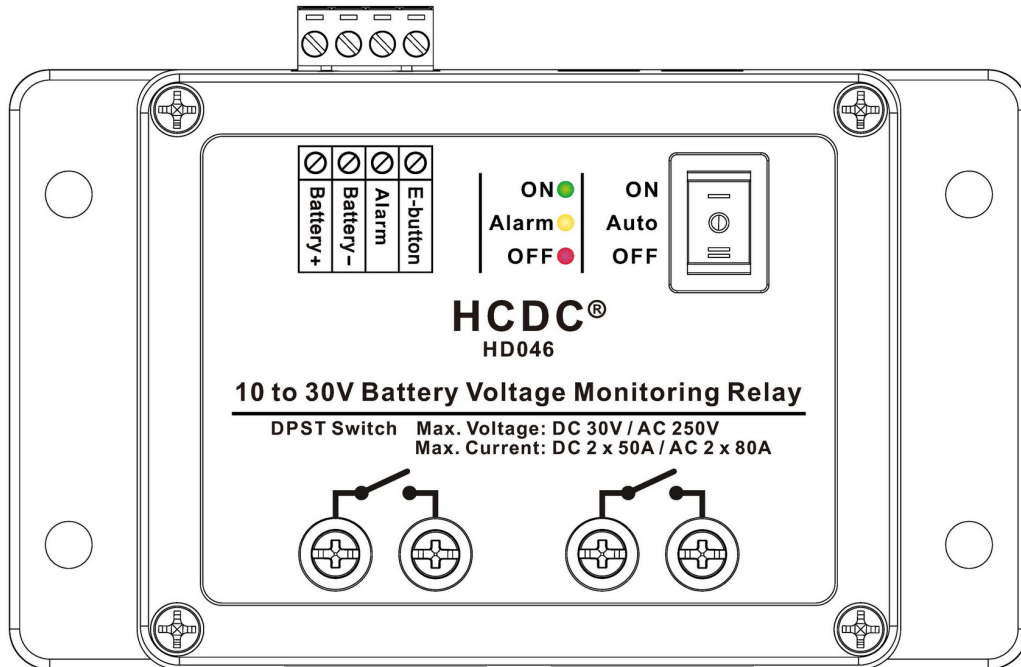


HCDC®

xikentech.com

10 ~ 30V Battery Voltage Monitoring DPST Relay Module

Model: HD046



Features:

