaxial measurement



✓ Magnet measuring surface



✓ Function Menu Operation Instructions



1. Metal Wear-Resistant Housing: Wear-resistant aluminum alloy housing with magnetic surfaces on both sides of the bottom left side.

2. Battery Slot: Uses AA batteries (2A). When inserting the battery, the positive terminal should face inwards.

3. Power Button: Press and hold for about 3 seconds until you hear a "beep...", then release to power on/off.

4. HOLD Lock, Unlock, or Move Up: When there is no menu displayed on the main screen, the HOLD button locks the screen. Pressing it again unlocks it, and an icon will appear in the upper right corner of the monitor.
When there is a menu or other interface on the main screen, it moves the screen up.

5. ZERO Set/Cancel Zero Point/Move Down: When there is no menu displayed on the main screen, pressing the ZERO button sets or cancels the zero point. "ABS" is displayed for absolute zero, and "REL" for relative zero.
When there is a menu on the main screen, pressing the ZERO button moves the screen down.

6. MENU Menu or Confirm

When there is no menu displayed on the main screen, pressing MENU displays the menu.

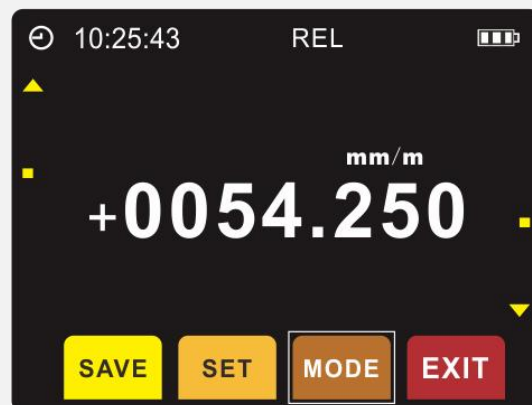
When the main interface displays a menu or other interfaces, the MENU button functions as the "OK" button.

By default, no menu is displayed on the main interface upon startup, and this functionality is not saved upon shutdown.

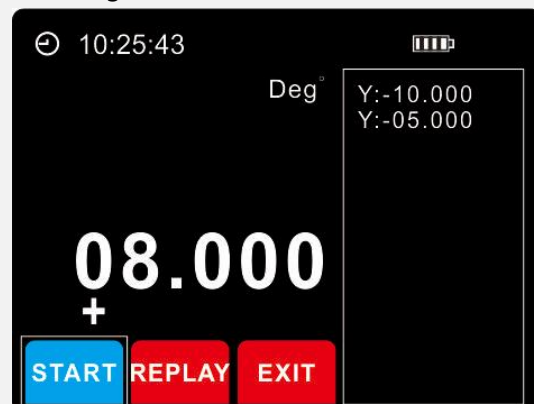
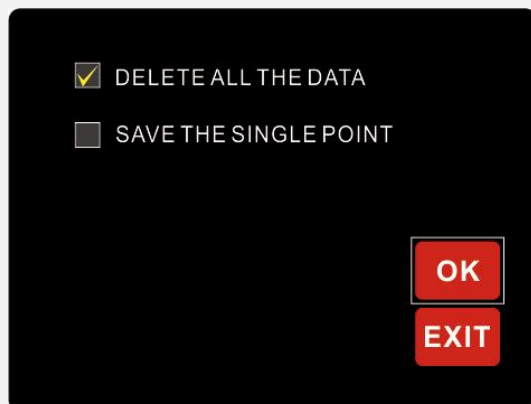


