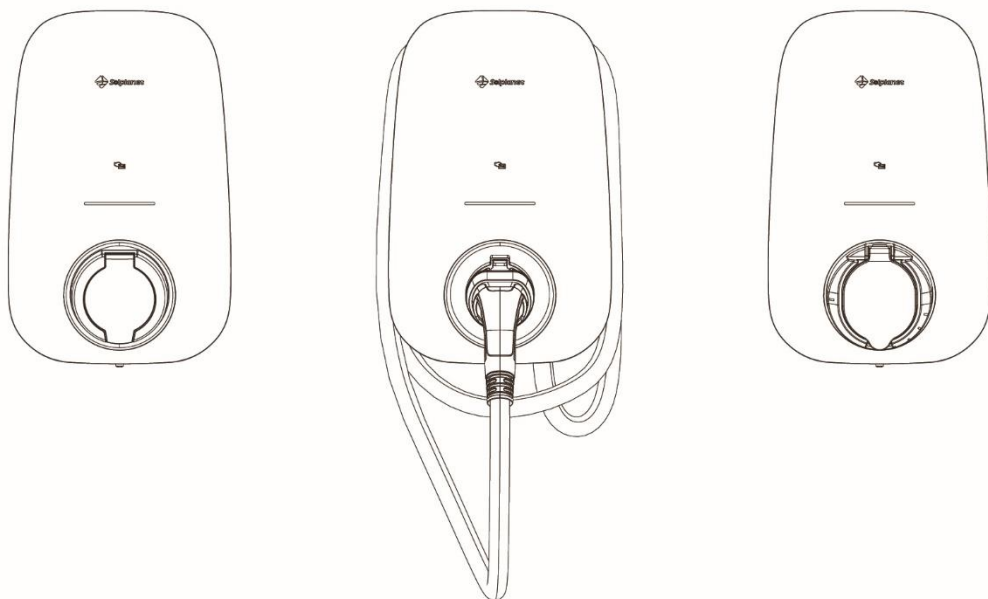


Smart EV Charger User Manual

SOL APOLLO Series

SOL7.4H-WP / SOL7.4H-WS / SOL7.4H-WSS / SOL11H-WP /
SOL11H-WS / SOL11H-WSS / SOL22H-WP / SOL22H-WS /
SOL22H-WSS



Thank you for choosing our Solplanet Smart EV Charger.

The Solplanet Smart EV Charger is an AC power charging station, it supplies AC power to charge electric vehicles.

The EV charger is suitable for outdoor and indoor use such as garages, carports underground car parks, apartment blocks, hotel parking lots and other areas where an EV charger may be suitable.

The EV charger can be operated with an RFID card, our Ai-charging APP or an NFC authorized smart device.

This manual describes the installation, commissioning, maintenance and troubleshooting of the following SOL APOLLO Series's EV chargers: SOL7.4H, SOL11H, SOL22H.

Please read and follow the instructions in this manual carefully.

Table of Contents

1	Notes on this Manual	4
1.1	Area of validity	4
1.2	Target group	4
1.3	Symbols used in this manual	5
2	Safety	6
2.1	Intended use	6
2.2	Safety standards	6
2.3	Important safety information	6
2.4	Symbols on label	8
2.5	Basic safety protection	8
3	Scope of delivery	9
4	Overview	10
4.1	Overview of the product	10
4.2	System overview with power management	12
4.3	LED Indicators	12
4.4	Interfaces	13
4.5	Special Features	14
5	Mounting	16
5.1	Planning the Installation	16
5.2	Site Requirements	16
5.3	Selecting the mounting location	18
5.4	Mounting the product	19
6	Commissioning and operation	35

6.1 Mechanical checks	35
6.2 Electrical checks	36
6.3 Establish a connection to the Ai-charging app	36
6.4 Activate the RFID card	36
6.5 Charging EV	37
6.6 Stop charging	39
7 Cleaning and Maintenance	41
8 Troubleshooting	42
9 Technical data	46
9.1 Inputs and Outputs (AC)	46
9.2 General data	47
9.3 Safety regulations	48
10 Recycling and disposal	49
11 EU declaration of conformity	49
12 Contact	50

1 Notes on this Manual

General Notes

The Solplanet Smart EV Charger is an AC power charging station, it supplies AC power to charge electric vehicles.



