

## USERS MANUAL

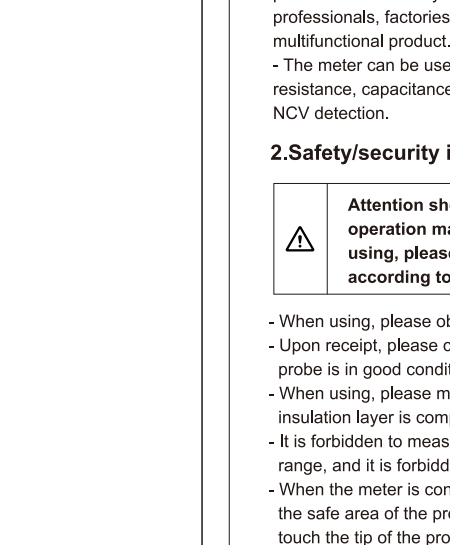
Made in China



Before using the instrument, please read this manual carefully, and save it well for future using.

## USERS MANUAL

### Digital multimeter



#### Overview/Safety information

##### 1. Overview

- This product is a 6000-count automatic range digital multimeter. It has the functions of MAX maximum value hold, HOLD data hold, temperature measurement, automatic shutdown, backlight, flashlight, full range overload protection and battery under-voltage indication, etc. Whether used by professionals, factories, schools, meter lovers or families, it is an ideal multifunctional product.

- The meter can be used to measure AC/DC voltage, AC/DC current, resistance, capacitance, diode, on/off, temperature, live wire identification, NCV detection.

##### 2. Safety/security information

**Attention should be paid to the use of the meter. Wrong operation may cause electric shock or damage. Before using, please read the instructions carefully and use it according to the operating instructions.**

- When using, please observe the standard safety rules.
- Upon receipt, please check whether it is damaged in transit and whether the probe is in good condition.
- When using, please make sure that the meter shell is damaged, the probe insulation layer is complete, and the functional range is correct.
- It is forbidden to measure beyond the indicated value of the range protection range, and it is forbidden to switch positions during the measurement.
- When the meter is connected to the measuring circuit, the finger must be in the safe area of the probe sheath protection device, and it is forbidden to touch the tip of the probe (metal part).
- If the measured voltage is higher than 60V DC or 30V AC (effective value), it should be handled with caution, and the highest voltage measured at COM end and V input end should not exceed AC 750V/DC 1000V.

#### Signs/Maintenance

##### 2.1 Marks

Warning! Important safety information, see the instruction manual.

Safety use to avoid danger!

Double insulation protection (class II).

Earth wire.

Fuse.

Complies with the directives of the European Union.

Refers to the level of pulse withstand voltage protection provided by over-voltage (installation) level III and pollution degree 2 according to IEC-61010 standard.

##### 2.2 Maintenance

- Non-professional maintenance personnel are forbidden to open the bottom case to adjust or repair the meter.
- The meter should be far away from high temperature, humidity, corrosive gas or objects.
- If the meter is stained with dirt or dust, please clean it with a soft cloth.
- To avoid electric shock caused by wrong reading, the meter should be replaced immediately when the meter shows " " symbol.
- The meter should be turned off after use.
- When the meter is stored for a long time, the battery should be taken out to prevent leakage and corrosion.

#### Description of input end/Description of display symbol

##### 3.2 Description of input end

Input end	Description
COM	Common input end (connected with black probe).
V/Ω/Hz/Hz/Hz	Voltage, resistance, capacitance, temperature, diode, on/off test, live wire identification (connected with red probe).
uA/mA	Current uA - mA input end (connected with red probe).
10A	Current 10A input end (connected with red probe).

##### 3.3 Description of display symbols

Symbol	Description
Battery under-voltage	
Automatic shutdown function	
Negative electrode	
AC voltage	
DC voltage	
On-off	
Diode	
Degree Celsius/Fahrenheit degree	
Reading hold	
Maximum value	
Non-contact AC voltage detection	
Live wire identification	
Automatic range	
Frequency	
Voltage	
Resistance	
Capacitance	
Current	

#### Key Description/Operation guide

##### 3.4 Key description

Key	Description
HOLD	Data hold
MAX	Maximum value hold
Flashlight/backlight	
SEL	Function selection

##### 4. Operation guide

###### 4.1 Data hold

HOLD key, short press the HOLD key to lock the measured data, and press the HOLD key again to unlock it.

