

LEXPOWER

Quick Charger for Lithium Battery Operator Manual

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Shanghai Hirano Environmental Technology Co.,Ltd



Safety Precautions




please observe

■ Safety precaution



The instructions of the following safety symbol are important.

Make sure to read and follow them carefully.

Failure to do so may lead to accidents, injury or death.







 DANGER	(DANGER) Indicates a hazardous situation that, if not avoided, will result in death or serious injury.
 WARNING	(WARNING) Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
 CAUTION	(CAUTION) Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury, or property damage.








■ Pictographs

 PROHIBITION	(PROHIBITION) Indicate prohibited acts and operations.
 INSTRUCTION	(INSTRUCTION) Indicate acts and operations you must follow.



WARNING

 PROHIBITION	<ul style="list-style-type: none">• Do not disassemble, modify or repair the charger. <p>Incorrect operation may lead to electric shock, fire accident, or others malfunction.</p>
 PROHIBITION	<ul style="list-style-type: none">• This charger is for indoor use only. Do not use in the outdoors, or places that are easily wettened by water or in environments where humidity exceeds 95%.
 PROHIBITION	<ul style="list-style-type: none">• Do not touch or operate the charger with wet hands, doing so may cause electric shock or fatal accident.
 PROHIBITION	<ul style="list-style-type: none">• Do not damage the input wire by extending, cutting, or forcibly pulling it. Also, do not place any objects on the input wire. It may cause a fire or an electric shock.
 PROHIBITION	<ul style="list-style-type: none">• Please do not unplug the power input plug while charging. Doing so may cause electric shocks or fire accident.
 PROHIBITION	<ul style="list-style-type: none">• Install the charger kept an enough distance from walls in accordance with the instructions in this manual. There are two air vents on the side of the charger, please make sure they are not be blocked. If they are blocked, it may cause charger overheat, or fire accident.

 PROHIBITION	<ul style="list-style-type: none"> • Do not place the container with liquid or small metal parts on the top of charger to prevent liquid or small metal parts from dropping into charger to avoid short circuit or fire accident.
 INSTRUCTION	<ul style="list-style-type: none"> • Please unplug the plug when in need to disconnect the charger. Otherwise, it may cause damage on output wire and electric leakage or fire accident.
 INSTRUCTION	<ul style="list-style-type: none"> • If power input/output wire are damaged (like showing internal line exposure or disconnection), please replace them immediately. Otherwise, it may cause fire or electric leakage
 PROHIBITION	<ul style="list-style-type: none"> • Do not remove the ventilation cover while charging. In addition, within 10 minutes after finished charging, please do not remove the air mask.
 INSTRUCTION	<ul style="list-style-type: none"> • Follow the instructions in this manual to charge the battery. Improper operation may cause fire, electric shock, accidents or damage and affect the service life. Otherwise, it may cause fire.
 INSTRUCTION	<ul style="list-style-type: none"> • If any abnormal condition is shown, like smoke, noise, smell arise in use, please press the stop button to stop charging immediately, and contact dealer.
 INSTRUCTION	<ul style="list-style-type: none"> • Keep away from flammable sprays and other combustible materials. There is a risk of fire.



WARNING



INSTRUCTION

- Connect the ground wire.



INSTRUCTION

- When checking and cleaning the ventilation cover, please turn off the air switch and unplug the power plug from the AC power socket. Otherwise, it may cause electric shock.



CAUTION



PROHIBITION

- This charger can be used only for lithium-ion battery on electric forklift only. Do not use the charger in other purpose.









PROHIBITION

- When finding any loose screws or damaged wires, stop using the charger and contact the dealer. It may cause damage on the charger due to poor contact.



PROHIBITION

- Prevent the charger from giving strong shocks like dropping it when carrying. Strong shocks may cause a malfunction.

 PROHIBITION	<ul style="list-style-type: none"> • Please use the specified power voltage when charging (refer to the nameplate). If the input power is undervoltage or over-voltage, it may cause overheat or failure of the charger.
 PROHIBITION	<ul style="list-style-type: none"> • Please do not place things on the power input cable. If the power input cable is damaged, it will cause fire and electric shock. Do not put things in the air vents or the bottom of the charger.
 INSTRUCTION	<ul style="list-style-type: none"> • When carrying and setting this product, please wear safety helmet and safety shoes.
 PROHIBITION	<ul style="list-style-type: none"> • Do not touch the metal terminal of the charging plug. Please do not touch the charging plug with wet hands. It may cause electric shock.
 INSTRUCTION	<ul style="list-style-type: none"> • If the charging plug is wet or dusty, please wipe it off with a dry cloth before connecting it. It may cause electric shock.
 PROHIBITION	<ul style="list-style-type: none"> • Please do not remove the upper cover. Ask the dealer for inspection and maintenance other than inspection and cleaning of ventilation openings. It may cause electric shock.