Installation direction

1. Boot main screen



2. Select SAVE and click the OK button to save the settings.



2.1 DELETE ALL DATA: Delete saved data;

2.2 SAVE THE SINGLE POINT: Save the data once;

2.2.1 Click OK to select success;

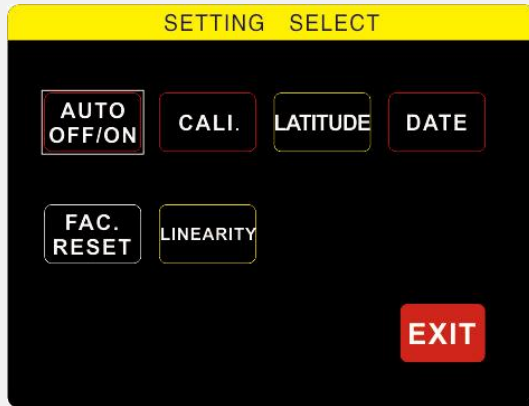
2.2.2 To save, click START. The saved data is stored on the SD card and displayed in the right

corner of the screen. The right corner can display 10 sets of data. When 10 sets are displayed, "MEMORY FULL!" will appear. The data must be cleared before saving can continue.

2.2.3 REPLAY: Replay saved data;

EIXT: Exit the save function;

2.2.4 Click EXIT to cancel the operation and exit, keeping the original settings;



3. Click the SET button to enter the software settings.

Click SET to enter the settings interface, which includes seven options and functions.

3.1 AUTO ON/OFF: Automatic power-off setting

3.2 CALI: Zero-point calibration setting

3.3 LATITUDE: Local latitude setting

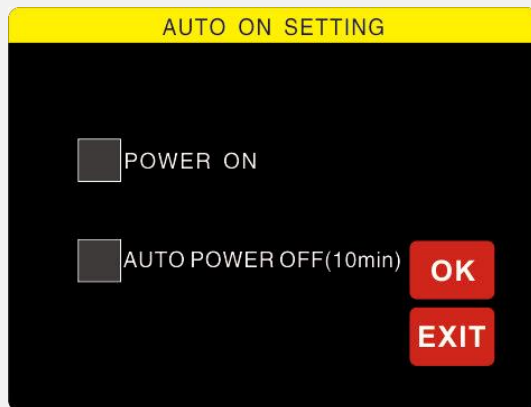
3.4 DATE: Date setting

3.5 FAC.RESET: Factory reset

3.6 LINEARITY: Linearity correction setting

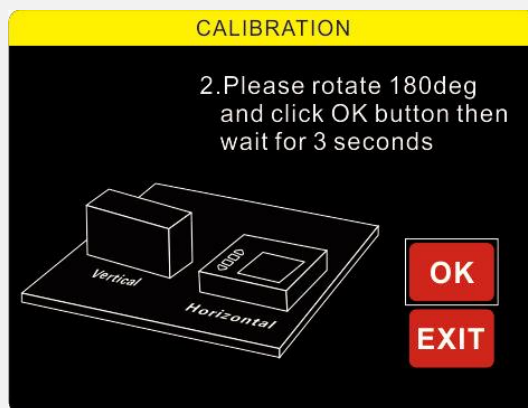
3.7 AUTO ON/OFF: Automatic power-off setting

3.1 AUTO ON/OFF: Automatic shutdown settings



Selecting "power on" keeps the product powered on; selecting "AUTO POWER OFF (10min)" will automatically power off the product after 10 minutes of inactivity (this is the default setting for the product).

3.2 CALI.: Absolute zero calibration settings (Zero-point calibration requires a high-precision platform; please do not proceed if this is not available.)



3.2.1. Vertical zero point calibration:

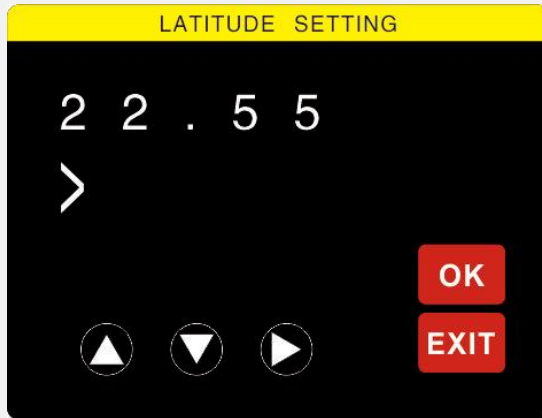
Horizontal Zero Point Calibration: Place the product vertically on a flat surface (e.g., a marble surface), and click **CALI** to enter product calibration mode. (As shown in the upper left image), place the product as indicated, and click OK to begin the first point calibration (do not move the product during this time). After waiting 10 seconds, rotate the product horizontally 180° (as shown in the upper left image), and click OK to begin the second point

calibration. After waiting 10 seconds, the calibration is complete.

