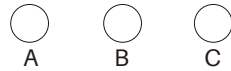


Digital Tesla Meter User Manual

v1.1.8

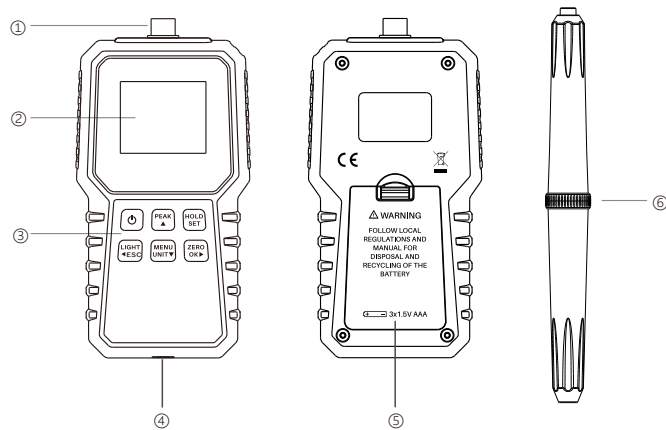


1. Introduction

This product is a handheld multi-function magnetic field measuring instrument, which can be used to measure the surface magnetic field of permanent magnet materials, the residual magnetic field of mechanical parts, DC motors, iron separators and magnetic separators, etc.

2. Product Diagram

2.1 Appearance



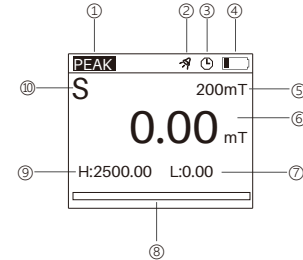
- ① Probe connector
- ② LCD screen
- ③ Button area

- ④ USB interface
- ⑤ Battery compartment
- ⑥ Hall probe

①

②

2.2 LCD



- ① PEAK or HOLD
- ② Alarm icon (displayed when the alarm sound is on)
- ③ Automatic shutdown prompt
- ④ Battery level reminder
- ⑤ Range prompt
(when the current magnetic field is less than or equal to 200mT, the default range is 200mT; when the current magnetic field exceeds 200mT, the range is automatically switched to 2000mT)
- ⑥ Measurement value and unit
- ⑦ Low alarm threshold
- ⑧ Range ratio
- ⑨ High alarm threshold
- ⑩ Magnetic field polarity
(N is displayed when the magnetic field direction passes through the front of the probe; S is displayed when the magnetic field direction passes through the back of the probe)

3. Instructions

3.1 Battery Installation

Install three 1.5V AAA dry cell batteries according to the positive and negative electrode instructions inside the battery compartment and cover the battery cover.

Note:

- a. When the instrument is not used for a long time, please take out the battery and place it properly.
- b. When the instrument prompts “”, please replace the battery in time.

3.2 Turn on/off

Short press “” button, the instrument will turn on; long press “” button, the instrument will turn off.

3.3 Measurement Mode

Short press “PEAK ” button, switch peak measurement mode. In this mode, the instrument always keeps the maximum measurement value.

Note: The default mode for instrument turn on is real-time measurement mode.

3.4 Value Lock

Short press “HOLD SET” button, the screen value is locked unchanged (Invalid operation in peak measurement mode).

3.5 Backlight

Press “LIGHT ESC” button, turn the backlight on or off.

3.6 Unit

Short press “MENU UNIT ” button, switch unit mT or Gs, 1mT=10Gs.

3.7 Zero Modulation

Press “ZERO OK ” button, the screen prompts “ZERO”, and the screen value returns to zero at the same time.

Note:

- a. Invalid operation in peak measurement and value lock mode.
- b. Please operate without magnetic field.

4. Menu Description

Long press “MENU UNIT ” button, enter the menu setting interface, as shown in the figure below:

Note:

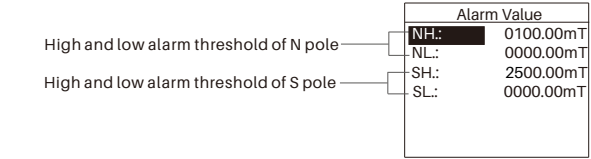
MENU
Alarm Value
Alarm Sound
Key Sound
Auto Shutdown
Language
Reset

③

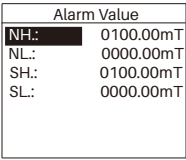
- a. During the setting process, short press the “LIGHT ◀ESC” button to return or cancel the setting.
- b. During the setting process, you can use the “PEAK ▲” and “MENU UNIT ▼” buttons to select the item to be set.

