

HzWP LC600-A100-A

Wireless Charging System

(Non-waterproof)

Product Specifications

Component	
Transmitter(TX)Unit	HzWP LC600-A100-A-TXI
Receiver(RX)Unit	HzWP LC600-A100-A-RXI

Revision history

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Project	quality	market	Review	approve
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Client Signature

Project	quality	market	Review	approve

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- This specification is based on the Chinese version. In case of any discrepancies between different language versions, the Chinese shall prevail.
- This specification becomes effective upon product delivery by Shenzhen Hertz Innovations Technology Co., Ltd. (hereinafter referred to as "Hzi"). The version number and release date are located on page 2. This specifications is subject to change at any time without prior notice, and subsequent revisions shall supersede all previous versions.

Contents

1	Product Overview	02
1.1	Product introduction	02
1.2	Model description	02
2	Product structure description	02
2.1	Transmitter (Tx) Unit	03
2.2	Receiver (Rx) Unit	04
3	Technical data sheet	05
4	Installation instructions	07
4.1	Precautions before installation	07
4.2	Personnel qualification	08
4.2.1	Qualified personnel	08
4.2.2	Experienced personnel	08
4.2.3	Authorized personnel	08
4.3	Operator duties	09
4.4	Range of delivery	09
4.5	Symbols used on components	10
4.6	Safety Precautions	13
4.6.1	Strong Magnetic Field Region	13
4.6.2	Increased Temperature	14
4.7	Check the scope of delivery	16
4.8	Install the Transmitter unit	16
4.9	Connect the plug to an external power supply	17
4.10	Install the receiver	17
4.11	Connect the signal to an external device	18
4.12	Connect the plug to an external power supply	19
5	Instructions for use	20
Power-On steps		20
Power-Off steps		20
Automatic functions of the charging system		21
Transmitter Side Charging Logic Diagram		22
6	Fault analysis and troubleshooting	23
7	Precautions	24

1 Product overview

1.1 Product Introduction

- The HzWP LC600-A100-A wireless charging power by Hzl is a wireless charging power device based on magnetic coupling resonant technology, which can provide wireless charging for devices using lithium batteries and lithium iron phosphate batteries.
- Supporting charging power up to 6000W, this system replaces conventional contact-based charging with a contactless, wear-free, clean, safe, and high-power solution. It is ideally suited for smart autonomous forklifts, inspection robots, large AGVs/AMRs, and other mobile robots operating in diverse environments—including logistics, security, patrol operations, border defense, and industrial parks.

1.2 Model description

Model number	Instructions
HzWP LC600-A100-A	Receiver Unit Output Electrical Specifications: Maximum Output Power: 6000W Output Voltage Range: 60V DC Max Output Current Range: 100A Max

2 Product structure & dimensions

HzWP LC600-A100-A wireless charging system consists of two parts: Integrated Transmitter (Tx) Unit (a transmitter controller, a transmitter coil) ,Receiver (Rx) Unit(a receiver coil, and a receiver controller).

① Transmitter (Tx) Unit



② Receiver (Rx) Unit



Fig 1 – Product Picture

2.1 Transmitter unit

The main body of the Transmitter unit shell is made of aluminum plate material, the transmitter controller is connected to the 220V AC power supply, and the maximum external dimension is L*W*H=500*143.5*738mm.

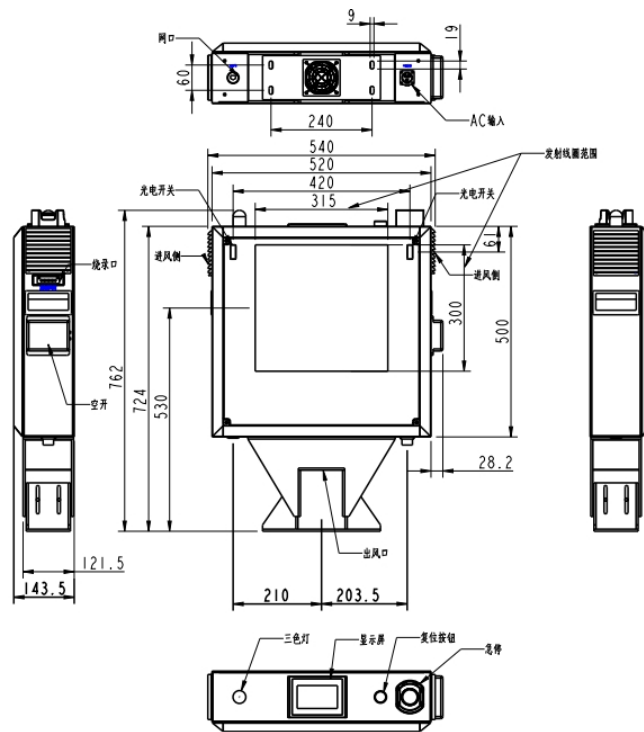


Fig 2 – Outline and size of transmitter unit (measurements in mm)

Transmitter unit Port Definitions:

No.	Port definition	Function Description
01	AC - L	DF Input Firewire #1
02	AC - N	AC Input neutral wire#2
03	PE	Grounding (main line)#3
04	RCCB/ELCB	Main power switch
05	LAN Port(RJ45)	Ethernet Port
06	Programming Port	485/CANProgramming Port



2.2 Receiver Unit

Integrated receiver controller and receiver coil design with a 2-wire output harness for device connection (Red: Positive, Black: Negative). Maximum dimensions: L*W*H = 302*270*72mm.

