

Instrument Instruction:

- AH, WH display switch: press ↓ key to display WH number, press ↑ key switch to display AH number.
- When the parameter is displayed as the AH number, long press the OK key to enter the system parameter setting interface, and then short press the OK key to switch the types of setting parameters. The set parameters are BAT, BPC, OPP, OVP, LVP, NCP, OCP, OTP, ADS , TTL, CLR, DTE, press ↑ ↓ to change the parameter, after the parameter setting is completed, long press the OK key to exit the parameter setting interface.

Features:

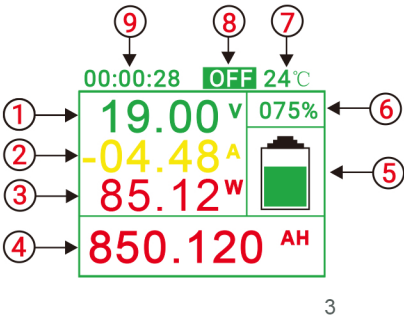
- Bidirectional detecting current. When measuring charging and discharging electricity, it can automatically identify and detect the dual-way current without changing the wiring direction.
- Adopt high performance hall effect sensor to measure current, which is more safe, accurate and easy to wire.
- Power off memory function. It can save the AH value and WH value after powering off for convenient observation and measurement.
- AH and current value reset function, doesn't affect the next measurement.
- AH value can be add up to be full, doesn't affect discharging measurement.
- Display voltage, current, charge capacity AH, WH, time and power at the same time on one screen, show information comprehensively and clearly.
- Output disable key, enable or disable output flexibly (needs relays).
- Protective functions: Over-voltage protections, over-current protection, over-power protection, limited time protection, overcharge protection, etc.
- Can be calibrated for correcting error.
- The LCD display can be switched off to reduce power consumption if needed.

Technical Specification:

Input Voltage	Self-powered Measuring Range	6V~45V
	External power supply Measuring Range	0V~45V
Input Current Measuring Range		0~20A
External Power Supply Voltage Range		6V~45V
Display		1.8 inch color LCD display

Measuring Range	Voltage	0.01V~45V
	Current	0.01A~20A
	Capacity	0.001AH~65000.00AH
	Energy	0.00KWH~99999.9WH
	Time	0~100 hour
	Power	99KW
	Temperature	1~100℃
Accuracy	Voltage	±1% + 2 digits
	Current	±2% + 5 digits
	Temperature	±2℃
Measuring Speed		5 times / second
Protection Type & Range	OVP (over-power protection)	0.01V~45V
	LVP (low power protection)	0.01V~45V
	OCP (charging over current protection)	0~20A
	NCP (discharging over current protection)	0~20A
	OTP (over temperature protection)	0~100℃
Display Panel Dimension		78*42*26mm/ 3.07*1.65*1.02 inch
Measurement Panel Dimension		55*44*38mm/ 2.17*1.73*1.49 inch

Display Description:



Wiring Steps:

- Adjust the jumper cap of the power supply switching port to be at “3W”.
- Connect the control terminal of the relay to the terminal of the relay controller.
- Connect the negative of the charger and load through the relay normally open/normal close terminal through the hall effect sensor hole to the “V-”.
- The wiring of other parts is the same as the above other two wiring method.

Function Description:

- “BAT”: battery capacity value setting. For setting the actual measured battery total capacity.
- “BPC”: battery remaining capacity percentage. Can set the battery remaining AH value according to the BPC value.
- “OPP”: over power protection value setting. If the OPP value is set, when the actual output power exceeds the set value, it will prompt over power and cut off relay (not provided).
- “OVP”: over voltage protection value setting. If the OVP value is set, when the actual measured voltage exceeds the set value, it will prompt over voltage and cut off relay (not included).
- “LVP”: low voltage protection value setting. If the LVP value is set, when the actual measured voltage below the set value, it will prompt low voltage and cur off relay (not provided).
- “NCP”: discharging over current protection value setting. If the NCP value is set, when the actual measured discharging current exceeds the set value, it will prompt over current and cut off relay (not provided).
- “OCP”: charging over current protection value setting. If the OCP value is set, when the actual measured charging current exceeds the set value, it will prompt over current and cut off relay (not provided).
- “OTP”: over temperature protection value setting. If the OTP value is set, when the measured temperature value exceeds the set value, it will prompt over temperature and cut off relay (not provided).
- “TTL”: relay default output status when the device is powered on, normally open or normally close.
- “CLR”: no load current reset function. If the current with no load is not 0, reset it via CLR function.

