6000 COUNTS WITH APP
DC/AC TRUE-RMS CLAMP MULTIMETER
OPERATION MANUAL

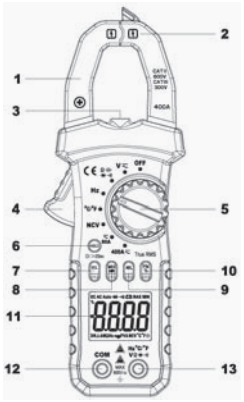
1. Overview

The auto range clamp multimeter is a portable and stable performance. Using 6000 counts digit LCD monitor with character 16mm high. With overall circuitry design centering on large-scale IC A/D converters in conjunction and over-load protection circuit, the meters give excellent performance and exquisite making as a handy utility instrument.

The meter can be connected with mobile phone by Bluetooth, and display on phone by APP, you can remote monitoring the measurement condition, the distance control is 10～15m.

The meters can be used to measure DC & AC voltage, DC & AC current, resistance, capacitor, frequency, duty cycle, temperature, Non Contact AC Voltage (NCV) detection, positive diode voltage fall and audible continuity.

2. Panel Layout



1. Clamp jaws: Opens 26mm to enclose conductor.
2. NCV detection area (bottom).
3. Lamp light: Press the "**HOLD**" key over 2 seconds to light the lamp light, it will light up too when the built-in buzzer sounds.
4. Jaw-opening handle: Opens and closes the jaws.
5. Rotary Switch: Use this switch to select functions and ranges.
6. **HOLD** key: Press the "**HOLD**" key to lock display value, and the "**DH**" sign will appear on the display, press it again to exit. Press "**HOLD**" key more than 2 seconds, the back light and the lamp light will light up, press it more than 2 seconds again, the back light and the lamp light will light off.
7. **SEL** key: This key work on the "Ω ⊣◀ •)) ⊣⊢" range, press the key to choose resistance, continuity, diode or capacitance test, on the voltage or current range, change to DC or AC, on the **°C/°F** range, change to ℃ or ℃ test.
8. **MAX/MIN** key: Press the "**MAX/MIN**" key to lock **MAX** or **MIN** value, and the "**MAX**" or "**MIN**" sign will appear on the display, press it over 2 seconds to exit.
9. **REL** Key: Press the "**REL**" key, the meter enters relative measuring mode, "△" is displayed on the LCD and the present reading becomes the reference value and displayed on the display. Relative measurement R*EL*△=*measurement value-Reference value*. Press it again to exit.
10. **Hz/Duty** Key: On "**ACV/ACA**" or "**Hz**" range, press the "**Hz%**" key, you can choose the **Frequency** or **Duty Cycle** measurement.
11. **LCD** display: 6000 counts digit, full function symbol display.
12. **COM:** COM and Temperature "-" Input Jack
13. **VΩ ⊣◀ •)) Hz °C/°F:** V/Ω ⊣◀ •))/⊣⊢/Hz/T+ Input Jack

3. Safety Information

3-1 The meter is designed according to IEC-1010 concerning electronic measuring instruments with an over-voltage category 600V (CAT Ⅱ) and pollution 2.

3-2 Follow all safety and operating instructions to ensure that the meter is used safely and is kept in good operating condition.

3-3 safety symbols:

⚠ Important safety information, refer to the operating manual.

⚠ Dangerous voltage may be presence.

⧈ Double insulation (protection Class II)

4. Special Cautions for Operation

4-1 The meters can be safe only according to standard procedures when used in conjunctions with the supplied test leads. To replace damaged test leads with only the same model or same electric specifications.

4-2 To avid risk of electric shock, do not use the meters before the cover is in place.

4-3 The range switch should be right position for the testing.

4-4 To avoid electric shock and damaging the instruments, the input signals are forbidden to exceed the specified limits.

4-5 When measuring TV set or switched power, attention should be paid to the possible pulses that may bring destruction to the circuit.

4-6 Range switch position is forbidden to be changed at random during measurement.

4-7 Take caution against shock in the course of measuring voltage higher than DC 60V & AC 30V.

4-8 Before opening the cover of the battery cabinet to replace batteries. disconnect the test leads from any external circuit, set the selector switch to "OFF" position.

