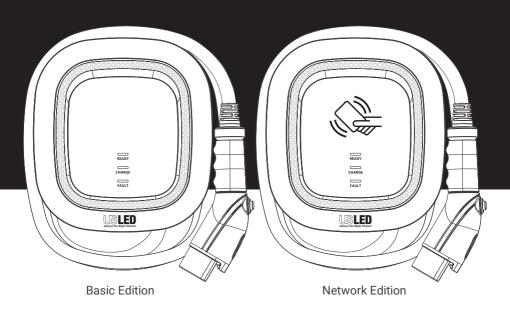


Electric Vehicle AC Charger

TurboEVC - User Manual









Management



Repairable



Outdoors



CONTENT

1. Important Safety Instructions	1
2. Basic Interface	
2.1 Basic Edition	3
2.2 Internet Edition	
3. Dimensions	5
3.1 Main Size of Charger	5
3.2 Wall-Mounted Bracket	5
4. Specification	6
5. Design Standard	
6. Status Description of the Charger Indication Light	
7. Installation Instructions	
7.1 Packing List	
7.2 Tools and Materials Required	
7.3 Wall-Mounted Bracket Installation Requirement	
7.4 AW Installation Requirements	
7.5 Installation Steps	
7.6 Wall-Mounted Bracket Installation	
8. Operating Instructions	
8.1 Operating Procedures	
8.2 Operating Steps – Basic Edition	
8.3 Operating Steps – Internet Edition	
8.4 Wi-Fi operation steps (for the optional Wi-Fi fu	
the Internet Edition)	
8.5 4G operation steps (for the optional 4G functi	
Internet Edition)	
8.6 Error and Warning Message	
9. Federal Communication Commission Interference S	
10. Industry Canada statement	
11. Maintenance and Repair	
11.1 Daily Maintenance	
11.2 Maintenance Spares	
11.3 Warranty and Maintenance	
11.4 Maintenance History	
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1. Important Safety Instructions

Please read these Important Safety Instructions and the charging instructions in your vehicle owner's manual before charging your electric vehicle. Failure to do so can result in death or serious injury. Save this user manual for future reference. There are many safety features built into the charger. Read all the safety information and warnings in this manual to be aware of any hazards and risks associated with using this charger.



Warning

When using electric products, basic precautions should always be followed. This manual contains important instructions, including the following, that must be followed during installation, operation and maintenance.

- Do not install or use the charger near flammable, explosive, corrosive, or combustible materials, chemicals, or vapors.
- Turn off the input power of the charger before maintaining the charger.
- The device is designed only for vehicles that are compatible with the SAE J1772 Level 2 charging standard.
- Do not use the charger if it is defective, appears cracked, frayed, broken or damaged.
- Do not attempt to open, disassemble, repair, tamper with, or modify the charger. Contact our Customer Service for any requirement of repair.
- Do not use the charger when you are, the vehicle is, or the charger is exposed to severe rain, snow, or other severe weather.
- When transporting the charger, handle with care and do not drag or step on the device.
- Do not touch the charging connector terminal with sharp metallic objects for preventing damage.
- Do not forcefully pull the charging cable, damage it with sharp objects, put fingers, or insert foreign objects into any part of the charging connector.
- Risk of explosion. This device has arcing or sparking parts that should not be exposed to flammable vapors.



 Risk of electric shock. Do not remove cover or attempt to open the enclosure of the device. No user serviceable parts inside. Refer servicing to qualified service personnel.

To reduce the risk of fire, connect only to a circuit provided with 40 amperes maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70, and the Canadian Electrical Code, Part I, C22.1.