INSTRUCTIONS

1 . Foreword

➤ Outline

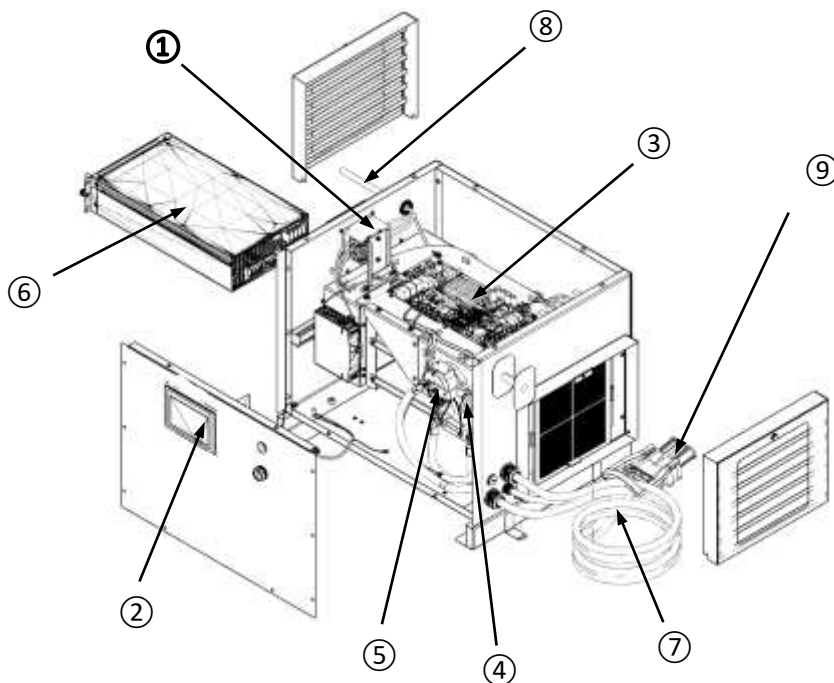
- This charger is an external charger for the lithium-ion battery for electric forklift truck.

➤ Characteristic

- Intelligent control
- Simplicity operation

2 . The name and functions of parts

➤ Charger



No.	Parts Name
①	Air switch
②	Touch Screen
③	PCB board
④	Fuse
⑤	Contactor
⑥	Power module
⑦	Power output cable
⑧	Power Input cable
⑨	Charging plug

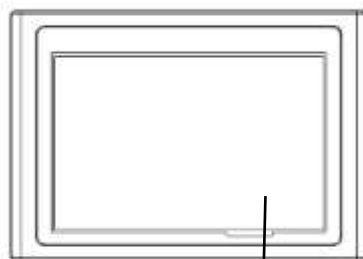
➤ Nameplate



CAUTION:

- Please use the specified power supply voltage.
- Overvoltage or undervoltage of input power may cause charger heating or parts failure (forbid operate the charger in this condition.)

