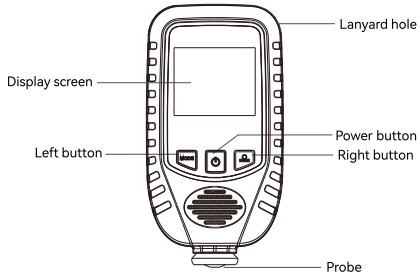
User Manual V1.1.1

Coating Thickness Gauge

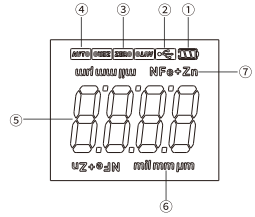
1. Introduction

This thickness gauge can non-destructively measure the thickness of the non-conductive coating on the metal surface and the thickness of the nonferromagnetic metal coating on the surface of ferromagnetic metals (such as Fe, nickel and cobalt, etc.). The specific purpose of the instrument includes measuring the thickness of the paint or galvanized layer on the surface of Fe and stainless steel, and measuring the thickness of the paint or plastic film on the surface of aluminum and copper.

2. Product description diagram



3.LCD Introduction



① Battery level indicator
② USB prompt
③ Zero calibration prompt
④ Probe mode(AUTO,Fe,NFe)
⑤ Measurement data
⑥ Unit (μm, mm, mil)
⑦ Substrate attributes(Fe: Ferromagnetic metal substrate; NFe: Non-ferromagnetic metal substrate; Fe+Zn: Iron galvanized substrate)

4. Battery installation instructions

(1)Insert the batteries according to the positive and negative indications inside the battery compartment.
(2)After loading the battery, please close the battery cover.
(3)When not using the instrument for a long time, please be sure to remove the battery and place it properly.

5. Power on/off

(1)**Power on**: Short press the power button to turn on the instrument and enter the measurement mode.
(2)**Power off**: Long press the power button to turn off the instrument. In the case of no operation, the instrument will automatically shut down.

6. Measurement procedure

Step 1. Prepare the parts to be tested.
Step 2. Keep the probe away from the metal object at least 2cm, and press the power button to turn it on.
Step 3. Quickly fit the probe to the surface of the test object. During the shrinking process of the probe, it can automatically distinguish the properties of the substrate and measure the thickness of the coating (plating) layer. When the displayed thickness value is refreshed and accompanied by a “beep” sound prompt, and the indicator light flashes, raise the instrument so that the probe is at least 2cm away from the surface to be measured, and then take the next measurement.

7. Display

(1)**Screen rotation**: In the power-on state, long press the mode button to rotate the screen.
(2)**Screen brightness**: When there is no operation, the instrument automatically dims the screen brightness to extend battery life. The normal display brightness can be restored during operation.
(3)**Substrate attributes**: ①Fe: Ferromagnetic metal substrate. ②NFe: Non-ferromagnetic metal substrate. Fe+Zn：Iron-galvanized substrate. ④Fe flicker: Suspected iron putty power.

8. Switch unit

Short press the unit button to switch the unit. The units are μm, mm and mil.

9. Switch probe mode

When in use, short press the mode button to switch the probe mode.
(1)When set to AUTO mode, it is suitable for all unknown metal substrates.(2)Lock the probe mode, that is, when AUTO is not displayed: When the Fe mode is locked, it is suitable for ferromagnetic metal substrates, such as iron, nickel, cobalt or martensitic stainless steel, etc.; When the NFe mode is locked, it is suitable for non-ferromagnetic metal substrates, such as aluminum, copper, gold or austenitic stainless steel.(3)AUTO mode is recommended for non-special use scenarios.

10. Zero calibration

Press and hold the zero button until the srcreen flash "ZERO" and then release. At this time, attach the probe to the surface of the test object to trigger the instrument to perform zero calibration. When the value on the screen is zero and the word "ZERO" is flashing, the zero calibration is completed. At this time, short press the right button to exit the zero calibration, and the screen "ZERO" disappears. (When zero calibration is performed on the rough surface of the measured object, it is recommended to measure the data of multiple positions before exiting the zero calibration.)

11. Restore factory settings

Press and hold the power button until the screen shows "oooo" or "rS" and then release it to finish restoring the factory settings.

12. Exception prompt

(1)**Display "OL"**: Indicates that the measurement range of the instrument is exceeded.
(2)**No response from the instrument during measurement**: indicates that it is far beyond the measurement range of the instrument, or the instrument is subject to strong electromagnetic interference.
(3)**Battery icon flashes**: When the battery level is particularly low, the instrument automatically shuts down after the battery icon flashes.

13. Function and technical parameters

Measuring principle	Fe: Magnetic induction; NFe: Eddy current effect
Measuring range	0~2000μm
Accuracy	±(3%+1μm)
Resolution	0.1μm(0~100μm)；1μm(>100μm)
Calibration	Zero calibration
Unit	μm,mm,mil
Iron putty power identification range	0~1000μm
Iron-galvanized substrate recognition range	3~500μm
Minimum radius of curvature of substrate	Convex:5mm Concave:25mm
Minimum measurement area	Diameter 15mm
Minimum substrate thickness	Fe：0.30mm;NFe：0.05mm
Maximum measuring speed	2 readings/sec
Display	Segment screen
Operating environment	Temperature:-10~50℃;Humidity:20%~90%(Non-condensing)
Storage temperature	Temperature:-20~60℃;Humidity:20%~90%(Non-condensing)
Power supply	2 AAA 1.5V alkaline batteries/1.2V rechargeable batteries
Protection class	IP40
Dimensions	102*53.6*25mm
Shell material	ABS
Weight	About 75g(Without battery)