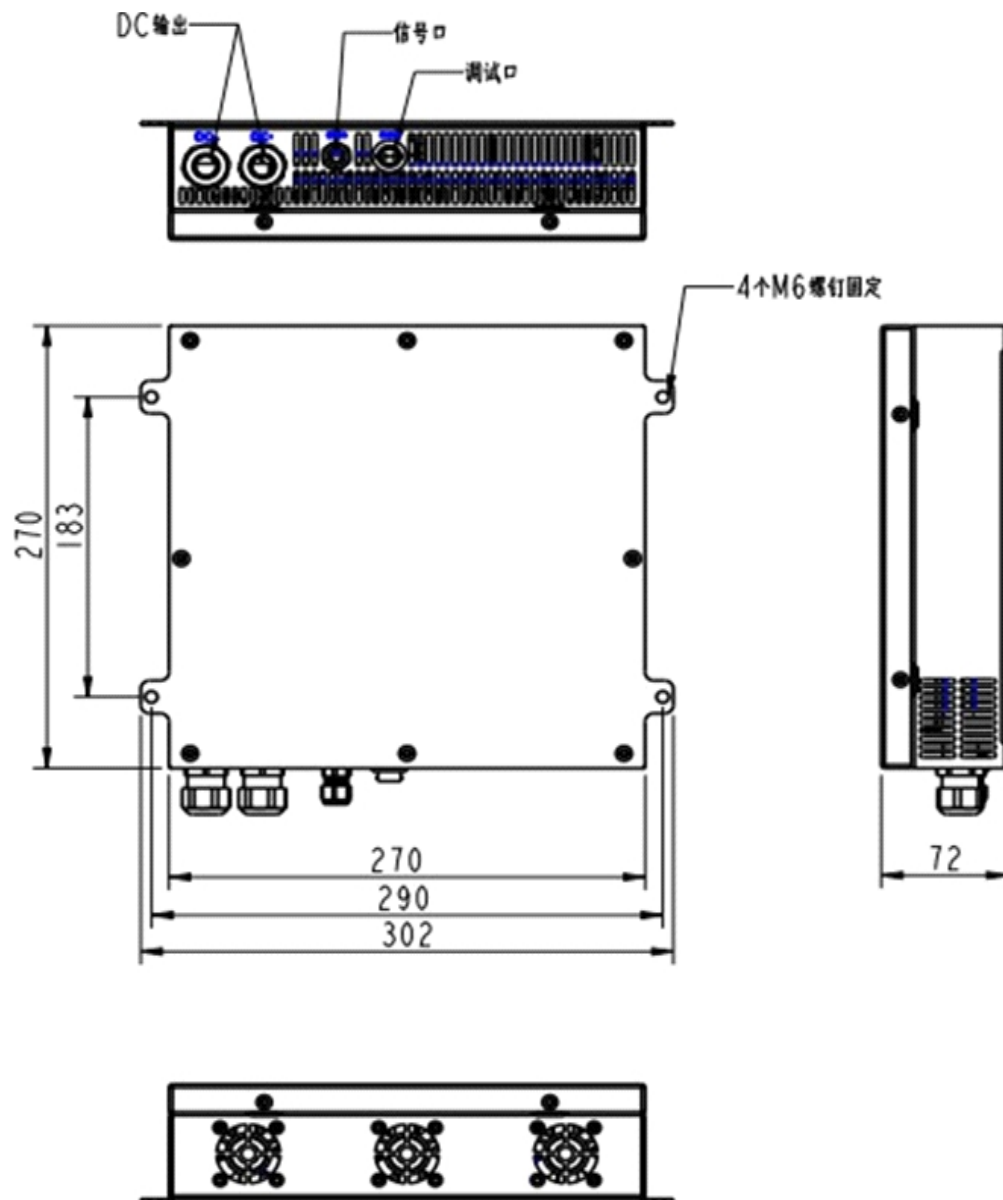
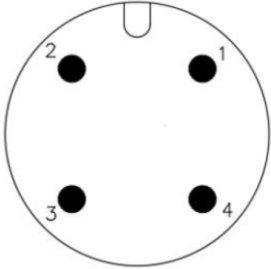


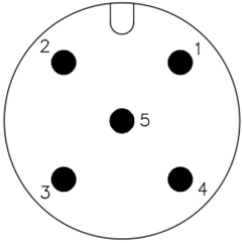
Fig 3. Outline and dimensions of the receiver unit

Receiver Unit Port Definitions:

Receiver Unit Programming Interface Definition

No.	Port definition	
01	3.3V	
02	DIO	
03	CLK	
04	GND	

Receiver Unit Communication Definition

Debug Port/COM.Port					
PIN	Signal	Description	Color		
1	485+	485_A	Brown		
2	485-	485_B	White		
3	CAN_GND	485&CAN Ground	Bule		
4	CAN_H	CAN_Hbusline(dominant High)	Black		
5	CAN_L	CAN_L busline (dominant Low)	Gray		

5Pin M12 Male Connector

3 Technical data sheet

SN	Description	Data
System Basic Requirements		
01	Output power	6000W Max
02	Transfer efficiency	≥85%
03	Wireless charging distance	20-40mm
04	Position tolerance	±30mm
05	Operating frequency	140kHz
06	Communication methods (Transmitter and Receiver)	2.4G
07	Communication Protocol	CAN / RS485
08	Magnetic insulation protection	Magnetic material + aluminum plate shielding
09	Charging method	Three-stage constant voltage and constant current charging
10	Startup method	Automatic detection and auto-start
11	Operating ambient temperature	-20°C~50°C / -4°F~122°F
12	Storage ambient temperature	-40°C~85°C / -40°F~185°F
13	Operating environment humidity	≤90%
14	Installation altitude	max. 2000m above sea level

Transmitter parameters

01	Input voltage	AC 220V ±10% 50/60Hz
02	Input current	32A Max (220V)
03	Transmitter unit size	L*W*H=500*143.5*762mm
04	Transmitter unit weight	Approx. 40 kg(to be weighed)
05	Transmitter unit housing material and IP rating	Al sheet, IP20 (RAL9003 white. sandblasted finish)
06	AC input cable length	Approx. 3m (bare wire, without terminals)
07	Transmitter coil housing material and IP grade	PC and Aluminum alloy, IP67 (potting) (white)
08	AC input connector model	LP-24-J03SX-03-435A LP-24-C03PE-01-035A

Receiver parameters

01	Output voltage	60VDC Max
02	Output current	100A Max (220V) 50A Max (110V)
03	Output voltage tolerance	±2%
04	Output current tolerance	±3%
05	Load type	Battery
06	Receiver unit size	L*W*H=302*270*72mm
07	Receiver unit weight	Approx.9kg
08	Receiver unit housing material and IP rating	PC and aluminum alloy, IP20 (RAL9003 white sandblasted finish)
09	DC output line length	Approx.1.5m(bare wire, no terminals) Model: American Standard 3135 soft silicone wire 4AWG

Other

01	Protection function	Over-temperature, over-current, under-voltage, over-voltage, short circuit, etc.
02	Voltage regulation function	Equipped with CAN or RS485 communication interface on the receiver end to acquire and regulate the output voltage.
03	IP address	Default IP address is 192.168.2.86.
04	photoelectric switch	Positioning sensor

