

6-9 Temperature

Range	Accuracy		Resolution
℃	-20~150℃	± (3℃+ 1digit)	1℃
	150~1000℃	± (3% of rdg + 2digits)	
℉	-4~302℉	± (5℉+ 2digits)	1℉
	302~1832℉	± (3% of rdg + 3digits)	

-- NiCr-NiSi K-type sensor
-- Overload protection: 800mA/250V Fast Fuse

6-10 Diode and Audible continuity test

Range	Description	Test Condition
	Display read approximately forward voltage of diode	Forward DC current approx. 1.5mA Reversed DC voltage approx. 4V
	Built-in buzzer sounds if resistance is less than 50Ω	Open circuit voltage approx. 2V

Overload protection: 500V DC or AC rms

6-11 Transistor hFE test

Test range: 0-1000
Ib=10μA, Vce=1.8V Approx.

6-12 Non Contact AC Voltage (NCV) detection

Test voltage range: 90V~1000V AC rms
The NCV red light and green light will light up alternately together with sound.

7. OPERATING INSTRUCTIONS

7-1 Attention before operation

7-1-1 Check battery. When the battery voltage drop below proper operation range, the symbol will appear on the LCD display and the battery need to be changed.

7-1-2 Pay attention to the besides the input jack which shows that the input voltage or current should be within the specified value.

7-1-3 The range switch should be positioned to desired range for measurement before operation.

7-2 Measuring DC & AC Voltage

7-2-1 Set the rotary switch at the desired “mV” or “V” range position, it shows symbol for testing DC voltage, if you want to test AC voltage, push “SELECT” button switch.

7-2-2 Connect the black test lead to COMT- jack and the red to VΩHz jack.

7-2-3 Connect test leads across the source or load under measurement.

7-2-4 You can get reading from LCD. The polarity of the red lead connection will be indicated along with the DC voltage value.

NOTE:

- 1. means you can't input the voltage more than 1000V DC or 750V AC, it's possible to show higher voltage, but it may destroy the inner circuit or pose a shock.
- 2. Be cautious against shock when measuring high Voltage.

7-3 Measuring DC & AC Current

7-3-1 Set the rotary switch at the desired “uA” & “mA” & “A” range position, it shows symbol for testing DC current, if you want to test AC current, push “SELECT” button switch.

7-3-2 Connect the black test lead to COMT- jack and the red to the μAmAT+ jack for a maximum 600mA current , for a maximum 6A or 20A current, move the red lead to the 20A jack.

7-3-3 Connect test leads in series with the load under measurement.

7-3-4 You can get reading from LCD. The polarity of the red lead connection will be indicated along with the DC current value.

NOTE:

- 1. When the value scale to be measured is unknown beforehand, set the range selector at the highest position.
- 2. When only “OL” is displayed, it indicates over-range situation and the higher range has to be selected.
- 3. means the socket mA's maximum current is 800mA and 20A's maximum current is 20A, over 800mA or 20A current can be protected by the fast fuse.
- 4. On the 20A range, the measuring time should be less than 10 seconds to prevent precision from affecting by circuit heating.

7-4 Measuring DC & AC 600A Current

7-4-1 Set the rotary switch at the desired “600A” range position, it shows symbol for testing DC current, if you want to test AC current, push “SELECT” button switch.

7-4-2 Connect the black banana plug of the AC/DC Current Clamp Adapter(Optional accessories) to COMT- jack and the red banana plug to the μAmAT+ jack.

7-4-3 Set the AC/DC Current Clamp Adapter(Optional accessories) to “1mV/A” range.

7-4-4 When perform DC current measurement, always rotate or push the DCA zero adjuster on the Clamp Adapter(Optional accessories) until the multimeter reads zero.

7-4-5 Clamp the Jaws around the one conductor to be measured. Center the conductor within the Jaw using the Centering Marks as guides.

7-4-6 Read the result from the LCD panel. The arrow in the Jaw indicates the DC current direction of positive current flow (positive to negative).

7-5 Measuring Resistance

7-5-1 Set the rotary switch at the desired “Ω--1” range position.

7-5-2 Connect the black test lead to COMT- jack and the red to VΩHz jack.

7-5-3 Connect test leads across the resistance under measurement.