Recommend product on Amazon:



Bidirectional DC Multimeter

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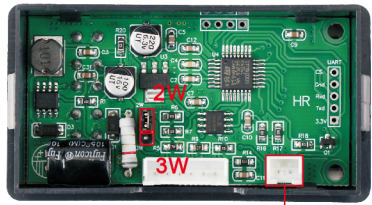


<https://www.droking.com>

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1	Measured Voltage Value	6	Battery Remaining Capacity Percentage
2	Measured CurrentValue	7	Measured Temperature
3	Measured Power Value	8	Output Status
4	Cumulative Capacity or Energy Value	9	Cumulative Running Time
5	Battery Remaining Capacity Icon		

Wiring Diagram:

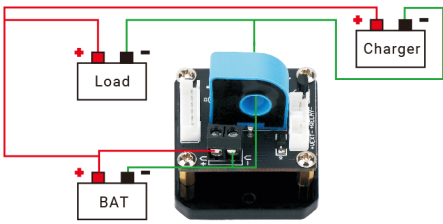
Display Panel Backside Description:



Temperature Measurement Port

The backside of the display panel comprises temperature measurement port and power supply switching ports (2W, 3W). When the jumper cap is at 2W, the module is supplied power by itself. When the jumper cap is at 3W, the module needs external power supply.

Wiring Diagram When Self-powered (Red wire to positive, green wire to negative):



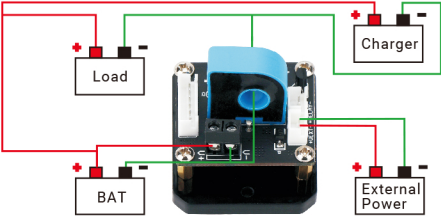
If the voltage of the detected battery (power supply) is 6V~45V in normal operation, it can adopt self-powered wiring method.

Wiring Steps:

- Adjust the jumper cap of the power supply switching port to be at “2W”.
- Connect the battery (power supply) positive to the voltage measurement terminal “V+”, and connect the negative to the shunt “V-”. Pay attention that the power supply positive and negative cannot be connected wrongly or reversely.

- Connect the battery (power supply) positive to the load positive, and connect the negative through the hall effect sensor hole to the load negative.
- Connect the charger positive to the battery positive, and connect the negative through hall effect sensor hole to the battery negative.

Wiring Diagram when Use External Power Supply (Red wire to positive, green wire to negative):



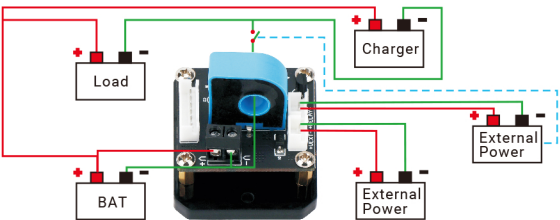
If the voltage of the detected battery (power supply) is beyond the range of 6V~45V, it can adopt the external power supply wiring method.

The external power supply voltage range is 6V~45V.

Wiring Steps:

- Adjust the jumper cap of the power supply switching port to be at “3W”.
- Connect the battery (power supply) positive to the voltage measurement terminal “V+”, and connect the battery (power supply) negative to the shunt “V-”. Pay attention that the power supply positive and negative cannot be connected wrongly or reversely.
- Connect the battery (power supply) positive to the load positive, and connect the negative through the hall effect sensor hole to the load negative.
- Connect the charger positive to the battery positive, and connect the negative through the hall effect sensor hole to the battery (power supply) negative.

Wiring Diagram When Using External Power Supply Connect Relay (Red to positive, green to negative):



The working power of the relay is supplied by external power supply. If connect a relay, it needs to connect a external power supply which supplies the same voltage as the relay working voltage.