Certification

01	Ivd	EN62477-1:2012+ A12:2021
02	SEMI	SEMI S22
03	RED	EN 300440:V2.2.1 (2018-05)
		EN 301 489-1:V2.2.3
		EN 301489-3:V2.3.2 (2023-01)
		EN IEC 61000-6-4:2019
		EN IEC 62311:2020
		EN 55011:2016 + A1:2017 + A11:2020 +A2:2021
		EN IEC 61000-3-2 : 2019+A1:2021+A2 : 2024
		EN IEC 61000-6-2:2019

4 Installation Instructions

4.1 Precautions before installation

Hzi recommends the standard vertical installation of the transfer unit (transmitter coil, receiver coil). To install the transfer unit horizontally, extra precautions need to be taken in the field. Due to the magnetic heating effect of magnetic fields on metals, magnetic materials, and living things, it is important to ensure that no metals, magnetic materials, or living things are attached to the surface of the coil when powered on to prevent potentially causing fire. The wireless charging system is designed for use in indoor conditions. If the on-site conditions are different, specific measures must be taken (e.g. : Mounting the Transmitter controller in an enclosure etc.).

You will need to follow these instructions:

Please strictly follow the precautions and operating procedures given in this instruction, and do not attempt any unauthorised actions that jeopardise your safety and the operability of the charging system.

When you observe all of the listed safety instructions.

When you use exclusively components of the specified Hzi charging system

Incorrect use

Failure to follow the safety instructions and assembly, maintenance and disposal information given in these instructions.

Using the product under conditions and prerequisites other than those the manufacturer has specified in its technical documentation, data sheets, operating and assembly instructions, and other specifications.

Using the product outdoors.

Connecting non-rechargeable batteries.

Connect to a non-intrinsically safe battery system.

Failing to implement on-site precautions against metal parts between the coils

Place objects between coils.

Use the product or its parts as a storage surface or access aid.

Modifications made to system components.

Using the product or parts thereof that are damaged or corroded. This applies also to the seals and connected cables.

This product is not designed for use in potentially explosive zones and therefore should not be used in these zones. This product is not designed to be explosion-proof.

Use this product in environments with an altitude of 2000 meters above.

Use the product with live parts exposed.

Using the product in a wall housing with inadequately sealed inlets and/or with damaged or inadequately tightened cable glands.

Failure to use the product in accordance with the safety precautions provided by the manufacturer.

Manipulate or bypass installed safety equipment.

Hzi is responsible for and guarantees that the equipment complies with its published specifications.

Using the product in any manner or for any purpose other than that described in these instructions will compromise the protection of the device, and all warranty claims become void

Electromagnetic compatibility

- This device is not designed for use in residential areas, where use may interfere with radio reception. This device belongs to... A Type of equipment. A This type of equipment is suitable for all environments, but does not include residential areas and other areas that are directly powered by low-voltage mains electricity and (also) power residential buildings.
- The wireless charging system has been tested for electromagnetic compatibility in free space. EMC The product underwent testing. Hertz Innovations recommends reassessing its electromagnetic compatibility based on the product's installation configuration.

4.2 Personnel Qualifications

- This instruction manual mentions the qualifications of personnel who may be assigned to perform a range of installation and maintenance tasks in several places. These three categories of personnel are:
 - 1. Qualified personnel 2. Experienced personnel 3. Authorized personnel.
- These products are not suitable for use by children or people with physical or mental disabilities, nor are they suitable for use by people without relevant experience or sufficient understanding of the products, unless supervised by authorized personnel responsible for the safety of these persons or given full guidance on how to use the device

4.2.1 Qualified personnel

- Qualified personnel are those who have received specialized training, possess professional knowledge and experience, understand relevant regulations, and are able to assess assigned tasks and identify potential hazards.

4.2.2 Experienced personnel

- Experienced personnel are those who have acquired sufficient professional knowledge and skills in the relevant field through specialized training, and are familiar with applicable national safety regulations for work safety, accident prevention regulations, guidelines, and approved technical standards.

4.2.3 Authorized Personnel

- Authorized personnel refers to individuals who are permitted by law to engage in relevant activities, or individuals approved by Hertz Innovation to perform specific tasks.
- member.
- Qualified personnel are those who have received specialized training, possess professional knowledge and experience, understand relevant regulations, and are able to assess assigned tasks and identify potential hazards.

4.3 Operator duties

- The system can reduce the risk of accidents when operators pay attention to the following points:
- Strictly abide by laws and regulations concerning accident prevention, workplace safety, and environmental protection.
- Monitor the cleanliness of the system, automated guided vehicles (AGVs), and charging locations.
- Operators must clearly define their responsibilities regarding the operating equipment. Regular training must be provided to operators. Operators must comply with applicable national safety laws regarding work safety. Therefore, operators must conduct risk assessments and develop written operating instructions based on these assessments. All work related to electrical supply, including maintenance, involves potential risks. Those unfamiliar with such equipment and installations may cause harm to themselves and others. Before commencing work, operators installing electrical equipment must be informed of the potential risks, necessary safety

4.4 Range of delivery

The delivery includes the following components: (a) Transmitter unit (TX) and (b) Receiver unit (RX) and (c) Transmitter unit (TX) Customer-customizable bracket.



Fig 4. Example of delivered products

4.5 Symbols used on components

- Hazardous areas on the charging system components are marked with warning symbols. These symbols indicate potential hazards and must be strictly observed. These symbols shall not be removed. If they become damaged or illegible, they must be replaced.

Fixed electronic equipment

**Warning**

Warning! High voltage!
To be opened by qualified personnel only

**Warning/Mandatory Requirements**

Disconnect the power plug before opening the device.
Dangerous voltage may persist for up to 120 seconds after disconnection from the power supply.

**Mandatory**

Read the operating instructions.

Transmitter unit / Receiver unit

**Ban**

No entry for persons with pacemakers, implantable defibrillators, or other metallic implants.

**Ban**

No entry for persons with metallic implants.

**Ban**

Never put your hands between the coils.

**Warning/Mandatory Requirements**

Warning! Dangerous voltage!
Disconnect the power plug before servicing the equipment. Dangerous voltage may persist for up to 120 seconds after disconnection from the power supply.

**Warning/Mandatory Requirements**

Risk of burns! Do not touch the housing before performing any maintenance work; allow it to cool down.

**Warning**

Warning: Non-ionizing electromagnetic radiation is present.

**Mandatory**

Read the operating instructions.

Fixed electronic equipment



Ban

Do not exceed the maximum load capacity!



Warning

Please keep this area free of metal/conductive objects.

