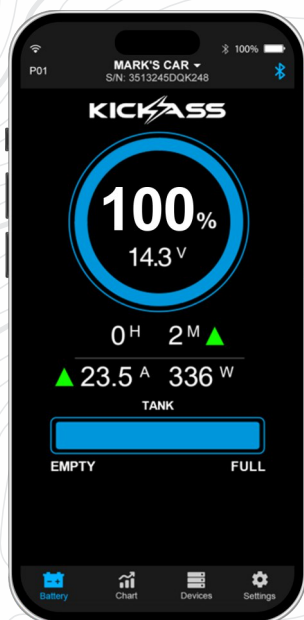


KICKASS



SMART MONITOR LITE SHUNT + TANK SENSOR

OWNER'S MANUAL

KASHUNTTANKLT

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Unpacking Check

When you get a new battery monitor, it is recommended that you follow the steps below to inspect the product.

1. Check the shipping package

If the shipping package has been damaged, retain the damaged package or shockproof material until the shipment has been fully inspected and the product has passed electrical and mechanical tests. Contact the shipper and carrier for compensation for damage to the meter caused by transportation.

2. Checking the Random Accessories

The contents of the accessories are described below. If the contents do not match or if the product is damaged, contact the distributor or our company.

- Remote display screen
- Shunt
- Host
- 5m Data Connection Cable
- Relay Output Cable
- Shunt - Host Connection Cable
- 4 Pin Tank Sensor Connection Terminal
- 3 Pin Input Power Connection Terminal
- Mounting Hardware

3. Check the whole machine

If you find the appearance of the product is damaged, the product does not work properly, or fails to pass the performance test, please contact the dealer or our company.

Chapter I Product Overview

1.Product Introduction

Battery monitor is a new type of coulomb meter that can measure many physical parameters such as voltage, current, power, charge/discharge capacity, watt-hour, time, etc. Meanwhile, it can also set parameters to realize various protection functions such as over-voltage protection, under-voltage protection, charge/discharge over-current protection, over-power protection, over-temperature protection, low-temperature protection, low SOC protection, and time-limit protection. The product can automatically identify the direction of the current, and the battery capacity can be real-time monitoring and the use of color LCD display of the measured data, display information is comprehensive and user-friendly.

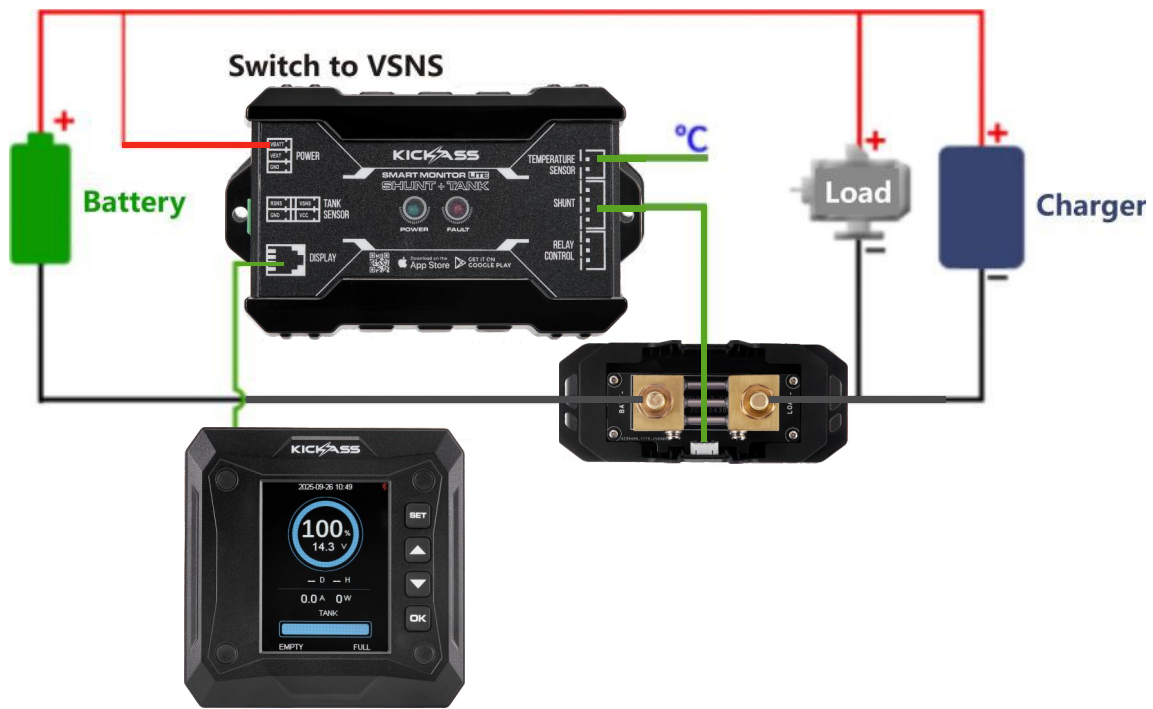
The battery monitor adds the function of voltage and current curve display on the basis of the original function, meanwhile, it can be controlled by cell phone APP communication, and it can also update and upgrade the firmware in real time

