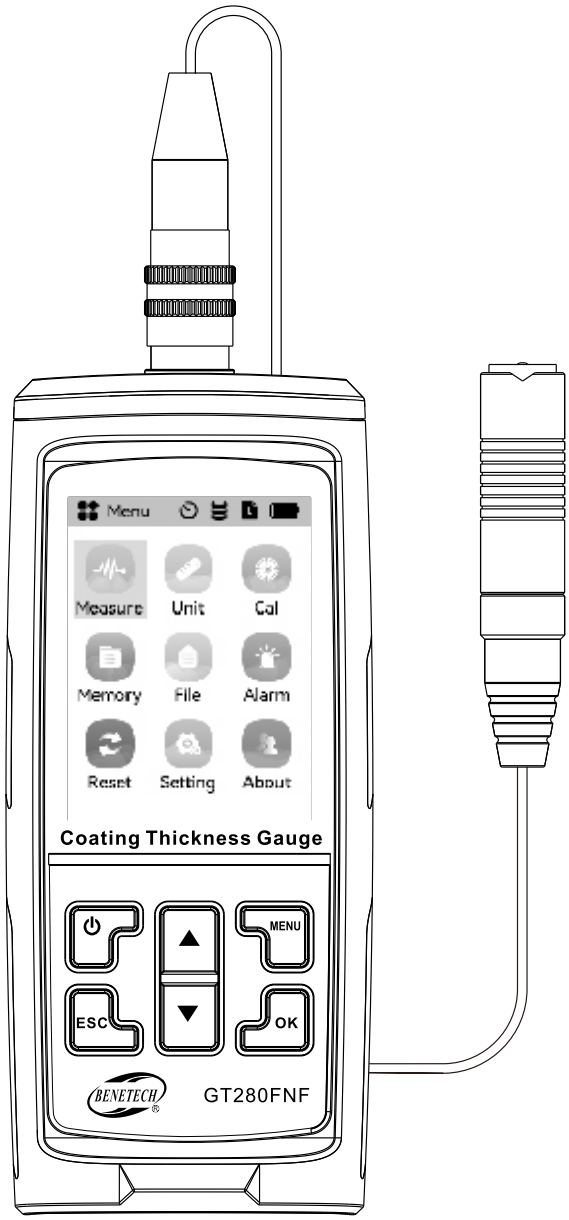
BENETECH®

Model：GT280FNF

Coating Thickness Gauge

Instruction Manual



Catalogue

I. Introduction

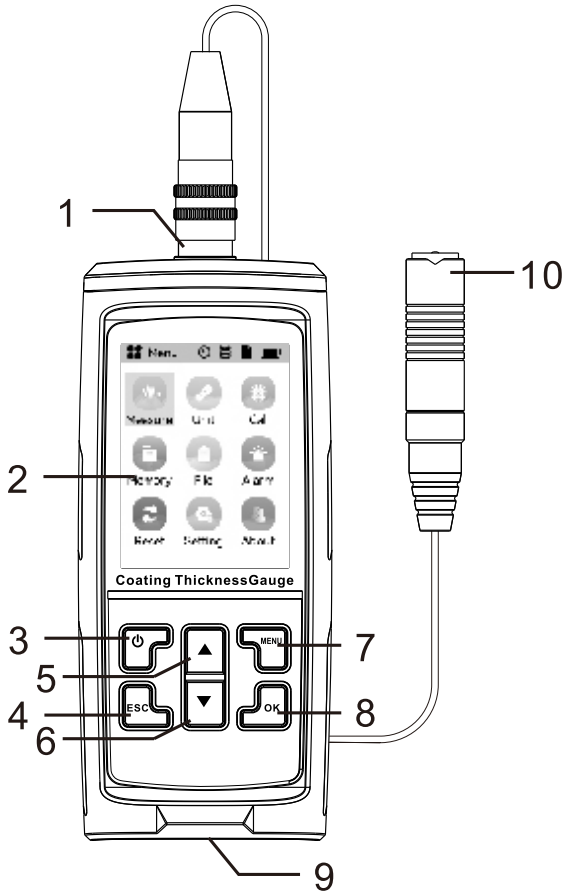
This product is a portable coating thickness gauge with a color screen and high-definition display. It can quickly, non-destructively, and accurately measure the thickness of non-magnetic coatings on magnetic metal substrates and non-metal coatings on non-magnetic metal substrates. It can automatically identify magnetic and non-magnetic metal substrates and is widely used in manufacturing, metal processing, chemical industries, and quality inspection fields.