➤ Charger controller interface



Indicator Light

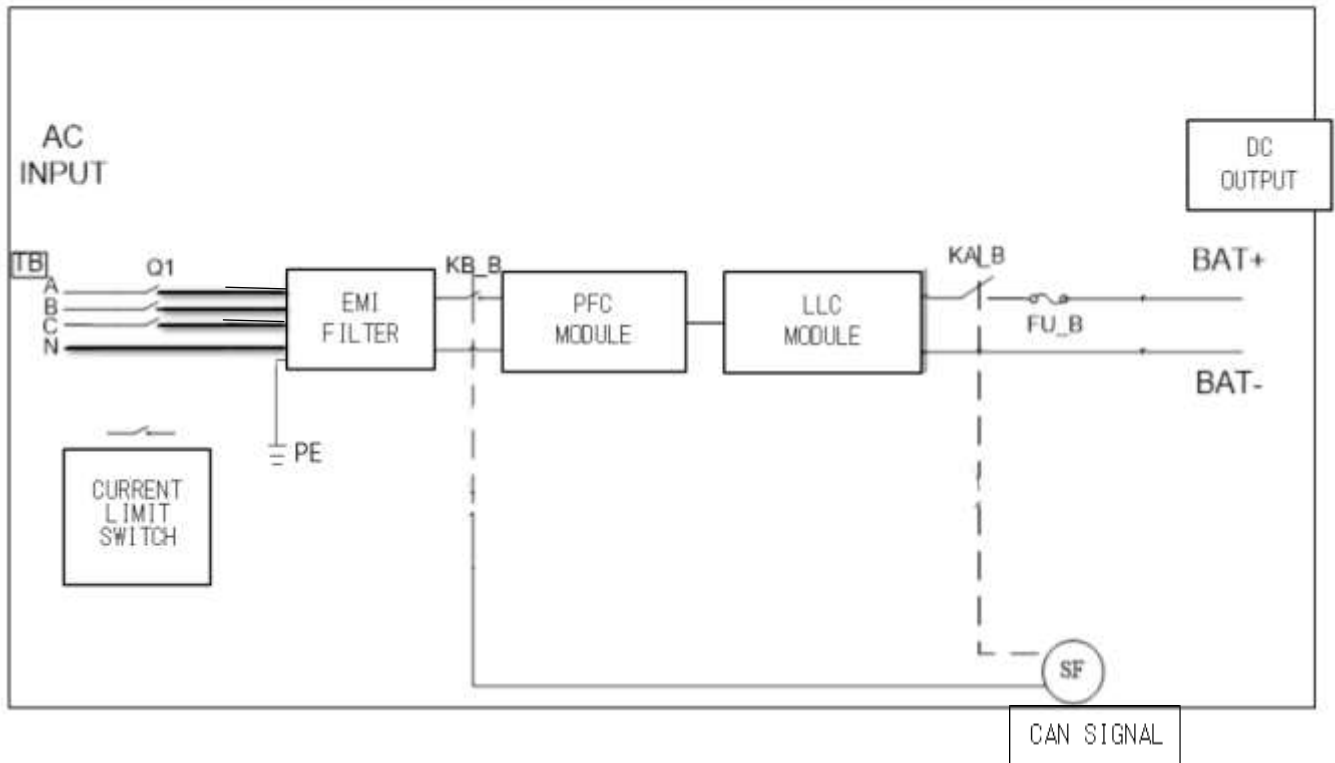


Stop Button

Touch screen

INSTRUCTIONS

➤ Wiring diagram



FU	Fuse	TB	terminal
Q1	Input circuit breaker	SF	Intelligent controller
KA	Output circuit breaker	CAN_H	CAN signal
KB	relay	CAN_L	CAN signal

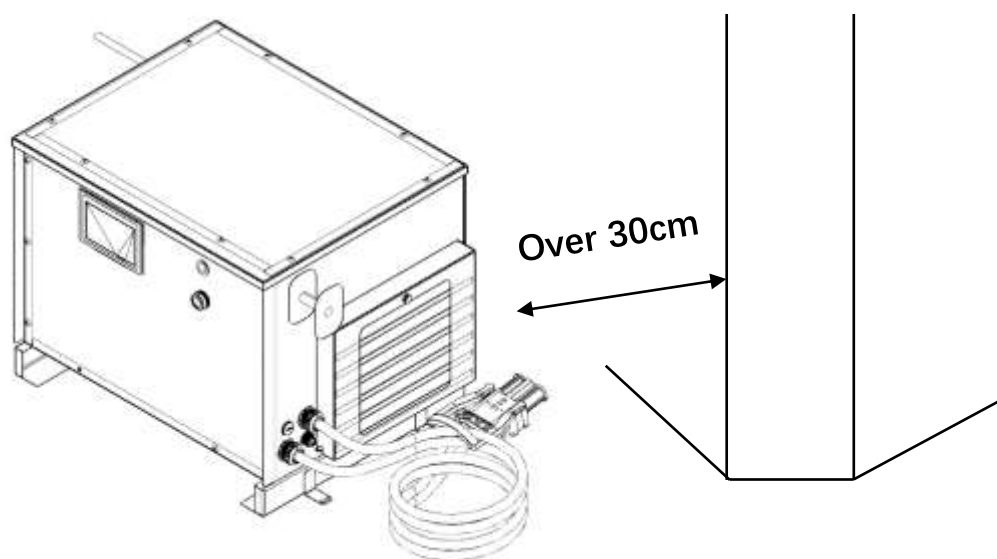
- Type of battery: Lithium-ion battery
- Battery voltage: 48V
- Mismatches in voltage and capacity can cause battery failures and shortened life.



3 . Method of operation

➤ Placement of charger

- Please place the charger indoor, with dry and well-ventilated places.
- When transporting the charger, it is necessary to firmly hold the bottom of the charger for handling.
- The air outlet of charger on the right side, hot air will be vent during charging, please set the charger kept over 30cm from walls or other.



