HTCB850V30A

Energy-Feeding High-Voltage Battery Pack Charging and Discharging Capacity Tester

User Manual



Thanks for choosing **HELTEC** series produces.It will bring you convenience and efficiency for spot welding work.

For optimal user experience,pleaseread the manual carefully before using and store it properly for future reference.

HELTEC has the right to upgrade the machine and modify the manual without prior notice. Thanks for understanding!

Website: https://www.heltec-energy.com/
E-mail: echo@heltec-bms.com
Tel: 18123313360
Address: 64th ChengHong road, chenghua Section, Chengdu ,SiChuan ,China

Summarizes

The HTBC850V30 energy-feeding high-voltage battery pack charging and discharging capacity tester is an integrated high-voltage safe charging and discharging solution designed specifically for new energy battery packs. It is anindustrial-grade charging and discharging equipment integrating intelligence, high efficiency and safety protection. Equipped with energy feedback to grid technology, it meets the needs of high-voltage safe discharge and precise capacity detection in scenarios such as battery pack factory shipment and return maintenance.Its unique working method enables the machine to maintain a small size for easy portability even under high power conditions.

Features

❶ Bidirectional energy supply in energy-feeding mode, feeding energy back to the power grid.

❷ Wide voltage setting range of 50~860V, specially designed for charging and discharging tests of new energy high-voltage battery packs.

❸ Triple temperature control protection, real-time monitoring of battery and equipment temperature, automatic current reduction or power cutoff in case of abnormal temperature rise.

❹ Triple current protection (overcharge/overcurrent/overvoltage), AI algorithm dynamically adjusts the charging curve to ensure the entire charging process is within the safe threshold.

❺ Reverse connection/misconnection protection to avoid short-circuit risks.

❻ Reasonable layout of internal components, combined with heat dissipation and cooling system, effectively avoiding the impact of high-temperature environment on electronic components.

❼ Maximum output current of 30A, suitable for multiple scenarios such as medium and large energy storage systems and new energy vehicle battery modules.

❽ Intelligent charging strategy reduces battery loss and increases cycle life by more than 20%.

Product Parameters

Model	HTCB850V30A	Input Voltage	AC220V
Input Current	≥30A	Maximum Power	8KW
Charging Voltage	50~850V	Charging Current	30A MAX
Discharging Voltage	50~850V	Discharging Current	30A MAX
Voltage Accuracy	±0.1%FS	Current Accuracy	±0.1%FS
Product Weight	25kg	Product Size	565*253*308mm

Application

Suitable for scientific research institutions, lithium battery distributors, battery pack manufacturers and battery protection system production units for battery charging, supplementary charging, activation, etc. Also applicable to maintenance business of power battery packs such as new energy vehicles and energy storage systems.

Product Diagram

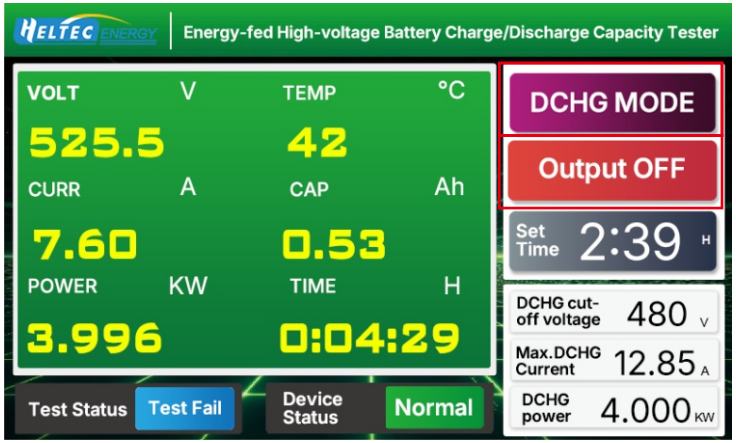
Front



Back



Settings Panel Parameter Explanation



Working Modes:

DCHG MODE — The machine is set to discharge operation.

CHG MODE — The machine is set to charge operation.

Output Status :

Turn off output before mode switch — The machine turns off output and no current flows.

Setting Time

Set Time H — Set the working duration. The machine will stop working when the set time is reached (regardless of whether the specified voltage discharge /charge is completed; time has higher priority than voltage/current).

Working Voltage (Switch between charging/discharging according to mode selection) :

Charge voltage V — Cutoff voltage for charging mode

DCHG cut-off voltage V — Cutoff voltage for discharging mode

Working Current (Switch between charging/discharging according to mode selection):

Charge current A — Maximum current for charging mode

Max.DCHG Current A — Maximum current for discharging mode

Discharging/Charging Power

DCHG power KW — Constant power mode can be turned on/off

Current will decrease as voltage rises
Discharging Status - Current will increase as voltage drops the current rise will not exceed the set maximum discharging current 放电最大电流 MAXIMUM DISCHARGE CURRENT A

Input Power Precautions



1.The input power cable must be directly connected to the air switch.