- To protect electronics from damaging low voltages and prevent a deep discharge of a battery during an extended power outage, the LVD module will automatically disconnect the battery when the voltage falls below the user adjustable cutoff voltage. When power is restored the Smart Switch will automatically reconnect the battery, thereby protecting the battery from total discharge (helping to prolong the life of the battery). Applications for Inverter, Solar systems, Alarm systems, UPS systems, Mobile systems, or any application where you need to protect the battery from total discharge.
- Operating voltage DC 10 to 30V. Switch maximum support current up to 80Amp(for AC) or 50Amp(for DC). Can support 12V, 18V or 24V battery system. Reconnect and disconnect voltage 10 ~ 30V you can set it arbitrarily (NOTE: reconnect voltage must be greater than the disconnect voltage). Quiescent current consumption is less than 2mA (It's the same whether it's ON or OFF), So you almost never have to worry about your battery being drained by the product, unless you don't charge it for months on end.
- With a rocker switch for override, can set to ON / AUTO / OFF function, if you want switch output to be immediate and remain ON or OFF. (Note: When the battery voltage is lower than 9.5V, set the switch to ON state, the battery will not be forced on, this is to protect the battery and the module).
- Red DIP switch, programmable voltage setting for Disconnect and Reconnect (rocker switch state must set to AUTO, otherwise the automatic function is invalid). For the setting value of the voltage, you can refer to the label on the side of the module. Please note that when setting the red DIP switch, the reconnect voltage must be greater than the disconnect voltage, otherwise the function will not work.
- With three module output status LEDs, ON / ALARM / OFF, to help you intuitively understand the output status.
- After power-on, the action will be delayed for 1 second to accurately judge the battery voltage and reduce the instantaneous discharge current of the battery. When the battery drops to the disconnect voltage value, there will be a delay of 120 seconds. During this period, the ALARM function will be used to remind you that if the battery voltage does not return to the normal voltage during this period, the output will be turned off. When the battery voltage returns to the reconnect voltage value for 5 seconds, the output will be reconnected.
- Support external connect emergency switch, the switch must be a momentary-on type switch. When the output is in a protected low-voltage disconnected state, and rocker switch setting to AUTO status, and battery voltage $\geq 10V$, Trigger external emergency switch, the module will be forced ON for 120 seconds for you to complete the emergency. If the battery voltage is lower than 10V, the emergency switch will not produce any action.
- Support external connect active-buzzer or indicator light for alarm function. When the battery voltage drops to the disconnect voltage value set by the red DIP switch, the output will act synchronously with the ALARM led, on for 0.5 seconds and off for 0.5 seconds, alternating output. After flashing for 120 seconds, if the voltage of the battery still does not rise at this time, the module will automatically turn off the output. The yellow ALARM-led will be off and the red OFF-led will be on. The sink current capacity of this yellow wire is 500mA, please make sure that the active buzzer or indicator light you connect does not work more than 500mA. Please make sure that the active buzzer or indicator you connect matches your battery voltage (please do not connect pure led directly, because the working voltage of led is only 2~3V).
- The product design is based on microcontroller and high-power latching relay, especially optimized anti-interference ability to better support inverter load, and make the quiescent working current very small.

Specifications:

Operating Voltage: DC 10 to 30V

Quiescent Consumption: < 2mA

Disconnect Setting Voltage: Step 1V for 10 to 20V, Step 2V for 20 to 30V

Reconnect Setting Voltage: Step 1V for 10 to 20V, Step 2V for 20 to 30V

Disconnect/Reconnect Voltage Tolerance: +/- 0.1Vdc (max.)

Disconnect/Reconnect LED: Red / Green

Alarm LED: Yellow, on for 0.5 seconds and off for 0.5 seconds alternating output

Power-ON Delay Time: 1 Second

Disconnect Delay Time: 120 Seconds

Reconnect Delay Time: 5 Seconds.

Emergency State ON Condition: Battery Voltage Must > 10V

System Forcibly Disconnects Voltage: 9.5V

Switch Rated Current: 80 Amp (for AC 50/60Hz), 50 Amp (for DC)

Switch Rated Voltage: AC 250V (50/60Hz), DC 30V.

Control Terminal Block: Pitch - 5.08mm/0.2", wire size 26 - 12 AWG, stripping length 7mm.

Switch Terminal Blocks: Pitch - 15mm/0.6", wire size 20 - 2 AWG, stripping length 19mm.