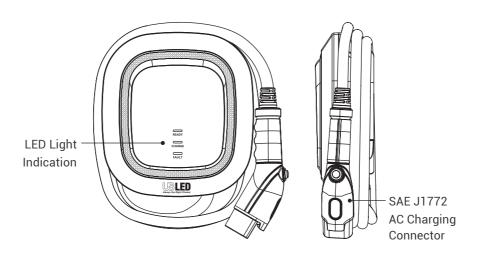


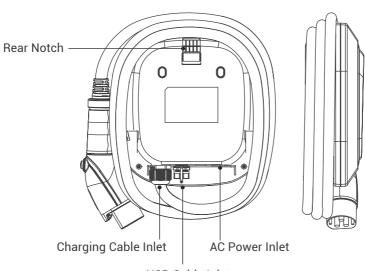
Warning

- To reduce the risk of serious injury or death and damage to the charge, this
 device should be installed, adjusted, and serviced by qualified electrical
 personnel familiar with the construction and operation of this type of
 charger and the danger involved. Failure to observe this precaution could
 result in death or severe injury.
- Incorrect installation and testing of the charger could potentially damage either the vehicle's battery and/or the device itself. Any resulting damage is excluded from the warranty for the device.
- Ensure that the charging cable is well positioned during charging so it will not be stepped on, tripped over, or subjected to damage or stress.
- Do not use this charger with a frayed charging cable that has damaged insulation or any other sign of damage.
- According to the local electrical requirements, confirm the wire diameter and wire type corresponding to the current rating and the temperature rating must meet the requirements.
- Before starting the installation, turn off all power.

2. Basic Interface

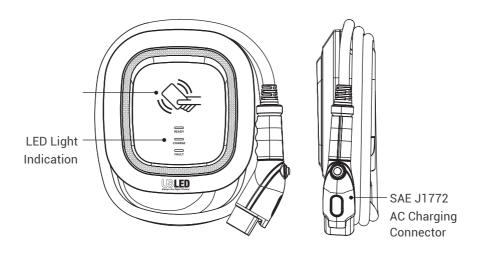
2.1 Basic Edition

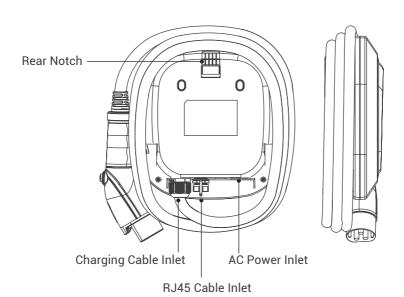




USB Cable Inlet

2.2 Network Edition

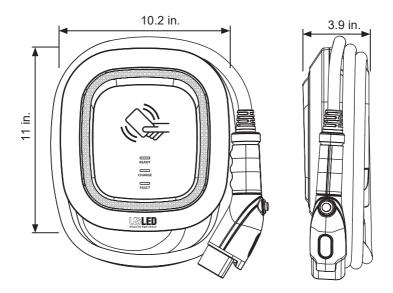




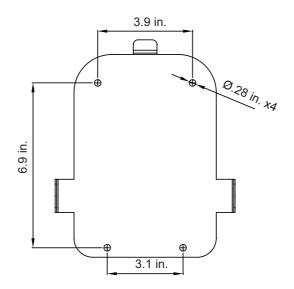
4

3. Dimensions

3.1 Main Size of Charger



3.2 Wall-Mounted Bracket



4. Specification

Model Name	TurboEVC		
Rated Input Voltage	200-240 VAC / Single Phase		
Rated Output Current	Single Phase / 32A		
AC Power Frequency	50/60 Hz		
Input Protection	UVP,OVP,RCD,SPD,Ground Fault Protection		
Output Protection	OCP,OTP,Control Pilot Fault Protection		
Output Interface	SAE J1772 AC Charging Connector		
Storage Temperature	-40°C to + 70°C		
Operation Temperature	-30°C to +50°C		
Relative Operation Humidity	95%RH Maximum		
Relative Storage Humidity	95%RH Maximum		
RFID Authorization	LAN Version or Wi-Fi Version or 4G Version		
RJ45 Cable Inlet*1	10M/100M Base-T		
Wi-Fi Function*2	802.11 b/g/n		
2G/3G/4G Function*3	LTE, UMTS/HSPA(+), GSM/GPRS/EDGE		
Cable Length	16 ft. (From charger's body to lower edge of charging connector)		
Protection Level	NEMA TYPE 3R		
Installation Type	Wall-Mounted		
Altitude	≤ 6562 ft.		
Weight	≤ 11 lbs.		
Dimensions	10.2 in. x 3.9 in. x 11 in.		
Status Indication	Red, Green, Blue LED		