➤ Operating environment

Storage temperature range	-40~70℃
Operating temperature range	0~45℃
Humidity range	0~95%
	No dew

➤ Wiring method of charger

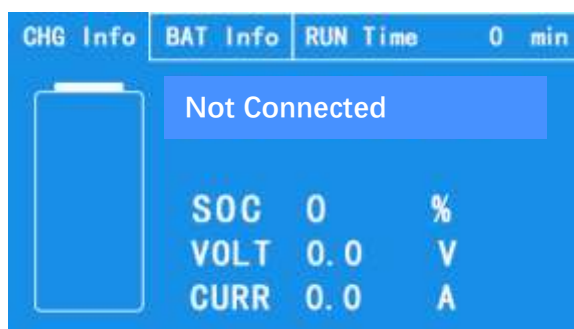
- The operation of wiring input wire must be carried out by professional wireman.
- The input wire is made by three live wire [L] and one ground wire [E].
- The black wire is live wire, the yellow-green wire is ground wire.
- **The ground wire must be connected, or else the operator may be an electric shock hazard.**
- **The rated input current is 19A, max input current is 25A, please check the factory wire whether it meets the demand. 【cable large than 4mm² or air switch bigger than 25A】**

➤ Operation method of charger

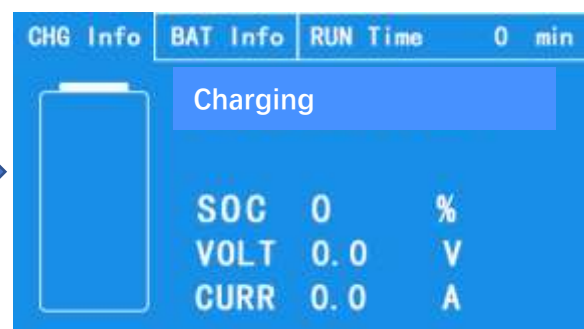
- Drive the forklift truck near the charger.
- Confirm the voltage and capacity of the battery match the charger.
- Connect the output plug of the charger to the battery, the battery in power-on status, plug the input plug of the charger, and open the air-switch.
- The charger automatically starts fast charging mode within 20 seconds.
- **When charging the battery, battery power must be turned on.**

➤ Start Charging

Connect the charging plug, and the charger will start charging automatically.



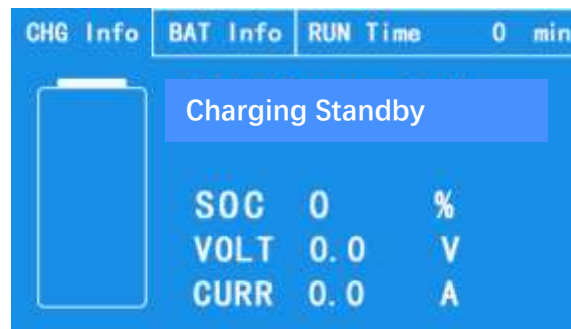
Indicator Light: Steady green light
Touch Screen: Not Connected



Indicator Light: Green light flashing
Touch Screen: Charging

➤ Stop charging

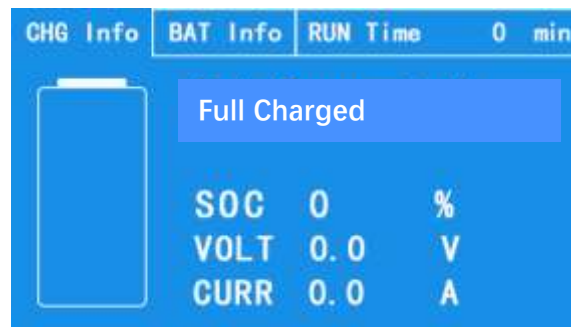
Press Stop button, the charger will stop charging within 20 seconds.



Indicator Light: Steady green light
Touch Screen: Charging Standby

➤ Charging completed

When SOC 100%, full charged, the charger will stop charging automatically.



Indicator Light: Steady green light
Touch Screen: Full Charged

4 . Trouble shooting methods

● Description:

The charger has fault protection function. If the system cannot be started normally or the fault occurs during the charging process, the touch screen will show the fault cause.