2.Wiring method

1.Self-power supply wiring method

If the voltage range of the battery under test is between 10-60V during normal operation, it can be wired by its own power supply. Firstly, the power supply selector switch should be flicked to "VSNS", then the positive pole of the battery should be connected to the power supply connector "VSNS", this wire does not need to be particularly thick, 1-2.5 square wire is fine, pay attention to the positive pole of the battery should not be connected wrongly. Then connect the positive terminal of the battery to the power supply interface "VSNS", the wire does not need to be particularly thick, 1-2.5 square wire can be, pay attention to the positive terminal of the battery should not be connected to the wrong.

The negative terminal of the battery should be connected to the screw on the sensor with the symbol of "BATT-", and the negative terminal of the charger and the negative terminal of the load should be connected to the other screw on the sensor, and it is better to use the copper nose to connect the wires more firmly; the color of the current direction symbol will be green and the residual capacity will be increased during charging, and the color of the current direction symbol will be green during discharging, and the residual capacity will be decreased during discharging. When charging, the color of the current direction symbol is green, the remaining capacity value increases, and the color of the current direction symbol is green, the remaining capacity value decreases.



Self-power supply wiring diagram

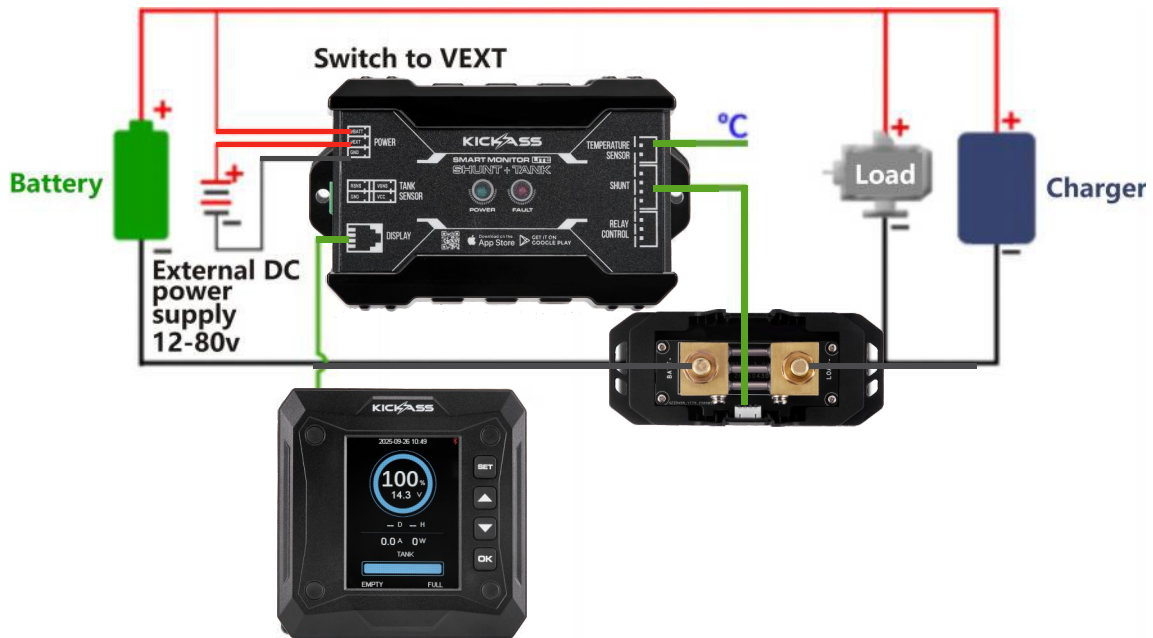
2.External power supply wiring