3.2.2. Horizontal Zero Point Calibration:

Place the product horizontally on a flat surface (e.g., a marble surface), and click CALI to enter product calibration mode.

(As shown in the upper right image), place the product as indicated, and click OK to begin the first point calibration (do not move the product during this time). After waiting 10 seconds, rotate the product horizontally 180° (as shown in the upper right image), and click OK to begin the second point calibration. After waiting 10 seconds, the calibration is complete.



3.3 LATITUDE: Local latitude setting

Set the local latitude value. Due to differences in the Earth's gravitational field in different locations, to achieve high measurement accuracy, please set the latitude information of your local city. The product will automatically calculate the local gravitational field and correct for accuracy errors. As shown in the left image, 22.55 is the latitude of Shenzhen. Click on Latitude Settings.

3.3.1. Click the "Up" button to increase the corresponding digit value by 0-9;

3.3.2. Click the "Down" button to decrease

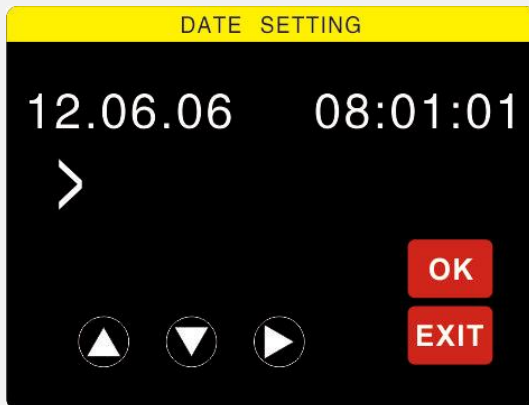
the corresponding digit value by 0-9;

3.3.3. Click the "Right" button to select the corresponding digit: tens place, units place, tenths place, hundredths place, and cycle;

3.3.4. Click OK to save the latitude settings and automatically exit the interface;

3.3.5. Click EXIT to exit the interface (without saving);

3.4 DATE: Date setting



Set the date and time for displaying and saving data;

3.4.1. Click the "Left" button: Select the year, month, day, hour, minute, and second position of the time, which can be cycled;

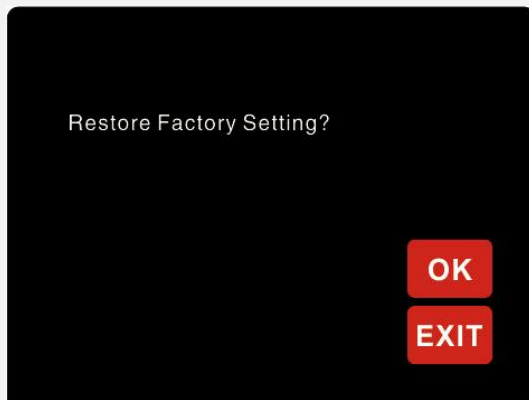
3.4.2. Click the "Up" button: Increase the corresponding value;

