

User Manual

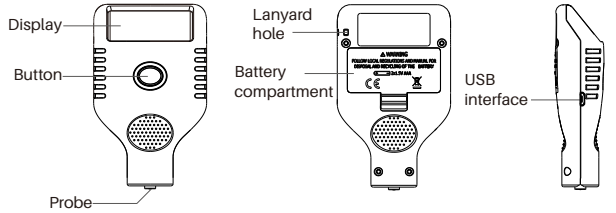
Coating Thickness Gauge V1.0.7

1. Brief Description

Coating thickness gauge can non-destructively measure the thickness of non-conductive coatings on metal surfaces, as well as the thickness of non-ferromagnetic metal coatings on ferromagnetic metals (such as iron, nickel, and cobalt, etc.). The specific use of the instrument includes coating thickness measurement on iron, stainless steel surface or galvanized layer, coating thickness on aluminum, copper surface or plastic film, etc.

When this instrument uses nickel-metal hydride batteries, it can be charged through the USB interface. The instrument is suitable for paint detection. While measuring paint thickness, it can also identify iron galvanized and iron powder putty materials. The instrument has strong anti-interference ability and can work normally in a more complex electromagnetic field environment.

2. Appearance Display



3. Notes

3.1 Battery Installation

- (1) Install the battery according to the positive and negative electrode instructions inside the battery compartment.
- (2) After installing the battery, please fasten the battery cover to prevent the battery from being ejected.

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- (3) When the instrument is not used for a long time, be sure to take out the battery and place it properly.

3.2 Others

- (1) Avoid contact with corrosive chemicals.
- (2) Avoid using it in a strong magnetic field environment (such as near a magnet) to avoid damage to the probe.
- (3) Strictly prevent strong electricity and electrostatic shock.
- (4) Based on battery life and safety considerations, the battery capacity must be greater than 500mAh.

4. Charging function description

The instrument uses AAA 1.2V Ni-MH rechargeable batteries. Users can purchase replacement batteries from our company or dealers. The adapter can be 5V/1A or 5V/2A. Please use the original standard charging cable.

4.1 Charging display

When the instrument is turned on and the USB is plugged in, if it is connected to a computer, the instrument interface will display the data communication icon, and charging will not occur at this time; if it is connected to an adapter/charging head, the charging icon will be displayed, and charging will be normal at this time.

4.2 Safety protection measures provided by the instrument

- (1) The instrument does not charge when it is connected to the computer via USB (it can only be charged when the adapter/charging head is connected) to prevent damage to the computer.
- (2) If the temperature of the instrument rises sharply during charging, or the temperature of the instrument exceeds 50°C, charging will be automatically turned off to prevent the instrument from burning or inferior batteries from exploding.
- (3) The instrument will automatically shut down after being fully charged.

Warn:

(1) Please charge as soon as possible when the battery is low. Especially after the battery icon on the display flashes, excessive use may cause battery damage and subsequent

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failure to charge.

(2) The instrument can be used normally with dry batteries installed, and can also be connected to a computer.

However, it is not allowed to use a USB connection adapter/charging head to charge the dry batteries after the dry batteries are installed. Charging the dry batteries may cause them to explode.

(3) Please make sure that the battery compartment is filled with AAA 1.2V Ni-MH rechargeable batteries before charging, otherwise there will be safety hazards!

5. Power on/off

- (1) **Power on:** One-button power on, just press the button to power on.
- (2) **Power off:** Press and hold for 3 seconds to power off. If there is no operation (pressing the button or measuring) for more than 2 minutes, the instrument will automatically power off.

6. Zero calibration

When using the instrument for measurement, press and hold the button and attach the probe end immediately to the surface of the object to be measured. During the process of retracting the probe into the instrument, the instrument can be triggered to perform zero calibration. When the word "calibration complete" appears on the display interface, lift the instrument off the surface of the object to be measured and release the button.

Note: Press and hold the button for more than 3 seconds, if there is no calibration action, it will trigger the instrument to power off.

7. Measurement steps

- Step 1.** Prepare the parts to be tested.
- Step 2.** Keep the probe end away from metal objects at least 2cm, and press the button to turn on the instruments.
- Step 3.** Quickly attach the probe end to the surface of the object to be measured, and the instrument can automatically distinguish the properties of the substrate and measure the

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thickness of the coating (plating) layer when the probe shrinks to the inside of the instrument. After the displayed thickness value is refreshed and accompanied by the "beep" sound prompt, lift the instrument so that the probe end is at least 2cm away from the surface of the measured object, and then the next measurement can be performed.

8. Display

(1) **Rotate the screen:** When the measurement interface is displayed, press and hold the button until a "beep" sounds. Release the button and the screen will rotate 180°.

Note: If you do not release the button after hearing the first "beep" until the second "beep" sounds, the instrument will shut down.