^{*1} LAN Version or Wi-Fi Version or 4G Version

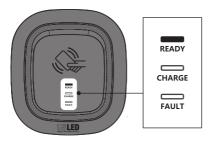
^{*2} Wi-Fi Version

^{*3 4}G Version

5. Design Standard

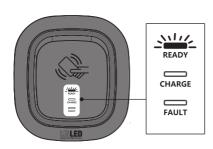
Safety standards
UL2594: Electric Vehicle Supply Equipment
UL 2231-1: Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: General Requirements
UL 2231-2: Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Particular Requirements for Protection Devices for Use in Charging Systems
UL 2251: Plugs, Receptacles and Couplers for Electric Vehicles
UL 62: Flexible Cords and Cables
UL 991: Tests for Safety-Related Controls Employing Solid-State Devices
UL 1998: Software in Programmable Components
NFPA 70 Article 625: National Electrical Code, Electric Vehicle Charging System
UL840 (Clearance and Creepage)

6. Status Description of the Charger Indication Light



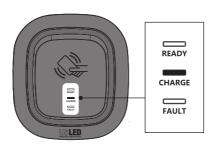
Standby - Green Light

The **READY** light stays steady in standby mode.



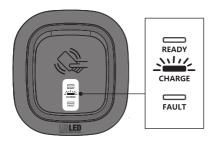
RFID Authorization (Internet Edition)- Green Light Flashing

Green light is flashing after the RFID is authorized.



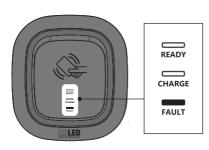
Waiting for Charging - Blue Light

After the vehicle connector is connected to the vehicle inlet, the **CHARGE** light is constantly lit.



Charging - Blue Light Flashing

The **CHARGE** light flashes while charging.



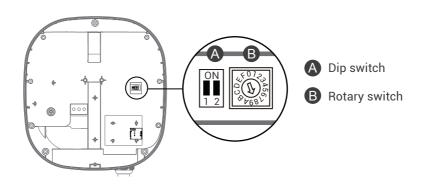
Fault - Red Light

The red light is lit while fault. Please refer to "8.4 Error and Warning Messages" for detailed information.

7. Installation Instructions

Safety Requirements

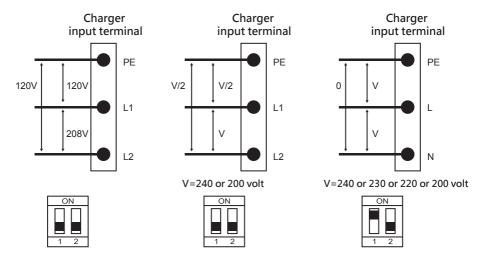
- Be sure to preview the user manual and ensure local building and electrical codes are reviewed before installing the AC charger.
- The AC charger should be installed by a qualified technician according to the user manual and local safety regulations.
- Use appropriate protection when connecting to the main power distribution cable.
- Type B, C or D breaker with the rating current 40Amp should be installed in the upstream AC distribution box.
- Disconnect switch for each ungrounded conductor of AC input shall be provided by others in accordance with the National Electric Code, ANSI/ NFPA 70.



Power Grid Connection and Grounding Type

- The AC charger supports different power grid connection and grounding type through setting dip switch. Setting methods are shown below.
- Before setting the dip switch, make sure the input power is turned OFF.
- Use a non-conductive object to set the dip switch.