Mobile electronic devices



Warning

Warning! High voltage!

To be opened by qualified personnel only.

Disconnect the power plug before opening the device.



Warning/Mandatory Requirements

Disconnect the power plug before opening the device.

Dangerous voltage may persist for up to 120 seconds after disconnection from the power supply.



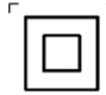
Warning/Mandatory Requirements

Risk of burns! Do not touch the housing before performing any maintenance work; allow it to cool down.



Mandatory

Read the operating instructions.



Protection level

Class II equipment conforming to IEC 60335-1 standard



Warning/Mandatory Requirements

Risk of cable burnout. Battery and coil cables must be tightened to the specified torque values.

4.6 Safety Precautions

- During installation, the transmitter unit and the receiver unit must be kept separate. The two sides can only be placed in their respective positions during final functional testing.

Warning!



Explosion and fire hazards

Connecting a non-intrinsically safe battery may cause an explosion or fire.

- Please use only rechargeable batteries.
- Please use only intrinsically safe batteries.
- Please comply with the safety instructions and specifications provided by the battery manufacturer.

Warning!



Explosion and fire hazards

Dangerous voltage exists between exposed live components. There is a risk of residual voltage between DC links.

- Before performing any operations, disconnect system components from the power supply and ensure that the power is not accidentally turned back on.
- Allow at least 2 minutes for discharge before operating the system..
- Verify that there is no voltage between any terminals (adhere to the Five Safety Rules)

Attention!



Risk of injury due to improper installation

Improper installation of system components may lead to dangerous situations.

- Please read the assembly and installation instructions in each part

4.6.1 Strong Magnetic Field Region

In the zone between the coupling surfaces of the transmitter unit and receiver unit, the magnetic field is considerably strong.

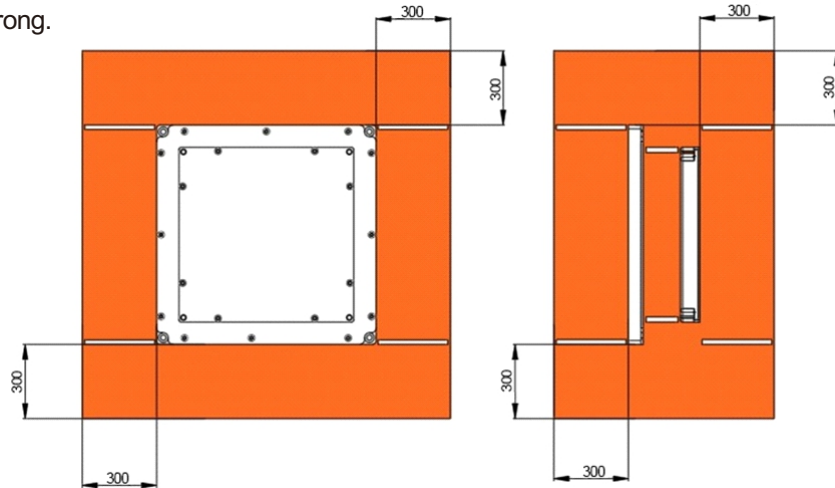


Fig 5 – Hazardous zone, side and front view (all measurements in mm)

Danger!



Disruptive effects on cardiac pacemakers

There may be disrupting effects on cardiac pacemakers. A malfunctioning cardiac pacemaker may prove life threatening to the bearer.

- Persons with pacemakers or active metallic implants are strictly prohibited from entering the danger zone (see Figure 5).

Attention!



Intensified magnetic fields

An intensified magnetic field can be harmful to living things.

- They should not stay within the marked zone shown in Figure 8 during charging process.

4.6.2 Increased Temperature

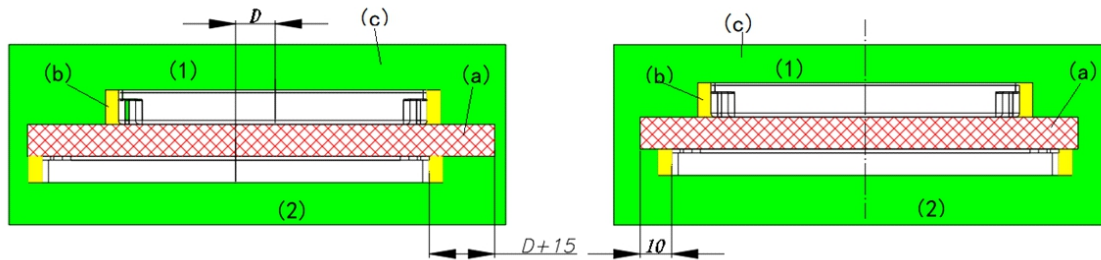


Fig 6 – Detailed hazard zone - with and without coil displacement(all measurements are in mm)

Receiver coil	(a) Hazardous zone → Do not place conductive objects
Transmitter coil	(b) Near the edge of the coil → Avoid conductive objects (especially steel)
	(c) No special requirements

Warning!



Fire hazards

Electrically conductive objects (e.g., steel, carbon fiber, etc.) may heat up when placed in an alternating magnetic field. Therefore, it is important to consider the following information to ensure the safe operation of the system:

- No conductive objects are allowed within the danger zone (a) during the charging process..
- The danger zone (a) is the zone between the coils.
- When the coils are not directly aligned vertically but are offset by a distance D , the danger zone (a) expands accordingly, as shown in Figure 6.
- Placing conductive objects, especially steel components, near the coil edge (b) must be avoided during charging. Such objects must maintain a minimum distance of 20 mm from the outer edge of the coil.
- There are no specific requirements regarding the placement of conductive objects within zone ©.
- If the use of conductive objects near the coils is unavoidable, appropriate equipment must be used to monitor their temperature to ensure safe operation.
- Keep the hazardous zone (a) clean and free of dust.

Attention!**Danger of burns**

The housings of the system components may be hot.

- Do not touch the housings and leave them to be cool before working on the system.