(2) **Font conversion:** When turning on the computer, press and hold the button without letting go (do not let go when the menu configuration interface pops up on the screen). When the words "Switch Font" appear on the display interface, release the button to switch the font size display.

(3) **Substrate properties:** ①**Fe:** Ferromagnetic metal substrate. ②**NFe:** Non-ferromagnetic metal substrate. ③**Zn:** Iron galvanized substrate. ④**Fe Putty:** Suspected iron powder putty.

Note: Standard model (use dot matrix LCD screen), "iron zinc" has blue backlight alarm, "iron powder putty" has red backlight alarm.

9. Function settings

The method of enter the configuration menu interface: When power on, press and hold the button until the screen pops up the configuration menu interface, where the function of the instrument can be set.

The method of set one of these functions in the menu: Short press the button, select the corresponding function, wait for about 3 seconds, the instrument will complete the relevant function settings.

The specific functions are as follows:

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9.1 Probe mode

(1)**Automatic:** The instrument will make an adaptive measurement, this mode is suitable for unknown metal substrates.

(2)**Magnetic induction:** The instrument will measure in magnetic induction mode. This mode is suitable for ferromagnetic metal substrates.

(3)**Eddy current:** The instrument will measure in eddy current effect mode. This mode is suitable for non-ferromagnetic metal substrates.

Note:The factory default “automatic” mode can identify iron, non-iron, iron zinc and iron powder putty.

9.2 Unit

μm,mm and mil.

9.3 Language

Multiple languages are available.

9.4 Restore factory settings

Select the “Reset” option in the configuration menu interface, after selecting it, the setting is completed until the word “Success” appears on the interface.

9.5 Bluetooth

Select Bluetooth “on”/“off”.

Tips: When the Bluetooth function is not used, you can select “off” to reduce power consumption and prolong battery life.

10. Record and view data

10.1 Record data

The instrument display interface can record up to 10 data. If there are more than 10, the instrument will automatically update the latest data and discard the oldest data. These data will not be lost after power-off, and can only be cleared by restoring to factory settings.

10.2 View data

(1)View directly on the instrument

In the measurement interface, short press the button to browse the data one by one. The data that can be viewed include the

latest measurement values (up to 10), and their number, maximum value, minimum value and average value.

(2)View through APP

Open the APP software and connect with the instrument via Bluetooth. In the real-time data interface of the APP, you can view real-time measurement data, statistical data, and data graphs or histograms. In addition, relevant data can be exported through the APP.

(3)View through PC software

The instrument has the function of USB data transmission, and the instrument is connected to the computer via a USB cable. In the data interface of the computer software, real-time measurement data, statistical data, and data curves or histograms can be viewed. In addition, the relevant data can be exported through the software.

11. Use of related software

APP

(1)The APP software used by this instrument can be obtained by scanning the QR code on the APP manual or from the dealer.

(2)The software introduction and how to use it can be viewed by following the steps: Open the APP > click “Help” in the lower right corner > click “APP Help Documentation” to view.

Note: Before Bluetooth pairing and connection, the instrument Bluetooth, mobile phone Bluetooth and mobile phone GPS must be turned on.

PC software

(1)The PC software used by this instrument can obtain the software installation package from the dealer.

(2)The software introduction and its usage can be viewed by following the steps: open the software > click "About US" on the right side of the interface > click "Help Documentation" to view.

12. Technical parameter sheet

Probe selection	Standard Model 	Low Temperature Model 
Measurement principle	Fe: Magnetic Indution; NFe: Eddy Current	
Measurement range	0~3000μm	
Accuracy	±(2% reading+1μm), ≤2000μm ±(3% reading+2μm), 2001~3000μm ±(5% reading+2μm), >3000μm	
Resolution	0.1μm(0~99.9μm); 1μm(≥100μm)	
Calibration	Zero Calibration	
Unit	μm,mm,mil	
Iron putty power recognition range	0~2000μm	
Iron-galvanized substrate recognition range	3~1000μm	
Minimum curvature radius	Convex 5mm; Concave 25mm	
Minimum measuring area	Diameter 15mm	
Minimum thickness of substrate	Fe: 0.20mm; NFe: 0.03mm	
Measure reaction time	About 0.3 seconds	
Display	LCD	OLED
Bluetooth and APP	Support	
USB charging function	Support	
USB data transfer	Support	
Operating temperature	-10~50°C	-40~50°C
Storage temperature	-20~60°C	-50~60°C
Charger parameters	5V/1A or 5V/2A	
Power supply	2 pcs 1.2V AAA Ni-MH batteries (capacity>500mAh, recommended 800~1000mAh)	
Protection level	IP40	
Dimension	103*62*27mm	
Shell material	ABS	
Weight	About 60g (without batteries)	