

12V24V
FULL INTELLIGENT BATTERY CHARGER
Model No: TK-2500
Operating Manual



- Thank you very much for purchasing our products
- Please use the corresponding model, and the physical object shall prevail
- Please read this manual carefully before use and keep it properly for inquiry when necessary

Charging

1. Check whether your battery parameters match the charger;
2. Clip the output crocodile clips at both ends of the battery, red positive and black negative
3. Insert the charger AC input line into the socket, and then turn on the socket switch
4. Select the mode and select the corresponding charging mode, such as "Car Mode" for car battery, "Motorcycle Mode" for motorcycle battery, "Start-Stop Mode" for starting and stopping power bottle, and then charge.
5. When the charger displays "FUL", it means that the charging mode has ended. Disconnect the AC input. After 10S, observe the battery capacity status (the panel circularly displays the voltage and the battery power). After confirming that it is full, take off the crocodile clip.

Repair

1. Clip the output crocodile clips at both ends of the battery, red positive and black negative
2. Insert the charger AC input line into the socket, and then turn on the socket switch
3. Press the key to switch to repair mode, and then repair it
4. It is recommended to repair motorcycle batteries for about 5 hours and automobile batteries for about 8 hours! The charger is repaired by default for about 20 hours at a time, and the arrival time will show "FUL" to indicate that the repair mode has ended! Pay attention to the battery temperature when repairing, and stop repairing if the battery overheats!
- 5 After the repair, disconnect the AC input at this time, and switch the mode key to enter the charging mode at this time to see if it can be charged normally. If it can't be charged after 1-2 cycles of repair, please replace the battery.

Product Functions

- (1) Output short circuit and anti-reverse connection: the product has the prompt of output short circuit and reverse connection battery (reverse connection 1-2S detection, when reverse connection or short circuit is detected, the panel displays "ERO", and the product will not be damaged due to reverse connection or short circuit during detection), and when reverse connection is processed by microprocessor program, there will be no reverse connection spark phenomenon;
- (2) Battery power detection: No AC input voltage is connected, the battery is clamped at both ends of the positive and negative poles of the battery (red, positive, black and negative), which can display the current and voltage parameters of the battery (panel display data: voltage and ambient temperature cycle display, electric grid display in percentage form according to the detected data, self-check waiting for the first power-on for 6S, only display temperature before 6S, and display temperature and voltage cycle display after 6S arrival)
- (3) Over-temperature protection: The product has the function of over-temperature protection. If the product detects that the temperature is too high, it starts the over-temperature protection program automatically. When the temperature returns to the normal value, it resumes the initial charging state

(4) Overcharge protection: The product has overcharge protection function, which can avoid the battery life decline caused by overcharge and enhance the reliability of charging safety (the maximum charging time defaults to 15.5-16.0 H)

(5) Battery full charge grid: During the charging process of the product, the battery grid displays the charging progress and the current battery charge, which is displayed at 20%, 50%, 75% and 100%.

(6) LCD display status:

A: Full status: Display panel shows "FUL"

B: Clip disconnect mode: Display panel shows "OFF"

C: Failure mode: The display panel shows "ERO"






D: Charging status: The display panel displays voltage, current and temperature cyclically

E: Repair mode: "PUL" is displayed on the display panel, and the repair icon flashes



F: Repair End: The display panel shows that the "End" repair icon is always on

G: Detecting battery charge: The display panel displays the voltage cyclically, and the battery charge is displayed in percentage form

Product Mode Selection

1	 CAR	Standard STD lead-acid battery mode/START-STOP BATTERY MODE is suitable for ordinary lead-acid battery, maintenance-free battery,
2	 AGM	Start-off bottle charging mode/START-STOP BATTERY MODE is suitable for AGM/GEL/EFB battery
3	 MOTO	Motorcycle MOTO charging mode/MOTORCYCLE MODE is suitable for all kinds of motorcycles, all kinds of lead-acid small batteries,
4	 LiFePO4	LiFePO4 Batteries Mode
5	 REPAIR	REPAIR REPAIR MODE/REPAIR MODE is old, idle for a long time, and cannot be charged. You can choose REPAIR MODE to try to activate it

Winter-summer pattern

 Winter	This icon will be displayed below 10°C in winter mode
 Summer	This icon will be displayed above 28°C in summer mode

The charger automatically adjusts the suitable charging voltage according to the different detected ambient temperature

Note: "Winter and Summer Mode" will only be started in car mode, and other modes will not be started, so the temperature will be automatically detected without setting, and the icon will not be displayed in constant temperature mode, so there is a certain error in temperature detection, which will not affect normal charging.