###### 4.2 MAX maximum value hold

MAX maximum value: it can be used in AC/DC voltage, AC/DC current and resistance. Lock the maximum value of measured data, and short press it to turn this function on or off.

###### 4.3 Backlight/flashlight

Short press the " " key to turn on or off the backlight, and long press the " " key to turn on or off the flashlight.

###### 4.4 SEL function selection key

The meter can switch positions in AC/DC mV position, resistance position, on-off position, diode position, temperature position, current position and NCV/Live position.

###### 4.5 Automatic shutdown function

If there is no operation after about 20 minutes of startup, the meter will automatically shut down and enter a dormant state. Press (SEL) key in automatic shutdown mode to restart it.

#### AC voltage/DC voltage

##### 4.6 Cancel the automatic shutdown function

Press the HOLD key, turn the range knob to power on, the symbol ( ) on the upper left corner of the display disappears, the meter sounds five alarms, the automatic shutdown function is cancelled, and the function is resumed after it's shut down and restarted again.

##### 5. How to use

###### 5.1 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Insert the black probe into the COM end and the red probe into the V input end.
- The red and black probes contact the tested line, and the meter screen displays the measured value.

###### 5.2 DC voltage measurement

- Turn the range knob to ( ) DC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.3 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.4 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.5 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.6 DC current measurement

- Turn the range knob to uA/mA/A to measure the current.
- Press SEL key to switch to DC current mode.
- Insert the black probe into the COM input.
- When the measured current is less than 6000uA, turn the range knob to uA position for measurement, and insert the red probe into the uA/mA input.
- When the measured current is between 6000 uA and 600 mA, turn the range knob to the mA position for measurement, and insert the red probe into the mA position for measurement, and insert the red probe into the input end of 10A.

###### 5.7 Live wire identification

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.8 AC current measurement

- Turn the range knob to uA/mA/A to measure the current.
- Press SEL key to switch to AC current mode.
- Insert the black probe into the COM input.
- When the measured current is less than 6000uA, turn the range knob to uA position for measurement, and insert the red probe into the uA/mA input.
- When the measured current is between 6000 uA and 600 mA, turn the range knob to the mA position for measurement, and insert the red probe into the mA position for measurement, and insert the red probe into the input end of 10A.

###### 5.9 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.10 NCV non-contact AC voltage detection

- Turn the range knob to NCV position.
- Press SEL key to switch to NCV function.
- When the display shows the NCV symbol, close the NCV probe of the meter to the conductor, and the corresponding signal indicator lights up according to the intensity of the detection signal. When the induced voltage is low, the screen displays L, the green indicator lights up, and when the induced voltage is high, the screen displays H, the red indicator lights up. At the same time, the buzzer sounds different frequencies.

###### 5.11 Live wire identification

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.12 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.13 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.14 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.15 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.16 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.17 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.18 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.19 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.20 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.21 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.22 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.23 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.24 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.25 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.26 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.27 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.28 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.29 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.30 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.31 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.32 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.33 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.34 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.35 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.36 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.37 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.38 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.39 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.40 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.41 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.42 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.43 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.44 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.45 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.46 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.47 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.48 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.49 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.50 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

###### 5.51 DC current measurement

- Even if there is no indication, the voltage may still exist. Don't rely on NCV detection to judge whether there is voltage on the wire.
- The detection process may be affected by factors such as socket design, different insulation thickness and type.
- Interference sources of external environment (such as flashlights, motors, electromagnetic interference, etc.) may mistakenly trigger NCV detection.

###### 5.52 AC voltage measurement

- Turn the range knob to ( ) AC voltage.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the measured resistance, and the meter screen displays the measured value.

###### 5.53 Resistance measurement

- Turn the range knob to ( ) on and off.
- Short press SEL key to switch to ( ) resistance position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.54 Diode position

- Turn the range knob to ( ) diode position.
- Short press SEL key to switch to ( ) diode position.
- Insert the black probe into the COM end, and the red probe into the ( ) input end.
- The red and black probes are connected to the diode under test, and the meter displays the measured voltage value.

###### 5.55 Temperature measurement

- Turn the range knob to ( ) temperature, and the meter will automatically measure the current ambient temperature.
- Short press SEL key to switch switch to ( ) temperature.
- Measurement of K-type thermocouple: Connect the red plug of K-type thermocouple to the ( ) input end, and the black plug into the "COM" end. The thermocouple probe contacts the object to be measured for measurement.

######