7-5-4 You can get reading from LCD.

NOTE: Max. input overload: 500V rms<10sec

- 1. For measuring resistance above 1MΩ, the meter may take a few seconds to get stable reading.
- 2. When the input is not connected, i.e. at open circuit, the figure ‘OL’ will be displayed for the over-range condition.
- 3. When checking in-circuit resistance, be sure the circuit under test has all power removed and that all capacitors have been discharged fully.

7-6 Measuring Capacitance

7-6-1 Set the rotary switch at the desired “Ω--1” range position, push “SELECT” to choose capacitance measurement.

7-6-2 Connect the black test lead to COMT- jack and the red to VΩHz jack.

7-6-3 Connect test leads across the capacitance under measurement.

7-6-4 You can get reading from LCD.

NOTE: Max. input overload: 500V rms<10sec

- 1. Capacitors should be discharged before being tested.

- 2. When testing large capacitance, it will take longer time before the final indication (For 100uF~60mF range, it will take about 10 seconds).
- 3. When testing small capacitance (≤1uF), to assure the measurement accuracy, first press “REL”, then go on measuring.

7-7 Measuring Frequency & Duty cycle

7-7-1 Set the rotary switch at the desired “Hz” range position.

7-7-2 Connect the black test lead to COMT- jack and the red to VΩHz jack.

7-7-3 Push “Hz/Duty” key to choose Frequency or Duty cycle test.

7-7-4 Connect the probe across the source or load under measurement.

7-7-5 You can get reading from LCD.

7-8 Measuring Temperature

7-8-1 Set the rotary switch at the desired “℃/℉” range position, push “SELECT” to choose ℃ or ℉ measurement.

7-8-2 Connect the black banana plug of the sensor to COMT- jack and the red banana plug to the μAmAT+ jack.

7-8-3 Put the sensor probe into the temperature field under measurement.

7-8-4 You can get reading from LCD.

NOTE:

- 1. Please don't change the thermocouple at will, otherwise we can't guarantee to measure accuracy.
- 2. Please don't importing the voltage in the temperature function.

7-9 Diode & Audible continuity Testing

7-9-1 Set the rotary switch at the “Ω-1” range position, push “SELECT” to choose Diode or Audible continuity measurement.

7-9-2 Connect the black test lead to COMT- jack and the red to VΩHz jack.

7-9-3 On diode range, connect the test leads across the diode under measurement, display shows the approx. forward voltage of this diode.

7-9-4 On Audible continuity range, connect the test leads to two point of circuit, if the resistance is lower than approx. 50Ω, the buzzer sounds.

NOTE: Make sure the power is cut off and all capacitors need to be discharged under this measurement.

7-10 Transistor hFE Test

7-10-1 Set the rotary switch at the desired “hFE” range position.

7-10-2 Determine whether the transistor is NPN or PNP and locate the Emitter, Base and Collector leads. Insert the leads into the proper holes in the socket on the front panel.

7-10-3 You can get reading of the approximate hFE value from LCD.

NOTE: Don't connect an external voltage to measuring terminals.

7-11 Non Contact AC Voltage detection

7-11-1 Set the rotary switch at the desired “NCV” range position, the NCV green LED light will light up.

7-11-2 Hold the Meter so that the meter's top is vertically and horizontally centered and contacting the conductor, when the live voltage ≥ 90V AC rms, the NCV red LED light and green LED light will light up alternately together with sound.

NOTE:

- 1. Even without LED indication, the voltage may still exist. Do not rely on non-contact voltage detector to determine the presence of voltage wire. Detection operation may be subject to socket design, insulation thickness and different type and other factors.
- 2. When the meter input terminals presence voltage, due to the influence of presence voltage, voltage sensing indicator may also be bright.
- 3. Keep the meter away from electrical noise sources during the tests, i.e., florescent lights, dimmable lights, motors, etc.. These sources can trigger Non-Contact AC Voltage detection function and invalidate the test.

7-12 Connect to mobile phone APP

On any range, press the “REL” key over 2 seconds, the “RS232” sign will appear on the display, the meter will has serial data output function. It can be connected with mobile phone by Bluetooth, so the measured data can be recorded, analyzed, and processed by mobile phone APP. Before use this function, you need install the mobile phone APP “Intelligent Meter” by scan the QR code. It includes the “Intelligent Meter” APP packages for download and detailed installation and usage instructions.