II. Features

1.Menu-style operation with a color screen and high-definition display.
2.Measurement of non-magnetic coating thickness on magnetic metal substrates and non-metal coating thickness on non-magnetic metal substrates.
3.Offers both single and continuous measurement modes.
4.Provides basic and zero-point calibration functions.
5.Unit selection in μm or mil and automatic storage function.
6.Automatic shutdown option.

III. Component Names

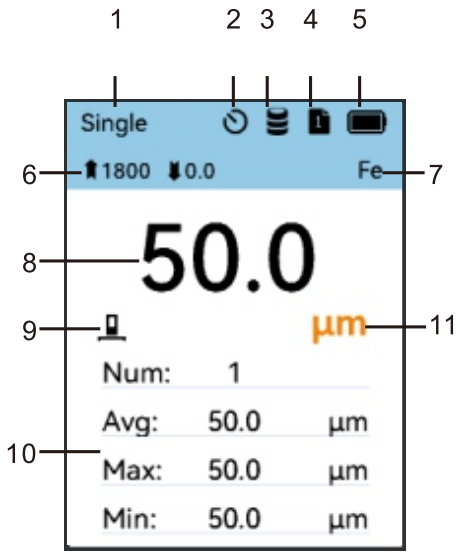
1. Main unit and probe interface
2. LCD display
3. ⏻Key：Power on/off key
4. ESC Key：Return key
5. ▲Key：Up key/menu select key
6. ▼Key：Down key/menu select key
7. MENU Key：Menu key
8.OK Key：Select/confirm key
9. TYPE C charging interface
10. Probe



IV. Technical Parameters

Measurement range	0~1800μm/70.8mil
Resolution	<100μm: 0.1μm;≥100μm: 1μm;0.1mil
Measurement error	≤150μm: ±5μm;>150μm: ±(3%H+1μm)
Minimum diameter of magnetic metal substrate	12mm
Minimum thickness of magnetic metal substrate	0.5mm
Minimum radius of curvature of magnetic convex substrate	2mm
Minimum radius of curvature of magnetic concave substrate	11mm
Minimum diameter of non-magnetic metal substrate	50mm
Minimum thickness of non-magnetic metal substrate	0.5mm
Operating voltage	DC 3.7V (Lithium battery capacity 1000mAh)
Product dimensions	150*65*35mm

V. Measurement Interface



1. Measurement mode (Single/Continuous)

2. Auto power off

3. Auto save

4. Selected file number

5. Battery

6. High/Low alarm values

（Displayed only when alarm sound is turned on)

7. Substrate material

8. Measurement value

9. Coupling indicator

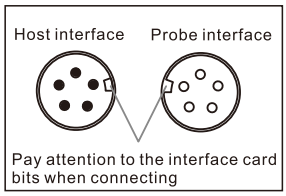
10. Measurement information：

Count: Number of measurements；

Average/Max/Min: Average/Maximum/Minimum value of a single data set；

11. Measurement unit

VI. Operating Instructions



1. Measurement Preparation：

(1) Correctly connect the main unit and the probe；

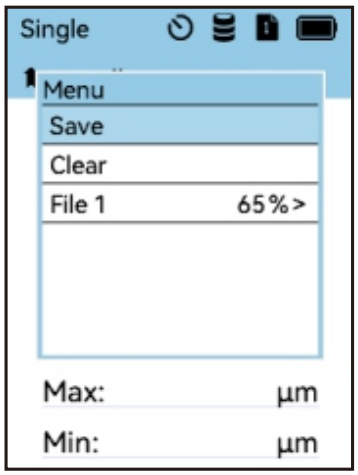
(2) Turn on and check the battery level. If unable to power on or battery is insufficient, please charge before use.

2. Power on/off: Short press the (⏻) key to power on. After powering on, it enters the measurement interface where measurement can begin. Long press the (⏻) key to power off.

3. Measurement Interface：

(1) Lightly press the probe against the surface of the object being measured; the measurement interface displays the measured data and substrate material.

Measurement interface



Measurement interface menu

(2) In the measurement interface, short press the ESC key to enter the measurement interface menu; press ESC again to exit the menu.

(3)Save: After measuring, manually save the current measurement value to the selected file using this option. If the selected file is full, it will not automatically save to another file; you must select a file with space for saving.

(4)Clear: Clears only the measured data in the measurement interface and does not erase saved data in the file.

(5)File n: The selected file view and menu → File → File n have the same function.