Screen display commentary

<p>The diagram shows the LCD screen of a battery charger. The main display shows '13.8 V'. Below it, there are indicators for 'VOLTAGE 120v', 'CURRENT 80A', and 'REPAIR PUL&REPAIR'. To the right, there are indicators for 'NO LOAD OFF', 'FULL POWER DISPLAY FUL', and 'SHORT CIRCUIT REVERSE CONNECTION ERO'. The screen also shows 'BATTERY CHARGER' and '12V/24V Automatic Recognition'.</p>	<p>12V BATTERY 24V BATTERY WINTER MODE SUMMER MODE START AND STOP THE BATTERY CAR MODE REPAIR MODE MOTORCYCLE MODE LiFePO4 MODE</p>	<p>TEMPERATURE DISPLAY VOLTAGE DISPLAY CURRENT DISPLAY TOGGLE KEY POWER DISPLAY VOLTAGE CURRENT REPAIR NO LOAD FULL POWER DISPLAY SHORT CIRCUIT REVERSE CONNECTION</p>
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Product parameters

Item No.: TK-2500	Size: 216*192*125mm
Output voltage: DC 13.8-29.6 V	Input voltage: AC-100 ~ 240V/50/60HZ
Output current: DC12V25A & 24V15A	
Scope of application: 12V/24V2AH-400AH lead-acid LiFePO4 batteries	
* There will be some errors when the above parameters are measured manually, and the actual products shall prevail	

Troubleshooting

(1) The LCD display "ERO" is checked as follows:

A: Check whether there is reverse connection between the output line and the positive and negative electrodes of the battery. If reverse connection occurs, it will be red, positive and black.

B: Check whether the output lines are short-circuited together. If short-circuited, please disconnect

C: A and B have ruled out checking whether the battery is normal. If the battery is normal or this kind of phenomenon occurs, please connect with the after-sales service and do not disassemble the product without permission.

(2) The whole display panel flashes. Check as follows:

A: Check whether the battery voltage is lower than 6V. If it is lower than 6V, it is recommended to use repair mode to repair it for a period of time and then charge it when the battery voltage is stable at about 8V. If it cannot be solved, please replace the battery.

B: If the battery is absolutely normal, please contact the after-sales service. Do not disassemble the product without permission.

(3) Charger smoke, check as follows:

A: Check whether the charger is sandwiched with batteries above the charging range of the charger, such as batteries above 35V, if they are above 35V, the charger will be damaged.

B: Check whether the AC is plugged into the mains power of 100-240VAC. If it is lower than 100VAC or higher than 240VAC, it may cause damage to the charger.

C: If the above problems cannot be solved, please contact the after-sales service and do not disassemble the products without permission.

(4) The charger will be full as soon as it is charged. Check as follows:

A: Check whether the battery is normal. If the battery is vulcanized too seriously and the charge cannot be charged, it will cause misjudgment of the charger. It is recommended to repair it after several processes.

B: Check whether the output clip is in good contact. If there is vulcanized substance on the battery electrode sheet, please clean it and charge it again.

C: If the above problems cannot be solved, please contact the after-sales service and do not disassemble the products without permission.



Safety precautions

1. It is strictly forbidden to charge scrapped, non-voltage batteries! Do not charge non-rechargeable batteries! Do not approach open flames when charging! It is strictly forbidden to disassemble without permission when there is high pressure in the machine
2. Before charging, observe whether the battery is damaged and whether there are abnormal phenomena such as liquid overflow around the battery. If there are abnormal phenomena, please charge carefully;
3. To charge the vehicle or equipment, please remove the battery and charge it in a safe space without flammable items around;
4. When charging, the surface of the battery should not be covered with objects. When charging the battery, it should be erected and placed directly, and it should not be skewed to avoid the surrounding high temperature and high humidity environment;
5. When the charging time exceeds 12 hours and is unattended, the power supply should be cut off. It is strictly forbidden to charge for a long time!
6. Used indoors, beware of rain. During charging, the charger is strictly prohibited from being covered and must be placed in a well-ventilated place. It is strictly forbidden to put it in the car or charge it. Beware of flames, sparks and explosive gases to avoid fire;

7. If the power cord is damaged, in order to avoid danger, it must be replaced by the manufacturer or its maintenance department or similar professionals;

8. Disconnect the power supply before connecting or disconnecting the battery charger with the battery.

Warm Tips

Please read it carefully. The above safety precautions. If the above matters are violated, the charger may be damaged or personal and property losses may be caused. If the product is damaged due to violation of the above matters, you will not enjoy the warranty service; The personal and property losses caused by it are at your own risk and must be known!

SMART BATTERY

CHARGER

Tips:

REMINDER:

Do not dispose this product as unsorted municipal waste. Collection of such waste segregated for special treatment is necessities