The voltage range of external power supply is 0-60V, firstly, switch the power supply selection interface to "VEXT", connect the positive pole of the external power supply to the power supply interface "VEXT", and connect the negative pole of the external power supply to "GND", and then connect the positive pole of the external power supply to "GND". Connect the positive terminal of the external power supply to "VEXT" and the negative terminal of the external power supply to "GND";

Then connect the positive terminal of the battery to the measurement interface "VSNS" in the power supply interface; pay attention to the positive and negative terminals of the external power supply should not be connected incorrectly or reversed.

The negative terminal of the battery should be connected to the screw on the sensor with the battery "BATT-" mark, and the negative terminal of the charger and the negative terminal of the load should be connected to another screw on the sensor, it is better to use the copper nose to connect the wires more securely; the color of the current direction symbol will be green and the residual capacity will be increased when charging, and the color of the current direction symbol will be green and the residual capacity will be decreased when discharging. When charging, the color of the current direction symbol is green, the remaining capacity value

increases, and the color of the current direction symbol is green, the remaining capacity value decreases.



External power supply wiring diagram

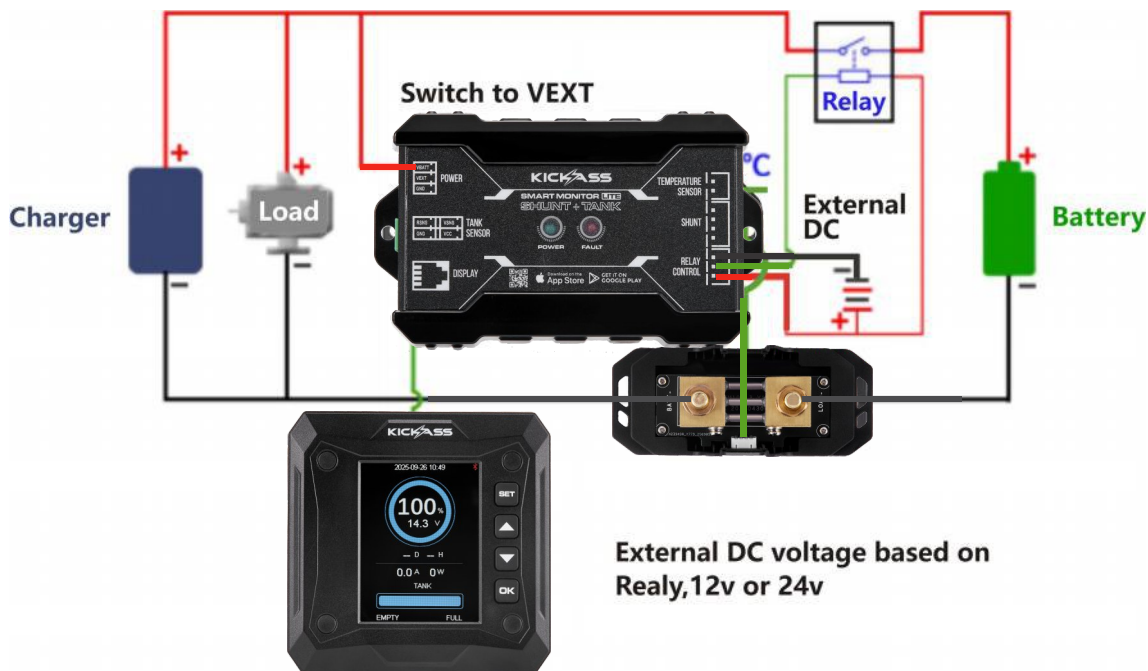
3.External power supply connecting relay wiring method