VII. Main Menu Function Operations

1. Menu Interface Operations：

(1) Entering the Main Menu: In the measurement interface, short press MENU to enter the main menu；

(2) Selecting Menu Items: In the menu interface, short press the ▲ /▼ key to select menu items；

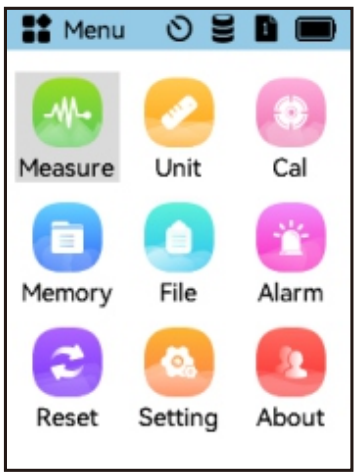
(3) Entering Menu Items: Short press the OK key to enter the selected menu item；

(4) Exiting Menu Items: Short press the ESC key to return to the previous menu；

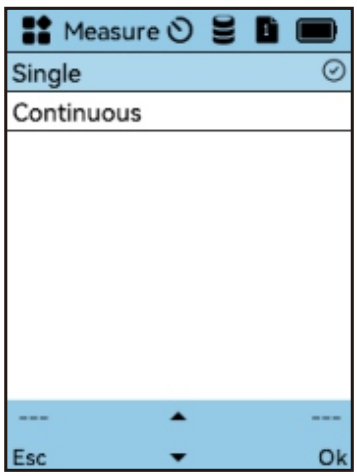
2. Menu Function Introduction：

(1)Measurement: Choose single measurement or continuous measurement on the current menu page；

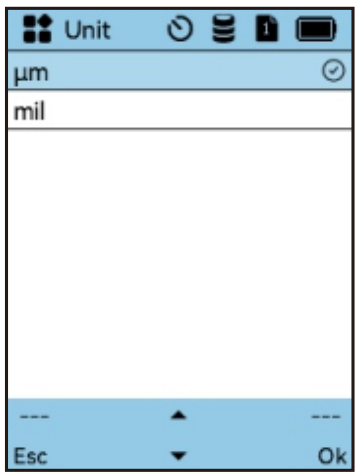
(2)Unit: Choose measurement unit as μm or mil on the current menu page；



Main Menu



Measure



Unit

(3) Calibration: Choose basic calibration or zero-point calibration on the current menu page；

Basic Calibration: If the data deviation is large, select basic calibration for 7-point calibration.

Steps：

A.Prepare the calibration substrate (ferrous, non-ferrous) and calibration plates (50μm, 100μm, 250μm, 500μm, 1000μm, 1500μm).

B.Select basic calibration to enter, the interface will display calibration point 1, calibration value 0μm, substrate is empty.

C.Lightly press the probe against the substrate (e.g., ferrous) without placing the calibration plate, the interface changes to calibration point 2, calibration value 50μm, substrate is FE. The probe can be lifted.

D.Place the 50μm calibration plate on the substrate and lightly press the probe against it; the interface changes to calibration point 3, calibration value 100μm, substrate is FE.

E.Lift the probe, replace the calibration plate with 100μm, press lightly again, and repeat until all .

F.Note: Ferrous and non-ferrous substrates need to be calibrated separately.

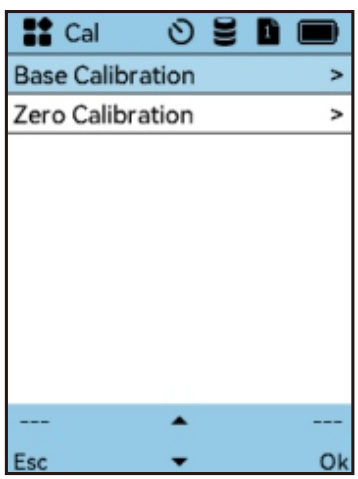
Zero-Point Calibration: If the data deviation is small, select zero-point calibration.

Steps：

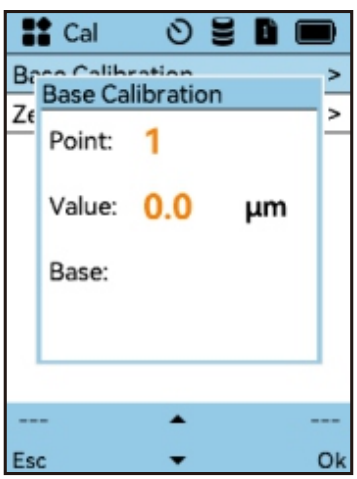
A. Ensure the substrate has no coating.