3.4.3. Click the "Down" button: Decrease the corresponding value;

3.4.4. OK: Save the settings;

3.4.5. EXIT: Exit without saving the settings;

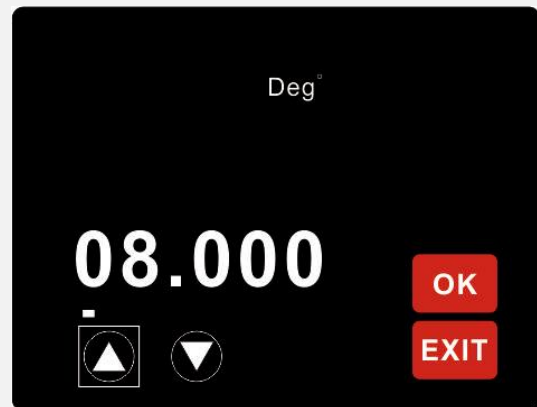
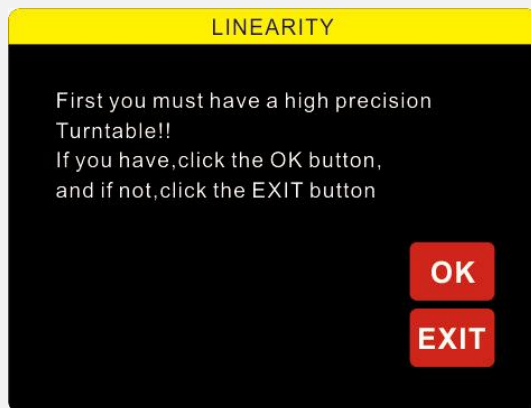
3.5 FAC.RESET



Clicking OK restores the parameters for alarm angle, filter frequency, and calibration angle;

Clicking EXIT exits the process. (See left image)

3.6 LINEARITY:



Linearity Correction Settings: Generally, customers do not need to operate this function; use with caution!! It will affect accuracy and must be used in conjunction with a high-precision rotary table;

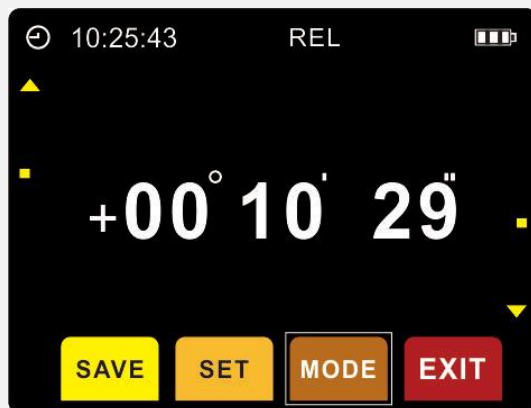
3.6.1. Single-axis must be installed vertically:

- a: Click the "Up" button: Increase the current linearity;
- b: Click the "Down" button: Decrease the current linearity;
- c: Click the "OK" button: Save the current linearity settings;
- d: Click the "EXIT" button: Exit without saving settings;



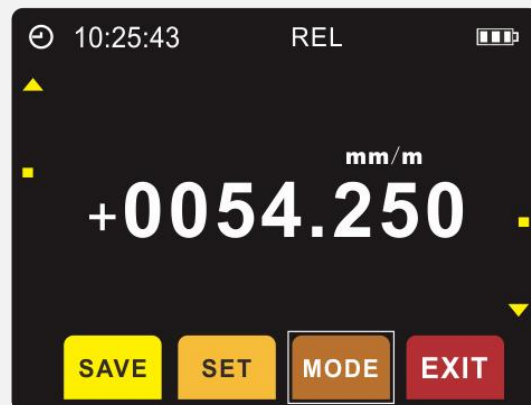
3.6.2. Dual-axis must be installed horizontally:

- a: Click the "Up" button: Increase the current linearity;
- b: Click the "Down" button: Decrease the current linearity;
- c: Click the "OK" button: Save the current linearity settings;
- d: Click the "EXIT" button: Exit without saving settings;



4.Data unit mode settings

Click the MODE button to switch the product unit mode, as shown in the image on the right: the unit modes are "degree", "degree-minute-second" and "millimeters per meter" in sequence; the three modes can be switched in a cycle.





Product Maintenance

1. The digital angle meter uses AA batteries (2A).
2. This instrument is highly reliable and can be used in vibrating environments, but please do not drop it from a height, as this will cause permanent damage.
3. If you find the instrument damaged, please do not disassemble it yourself. Please contact our company immediately for professional guidance and repair. Any instrument disassembled by an individual will be refused repair by the manufacturer.



Warning

1. This product contains high-precision sensors and information processing circuits. Dropping, impacts, or unauthorized disassembly are strictly prohibited; any consequences arising from such actions will be the sole responsibility of the user.
2. Do not press multiple buttons simultaneously, as this may shorten the product's lifespan.
3. This product should be placed in a safe location out of reach of children.