The working power of the relay is provided by the external power supply. If the relay is connected to the external power supply, it should be provided with an external power supply of the same voltage as the working voltage of the relay. Connect the control ports of the relay to the "OUT" and "VEXT" of the host's Output Control; connect the positive pole of the external power supply to the "VEXT" of the Output Control; connect the positive pole of the external power supply to the "VEXT" of the Output Control. Connect the positive terminal of external power supply to "VEXT" of Output Control, and the negative terminal of external power supply to "GND"; be careful not to connect the positive and negative terminals of battery and external power supply incorrectly or inversely.

If you want to control charging or discharging, follow Figure 3-3-3 External Power Supply Relay Wiring Diagram to connect, when the relay is connected, the indicator light will be on, and off as a reminder.

The negative terminal of the battery is connected to the screw on the sensor printed with the battery "BATT-" symbol, and the negative terminal of the charger and the negative terminal of the load are connected to another screw on the sensor, and it is better to use the copper nose to

connect the wires more securely; the color of the symbol of the current direction is green and the residual capacity value is increased when charging, and the color of the symbol of the current direction is green and the residual capacity value is decreased when discharging. When charging, the color of the current direction symbol is green, the remaining capacity value increases, and the color of the current direction symbol is green, the remaining capacity value decreases.



External power supply to relay wiring diagram

4. Technical Specifications

Model	KASHUNTTANKLT
Sampling Method	shunt
Voltage Measurement Range (External Power Supply)	0-60V
Voltage Measurement Range (Self-Powered)	10-60V
Voltage Resolution	0.01V
Current Measurement Range	0-600A
Current Resolution	0.01A
Relay	Relay is not provided and needs to be configured by yourself
Temperature Measurement Range	-20-120°C
Capacity Display Range	0%-100%
Power Measurement Range	0-36KW

Power Resolution	0.01W
Ampere-Hour Measurement Range	0-9999.99Ah
Capacity Resolution	0.01Ah
Watt Hour Measurement Range	0-9999.99kWh
Watt Hour Resolution	0.1kWh
Time Measurement Accuracy	year/month/day/hour/minute
Time Resolution	1s
Bluetooth Communication Distance	Barrier-free access up to 10meters
Voltage Measurement Accuracy	$\pm 0.4\%$
Current Measurement Accuracy	$\pm 0.4\%$
Sampling Rate	1 time/second
Measuring Board Power	about 0.4W
Monitor Power	about 0.5W
Over Power Protection	0-99999.9W
Reverse Overcurrent Protection	600A
Forward Overcurrent Protection	600A
Overvoltage Protection	0-60V
Under Voltage Protection	0-60V
External Over-Temperature Protection	0-120°C
Protection-revert-time	0-99s
Protection Delay Time	0-99s
Device Address	P01-P99 total 99, P00 is the broadcast address

Federal Communications Commission (FCC) Statement

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.

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.

Warning: Changes or modifications made to this device not expressly approved by

may void the FCC authorization to operate this device.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF exposure statement:

The transmitter must not be colocated or operated in conjunction with any other antenna or transmitter. This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a Minimum distance of 20cm between the radiator and any part of your body.