	Switch 1 (Power Grid Type)	Switch 2 (Grounding System)		
ON	LN	IT		
OFF	LL	TT-TN		



- * Note 1: The default value in North America and Japan is (LL / TT-TN).
- * Note 2: The default value for other regions is (LN / TT-TN).
- * Note 3: If it is not the above standard grid type, please contact our technical staff for assistance and confirmation.

Maximum Output Current

The AC charger can support different maximum output current through setting rotary switch. Setting methods are shown below

- Before setting the rotary switch, make sure the input power is turned OFF.
- Use a non-conductive object to set the rotary switch.

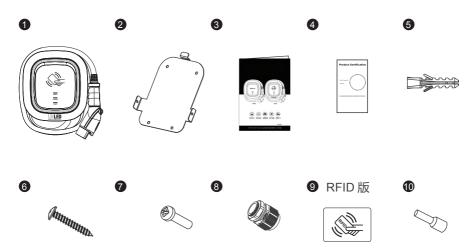


Switch Setting Number	0	1	2	3	4	5	6	7	8,9	А	B∼E	F
Maximum Output Current	Test Mode	6A	8A	10A	13A	16A	20A	25A	32A	30A	Invalid Setting	Slave Mode

^{*} Note 4: The default value for Japan is 30A.

^{*} Note 5: The default value in other countries is 32A.

7.1 Packing List



No.	Product Name	Quantity	Note
1	AC Charger (With Charging Cable)	1	
2	Wall-Mounted Bracket	1	
3	User Manual	1	
4	Product Certification	1	
5	Expansion Screw	4	
6	M6 Self-Tapping Screws	4	
7	M4 Screw	2	
8	M25 Cable Gland	1	
9	RFID Card (RFID Version Only)	2	
10	Needle Terminal	3	

7.2 Tools and Materials Required

Tools required before installing the Wall-Mounted charger, gather the following tools:

- · Wire stripper
- · Crimpers for European terminals
- Phillips screwdriver for M4 ~ M6
- Slotted screwdriver for 4~5.5MM
- Voltmeter or digital multimeter (for measuring AC voltage at the installation site)
- The inserting cable should meet the best waterproof performance. It is recommended to use 3 core / 8AWG or 10mm² cable (XLPE or equivalent cable) to pull the cable from the distribution box, the maximum outer diameter of the cable should be 13mm ~ 18mm.
- Level ruler
- · Pencil or marker
- Machine drill

7.3 Wall-Mounted Bracket Installation Requirements

Before installing the wall-mounted bracket, you should confirm that the loading capacity of the wall can reach a weight of 36 kg. When installing on a cement wall, you can use the included expansion screw to install the bracket and use a cement drill to drill holes on the cement wall (Ø8mm) with the hole spacing in accordance with 3.2 wall-mounted bracket.

When installing on a wooden wall, you can directly use the included M6 self-tapping screws to install the wall-mounted bracket, and you can use the back-mounted backplane to directly lock and install on the wall.

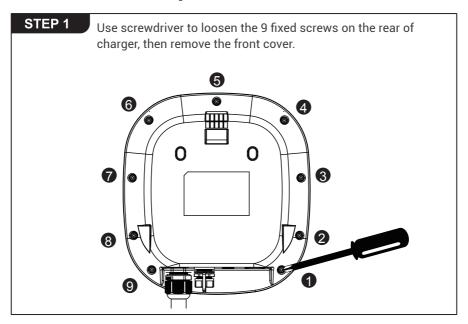
7.4 Installation Requirements

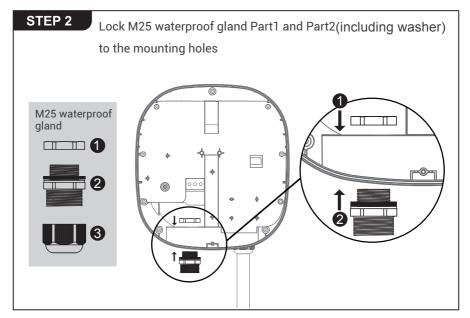
To select and locate the best position of the wall-mounted component, you need to determine the parking position of the vehicle first to ensure that the charging connector can be inserted into the vehicle charging inlet.