NOTE: The mobile phone APP can be installed in iphone 4S iOS 7.0 or android 4.30 system and up.

8. Battery replacement

8-1 When the battery voltage drop below proper operation range the symbol will appear on the LCD display and the battery need to be changed.

8-2 Before changing the battery, set the selector switch to “OFF” position and remove the test leads from the terminals. Open the cover of the battery cabinet by a screwdriver.

8-3 Replace the old battery with the same type battery (AA R6P 1.5V×2).

8-4 Close the cover of the battery cabinet and fasten the screw.

9. Fuse replacement

9-1 This meter is provided with a 800mA/250V fast fuse to protect the temperature test and the current measuring circuits which measure up to 600mA, with a 20A/250V fuse to protect the 20A range.

9-2 Ensure the meter is not connected to any external circuit, set the selector switch to “OFF” position and remove the test leads from the terminals. Open the cover of the battery cabinet by a screwdriver.

9-3 Replace the old fuse with the same type and rating: 5×20mm 800mA/250V fast fuse or 5×20mm 20A/250V fast fuse.

9-4 Close the cover of the battery cabinet and fasten the screw.

10. Maintenance

10-1 You must replace the test leads if the lead is exposed, and should adopt the leads with the same specifications as origin.

10-2 Use only moist fabric or small amount of detergent but not chemical solution for cleaning.

10-3 Do not use the meter before the back cover is properly closed and screw secured. Upon any abnormality, stop operation immediately and send the meter for maintenance.

10-4 Please take out the battery when not using for a long time.

11. Accessories

[1] Test Leads: electric rating 1000V 20A

[2] “K” type thermocouple sensor probe

[3] Operator's Manual

[4] Clamp Adapter(Optional accessories)

Above picture and content just for your reference. Please be subject to the actual products if anything different or updated. Please pardon for not informing in advance.

Intelligent Meter Operation manual Summary

Intelligent Meter is a comprehensive intelligent hardware management platform. Through Intelligent Meter App, you can complete the convenient between mobile phones and intelligent hardware, achieve the interconnection and intercommunication between devices and users. Intelligent Meter supports multiple types of devices, Such as intelligent instrument, electrical instrument, anemometer and infrared thermometer.

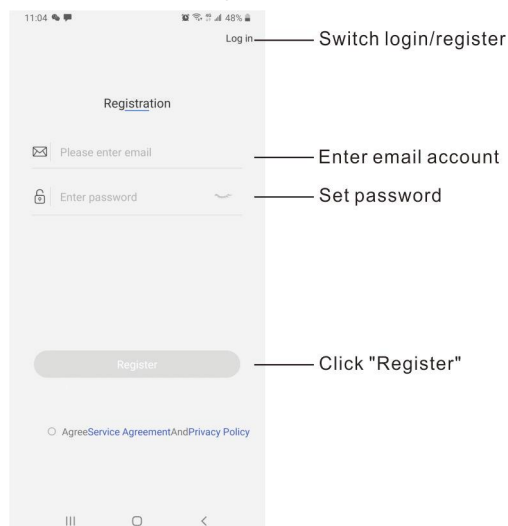
APP download and installation

Scan the below QR code to download directly, or search for "Intelligent Meter" in the APP Store, Google Play download and install the "Intelligent Meter".



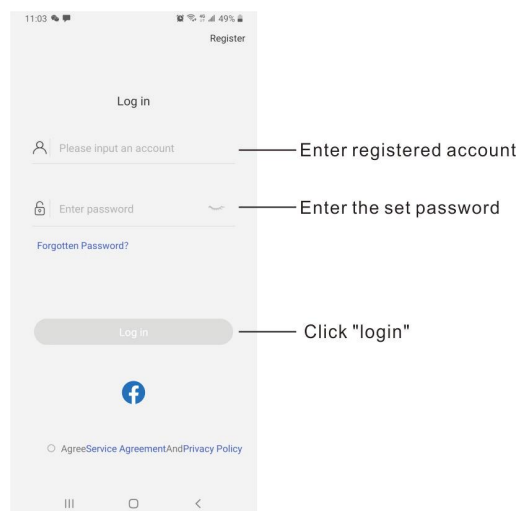
Account registration

To register an email account, enter the email number and password, and click Register. This account is used for future login;