4-9 Keep the fingers after the protection ring when measuring through the instrument lead.

4-10 Keep the fingers after the protection ring when measuring through the clamp.

4-11 After operation is finished, set function switch at OFF to save battery power.

4-12 If the meter is without usage for long time, take out battery to avoid damage by battery leakage.

5. GENERAL SPECIFICATIONS

5-1 Max Voltage between input terminal and Earth Ground:
CAT Ⅱ 600V or CAT Ⅲ 300V

5-2 Over-range Indication: display "OL" for the significant digit.

5-3 Automatic display of negative polarity "-" .

5-4 Low Battery Indication: "🔋" displayed.

5-5 Max LCD display: 6000 counts digit.

5-6 Auto range control

5-7 Clamp opening size: 26mm.

5-8 Power supply: 1.5V×2 "AAA" R03P battery

5-9 Operating Temp.: 0℃ to 40℃ (relative humidity <85%)

5-10 Storage Temp.:-10℃ to 50℃ (relative humidity <85%)

5-11 Guaranteed precision Temp.: 23±5℃ (relative humidity <70%)

5-12 Dimension: 207(H)×75(W)×37(D)mm.

5-13 Weight: Approx. 280g (including battery).

6. Testing Specifications

Accuracy is specified for a period of year after calibration and at 18℃ to 28℃ (64℃ to 82℃) with relative humidity to 70%.

6-1 DC Voltage

Range	Resolution	Accuracy
600mV	0.1mV	±(0.5% of rdg + 2 digits)
6V	1mV	
60V	10mV	
600V	100mV	±(0.8% of rdg + 2 digits)

-- Impedance: 10MΩ, More than 100MΩ on 600mV range
-- Overload protection: 600V DC or AC rms

6-2 AC Voltage (True RMS)

Range	Resolution	Accuracy
6V	1mV	±(1.0% of rdg + 3 digits)
60V	10mV	
600V	100mV	±(1.5% of rdg + 3 digits)

-- Impedance: 10MΩ
-- Overload protection: 600V DC or AC rms
-- Frequency Range: 40 to 2kHz

6-3 DC Current

Range	Resolution	Accuracy
60A	10mA	±(2.5% of rdg + 10 digits)
400A	100mA	±(3.0% of rdg + 10 digits)

-- Overload protection: 400A DC or AC rms

6-4 AC Current (True RMS)

Range	Resolution	Accuracy
60A	10mA	±(2.5% of rdg + 10 digits)
400A	100mA	±(3.0% of rdg + 10 digits)

-- Overload protection: 400A DC or AC rms
-- Frequency Range: 40 to 100Hz

6-5 Resistance

Range	Resolution	Accuracy
600Ω	0.1Ω	±(1.0% of rdg + 3 digits)
6kΩ	1Ω	±(1.0% of rdg + 2 digits)
60kΩ	10Ω	
600kΩ	100Ω	
6MΩ	1kΩ	
60MΩ	10kΩ	±(1.5% of rdg + 3 digits)

-- Overload protection: 250V DC or AC rms

6-6 Capacitance

Range	Accuracy	Resolution
6nF	±(5.0% of rdg + 10 digits)	1pF
60nF	±(3.0% of rdg + 10 digits)	10pF
600nF		100pF
6μF		1nF
60μF	±(5.0% of rdg + 10 digits)	10nF
600μF	±(10.0% of rdg + 20 digits)	100nF
6mF		1μF
60mF		10μF

-- Overload protection: 250V DC or AC rms

6-7 Frequency

Range	Accuracy	Resolution
9.999Hz	± (0.1% of rdg + 5 digits)	0.001Hz
99.99Hz		0.01Hz
999.9Hz		0.1Hz
9.999kHz		1Hz
99.99kHz		10Hz
999.9kHz		100Hz
9.999MHz		1kHz

-- Sensitivity: sine wave 0.6V rms (9.999MHz: 1.5V rms)
-- Overload protection: 250V DC or AC rms

6-8 Duty cycle

0.1%～99.9%: ± (2.0% of rdg + 2 digits), Frequency lower than 10kHz
-- Sensitivity: sine wave 0.6V rms
-- Overload protection: 250V DC or AC rms