4.1 Alarm Value

Select “Alarm Value” and press “ZERO OK ▶” button to enter, as shown in the figure below:

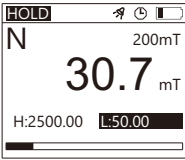
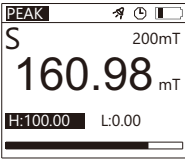


Press “PEAK ▲” and “MENU UNIT ▼” to select the item to be set. After confirmation, short press “HOLD SET” to enter the setting state, as shown in the figure below:



At this time, you can first move the cursor through the “LIGHT ◀ESC” and “ZERO OK ▶” buttons (the selected number will flash), and press the “PEAK ▲” and “MENU UNIT ▼” buttons to adjust the value. After setting, short press the “HOLD SET” key to exit the current item setting.

After all items are set, short press the “ZERO OK ▶” button, the instrument prompts “set successfully”. After the alarm threshold is set, as long as the alarm condition is reached, the instrument will alarm and prompt, as shown in the figure below.



4.2 Alarm Sound

Select “Alarm Sound” and press “ZERO OK ▶” button to enter, select “Turn On” or “Turn Off” as required, and finally press “ZERO OK ▶” to save.

4.3 Key Sound

Select “Key Sound” and press “ZERO OK ▶” button to enter, select “Turn On” or “Turn Off” as required, and finally press “ZERO OK ▶” to save.

4.4 Auto Shutdown

Select “Auto Shutdown” and press “ZERO OK ▶” button to enter, set as required (5 min / 10 min / Turn Off), and finally press the “ZERO OK ▶” button to save.

4.5 Language

Select “Language” and press “ZERO OK ▶” button to enter, set as required, and finally press the “ZERO OK ▶” button to save.

4.6 Reset

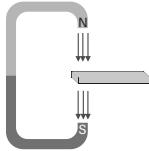
Select “Reset” and press “ZERO OK ▶” button to enter, set as required, and finally press the “ZERO OK ▶” button to save.

5. Measurement Instructions

- (1) Connect the Hall probe to the host;
- (2) Place Hall probe in an environment free of magnetic fields and electromagnetic interference;
- (3) Observe whether the measured value is 0.00mT (0.0Gs), if the value is not zero, please press the “ZERO OK ▶” button to zero;
- (4) Place the Hall probe in the magnetic field to be measured, and read the measured value after the reading is stable.

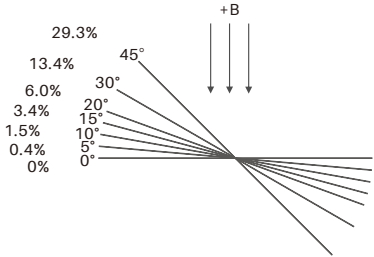
Note:

- a. When measuring, please make the probe chip convex side down.
- b. If need to get the maximum value, switch the peak measurement mode.
- c. When measuring permanent magnets, the Hall probe should be as close to the surface of the object to be measured as possible. Because the farther away from the measured object, the greater the attenuation of the magnetic field, the smaller the measured value.
- d. When measuring the magnetic field, make sure that the Hall probe is always perpendicular to the magnetic field, as shown in the figure below.



Schematic diagram of radial Hall probe

e. The magnetic field is not perpendicular to the Hall probe, which will lead to measurement error, as shown in the following figure.



Measurement deviation corresponding to the angle of the Hall probe and the magnetic field

6. Technical Parameters

Model	A	B	C
Measurement range	0~2400mT (0~24000Gs)		
Resolution	0.01mT (200mT); 0.1mT (2000mT)		
Precision	±1%	±2%	±2% (0~1000mT) ±5% (>1000mT)
Unit	mT, Gs		
Measure response speed	0.2s/time		
Operating environment	Temperature: 0~50°C; humidity: 20~85%RH		
Storage environment	Temperature: -20~70°C; humidity: 0~85%RH		
Power supply	Three 1.5V AAA dry cell batteries		
Dimensions	Host: 141*73*28mm; Hall probe: 164*19*19mm		
Shell material	ABS		

7. Fault Description

Fault description	Solution
Unable to turn on	Check whether there are batteries in the battery compartment and install them correctly Check whether the battery power is sufficient
The instrument automatically turn-off	Check whether the battery power is sufficient Check whether automatic turn-off is set
Numbers on the screen jump erratically	Check whether the probe is correctly connected

Note

- Please operate the instrument correctly and use it in the environment specified in the technical parameter sheet.
- Do not use or store the instrument in a humid or strong electromagnetic interference environment to avoid damaging the instrument or causing measurement errors.
- Avoid falling, impacting or squeezing the probe to avoid damage.