Net weight (excluding screws): 365g

External dimensions: L 153mm x W 90mm x H 59mm

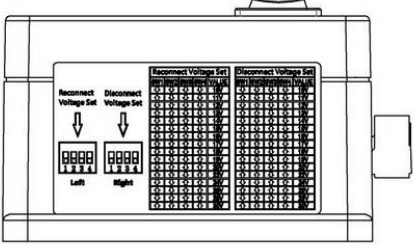
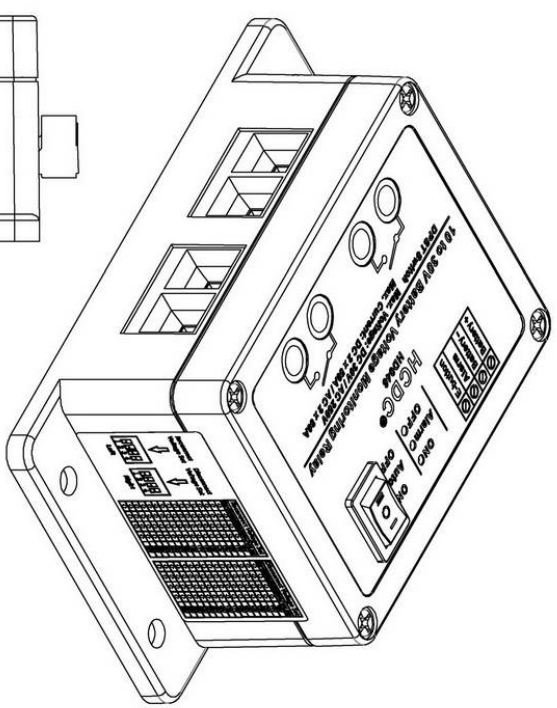
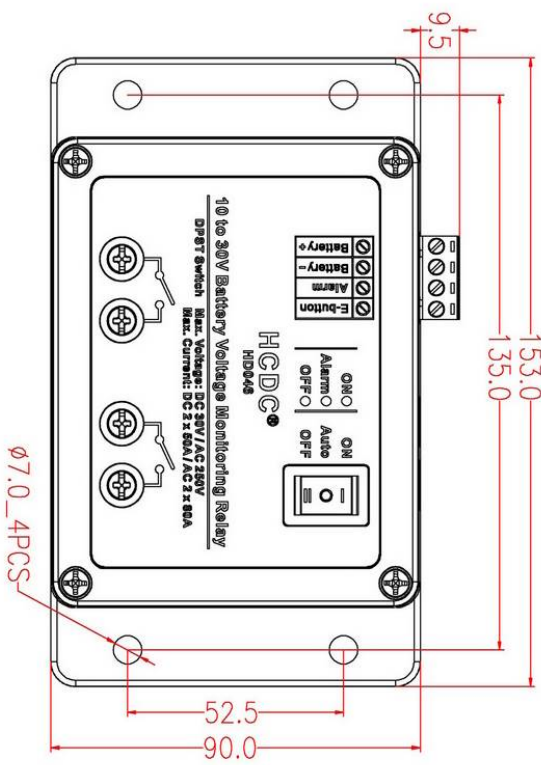
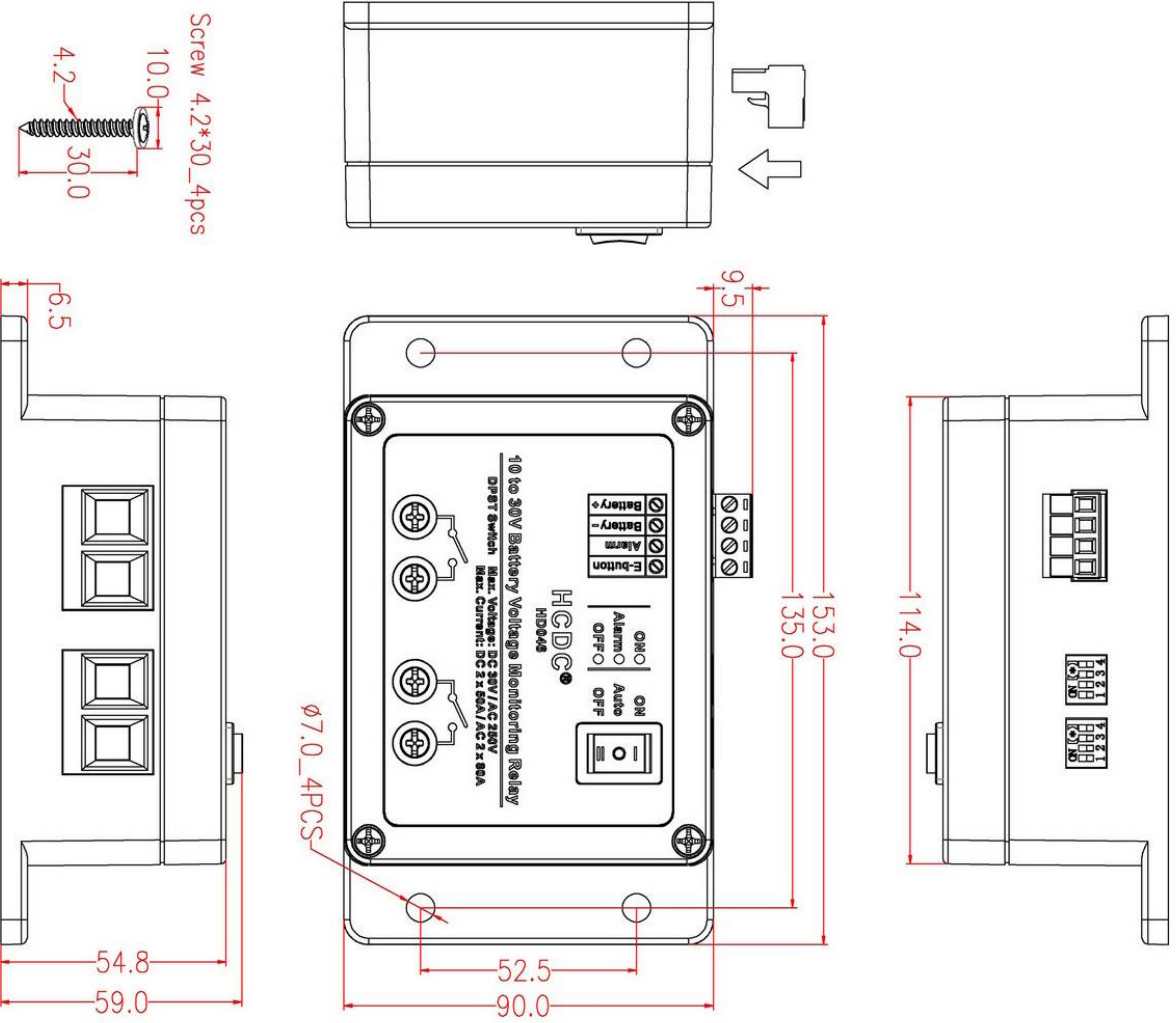
Initial Installation Steps and Conditions:

- 1, Be sure to read the Use Manual before installation. It is recommended to be installed by professional technicians. If you cannot understand the above connect diagram, please do not try to install.
- 2, Set the rocker switch to OFF
- 3, Set red DIP switch disconnect and reconnect voltage (reconnect value must more than disconnect value).
- 4, Connect battery positive / negative to module Battery + and Battery - (the cable length must < 1 meter / 3.28 feet).
- 5, Connect emergency switch (E-button). This is an optional function, if you don't use this function, you don't need to care about this terminal block position.
- 6, Connect active-buzzer or indicator light negative (Alarm). This is an optional function, if you don't use this function, you don't need to care about this terminal block position.
- 7, Connect load to module switch.
- 8, Connect inverter output (Live and Neutral) to module switch, connect battery positive / negative to inverter input. (If it is a DC load and not using an inverter, connect the battery positive / negative to module switch).
- 9, Set the rocker switch to AUTO

ATTENTION:

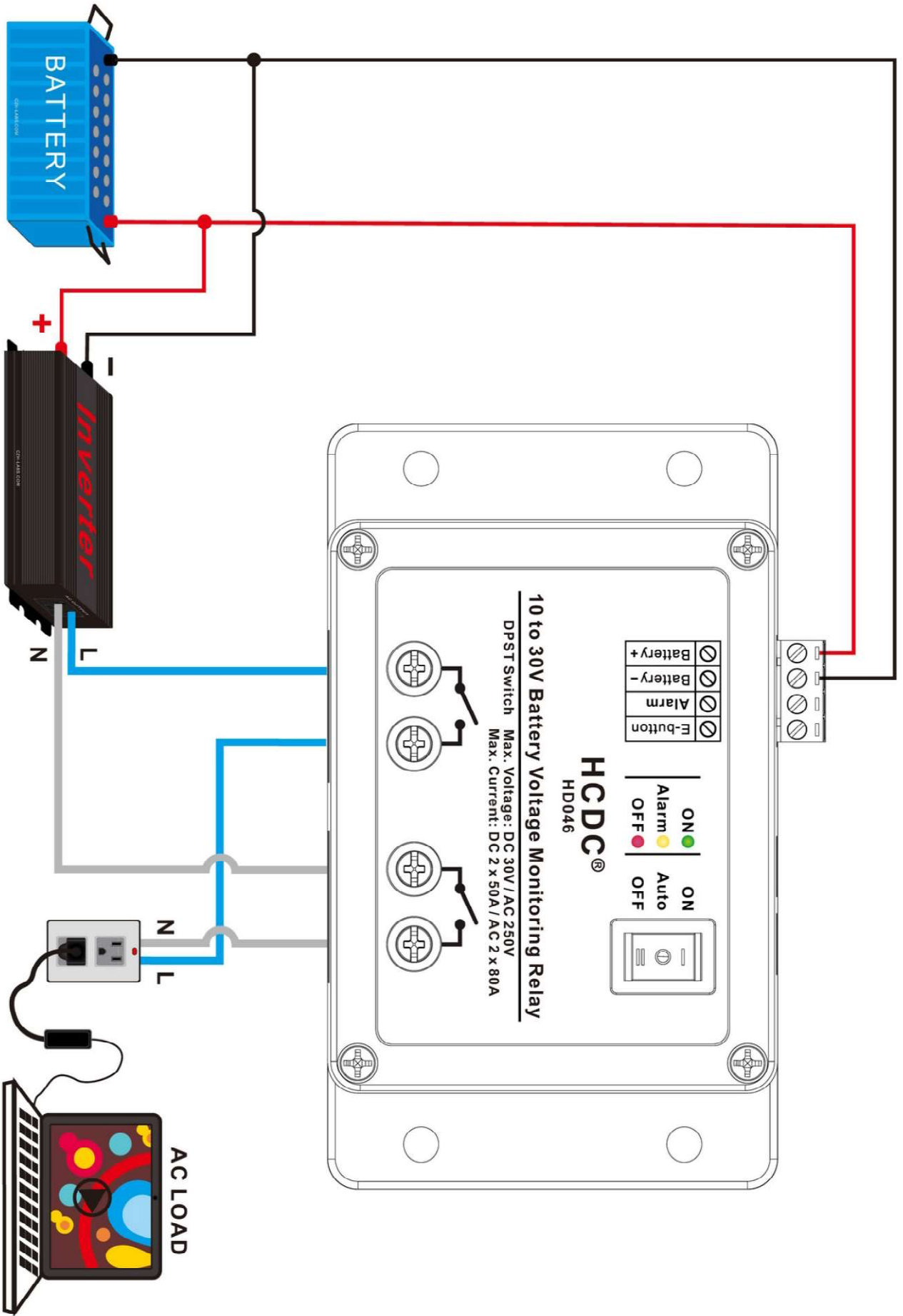
- 1, Do not short battery positive and negative.
- 2, Be careful of high voltage at the inverter output.
- 2, Do not reverse connect battery polarity to module battery +/-, otherwise it will damage battery or the module.