Account login

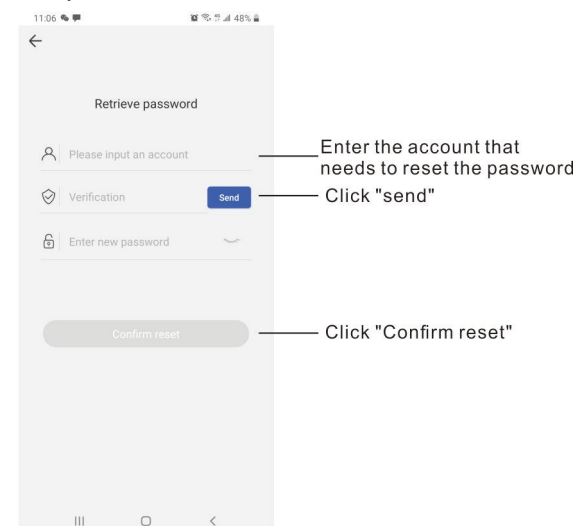
Enter the account and password and click login



Retrieve password

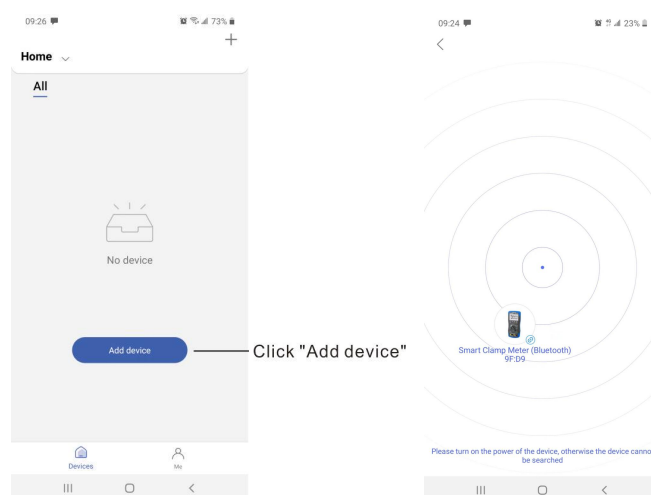
When the user forgets the login password, the login password can be reset through this function .

- 1) Enter the account number to retrieve the password;
- 2) Click the "send" button to send the verification code to the email;
- 3) Enter the verification code, reset the new password, click "submit reset", and then you can log in to the app with the new password .

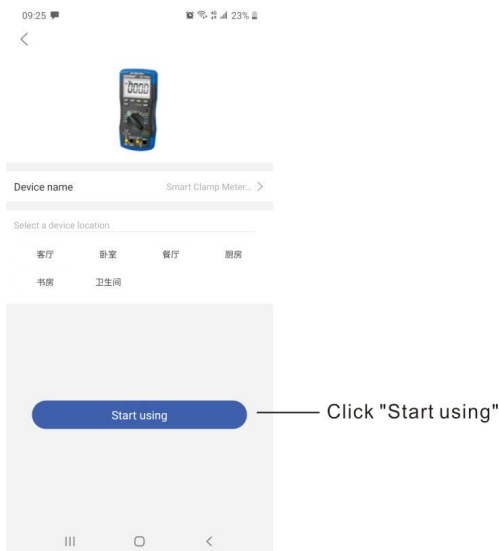


Add device

- 1) Click add equipment, select the equipment to be added, and operate according to the operation instructions to add;



2) Click "start using" to enter the function page.