Wall-mounted components should be located:

- In a enclosed garage, it is usually on the side of vehicle charging inlet.
- In a well-ventilated area. Avoid installing in closed boxes or near the exothermic chargers.
- 1.2 meters or 4 feet above the floor.
- 250mm (10inches) from any obstacles to allow cables to loop around the wires and related maintenance.

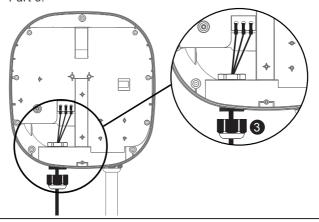
7.5 Installation Steps





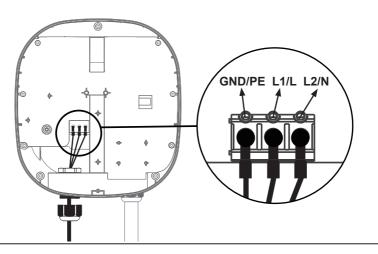
STEP 3

15~18mm of the insulation sheath should be stripped off the three AC wires. Take out the included needle terminal and install the needle terminal on the three GND/PE, L1/L, L2/N wires. Pass the three wires through the M25 waterproof gland Part 3.



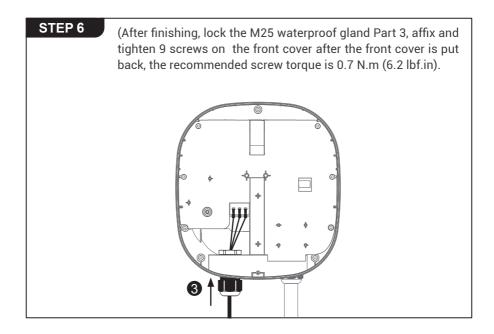
STEP 4

Insert the three wires into the wire holes of the green terminal block to the corresponding GND/PE, L1/L, L2/N and lock them. The recommended screw torque is 1.5 N.m (13.3 lbf.in).

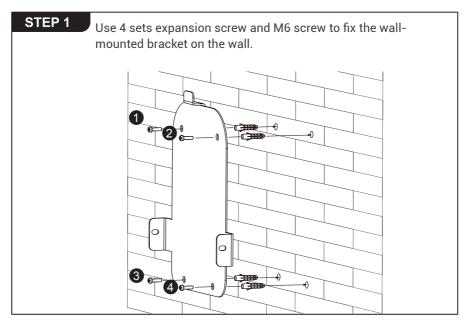


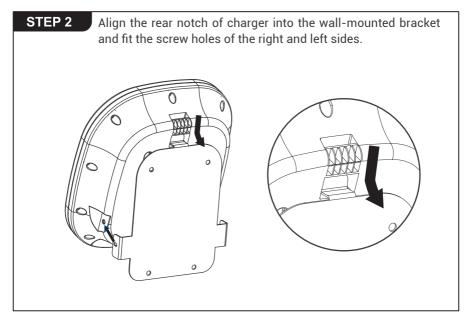


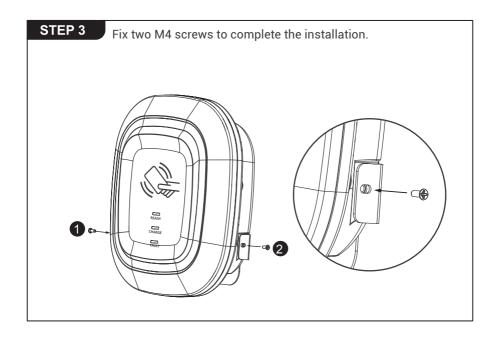
STEP 5 (For Network Edition model with 4G function) The SIM card slot is on the right side. Insert the SIM card according to the picture's instruction.



