A. Overview:

The technology of switching power supply without power frequency transformer is adopted, so it has AC and DC compatible input function and wide input voltage range; Using advanced switching power supply control technology and components, as well as careful design, the whole machine is small in size, light in weight and high in efficiency, ensuring the long-term stable and reliable load operation of the machine.

B. Product Features:

1) Up to 91% work efficiency
2) Strong protection function
3) Working temperature scope of wide temperature range
4) 100% full loading aging test
5) Quake proof degree of automotive grade

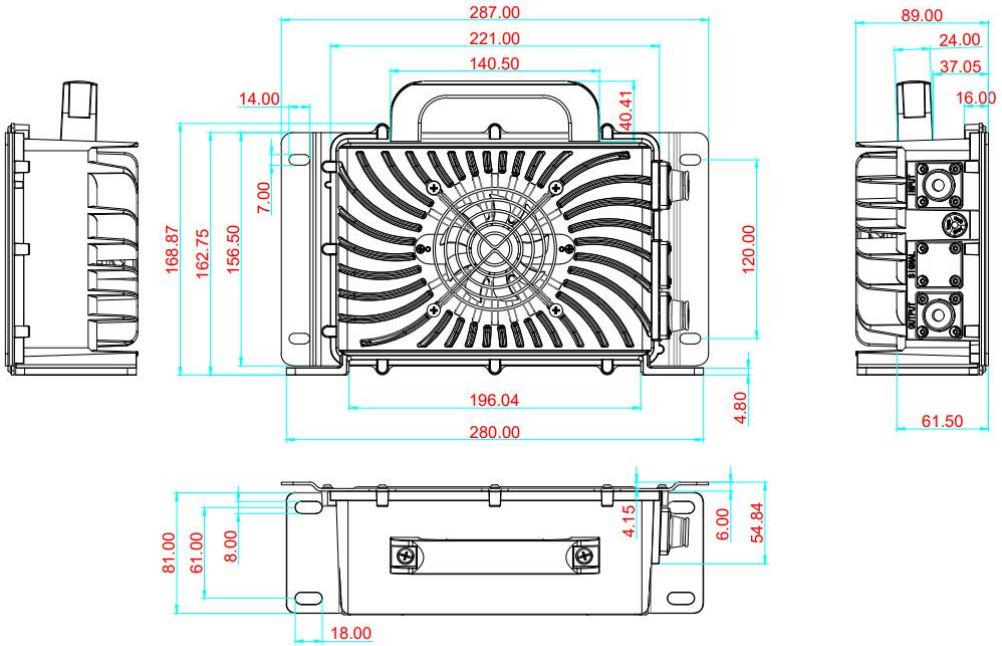
C. Protection Functions:

1) Output over voltage protection
2) Output over current protection
3) Output short-circuit protection
4) Output reverse protection
5) Charger over temperature protection

D. Attentions:

1) To ensure your local mains supply conforms to charger's input voltage 110V or 230V before use.
2) Make sure that the charger type matches the battery type before charging. Avoid charging the wrong type of battery. Please attention to DC terminal: **Brown (Red)→Positive + terminal, Blue (Black)→Negative - terminal.** Then connect the plug or the DC output cord to battery terminals.
3) Always place the charger in well-ventilated and dry environments. Do not cover it to avoid the case from being over heated while charging.
4) Dust-proof should also be taken into consideration to avoid influencing heat dissipation effect because of surface dust accumulation.
5) In view of safety and electromagnetic compatibility, the charger equipped with grounding wire by default.
6) Do not attempt to repair or service the charger yourself. Open the cover of charger casually may result in electric shock hazard or other damages. Take it to a qualified service person when service or repair is required.
7) Batteries produce hydrogen gas, which can explode if ignited, never smoke, use an open flame, or create sparks near the battery. Proper ventilation is required when charging.
8) As for the connection line of charger and battery, the maximum current drop of pressure should be low than 1% of current and voltage, otherwise may influence the charging effect, at the same time, the diameter of lead wire should satisfy the output current value.
9) Charger mounting plate should be fixed on horizontal level on the vehicle and keep heat radiator vertical, there should be left more than 10 cm space between radiator and around side to ensure good heat radiation status.
10) If the battery is found to be abnormal or damaged during working process, please drop the power adapter and connector immediately.
11) In order to avoid charger wiring harness damage, please do not put the matters onto charger wiring harness or the places easy to be stamped, if there is damage of wiring harness, please change immediately.

E. Product Size:



F. Indicator State:

🟢 Green light on------Standby (with output)

🔴 Red light on---------Charging

🟢 Green light on-------Fully charged

🟢/🟡 Green/Yellow light fast flashing------Abnormal

(Low battery voltage , Output short Circuit , Reverse Polarity)

G. Common Faults and Solutions:

1) **Error input voltage:** Check if the input voltage conformed to the requirement or not.
2) **Abnormal AC input:** Check whether there is AC voltage and whether the input plug is loose.
3) **Machine over heat:** Check that the fan is running. Also pay attention to ventilation at the working place of charger, covering anything on the charger is not allowed.
4) **Output short circuit:** Check the wire line of output terminal to exclude short-circuit.
5) **No battery or reverse connection:** Check the battery connection, connect the battery correctly.
6) **Battery voltage is too low:** Make battery voltage up to the starting voltage of charger.

H. Working Environment:

NO.	Item	Technical target
1	Working temperature	-10℃~+45℃
2	Storage temperature	-40℃~+70℃
3	Relative humidity	5%~95%
4	Heat dissipation method	Forced cooling

USER MANUAL

WATERPROOF BATTERY CHARGER

LITHIUM BATTERY CHARGER

Please read this manual carefully before use!

Subject to change without prior notice, please feel free to contact us for latest information