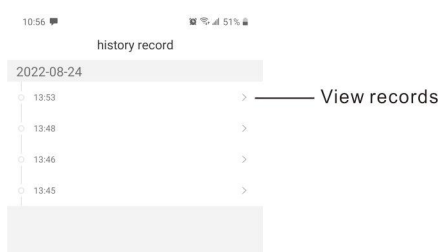
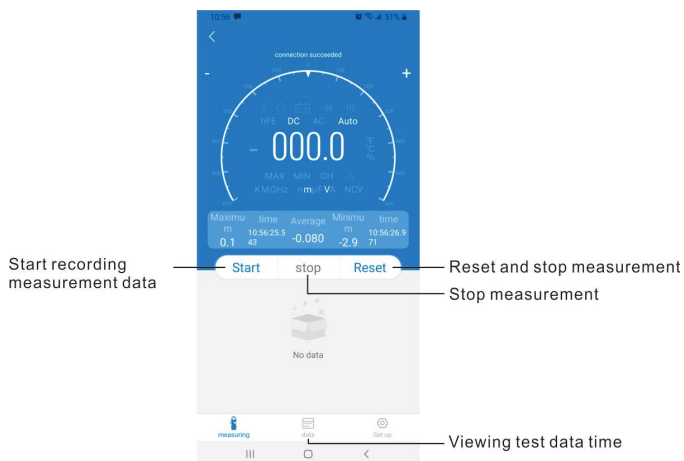


Function

1) The maximum or minimum value and the corresponding time will be displayed on the mobile phone application, and the average value over a period of time from the start of measurement will also be displayed.

2) Press the "start" key to start recording measurement data, and press the "stop" key to stop recording. Press the "reset" key to reset and stop the measurement, clear the old data and restart the recording.

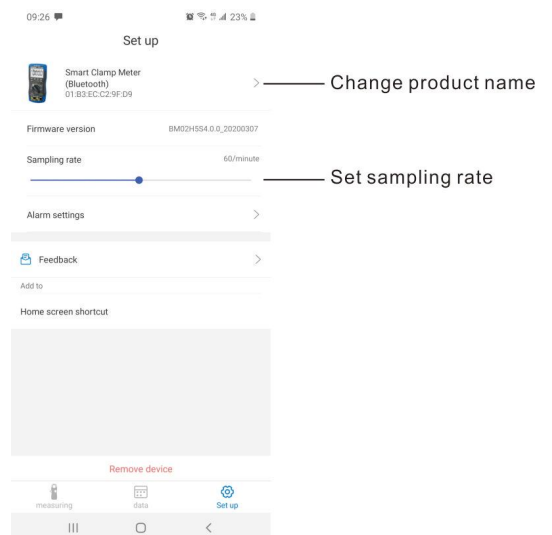
3) Click the "data" button to view the historical record time and historical record data, and press the button at the upper right corner to share or download data.



10:57 51% Download data

data		chart	
index	value	type	time
1	000.1	DCV mV	13:48:46.336
2	000.1	DCV mV	13:48:47.358
3	000.1	DCV mV	13:48:48.801
4	000.1	DCV mV	13:48:50.246
5	000.1	DCV mV	13:48:51.670
6	000.1	DCV mV	13:48:53.124
7	000.1	DCV mV	13:48:54.565
8	000.1	DCV mV	13:48:56.000
9	000.1	DCV mV	13:48:57.425
10	000.1	DCV mV	13:48:58.905
11	000.1	DCV mV	13:49:00.330
12	000.1	DCV mV	13:49:01.799
13	000.1	DCV mV	13:49:03.253
14	0L	OHM Ω	13:49:04.672
15	0L	OHM KΩ	13:49:06.079
16	10.73	OHM MΩ	13:49:07.530
17	0.L	OHM MΩ	13:49:08.927
18	0.L	OHM MΩ	13:49:10.320
19	0.000	FRE Hz	13:49:11.707
20	0.000	FRE Hz	13:49:13.068
21	0025	TMP °C	13:49:14.457

4) Click "setting" to enter the setting interface, click the device image to change the product name, view the firmware version and set the sampling rate.



※ After using this product, if it is not used for a long time, it is recommended to take out the battery, otherwise the battery will be consumed all the time.

CONTACT US

For any problem or concern, welcome to email us for prompt response.

AFTERSALES1010@HOTMAIL.COM

P.S.

To make sure you can receive immediate solution and your requests processed quickly, please email us with these information:

1. Order Number
2. Platform of Your Purchase
3. Full Model Number
4. Description of the Problem(Attaching videos or photos can help us troubleshoot the problems even faster)

FCC Caution:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.