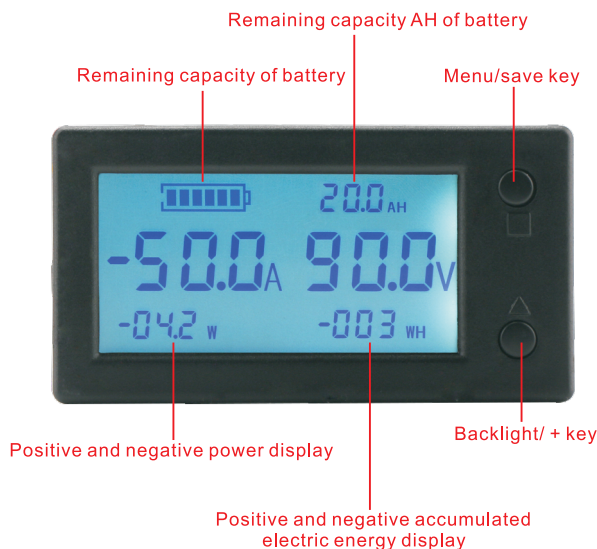


Instructions of LCD Hall Cullen Current Voltage Power Electric Energy Meter

Function Introduction:

1. This meter can be used to measure percentage and AH of remaining capacity, DC positive and negative bidirectional current, DC voltage, DC positive and negative power, DC positive and negative bidirectional accumulated electric energy.
2. Alarm flashing function: it will alarm and flash to draw your attention when the real voltage is higher or lower than preset alarm voltage and real current is higher than preset current. The preset voltage and current could be adjusted as you need. It will also alarm and flash to draw your attention when the remaining capacity of battery is low and the battery icon will keep flashing that means you need to charge for your device.
3. It will automatically fill the capacity of battery when it is full voltage.
4. It has the function of clearing current and accumulated electric energy data and the function of storing data when power-down. Capacity of battery and accumulated electric energy will be saved automatically when power down.

LCD Display Panel and Button:



Button Instruction:

1. To control backlight

When standby display, press ▲ key to turn on or turn off the backlight. Backlight mode will be save when power-down.

2. To clear current

When standby display, to keep pressing ▲ key will clear current to zero if no load is connected.(Note: if you don't clear current when no load connected, it will be inaccurate.)

3. To clear electric energy

When standby display, to keep pressing ■ key and release the key will clear positive and negative bidirectional accumulated electric energy.

4. Setting parameters

When standby display, press ■ key to switch menu in order.

- (1) "AH XXX.X" Setting Menu for rated capacity of battery
- (2) "FU XXX.X" Setting Menu for fulfilling voltage when full charged
- (3) "HU XXX.X" Setting Menu for over-voltage alarming
- (4) "LU XXX.X" Setting Menu for low-voltage alarming
- (5) "HA XXX.X" Setting Menu for over-current alarming

Setting method for rated capacity of battery:

- (1) When standby, press ■ key to switch to menu "AH XXX.X"
- (2) The first digit on menu parameter will keep flashing, at this time, pressing ▲ key, the digit will plus 1. After finishing setting this digit, the next digit will automatically flash when no any action in 5s. At this moment, pressing ▲ key, the digit will plus 1, too. In this way, you will finish setting 4 digits.
- (3) Keeping pressing ■ key, then release the key, the set parameters will be stored, at this time, menu will flash twice that means you have set successfully.

Ex. If you want to set battery's rated capacity as 20AH, just set the menu parameter as AH 020.0, then keep pressing the ■ key, finally release the key, you can make it stored successfully.

Setting method for automatically filling voltage when full charged(The same as setting method for rated capacity of battery)

When standby, press ■ key to switch to menu "FU XXX.X", press ▲ key to set parameters and keep pressing to save set parameters. (Note: We suggest to set the voltage as the voltage when full charged.)

By using the same setting method to set the value of over-voltage alarming, low voltage alarming and over current alarming.

(Note: HU XXX.X LU XXX.X HA XXX.X, if the 3 parameters display as 000.0, that means the alarming function is off, factory setting is off.)

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Technical Parameters:

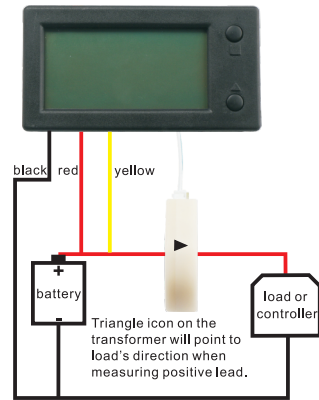
LCD Hall Cullen Meter Current Voltage Power Electric Energy Meter Technical Parameters	
Model	WLS-PVA200
Current measuring range	200A
Current resolution	0.1A
Power supply range	DC5~90V
Voltage measuring range	DC0~300V
Voltage resolution	0.1V
Capacity measuring range	0~999AH
Power measuring range	0~999KW
Electric energy measuring range	0~999KWH
Measurement error	± 1%
Refreshing speed	0.5S/time
Installing size	76.0mm * 39.5mm
Diameter of transformer	Φ20mm
Working current	Backlight on : 10MA; Backlight off : 4MA

Wiring instructions:

This meter, with 3 wires, allows to be powered by wide voltage range and has a wide voltage measuring range. If the measured voltage is DC 5-90V, you can use two-wire system connection to make it work, which is easy and simple. There are 3 wires on the back of meter, as following:

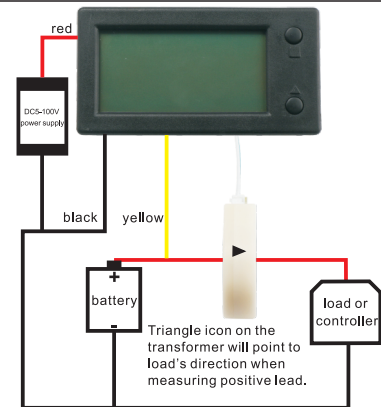
- (1) Black wire is for power supply -
- (2) Red wire is for power supply +. (Note: power supply range must be DC 5-90V, or this meter will be burnt.)
- (3) Yellow wire is for the input lead wire of the measured voltage, it have to be connected to the lead wire of the measured voltage.

When the measured voltage is DC 5-90V, this meter can be connected with two-wire system connection. Making the red wire and yellow wire in parallel and then connect it to the positive of battery. As the following picture shows: (Note: if you input voltage is higher than 80V, please add ventilation and cooling; and also we suggest to add separate power supply for this meter.)



When the measured voltage is over DC 5-90V, this meter must be connected with three-wire system connection. A separate power supply is needed for this meter. As the following picture shows:

Normally, the controller of electric bike has a 12V or 5V output, you can use it as power supply.



The above pictures show the wiring method for those that charging port and discharging port are the same one. If they don't share the same port, you need to make the positive of charging cable go through the hole of transformer.

Special Note:

1. Correct wiring method: Cullen meter display positive current when discharging and display negative current when charging. If not, that means you connected the transformer in wrong direction.
2. Newly installed Cullen meter need to clear current when no load connected.
3. When the newly installed Cullen meter has been set battery capacity and automatically filling the voltage when fully charged, you need to make battery fully charged again, then it can display remaining capacity.
4. Please keep this meter away from water, or it will be burnt.