

MULTI-FUNCTION CHARGER

12V20A/24V10A

**7 - Stage Automatic Smart Battery Charger
For Lead-Acid, LiFePO4...**

(AGM, GEL, SLA, WET, DEEPCYCLE... BATTERIES)

TK-1200



USER MANUAL

**THIS MANUAL CONTAINS IMPORTANT SAFETY AND
OPERATING INSTRUCTIONS**

IMPORTANT SAFETY INSTRUCTIONS

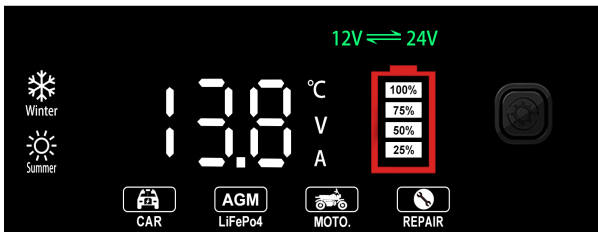
Please read this manual and follow the instructions carefully before using.

WARNING :

- The **TK-1200** charger is designed for **12V and 24V** Lead-Acid, LiFePO4 batteries with capacity from 2AH-300AH(12V),2AH-150AH(24V).
- Check battery manufacturer specifications before using.
- Explosive gases may emitting from battery during charging. Provide ventilation to prevent flames and sparks.
- Do not expose charger to the sun, or under high temperature environment.
- Battery acid is corrosive. Rinse immediately with water if acid comes into contact with skin or eyes.
- Do not charge a frozen or damaged battery. ◦ Do not charge non-rechargeable batteries.
- Do not place the charger on the battery while charging.
- Be extra cautious to reduce risk of dropping a metal tool onto battery. It might spark or short-circuit battery or other electrical part that may cause explosion.
- When working with a lead-acid battery, remove personal metal items such as rings, bracelets, necklaces, watch...
- Do not smoke or allow a spark or flame while charging.
- In order to reduce risk of electric shock, unplug charger from AC outlet before doing any maintenance or cleaning.
- Not for use by children or by anyone who is unable to follow instructions of this manual, unless they are supervised by an adult to ensure the proper use of charger.









MAINFEATURES:

- High efficiency (>85%).
- AGM,Car, Motorcycle , LiFePO4 Battery type can selectable
- The 7-stage microprocessor controlled charging process provides the best possible application and enables efficient battery charging.
- Charging voltage adapts to temperature, that can prevent over- or under-charging of battery.
- Capable of recharging severely discharged or heavily sulfated battery.
- Reverse polarity protection, short circuit protection, over-charge protections, parks free contact.
- LCD display: voltage, current, temperature etc.
- Ease of use. Clear charging status display.
- Full microprocessor controlled.
- Do not over-charge your battery even it is kept connecting in any mode.

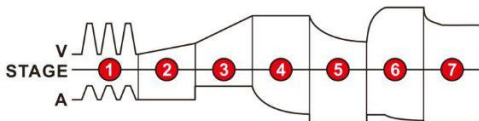


LCD DISPLAY:

22.0 ^{°C}	Charger Inside Temperature
12.0 ^V	Charge Voltage
10.0 ^A	Charge Current
PUL Rep. & ⌚	Repair Mode
OFF	Standby
FUL	Battery Full
DES	Desulphation Mode Only for AGM and Car mode
TEST	Test Mode An automatic battery test is conducted immediately after the absorption stage, it monitors the voltage for 10 minutes to determine if the battery is full or not
LOW	Low Voltage Battery voltage is too low or battery can't save the power

	<p>End of Repair Function</p>
<p>Win.</p> 	<p>Winter Mode When the temperature is below +10°C, Raise the charge voltage Only for Car mode</p>
<p>Sum.</p> 	<p>Summer Mode When the temperature is above +28°C, Reduce the charge voltage Only for Car mode</p>
 <p>Flt.</p> 	<p>Wrong polarity, please change the connection of the clamps</p>
	<p>Defect battery, please let the battery be checked by a mechanic and if necessary change the battery</p>
	<p>Bad connection, please check the connection between the charger and the battery</p>
<p>12V 24V</p>  	<p>12V Battery or 24V Battery</p>
	<p>Battery Capacity</p>

7-STAGECHARGINGPROCESS








- 1-stage: Battery desulphation
- 2-stage: Soft start charging
- 3-stage: Bulk charging
- 4-stage: Absorption charging
- 5-stage: Battery test
- 6-stage: Recondition charging
- 7-stage: Float & maintenance charging

CHARGERMODES:

The TK-1200 has seven (9) modes: 12V AGM, 24V AGM, 12V Car, 24V Car, 12V Motorcycle, 24V Motorcycle, 12V LiFePO4, 24V LiFePO4, REPAIR.

It is important to understand the differences and purpose of each charge mode. Do not operate the charger until you confirm the appropriate charge mode for your battery. Below is a brief description:

 CAR	CAR Batteries Mode For GEL, SLA, WET, DEEP CYCLE, EFB, Calcium Batteries
 MOTO	Motorcycle Batteries Mode For Motorcycle Batteries
 AGM LiFePO4	AGM or LiFePO4 Batteries Mode For AGM or LiFePO4 Batteries
 REPAIR	Repair Mode (16 hours) An advanced battery recovery mode for repairing and storing, old, idle, damaged, stratified or sulfated. Not all batteries can be recovered, only can use on Motorcycle and Car batteries
 MODE	Charge mode select button Be sure to select the mode before connecting the battery, otherwise the mode button will be locked

BEGINCHARGING:

- 1.) **Verify the voltage and chemistry of the battery.**
- 2.) Confirm that you have connected the AC power plug is plugged into an electrical outlet.
- 3.) Press the mode button to toggle to the appropriate charge mode.
- 4.) Confirm that you have connected the battery clamps or eyelet terminal

connectors properly

5.) The mode LED will illuminate the selected charge mode and the Charge Icon will illuminate (depending on the health of the battery) indicating the charging process has started.

6.) The charger can now be left connected to the battery at all times to provide maintenance charging.

Auto-Memory: The charger has built in auto-memory and will return to the last charge mode when connected.

TECHNICAL SPECIFICATIONS:

Model	TK-1200
Type	Smart & Automatic
AC Input	100 - 240V 50/60Hz
Output Voltage	12V / 24V Auto
Output Current	12V20A&24V10A
Output Volt under No Load	29.6V
Minimum Start Volt	>7.0V
Input Power With Load	MAX.280W
Input Power under No Load	3W
Cooling	Fan
Approval	CE / FCC / RoHS