



DIGITAL MULTIMETER

User Manual



The warranty period of the digital multimeter is one year, based on the date on the transaction voucher; if there is no transaction voucher or the transaction voucher is lost, the factory date recorded by the manufacturer shall prevail.

- ✳ Free warranty is not available in the following cases:
- Damage caused by not following the use instructions
 - Damage caused by repairing or retrofitting in private
 - Damage caused by fall, crash or inappropriate voltage
 - Damage caused by inevitable force
 - Damage caused by long-term use in harsh environments or on vehicles or ships
 - Contamination and wear of the host casing caused by using

For product after-sales maintenance and technical support, please contact the dealer or scan the QR code on the back of the manual, download the official Xhorse app, and consult online customer service.

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Warranty card

User name:		Purchasing date:	
Contact address/Phone number:			
Repair date	Faults and causes	Maintenance personne	
Dealer:		Telephone:	

1. Overview

This device is a comprehensive intelligent digital multimeter that can be used to measure AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle, diode, and continuity. It has functions such as automatic range, data retention, backlighting, and automatic shutdown. In addition to the traditional multimeter function, the leakage detection function is added (suitable for static leakage detection of electronic products, especially low-power products such as remotes), no need for external power supply, providing a DC 3V power supply, and quickly detecting the static leakage current value.

Warning: Before using the device, please carefully read the relevant contents of :“safety” and “! Attention” in this manual and strictly abide by them.

2. Device Features

- Leakage detection, without the need for external power supply, quickly detects the static leakage current value of the remote.
- Check the battery level, automatically detect the power supply and battery level upon startup, and display a “” sign on the screen interface when the battery level is low.
- Mistest protection, capable of withstanding a maximum impulse of 600V (30kVA), and equipped with overvoltage and overcurrent alarm prompts.
- 6000-word large screen LCD backlight display. The reading is clearer and it is more convenient to use in low light environments.
- Provide μA gear, suitable for small current measurement, with readings accurate to 0.1 μA .
- The overall power consumption is less than 3mA, equipped with automatic power saving function, and has a long battery life.

3. Details of unpacking inspection

After opening the packaging box, please carefully check whether the following accessories are missing or damaged:

Multimeter	1
Probe	1
User Manual	1
Warranty Certificate	1

4. Safety precautions

- Before using the device, please read the safety precautions and follow the operating instructions. Failure to follow the relevant operating instructions may weaken or lose the protective ability provided by the device to you.
- (1) Before use, the multimeter and probe should be checked to prevent any damage or abnormal phenomena. If it is found that the insulation of the probe and housing has been significantly damaged, and the LCD display is not displaying, or if you believe that the device is no longer functioning properly, do not continue to use it.
 - (2) It is strictly prohibited to use the device until the back cover and battery cover are properly covered to prevent the risk of electric shock and endangering one's own safety.
 - (3) When conducting measurements, the fingers holding the pen should not exceed the position where the pen stops, and should not touch exposed wires, connectors, unused input terminals, or the circuit being measured to prevent electric shock.
 - (4) Before measurement, the function switch must be placed in the correct position, and shifting gears during measurement is strictly prohibited to prevent damage to the device.
 - (5) Do not apply an AC/DC voltage greater than 600V between the device terminal and ground to prevent electric shock and damage to the device.
 - (6) When the measured DC voltage is higher than 60V or AC voltage is higher than 30Vrms, the device should be used with caution to prevent electric shock.
 - (7) Do not measure voltage or current above the maximum allowable input value. Before measuring the online resistance, diode, or circuit on/off, it is necessary to cut off all power sources in the circuit and start the measurement after all capacitors have been discharged, otherwise the measurement results may be inaccurate.
 - (8) When the LCD display shows the “” sign, the battery should be replaced in a timely manner to ensure measurement accuracy. When the device is not in use for a long time, the battery should be removed.
 - (9) Please do not change the internal wiring of the device at will to avoid damaging the device and endangering safety.
 - (10) Do not store or use this device in environments with high temperature, humidity, flammability, explosiveness, and strong electromagnetic fields.
 - (11) For maintenance, please use a soft cloth and neutral detergent to clean the device casing. Do not use abrasives or solvents to prevent the casing from being corroded, damaging the device, and endangering safety.