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: 250V DC or AC rms

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
·ı))	Built-in buzzer sounds and the lamp light will light up if resistance is less than 50Ω	Open circuit voltage approx. 2V

Overload protection: 250V DC or AC rms

6-11 Non Contact AC Voltage (NCV) detection

Test voltage range: 90V～1000V AC rms
The lamp light will light up 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 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 Connect the black test lead to COM jack and the red to VΩ⊣◀·ı)) jack.
7-2-2 Set the rotary switch at the desired "V⎓" range position, it shows symbol for testing DC voltage, if you want to test AC voltage, push "SEL" button switch.
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 600V, 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 "60A⎓" or "400A⎓" range position, it shows symbol for testing DC current, if you want to test AC current, push "SEL" button switch.
7-3-2 Zero the reading by pressing "REL" key for a reading of zero on the display.
7-3-3 Disconnect the test leads from the Meter.
7-3-4 Clamp the Jaws around the one conductor to be measured. Center the conductor within the Jaw using the Centering Marks as guides.
7-3-5 You can get reading from LCD. The arrow in the Jaw indicates the direction of positive current flow (positive to negative).

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.

7-4 Measuring Resistance

7-4-1 Connect the black test lead to COM jack and the red to VΩ⊣◀·ı)) jack.
7-4-2 Set the rotary switch at the desired "Ω⊣◀·ı))⊣⊢" range position.
7-4-3 Connect test leads across the resistance under measurement.
7-4-4 You can get reading from LCD.

NOTE: Max. input overload: 250V rms＜10sec
1. For measuring resistance above 1MΩ, the mete 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.

7-5 Measuring Capacitance

7-5-1 Connect the black test lead to COM jack and the red to VΩ⊣◀·ı)) jack.
7-5-2 Set the rotary switch at the desired "Ω⊣◀·ı))⊣⊢" range position, push "SEL" to choose Capacitance measurement.
7-5-3 Connect test leads across the capacitance under measurement.
7-5-4 You can get reading from LCD.

NOTE: Max. input overload: 250V 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 600uF~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.

7-6 Measuring Frequency & Duty cycle

7-6-1 Connect the black test lead to COM jack and the red to VΩ⊣◀·ı)) jack.
7-6-2 Set the rotary switch at the desired "Hz" range position.
7-6-3 Push "Hz%" key to choose Frequency or Duty cycle test.
7-6-3 Connect the probe across the source or load under measurement.
7-6-4 You can get reading from LCD.

7-7 Measuring Temperature

7-7-1 Connect the black banana plug of the sensor to COM jack and the red banana plug to the VΩ⊣◀·ı)) jack.
7-7-2 Set the rotary switch at the desired "°C/°F" range position, push "SEL" to choose ℃ or ℉ measurement.
7-7-3 Put the sensor probe into the temperature field under measurement.
7-7-4 You can get reading from LCD.

NOTE:
1. The accessory of the meter WRNM-010 type contact thermocouple limit temperature is 250 ℃ (300 ℃ shortly), please use special probe for test higher temperature.
2. Please don't change the thermocouple at will, otherwise we can't guarantee to measure accuracy.
3. Please don't importing the voltage in the temperature function.

7-8 Diode & Audible continuity Testing

7-8-1 Connect the black test lead to COM jack and the red to VΩ⊣◀·ı)) jack.
7-8-2 Set the rotary switch at the "Ω⊣◀·ı))⊣⊢" range position, push "SEL" to choose Diode or Audible continuity measurement.
7-8-3 On diode range, connect the test leads across the diode under measurement, display shows the approx. forward voltage of this diode.
7-8-4 On Audible continuity range, connect the test leads to two point of circuit, if the resistance is lower than approx. 50Ω, the lamp light will light up together with sound.

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

7-9 Non Contact AC Voltage detection

7-9-1 Set the rotary switch at the desired "NCV" range position.
7-9-2 Hold the meter so that the bottom of the mater's clamp jaws right is vertically and horizontally centered and contacting the conductor, when the live voltage ≥ 90V AC rms, the lamp light will light up 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.