1.1 Area of validity

This manual describes the mounting, installation, commissioning, operation and maintenance of the following SOL APOLLO EV chargers:

- SOL7.4H
- SOL11H
- SOL22H

The series listed above is equipped with a variety of interfaces, please check the technical specifications in section 9 Technical data to confirm the interfaces that are available on the EV charger.

1.2 Target group

This document is intended for qualified persons and end users. Only qualified persons are allowed to perform the activities marked in this document with a warning symbol "  ". The tasks with no "  " symbol may also be performed by end users.

Qualified persons must have the following skills:

- Knowledge of how the EV charger works and is operated;
- Identify the hazards (in terms of a risk assessment), relevant to the working conditions on the site;
- Trained in the installation and commissioning of electrical devices and installations;
- Knowledge of all applicable laws, standards and directives;
- Knowledge of and compliance with this document and all safety information.

1.3 Symbols used in this manual

The safety precautions and general information are used in this manual as follows:



DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

WARNING indicates a hazardous situation which, if not avoided, can result in death or serious injury.



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, can result in minor or moderate injury.

NOTICE

NOTICE indicates a situation which, if not avoided, can result in property damage.



INFORMATION provides tips which are valuable for the optimal installation and operation of the EV charger.

2 Safety

2.1 Intended use

The EV charger is an AC charging device.

The EV charger may automatically adjust its output power during operation due to non-ideal conditions e.g., extremely high ambient temperatures.

The EV charger can only be operated in accordance with the information provided in the enclosed documentation and with the locally applicable laws, regulations and standards. Any other application may cause personal injury or property damage.

The EV charger must be used as a stationary device.

All components of the EV charger must remain within their permitted operating ranges at all times.

Adapters, extension cables and conversion cables must not be used with either version of the EV chargers.

2.2 Safety standards

SOL APOLLO EV chargers comply with the EU Low-Voltage Directive 2014/35/EU and the EMC Directive 2014/30/EU. The EV charger also complies with the requirement for safety and EMC in European market. They are labeled with the CE mark.

For more information about certificates in other countries and regions, please visit website (www.solplanet.net).

2.3 Important safety information

Before installing, operating or maintaining this product, it is important to read and ensure that the contents of the following Guide are fully understood.

Failure to follow all the specified instructions and procedures, will invalidate the warranty and as such Solplanet will not be liable for any claims for compensation.







 **DANGER****Danger to life due to electric shock when live components or cables are touched**

- Do not open the EV charger under load or when it is not electrically isolated.
- Do not use the EV charger if it is damaged.
- Do not extend the charging cable with an extension lead.
- Do not touch or insert foreign objects into the EV charger socket or the cable plug.
- Do not install the EV charger near flammable, explosive, or combustible materials.

 **WARNING****Risk of injury due to electric shock**

- All work on the equipment must only be carried out by qualified personnel who have read and fully understood all safety information and installation requirements contained in this manual.
- The EV charger must be out of reach from children.
- The EV charger must be connected to a protective earth conductor.
- The electrical installation must comply with all applicable local safety requirements, standards and guidelines.
- No modifications , not limited to mechanical or electrical, must be made to the EV charger.
- Components should not be changed or replaced by the end-user or unqualified personnel.
- Do not use conversion adapters or cord extension sets with the EV charger.

2.4 Symbols on label

Symbol	Explanation
	Risk of danger, warning and caution Safety information, important for human safety. Failure to observe the safety information in this manual may result in injury or death.
	Be ware of high voltage and operating current. The EV charger operates at high voltage and current. Work on the EV charger must only be carried out by skilled and authorized electricians.
	Certified safety The product is TUV-tested and complies with the requirements of the EU Equipment and Product Safety Act.
	CE mark. The EV charger complies with the requirements of the applicable CE guidelines.
	Do not dispose of the EV charger with household waste. For more information on disposal, please refer to Section 10 “Recycling and disposal”.
	Refer to the manual accompanying the EV charger.