2. Distinguish between live wire neutral wire and ground wire when wiring.



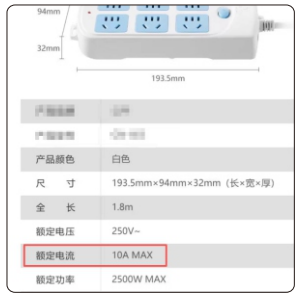
3.The specification of the air switch must be greater than 30A.



4.If the input power cable is connected to an external three-pin power plug, the full-load charging and discharging power is determined by the overcurrent capacity of the plug.



5.If the plug supports 10A, the full-load power is 2.2kW; if the plug supports 16A, the full-load power is 3.5kW.



6.If using an extension socket, the specific power epends on the overcurrent capacity of the extension socket.

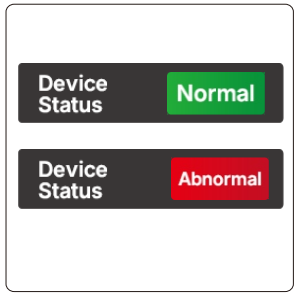
Battery Pack Connection :



1.Insert the connecting cable into the aviation socket and tighten the buckle to avoid falling off when pulled.



2.Connect the red clip to the positive pole of the battery pack and the black clip to the negative pole.



3. After correct connection the status will show "Connection Successful"; if the positive and negative poles are reversed, the status will show "Not Connected".

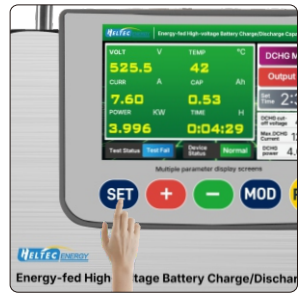
Basic Operation Settings:



1.Toggle the power switch on the back of the machine upwards to start the operation program.



2.Press the "MOD" button to select charging/discharging mode.



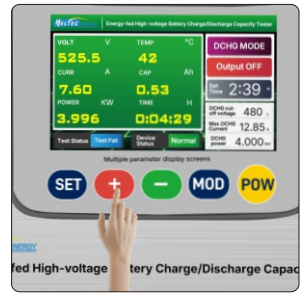
3.Press the "SET" button to select and set voltage/ current values.



4.The "Constant Power Mode" is off by default; you can frame the constant power mode by pressing the "SET" button and then long-press the button to turn it on.



5.If you need to set the working time, set it according to the actual charging and discharging time.



6.The "+-" buttons have 4 triggering methods:
a. Short press b. Long press
c. Double click
(interval of 0.5s between short presses)
d. Double click (long press the second time)



8.Press the "POW" button to start the charging/ discharging operation of the machine.



9.Press the red emergency stop knob during operation to quickly stop the output of the machine.

Precautions

A.Important Notice:

1. This equipment is an energy-feeding product. When discharging the battery pack, it is necessary to consider whether the equipment connected to the circuit can consume the corresponding electric energy! (For example, if the discharge power is set to 7kW, the power consumed by the electrical equipment in the circuit must be greater than 7kW. If the power of the electrical equipment is less than 7kW, the excess electric energy will be transmitted to the power grid. Without grid connection qualification, there is legal risk in grid-connected power transmission!)
2. Since charging/discharging is performed for the entire battery pack, the voltage of the battery pack must be balanced before operation. Direct charging/discharging of unbalanced battery packs will cause overcharging/overdischarging of individual battery cells!
3. It is forbidden to work without supervision or without monitoring the voltage of each string of the battery pack!
4. This equipment is designed for high-voltage battery packs and must be operated by personnel who have received training or hold professional high-voltage work certificates. Unauthorized use by non-professional personnel may lead to risks of electric shock, short circuit or fire.

B.General Reminders:

1. The interior is composed of precision electronic components. The instrument is strictly prohibited from water or water mist, otherwise it will cause damage to the instrument.
2. Only applicable to lithium battery modules with matching nominal voltage and specifications. Confirm battery parameters (such as lithium battery type, charging cutoff voltage, lithium battery charging rate) before use.
3. It is forbidden to disassemble, modify the internal structure of the equipment or replace non-original accessories without permission, otherwise it may cause equipment damage or loss of safety certification.
4. Keep away from high temperature, open flames, flammable and explosive materials and humid environments. Operating temperature range: 0°C~40°C, relative humidity <80%.
5. Read the instrument's user manual in detail. If you have any questions, please contact the manufacturer's customer service hotline in a timely manner.

Product Packaging List



Main Unit×1



Negative Connecting Cables*1



Manual & Warranty Card*1