7-10 Connect to mobile phone APP

The meter 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 "AiLink" by scan the QR code.
It includes the "AiLink" APP packages for download and detailed installation and usage instructions. The website link is:
http://www.elinkthings.com/cn/help-detail-158.html.
⚠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 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 (AAA R03P 1.5V×2).
8-4 Close the cover of the battery cabinet and fasten the screw.

9. Maintenance

9-1 You must replace the test leads if the lead is exposed, and should adopt the leads with the same specifications as origin.
9-2 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.
9-3 When take current measurement, keep the cable at the center of the clamp will get more accurate test result.
9-4 Repairs or servicing not covered in this manual should only by qualified personal.
9-5 Periodically wipe the case with a dry cloth and detergent. Do not use abrasives or solvents on this instruments.
9-6 Please take out the battery when not using for a long time.

10. Accessories

[1] Test Leads: electric rating 600V 10A
[2] "K" type thermocouple sensor probe
[3] Operator's Manual

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.

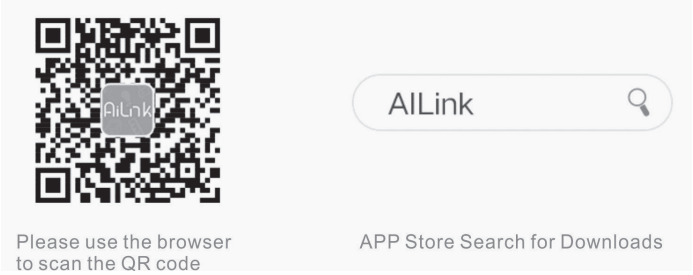
AILink User Manual

Summary

AiLink is a comprehensive intelligent hardware management platform. Through AiLink App, you can complete the convenient between mobile phones and intelligent hardware,achieve the interconnection and intercommunication between devices and users. AILink supports multiple types of devices, such as smart health, smart security, smart electricians.

APP download and installation

Scan the below QR code to download directly, or search for "AILink" in the APP Store, download and install the "AILink".



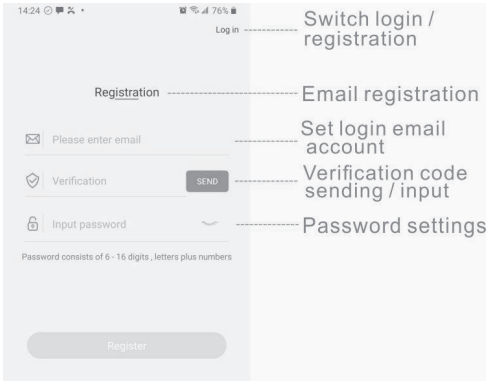
Account registration

① Set up an account: select the method of registration: mobile phone or email, enter the content, this account is used for login;

② Verify the account: Click the "Send" button to send a verification code to the registered account to verify the accuracy of the account. The verification code is sent in 120s. If you have not received it over time, please click Send again;

③ Set the password: In order to ensure the security of the account, the password must be composed of 6-16 digits + grapheme;

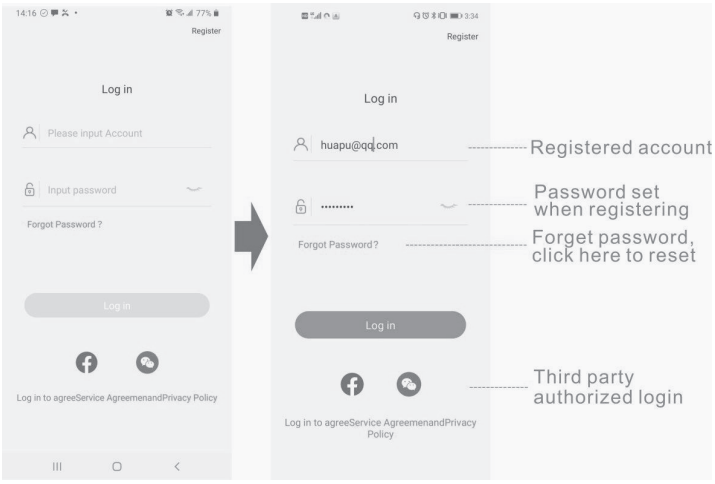
④ All settings are completed, click on register to complete the registration;



Login

① Account + password login: Set up an account and password through registration, and log in with the set account + password;

② Third-party application authorized login: currently supports WeChat and facebook authorized login.