7.6 Wall-Mounted Bracket Installation

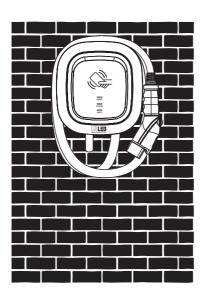






Overall outlook picture after installation:

· Wall-mounted cable winding



 Optional cable hanging (optional accessory)

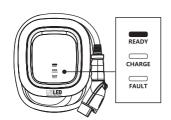


8. Operating Instructions

8.1 Operating Procedures

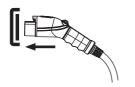
- User authorization (Only for Internet Edition)
- · Connect to Vehicle Charging Inlet
- · Charging Message
- · Charging completed

8.2 Operating Steps - Basic Edition



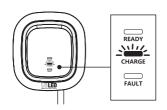
STEP1 / Standby Mode

After power-on, green(READY), blue(CHARGE) and red light (FAULT) all lit. Enter standby mode and the green light (READY) is steady on. The time from power on to the green light on is 7 seconds.



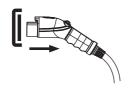
STEP2 / Connection to Vehicle Inlet

Plug the charging cable into the vehicle charging inlet. The blue light (CHARGE) is constantly lit.



STEP3 / Charging

The blue light (CHARGE) turns to flash automatically, charging is in process.

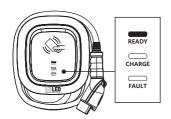


STEP4 / Charging Finished

When the charging is finished, the blue light (CHARGE) is constantly lit, press the button to stop charging.



8.3 Operating Steps – Internet Edition



STEP1 / Standby Mode

After power-on, green(READY), blue(CHARGE) and red light (FAULT) all lit. Enter standby mode and the green light (READY) is steady on. The time from power on to the green light on is 90 seconds.



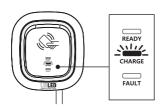
STEP2 / Tap the RFID Card

Please plug the charging connector into the vehicle charging inlet. If you tap the RFID card first, it needs to complete the insertion of the charging connector within 180 seconds, otherwise you need to tap the RFID card again.



STEP3 / Tap the RFID Card

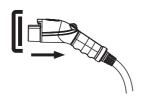
Tap the RFID card to start the charging.



STEP4 / Charging

The blue light (CHARGE) turns to flash automatically, charging is in process.

- If the red light (FAULT) is lit, plug the vehicle connector again.
- If red light is still lit, please refer to "Error and Warning Messages".



STEP5 / Charging Finished

When the charging is finished, the blue light (CHARGE) is constantly lit, press the button on connector to stop the charging.

8.4 Wi-Fi operation steps (for the optional Wi-Fi function of the Internet Edition)

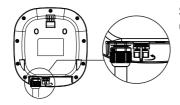
Tools required before setting

- Notebook with RJ45 interface x 1
- One RJ45 cable connector is male to male x1

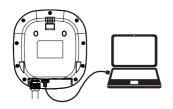
READY CHARGE FAULT

Wi-Fi Setting

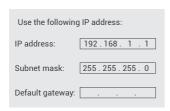
STEP1/ After power-on, go into the standby mode in 90 seconds and the green light (READY) is steady on.



STEP2/ Open the cover of RJ45 under the Charger.



STEP3/ Connect the RJ45 cable to the charger. Connect the RJ45 cable to the notebook.



STEP4/ Set the network card to change the TCP / IP automatic IP to fixed IP.

- IP address:192.168.1.1
- Subnet mask:255.255.255.0

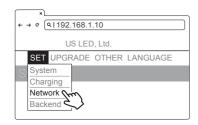




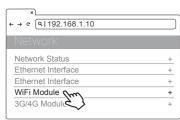
STEP5/ Open the browser to the page of 192.168.1.10

Account: admin

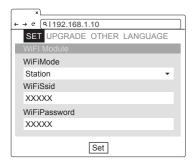
Password: 1231231238



STEP6/ Click "SET" at the top of the webpage to enter the setting webpage.

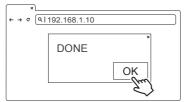


STEP7/ Click the Wi-Fi module to enter the Wi-Fi setting.