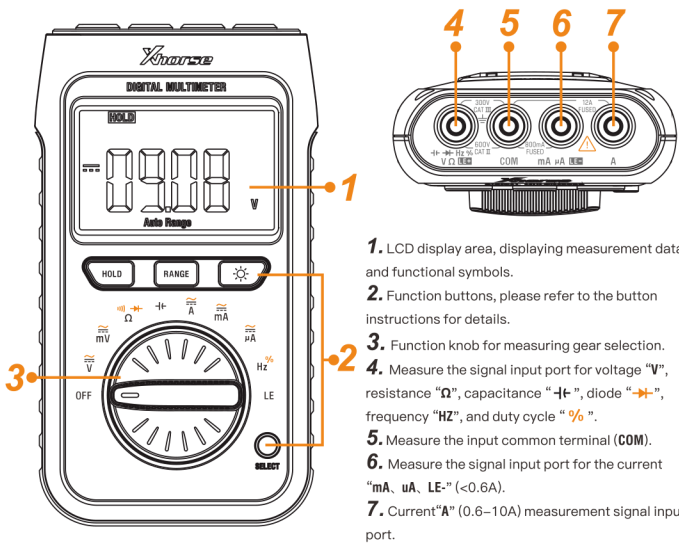
5. Electrical symbol description

	Grounding		AC voltage or current
	Warning prompt		DC voltage or current
	High voltage warning		Leakage test power supply positive terminal
	Low battery warning		Leakage test power supply negative terminal

6. Comprehensive characteristics

LCD display ---- Maximum display up to 6099
Polarity display ---- Automatic positive and negative polarity display
Overload display ---- Displayed as “OL” or “”
Impact resistance strength ---- can withstand a landing impact at a height of 1 meter
Power supply ---- 2 AA 1.5V batteries
Dimensions ---- 160 x 90 x 45.6 mm
Weight ---- About 400g (excluding batteries)
Operating temperature and humidity ---- 0℃~30℃ (not greater than 80% RH), 30℃~40℃ (not greater than 75% RH), 40℃~50℃ (not greater than 45% RH)
Storage temperature and humidity ---- 20℃~+60℃ (not greater than 80% RH)
Electromagnetic compatibility ---- In a 1V/m RF field, the total accuracy=specified accuracy+5% of the range. RF fields exceeding 1V/m do not have specified indicators.

7. Appearance structure and button description



1. LCD display area, displaying measurement data and functional symbols.
2. Function buttons, please refer to the button instructions for details.
3. Function knob for measuring gear selection.
4. Measure the signal input port for voltage “V”, resistance “ Ω ”, capacitance “ F ”, diode “ $\rightarrow$ ”, frequency “Hz”, and duty cycle “%”.
5. Measure the input common terminal (COM).
6. Measure the signal input port for the current “mA, μA , LE-” (<0.6A).
7. Current “A” (0.6–10A) measurement signal input port.

9. Technical indicators

Accuracy: $\pm$ (a% of reading+b number of words), calibration period is one year.
Test conditions: 23℃ $\pm$ 5℃, humidity less than 80% RH.

Function	Measurement Range	Maximum Resolution	Accuracy
Leakage detection	600uA/6000uA	0.1uA	1uA
DC voltage	600mV	0.1mV	$\pm(0.5\%+3)$
AC voltage	6V/60V/600V	0.001V	$\pm(0.5\%+3)$
DC current	600uA/6000uA	0.1uA	$\pm(0.8\%+3)$
AC current	60mA/600mA	0.01mA	$\pm(0.8\%+3)$
Resistance	600 Ω /6k Ω /60k Ω /600k Ω /6M Ω /60M Ω	0.1 Ω	$\pm(0.8\%+3)$
On/off detection	Sound production below 50 Ω Display OL above 610 Ω	0.1 Ω	$\pm(1\%+3)$
Capacitance	6nF/60nF/600nF/6uF	0.001nF	$\pm(5\%+5)$
Frequency	9.999Hz/99.9Hz/999.9Hz/9.999kHz/99.99kHz/999.9kHz/9.999M	0.001Hz	$\pm(0.5\%+3)$
Duty cycle	1%-99%	0.1%	$\pm(1\%)$
Diode	0V~3.3V Display OL above 3.3V	0.001V	—