➤ Error information & handing method

No.	Error information	Cause the reason	Handing method
1	OVER VOLT AB/BC/CA	Input voltage>465V	Check input voltage, the charger will work normally after input voltage less than 465V
2	UNDER VOLT AB/BC/CA	Input voltage< 320V	Check input voltage, the charger will work normally after input voltage over than 320V
3	BAT REVERSED	Use lead-acid batteries to charging	Prohibited Actions
4	DC OVER CURR	The sampling port plug was loose in PCB board	Check PCB board
5	BAT OVER VOLT	Battery error	Check Battery voltage whether normal
6	BAT UNDER TEMP	Battery low temp	Using immediately
7	BAT OVER TEMP	Battery high temp	temporarily closed

8	CELL OVER VOLT	Abnormal battery	Stop using, contact the dealers
9	BAT ERROR	Abnormal battery	Check battery
10	ModuleA ERROR	Module breakdown	Replace Module
11	ModuleA OverTemp	Battery's temperature over 70°C	Stop charging
12	ModuleA OverIOUT	Module breakdown	Replace Module
13	ModuleA OverVOUT	Module breakdown	Replace Module
14	ModuleA FanERROR	Module breakdown	Replace Module

5. Regular inspection

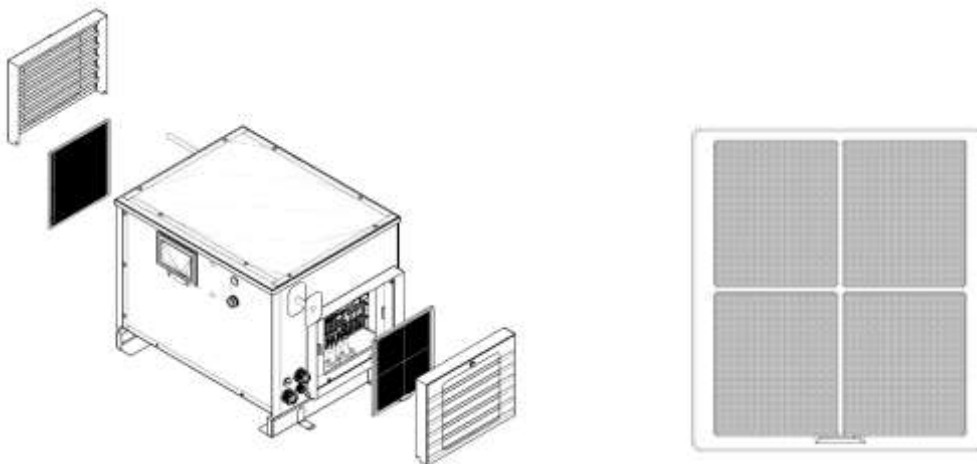
Regular inspection of the charger

- ① Check whether the touch screen is damaged.
- ② Check whether the plug is damaged, if so, it should be replaced immediately.
It may cause short circuit or electric shock.
- ③ Whether the input/output wire is damaged. If so, it should be replaced immediately.
- ④ Whether there is abnormal sound when the charger is working.
- ⑤ Whether the ventilation cover of the charger accumulates too much dust.
- ⑥ Check whether the two air vent on the side of the charger is kept over 30cm from the walls.

Maintenance method of the charger:

Clean the ventilation cover once every 3 months to prevent the ventilation cover from accumulating too much dust. It may affect the heat dissipation of the charger and may cause malfunction (overtemperature of charging module A/B).

*** If the battery is used in dust laden environment, clean the ventilation cover once in a month.**



Note:

Remove the ventilation cover and use air duster or wet cloth when cleaning it!

6.Warranty

1. This product is guaranteed a free maintenance for one year.
2. If there are any problems when using the charger, please check the instructions in this manual first. If there is still no solution, please contact dealer.
3. We shall not assume any warranty obligations if any of the following circumstances occur:
 - a) Product damage caused by violation of instructions in this manual.
 - b) Product damage due to unauthorized modification or repair.
 - c) Product damage due to abnormal external forces.
 - d) Product damage due to natural disaster or force majeure.
4. The liability of Shanghai Hirano Environmental Technology Co., Ltd is limited to the product itself. The joint and extended liability are not assumed.

Body Material	Iron
Operating Conditions	Indoor
operating environmental conditions	Temperature range: 0~45°C Humidity range: 0~95% (No dew-formation)
Dimension	652*450*454mm
Weight	58Kg
Type of cooling	Natural cooling
Waterproof and dustproof	IP21
Storage temperature	-40~70°C
AC INPUT	
Input voltage	340~420V
Input Current	19A (Max 25A)
Rate	12.6KVA
DC OUTPUT	
Output Voltage	40~60V
Output Current	200A (Max)
Rate	12KVA

➤ Note for obsolescence

The charger should be disposed as industrial waste. Ask the companies which have appropriate licenses to dispose it when discarding.



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