Forgot Password

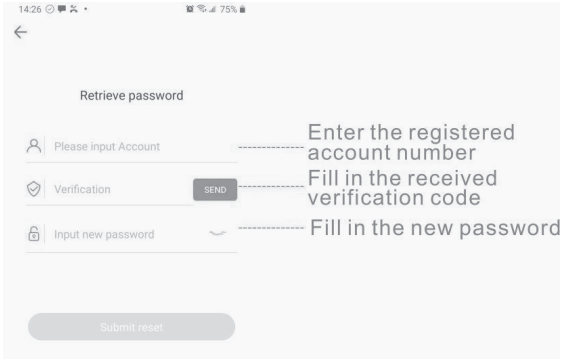
When the user forgets the password, he can reset the password through this setting

① Enter the account that needs to retrieve the password;

② Send verification code: Click the "Send" button to send the verification code to the entered account, verify the account, the sending time of the verification code is 120s, if you didn't received that in time, please click send again;

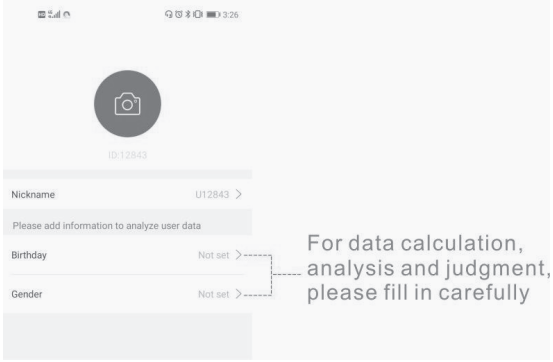
③ Reset password: the setting method is the same as that account registration;

④ All settings are completed, click "Submit Reset" to complete, you can use the new password to log in to the APP;



Supplement master account information

Due to the diversity of supported devices, it is necessary to set an head portrait, nickname, birthday, and gender when creating a user. The supplementary information is used for data calculation of some devices and analysis of measurement data



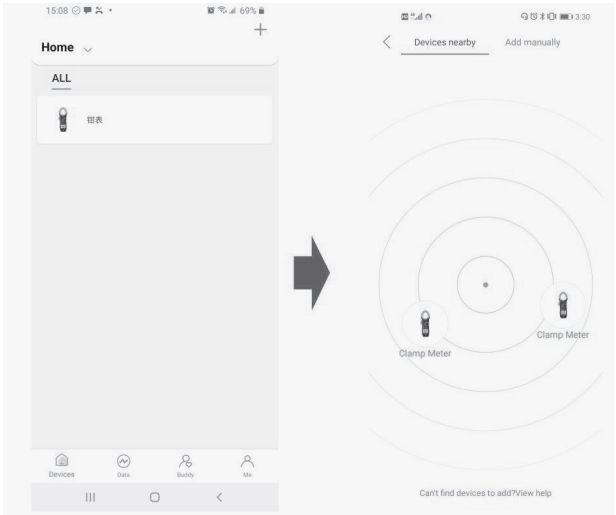
Bonding/connecting devices

There are two ways to bond devices: nearby devices, manually add

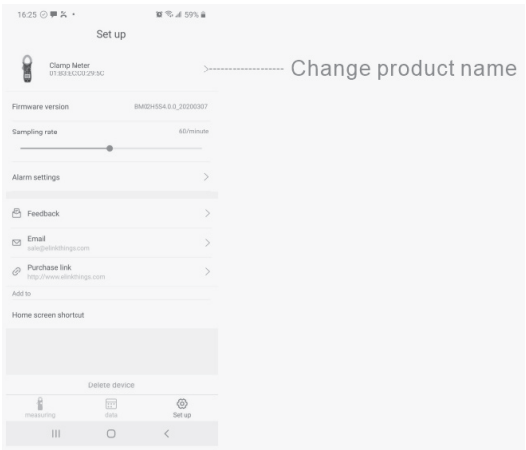
① Nearby devices: Open the device page to automatically search for nearby matching devices, and click the searched

device to automatically bond；

② Manually add: select the device that needs to be added and operate according to the operating instructions to add；