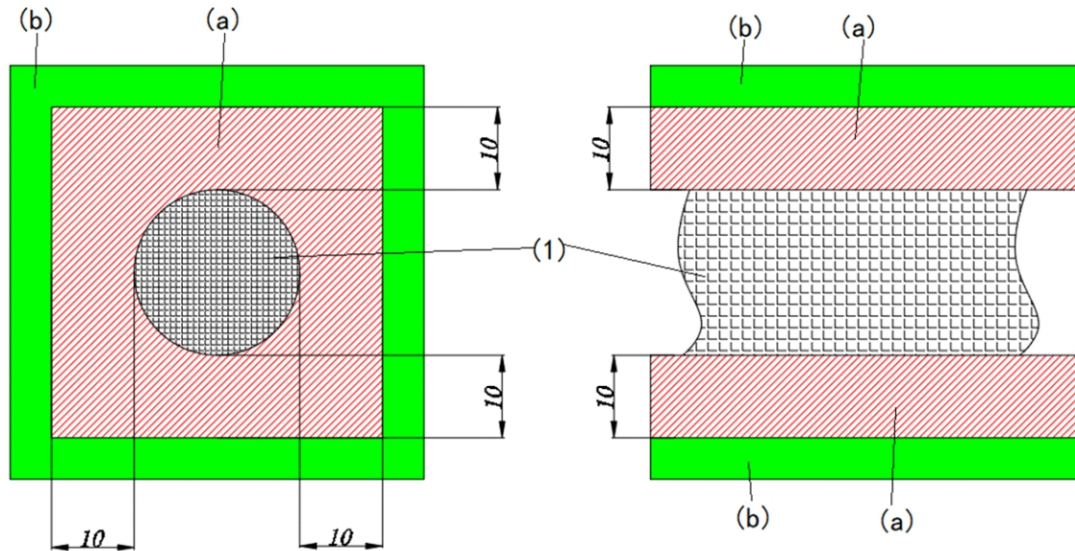
Connect cables

Fig 7 Receiver coil cable distance (measurements in mm)

Receiver coil cable (a) Hazardous zone → as far away from conductive objects as possible
(b) No special requirements

Attention!**Danger of burns**

Do not touch connecting cables, and leave all system components to be cool sufficiently before working on the system.

- The connection cable of the receiving coil must not be wrapped with thermal insulation materials, allowing the generated heat to dissipate into the surrounding environment.
- When installing the connection cable of the receiving coil, maintain a sufficient clearance distance from structural metallic components, particularly steel (see also Section 4.10).
- If maintaining the recommended clearance is unfeasible, the temperature of the affected vehicle components must be monitored to ensure it remains at a safe level.
- During commissioning, the temperature of the power transfer system must be checked using appropriate equipment to verify the safe operation of the installation.

4.7 Check the scope of delivery

According to the order, the system will be delivered in a pre-configured state. Please check whether the delivered items are intact and consistent with the order. If any shortages, defects, or errors are found, please notify Hzl immediately.

4.8 Transmitter Coil

Notes



It is recommended to place the transmitter housing in a location away from direct sunlight and heat sources to avoid exceeding the maximum ambient temperature (see LC600-A100-A datasheet).

This device has four holes for mounting it to the ground or a similar object. When installing, please consider the length of the coil cable. When mounting the transmitter unit, the connecting ends should face downwards.

- Prepare the pre-drilled holes and use appropriately sized mounting hardware.
- Mount the housing securely onto the wall.
- Verify that the installation is secure.

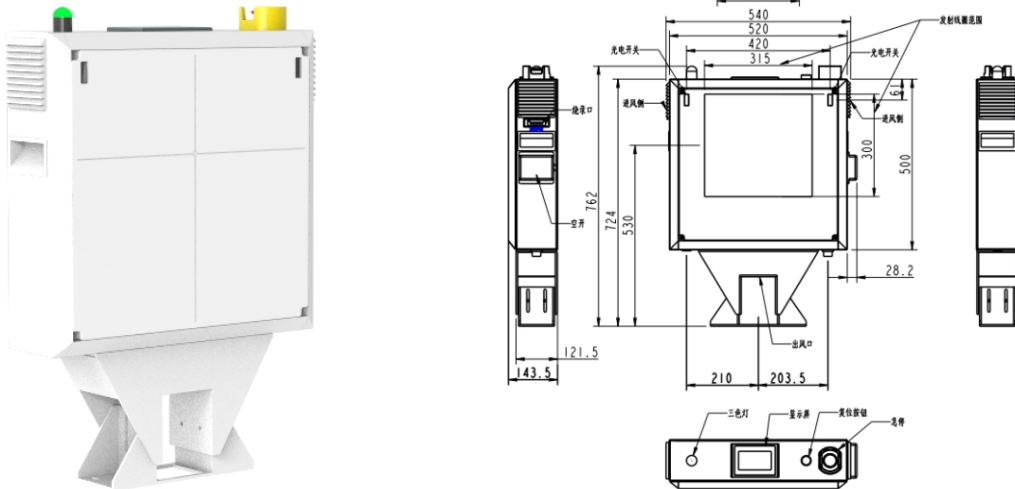


Fig 8. Installation of the transmission unit (dimensions in mm)

4.9 Connect the plug to an external power supply

Warning!



Danger of electric shock

- Installation should be carried out by qualified personnel only.
- The connections' potential lies on the battery's minus potential.
- Wait for at least 2 minutes of discharging time before working on the system.
- Follow applicable safety regulations.

4.10 Install the receiver unit

- When installing the receiver unit, ensure its connecting cables are easily accessible. Securely mount the receiver unit to the vehicle. The choice of fasteners, their tightness, and the tightening torque specification shall be determined by the vehicle manufacturer.
- Electronic components must be installed in a manner that prevents the accumulation of condensation at joints or vacant connectors. Consider the length of the receiver coil cable during installation. Ensure that the receiver unit is securely fixed to the vehicle structure.
- The potential between the main connector and the housing is isolated. The housings for CAN, external power, and digital I/O connections are also potential-free.
- When installing with active cooling units, ensure a clearance of at least 100 mm at both the front and rear of the heatsink..Hzl recommends maintaining sufficient airflow around the heatsink to ensure optimal performance across the full operating temperature range.