STEP8/

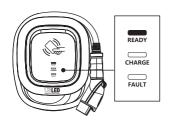
- · Client Click on WiFi Module, WiFi SSID Enter the name of the Wi-Fi to be used.
- WiFi password Enter the Wi-Fi password.



STEP9/

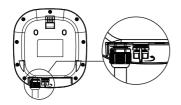
- After the setting is completed, click SET and wait until the setting completion window appears.
- Restart the charger.
- · For other settings (such as OCPP, etc.), please contact our professional staff.

8.5 4G operation steps (for the optional 4G function of the Internet Edition)

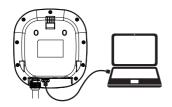


4G Setting

STEP1/ After power-on, go into the standby mode in 90 seconds and the green light (READY) is steady on.



STEP2/ Open the cover of RJ45 under the Charger.



STEP3/ Connect the RJ45 cable to the charger. Connect the RJ45 cable to the notebook.

Use the following IP address:

IP address: 192.168.1.1

Subnet mask: 255.255.255.0

Default gateway:

STEP4/ Set the network card to change the TCP / IP automatic IP to fixed IP.

• IP address: 192.168.1.1

• Subnet mask: 255.255.255.0

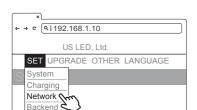
k → c (9.1192.168.1.10

| login https://192.168.1.10
| Account | admin | Password | 1231231238

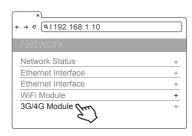
STEP5/ Open the browser to the page of 192.168.1.10

· Account: admin

Password: 1231231238



STEP6/ Click "SET" at the top of the webpage to enter the setting webpage.

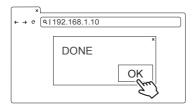


STEP7/ Click the 3G/4G module to enter the 4G setting.



STEP8/

- TelcomApn fill in the APN code of the telecommunications company in the area of use, if in Taiwan, fill in "Internet"
- TelcomChapPapId fill in APN login account and password.



STEP9/

- After setting is completed, click SET. Wait for the setting completion window to appear. Click "Confirm" to finish the setting
- · Restart the charger.
- *For other settings (such as OCPP, etc.), please contact our professional staff.

8.6 Error and Warning Message

Status	Blue	Green	Red	Remark	
Input OVP	-	-	1 flashes followed by 3 sec pause	Auto Recover	
Input UVP	-	-	2 flashes followed by 3 sec pause	Auto Recover	
Output OCP	-	-	3 flashes followed by 3 sec pause	Auto Recover	
ОТР	-	-	4 flashes followed by 3 sec pause	Auto Recover	
RCD Abnormal	-	-	5 flashes followed by 3 sec pause	Auto Recover	
Ground Fault	-	-	6 flashes followed by 3 sec pause	Auto Recover	
Control Pilot Fault	-	-	Flicker	Auto Recover	
MCU Self-Test Fail	-	-	Constantly Bright	Contact Customer Service	
RCD Self-Test Fail	-	-	Constantly Bright	Contact Customer Service	
Relay Self-Test Fail	-	-	Constantly Bright	Contact Customer Service	
RCD Abnormal Stop Charging* ¹	-	Constantly Bright	Constantly Bright	Contact Customer Service*2	
Output OCP Stop Charging*1	Constantly Bright	-	Constantly Bright	Contact Customer Service*2	
OTP Stop Charging	Flicker	Flicker	Constantly Bright	Contact Customer Service	

^{*1} Withdraw and re-plug the charging gun can exit this stop charging mode.

^{*2} If this stop charging mode is frequently triggered, pleasw contact customer service for technical solutions.

9. Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- -Reorient or relocate the receiving antenna.
- -Increase the separation between the equipment and receiver.
- -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- -Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

10. Industry Canada statement:

This device complies with ISED's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Radiation Exposure Statement:

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with greater than 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à plus de 20 cm entre le radiateur et votre corps.