Button Description

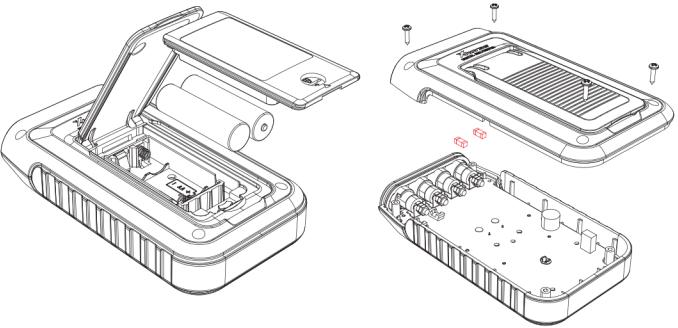
Button	Function	Operating instructions
HOLD	Data hold	Press the HOLD button once to keep the test value displayed; Press the HOLD button again to release hold mode
RANGE	Range switching	Press RANGE to enter the manual range switching mode. Press and hold the RANGE button for 2 seconds to exit the manual range and enter the automatic range mode.
	Screen backlight switch	Press button once to turn on the screen backlight, and then press button again to turn off the screen backlight.
SELECT	Function switching	When the function knob is switched to a multifunctional gear, pressing the SELECT button can select different measurement functions on the gear.

8. Measurement operation instructions

- (1) Leakage function test
① Insert the red lead into the “LE+” socket and the black lead into the “LE-” socket;
② Turn the function knob to the leakage test gear “LE”, connect the red lead to the 3V power input of the machine to be tested (such as the remote), and connect the black lead to the GND of the machine to be tested (such as the remote);
③ Read the current from the display screen. If OL is displayed, it indicates that the current exceeds the range (6mA) and the standby current of the machine (remote) is too high.
! Attention:
• The multimeter can provide a 3V DC voltage supply, please ensure that there is no other power supply before measuring a machine.
- (2) AC/DC voltage measurement
① Insert the red lead into the “V Ω ” socket and the black lead into the “COM” socket.
② Turn the function knob to “ V ” (please select this gear if the voltage to be tested $\geq$ 600mV or it's not clear) or “ V ” (voltage to be tested<600mV), and connect the probe to the power or load to be tested.
③ This gear defaults to DC voltage measurement, and the screen displays “”. If measuring AC voltage, you can use the “SELECT” button to switch. When measuring AC voltage, the interface displays “”.
④ Read the results from the display screen.
! Attention:
• Select “ V ” or “ V ” based on the measured voltage value.
• When measuring high voltage, special attention should be paid to avoid electric shock.
• When the measured voltage is $\geq$ 30V, the LCD of this multimeter displays a high voltage warning prompt “”. When the measured voltage is $\geq$ 610V, the multimeter will automatically sound an alarm and display “OL”.

10. Maintenance and upkeep

- (1) When the multimeter is not in use, it should be turned off as much as possible to avoid continuous battery energy consumption.
(2) General maintenance
a. The maintenance and service of this multimeter must be completed by qualified professional maintenance personnel or designated maintenance departments.
b. Regularly use a dry cloth to clean the casing. Do not use cleaning agents containing abrasive or solvent components.
(3) Battery replacement or fuse replacement
The power supply of this product is 2 AA1.5V batteries. Please install or replace the batteries in the following order (as shown in the schematic diagram):
a. Turn off the multimeter.
b. Turn the back of this product upwards, open the flip cover, and turn the battery box knob to facing downwards, pull out the battery cover, remove the battery, and install a new battery according to the polarity instructions.
c. After installing the new battery, install the battery cover and turn the battery case knob to facing downwards.
d. If the fuse needs to be replaced, it is necessary to unscrew the bottom shell screws, open the back panel, and replace the same specification of fuse according to the damaged part: as shown in the figure, the left side is a 12A/250V surge resistant 2410 fuse, and the right side is a 0.8A/250V fast melting 2410 fuse.



Battery Replacement

Fuse Replacement