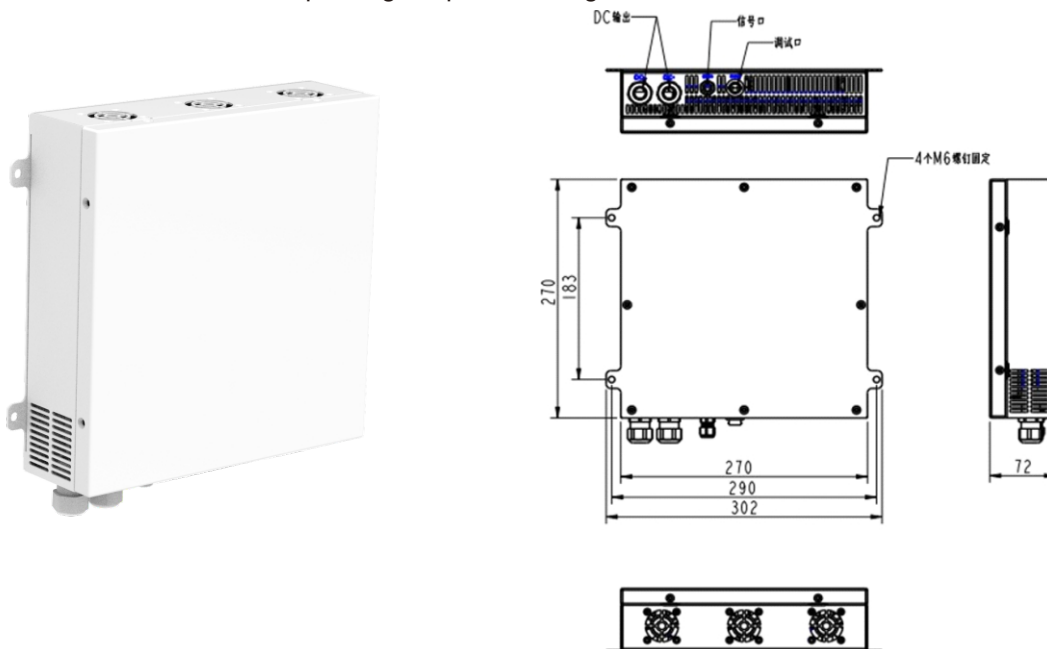


Fig 9. Installing electronic equipment (dimensions in mm)

4.11 Connect the signal to an external device

Warning!



Danger of electric shock

- Installation should be carried out by qualified personnel only.
- Wait for at least 2 minutes of discharging time before working on the system.

Warning!



Explosion and fire hazard

Connecting not intrinsically safe batteries may cause an explosion or fire

- Use rechargeable batteries only.
- Use intrinsically safe batteries only.

Warning!



Danger of fire

A misconnected battery and coil cable can cause a cable fire.

- Use the attached screws only.

Attention!



Danger of burns

The connecting cable for the receiver coil must not be wrapped in insulation so that the heat generated can be dissipated into the surroundings.

- When installing the connection cable for the receiver coil, keep a distance from the metal parts of the structure, especially steel.
- During commissioning, the temperature of the power transfer system must be checked with adequate equipment to verify the safe operation of the installation.

The vehicle's battery and receiver coil are connected to the terminals of the transmitter controller. When wiring, ensure that the casing is free from any dust or moisture. It is recommended to provide a pull-

4.14 Connect the plug to an external power supply

Warning!



Danger of electric shock

- Installation should be carried out by qualified personnel only.
- The connections' potential lies on the battery's minus potential.
- Wait for at least 2 minutes of discharging time before working on the system.
- Follow applicable safety regulations.

The external signal (CAN and 485) interface for this electronic device is a pin type 5-core M12 male connector from Phoenix Contact. The other is the debugging port, the 8-core M12 air socket (pass type), which can only be used for debugging or updating programs, do not use without authorization.

5 Instructions for use

Power-on steps:

Step 1: With the power off, install the transmitter and receiver respectively according to Figure 6. Connect the input terminal of the transmitter to a 220V AC power supply via a circuit breaker or a switched power strip (ensure the breaker or power strip remains in the OFF position).

Step 2: Connect the output cable of the receiver to the corresponding interface of the battery or load.

Step 3: Verify that the distance between the coupling surfaces of the transmitter and the receiver is within the specified charging range. Ensure the center point offset of the two surfaces does not exceed the allowable limit, and confirm that there are no metallic foreign objects between the coupling surfaces.

Step 4: Switch on the 220V AC power and turn the rocker switch to the ON position. The green LED on the transmitter will illuminate steadily, indicating the system is in Standby mode. The transmitter will periodically (approx. every 5 seconds) detect the receiver's feedback. Once the receiver is within the effective charging distance, the yellow LED will turn solid, the green LED will turn off, and the system enters the Ready-to-Charge state. Charging will initiate either after pressing and holding the Forced Charge button for 5 seconds or upon receiving a charge command from the vehicle-side BMS. When the output current reaches ($\geq 5A$), the yellow LED will flash, and the receiver's fan will start running.

Step 5: Upon full charge, the yellow LED will stay solid and the receiver's fan will stop.

Step 6: Once the receiver (typically mounted on the user equipment) departs, the transmitter returns to Standby mode with the green LED illuminated steadily.

Power-off steps

Disconnect the 220V AC input.

Note: After power-on, if the load is light load or no load, the Transmitter controller will be in standby state, and the wave detection interval is about 5 seconds, so the output voltage may be low during no-load, but as long as the load is within the effective charging distance, it can work normally.

Special attention: It is strictly forbidden to connect the positive and negative output cables in reverse, and it is strictly forbidden to plug and unplug the battery with electricity during the working process.

The automatic function of the charging system

When the receiver coil installed at the end of the car is close to the transmitter coil installed at a fixed position, and the two coils are kept at an adequate distance from each other, the data transfer interface integrated in the receiver coil will start the communication between the transmitter controller and the receiver controller.

The measured values and parameters regulating the charging process are exchanged and the system switches to the charging mode (Figure 10). Moving the coils against each other will interrupt communication, and the charging process will stop automatically.