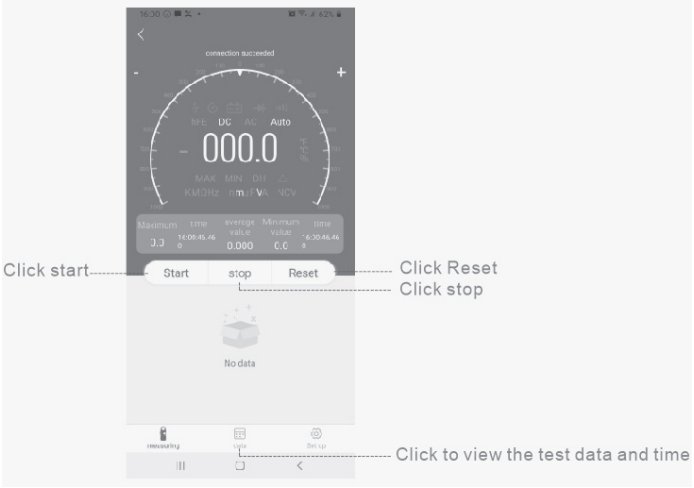
1) Click the "Settings" to enter the setting interface, and click the device image to change the product name.

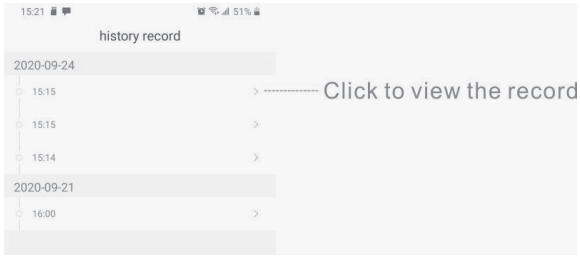


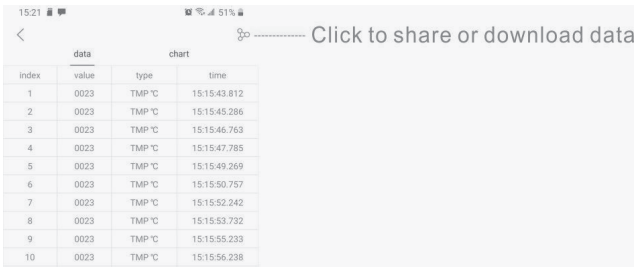
2）The Maximum or Minimum value and corresponding time will display on the mobile phone APP, and the average value in a period of time from start measurement will display too.

3）Press the "start" key to start recording the measurement data, and press the "stop" key to stop this recording. Press the "reset" key to reset and stop the measurement, the old data will be cleared and the recording will start again.

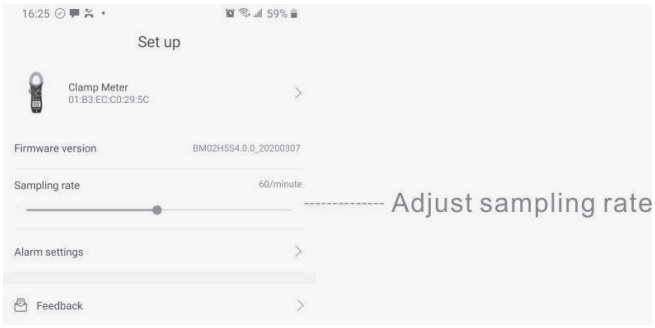
4）Click the "data" button to view the historical record time and historical record data, and press the button in the upper right corner to share or download the data.







5）Click the "set up" button, view the firmware version or set the sampling rate.



Feedback

With any comments or suggestions, you can tell us through this function to help us improve the product and make the product better. After receiving the feedback, we will deal with it as soon as possible. The problem is described in detail as much as possible, and the corresponding picture can be added to the APP problem. , In order to supplement the description more clearly, the programmer can reproduce the problem and solve the problem faster.

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)

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.

FCC ID: 2A7T4-HP-7200-APP