This device is intended only for OEM integrators under the following conditions: (For module device use)

- 1) The antenna must be installed and operated with greater than 20cm between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Cet appareil est conçu uniquement pour les intégrateurs OEM dans les conditions suivantes: (Pour utilisation de dispositif module)

- 1) L'antenne doit être installé et exploité avec plus de 20 cm entre l'antenne et les utilisateurs, et
- 2) Le module émetteur peut ne pas être coïmplanté avec un autre émetteur ou



Tant que les 2 conditions ci-dessus sont remplies, des essais supplémentaires sur l'émetteur ne seront pas nécessaires. Toutefois, l'intégrateur OEM est toujours responsable des essais sur son produit final pour toutes exigences de conformité supplémentaires requis pour ce module installé.

IMPORTANT NOTE:

In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the Canada authorization is no longer considered valid and the IC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate Canada authorization.

NOTE IMPORTANTE:

Dans le cas où ces conditions ne peuvent être satisfaites (par exemple pour certaines configurations d'ordinateur portable ou de certaines colocalisation avec un autre émetteur), l'autorisation du Canada n'est plus considéré comme valide et l'ID IC ne peut pas être utilisé sur le produit final. Dans ces circonstances, l'intégrateur OEM sera chargé de réévaluer le produit final (y compris l'émetteur) et l'obtention d'une autorisation distincte au Canada.

11. Maintenance and Repair

11.1 Daily Maintenance

Please keep the charger clean and keep the chager in a clean area with low humidity. Do not install it in an environment near the sea, with high oil, high humidity or high dust.

- Avoid moisture or water in the charger. If there is water or moisture ingress into the charger, it is necessary to immediately power off to avoid immediate danger, and notify the professional personnel to carry out maintenance before next use.
- If there is any damage or dirt on the vehicle connector, charging cable, or vehicle connector holder, please contact the maintenance personnel immediately.
- Please use the charger properly. Do not hit or press hard on the case. If the case is damaged, please contact a professional technician.
- Avoid placing the charger near hot objects and at high temperature locations and away from dangerous substances such as flammable gases and corrosive materials.
- Do not place external objects or heavy objects on the charger to avoid danger.

11.2 Maintenance Spares

 This charger is equipped with maintenance spares for maintenance use during and over the warranty period. All warranty services and repairs shall be and performed by certified service technicians authorized by US LED, Ltd.. For details, please contact your local US LED, Ltd. service partner or direct to Customer Service.

11.3 Warranty and Maintenance

- The warranty period for this charger is two years.
- Replacement and repair parts manufactured by alternative manufacturers to those on the maintenance parts are allowed if authorized by US LED.

- During the warranty period for any malfunction caused by normal use according to the User Manual and Service Instruction (to be determined by certified maintenance technicians of US LED), the product shall be repaired free of charge. Except for the following situations, the charger shall be subject to the above warranty terms:
 - The warranty certificate cannot be provided or the contents of the warranty certificate are modified or inconsistent with the label indication of the repaired product.
 - 2. Those who are unable to provide valid proof of purchase.
 - 3. Those who exceed the manufacturer's specified warranty period.
 - 4. Those who damage the product due to not following the product service instruction for use, maintenance and storage.
 - 5. Damage or malfunction caused by foreign object entering.
 - 6. Unauthorized repair, disassembly or modification.
 - 7. Damage caused by force majeure (such as lightning, excessive voltage, earthquake, fire, flood, etc.).
 - 8. Malfunction and damage caused by other unavoidable external factors. Malfunction and damage caused by improper use of equipment, such as water or other solutions entering into the equipment.
 - 9. Malfunction and damage caused by the grid power supply and voltage which is not specified for use with the charger equipment.
- The above guarantees shall be made solely, and no other express or implied warranties shall be made (including the implied warranties of merchantability, particular and applicable reasonableness and adaptability, etc.) whether in the contract, civil negligence, or other aspects, the Company shall not be responsible for any special, incidental or consequential damages.