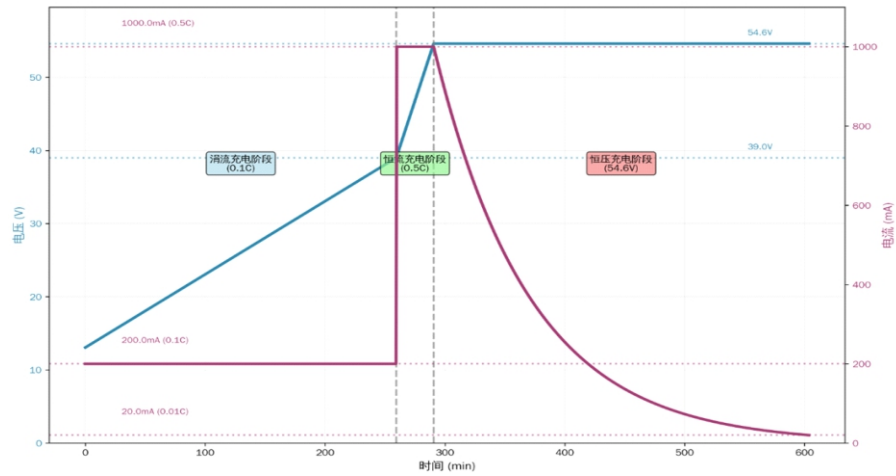


Fig 10. Example of a charging curve for the LC600-A100

Transmitter Charging Sequence Upon Vehicle/Equipment Positioning

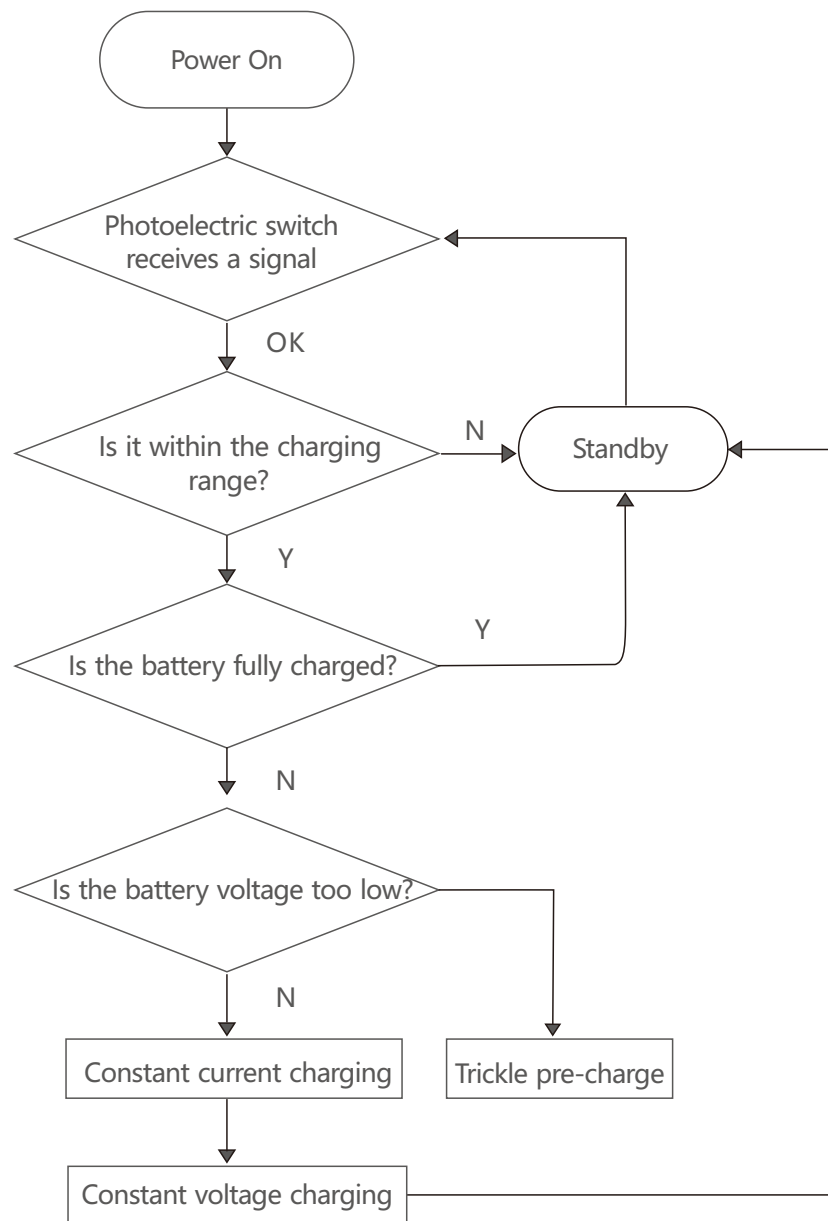


Fig 26.Charging control logic diagram

Indicator light description:

(1) **Red light:** Blinks when there is a fault, extinguishes after the fault is eliminated or restarted; For specific faults, check the CAN packets reported by the host computer or receiver.

(2) **Green light:** After the Transmitter is powered on, the indicator is steady on in the standby state and off in other states.

(3) **Yellow light:** When the communication between the Transmitter and the receiver is established, the indicator is steady on, indicating that the system is in the rechargeable state. The indicator blinks when the output current ($\geq 5A$) is generated at the receiver.

All lights blink 600ms(on 300ms off 300ms) at 900ms intervals.

6 Fault analysis and troubleshooting

SN	Fault manifestations	Fault cause analysis	Solution
1	When the product is connected, it does not work	1. a link of the product connection is wrong 2. The antenna is not connected	1. Check whether the wiring is wrong, whether the positive and negative are correct , whether the parameters correspond, and whether the coil coupling surface is normal. Whether the coil is inverted; 2. Check that the antenna is connected correctly
2	Yellow light is not on	Poor 2.4G communication between transmitter & receiver	1.Check that the antenna is not broken and the connector is properly installed; 2.Whether the coil distance is within the nominal range. 3.Leave the charging station and re-enter, then try to verify multi machine communication again.
3	No charging after aligning the charging position	1. no load 2. short circuit of load 3. No charging command has been issued	1. Check that the load battery is properly connected. 2. check whether the battery internal charging relay is open; 3. whether there is CAN communication instruction.
4	Indicator light is not on	There is a problem with the power supply or the Transmitter is damaged	1. The wiring of indicator board is loose or falls off; 2. Contact the original after-sales service for confirmation.

7 Precautions

In order to use the company's wireless charger safely and reliably, please be sure to pay attention to the following:

- The default input voltage of the charger is 220V, 50/60Hz, which is subject to the specifications. There may be static electricity generated when the machine is working, the transmitter controller must be reliably grounded, and note: do not expose to rain.
- The Transmitter coil must be connected to the Transmitter controller (or Transmitter pile) before the main power 220V can be connected. If the transmitter coil is not connected, the main power is turned on 220V. there is the possibility of damage to the internal circuit.
- Please confirm that the receiver coil is connected to the receiver controller before it can enter the range of the transmitter coil and work normally. If the receiver coil is not connected to the controller, it enters the magnetic field range of the transmitter coil, and the two sides of the coil will be coupled with high voltage, which is more dangerous.
- It is strictly forbidden to reverse the positive and negative lines of the receiver controller output, otherwise there is a great possibility of damage to the machine.
- Danger: There is danger of electric shock. Do not touch the uninsulated parts of the transmitter controller and receiver controller.
- The output parameters are subject to the specifications, if the customer changes the parameters of the load (battery) in the actual application, please modify the output voltage/output current parameters on the host computer according to the actual load parameters, if you do not know the modification, please consult the manufacturer.
- The charging distance of the charger (the distance between the two coils) has strict requirements, and if it is not within the specified range, it may lead to the failure to charge or the charging current is very small, please refer to the specification for details. If the nominal charging distance range is 20 - 45mm, the optimal charging distance is between 35 and 40mm, when the charging efficiency is the highest. When installing the coil, it is recommended to install it according to the optimal charging distance, of course, leaving a margin for deviations.
- When working, the current and voltage inside the Transmitter/receiver coil are relatively high, and it is high frequency. Its parameters have been strictly designed and tested. The cable is a multi-strand Leeds wire dedicated to high frequency, which is not a general cabel. If you need to change the length of the cable, please be sure to consult the manufacturer, and the manufacturer will determine whether it can be changed and how to change.
- The Transmitter/receiver coil has the characteristics of high frequency, high voltage and high current when working. Please be sure to keep the wire intact during installation and use. For the application environment with trampling or rolling, be sure to increase the corresponding protective measures.

- Since the magnetic field has a magnetic heating effect on metals, magnetic materials and living creatures, it must be ensured that no metal, magnetic materials and living creatures are attached to the surface of the coil when the power is working.
- Since the magnetic field has a magnetic heating effect on metals, magnetic materials and living creatures, it must be ensured that no metal, magnetic materials and living creatures are attached to the surface of the coil when the power is working.
- The protection level of the Transmitter controller (or Transmitter pile) is IP20, the protection level of the receiver controller is IP67, and the protection level of the coil is IP65. When used in an environment beyond its protection level, please add other protective measures.
- The burning port is special for the update program, please do not use it without authorization, otherwise the machine may be damaged.
- Do not disassemble/repair the machine without authorization. There are high-voltage capacitors and other devices in the internal circuit. There may still be high-voltage surplus electricity after Turning off the power for a period of time. If you need to repair the machine, please consult the manufacturer.
- When the power is on or just off, the surface temperature of the coil may be a little high (depending on the heat dissipation conditions), do not touch to prevent high temperature burns.
- When powered on, due to the phenomenon of ionizing radiation within the magnetic field range of the coil, the radiation area around the coil is safe for the human body to be exposed outside the range of 0.3 meters during operation, so please be sure to do isolation protective measures and warning signs when installing, to prevent non-professionals from entering the coil range within 0.3 meters.
- The machine is an industrial wireless charger, suitable for lithium batteries, other types of batteries may burst and cause personal injury and damage, only use the battery pack that contains the battery management system and all the necessary protection.

Important Safety Instructions

- (a) Save these instructions. This manual contains important safety and operating instructions
- (b) Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason it is of the utmost importance that each time before using your charger, you read and follow the instructions provided exactly
- (c) To reduce risk of battery explosion, follow these instructions and those marked on the battery
- (d) Never smoke or allow an open spark or flame in the vicinity of the battery or engine
- (e) Use charger for charging a lead-acid battery only. It is not intended to supply power to an extra-low-voltage electrical system or to charge dry-cell batteries. Charging dry-cell batteries may cause them to burst and cause injury to persons and damage to property
- (f) Never charge a frozen battery
- (g) If it is necessary to remove battery from vehicle to charge it, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off in order to prevent an arc
- (h) Study all battery manufacturer's specific precautions such as removing or not removing cell caps while charging and recommended rates of charge
- (i) For a charger having an output voltage selector switch, refer to the car owner's manual in order to determine the voltage of the battery and to make sure the output voltage is set at the correct voltage. If an output voltage selector switch is not provided, do not use the battery charger unless the battery voltage matches the output voltage rating of the charger.
- (j) Never place the charger directly above or below the battery being charged; gases or fluids from the battery will corrode and damage the charger. Locate the charger as far away from the battery as dc cables permit
- (k) Do not operate charger in a closed-in area or restrict ventilation in any way
- (l) Connect and disconnect dc output clips only after setting any charger switches to the off position and removing ac cord from the electric outlet. Never allow clips to touch each other
- (m) Follow these steps when battery is installed in vehicle. A spark near battery may cause a battery explosion. To reduce risk of a spark near battery:
 - (i) Position ac and dc cords to reduce risk of damage by hood, door, or moving engine part;
 - (ii) Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons;
 - (iii) Check polarity of battery posts. A positive (pos, p, +) battery post usually has a larger diameter than a negative (neg, n, -) post;
 - (iv) Determine which post of battery is grounded (connected) to the chassis. If negative post is grounded to chassis (as in most vehicles), see item (v). If positive post is grounded to the chassis, see item (vi);

- (v) For a negative-grounded vehicle, connect the positive (red) clip from battery charger to positive (pos, p, +) ungrounded post of battery. Connect the negative (black) clip to vehicle chassis or engine block away from battery. Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block;
- (vi) For a positive-grounded vehicle, connect the negative (black) clip from battery charger to negative (neg, n, -) ungrounded post of battery. Connect the positive (red) clip to vehicle chassis or engine block away from battery. Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block;
- (vii) Connect charger ac supply cord to electric outlet; and
- (viii) When disconnecting charger, turn switches to off, disconnect ac cord, remove clip from vehicle chassis, and then remove clip from battery terminal
- (i) Follow these steps when battery is outside vehicle. A spark near the battery may cause a battery explosion. To reduce risk of a spark near battery:
 - (i) Check polarity of battery posts. A positive (pos, p, +) battery post usually has a larger diameter than a negative (neg, n, -) post;
 - (ii) Attach at least a 60 cm 6-gauge (awg) insulated battery cable to a negative (neg, n, -) battery post
 - (iii) Connect the positive (red) charger clip to the positive (pos, p, +) post of battery;
 - (iv) Position yourself and the free end of cable as far away from battery as possible, then connect the negative (black) charger clip to free end of cable;
 - (v) Do not face battery when making final connection;
 - (vi) Connect charger ac supply cord to electrical outlet; and
 - (vii) When disconnecting charger, always do so in reverse sequence of connecting procedure and break first connection while standing as far away from battery as practical
- (j) When the instructions refer to adapters, the following statement shall be included: Use of an adapter is not allowed in Canada. If a grounding type receptacle is not available, do not use this appliance until the proper outlet is installed by a qualified electrician