B. Lightly press the probe against the substrate and hold still until the zero-point calibration completes.

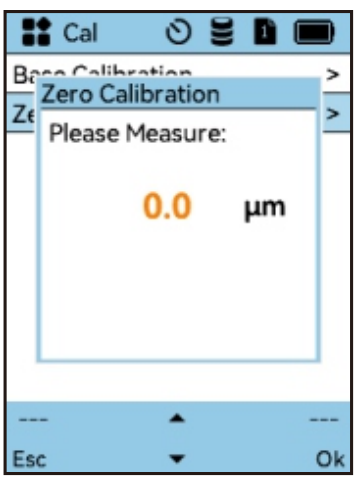
C. Note: Ferrous and non-ferrous substrates need to be calibrated separately.



Calibrate

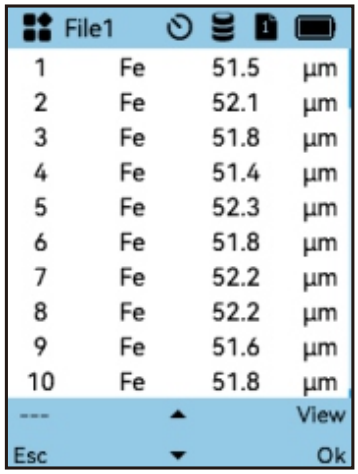


Basic calibration

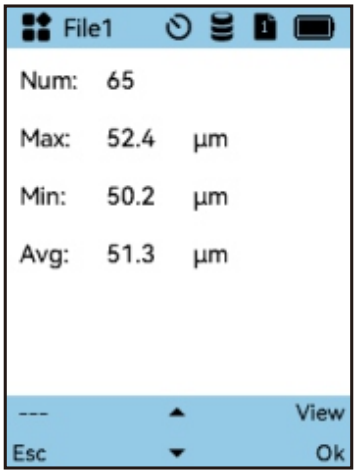


Zero calibration

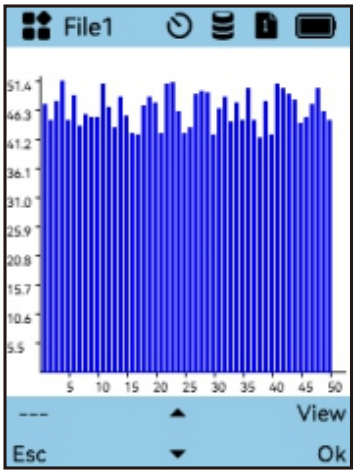
(4) Storage: Select save file/clear file/automatic storage on the current menu page;
Save File: Select the file to save to;
Clear File: Clear the selected file;
Automatic Storage: Turn on auto-save, data will be automatically saved to the selected file with each measurement.
(5) File: View stored data in the current menu page; short press OK to view measurement data list, short press MENU to switch between statistical information and charts;



File list

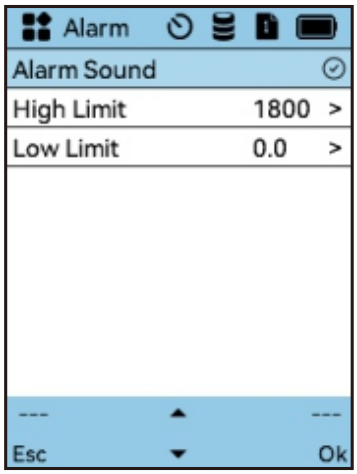


File statistics



Document chart

(6) Alarm: Select to set alarm sound/high limit/low limit on the current menu page;
Alarm Sound: When enabled, it will display high and low limits in the measurement interface, and an alarm will sound if exceeded; press any key to cancel the alarm;
High Limit/Low Limit: Enter the option to adjust high/low limits.
(7)Reset: Confirm whether to restore factory settings on the current menu page, short press OK to confirm.
(8)Settings: Choose language/shutdown time/key sound/backlight on the current menu page;Language: Set to Chinese or English;
Shutdown Time: 5 minutes, 10 minutes, 30 minutes, or never shutdown;
Key Sound: When enabled, a beep sounds with each key press;
Backlight: Adjust backlight brightness.
(9)About: Short press OK to display version information.



Sound the alarm

Reset

Settings

VIII. Charging Function

When the battery is empty, please charge promptly.
After connecting the charger, the battery symbol will indicate charging;

Once charging is complete, the battery symbol will change to green.

Special Statement:

Our company assumes no legal responsibility for any derived results from the use of this product;

Our company reserves the right to change the product design and content of this manual, and will not notify users of such changes!