Dimensions

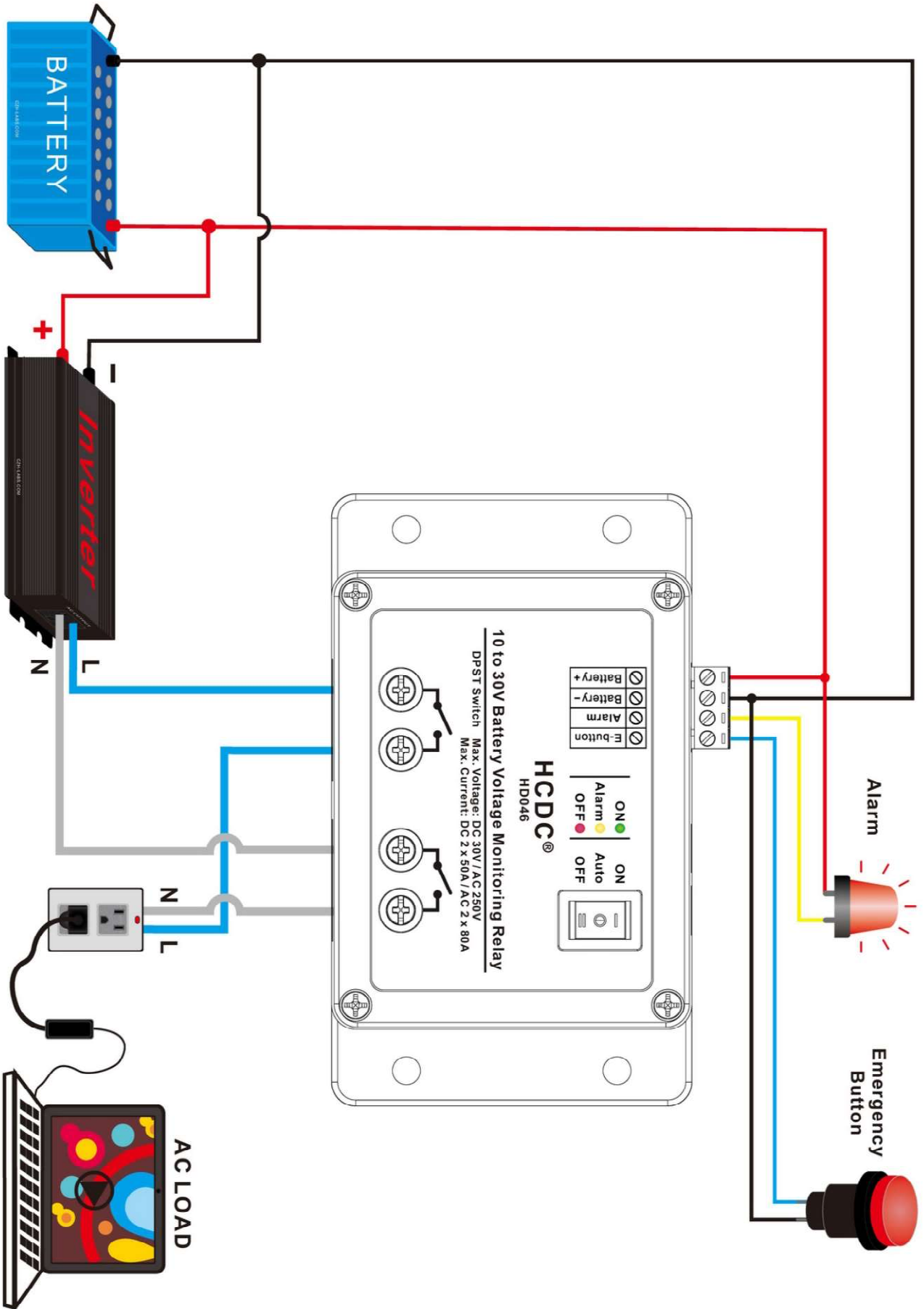


HCDC® xikentech.com	
MODEL NO.:	HD046
DATE:	2022. 07. 13
PROJECTION:	
UNIT:	mm

Connection Diagram (for inverter and AC load):



Connection Diagram (for inverter and AC load, with Emergency Button and Alarm):



Connection Diagram (for DC load, with Emergency Button and Alarm):