2.5 Basic safety protection

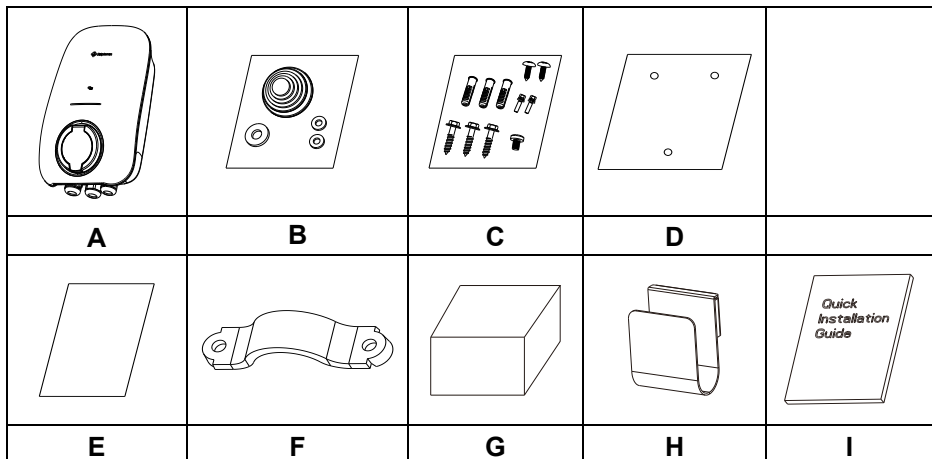
The EV charger provides the following safety protection functions:

- 1) Over-voltage, under-voltage protection;
- 2) Over-frequency, under-frequency protection;
- 3) Over-current protection;
- 4) Residual current monitoring;
- 5) Grounding conductor monitoring;
- 6) Relay fault monitoring;
- 7) Phase lost monitoring;
- 8) Over-temperature monitoring.

3 Scope of delivery

Inspect the product packaging for any external visible damage and ensure that all items in the table below have been included. Contact your supplier if the accessories delivered are incomplete or if the EV charger or accessories show signs of damage.

Object	Description	Quantity
A	EV charger	1 piece
B	Rubber seal kit	1 set
C	Screw accessory kit: Wall anchors and hexagon bolts (3x) M4x10 mm screw (2x) M4x6 mm screw (1x) ST3x10 mm screw (2x)	1 set
D	Mounting template	1 piece
E	RFID card	3 pieces
F	AC Input cable fastener	1 piece
G	Energy meter (Optional)	1 piece
H	Cable holder (for cable version)	1 piece
I	Quick installation guide	1 piece



4 Overview

4.1 Overview of the product

Socket Version

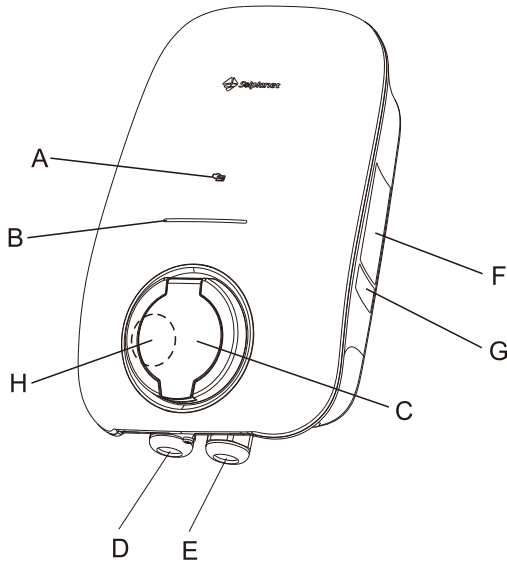


Figure 1: Overview of the socket version

Position	Description
A	RFID / NFC Reader Area for RFID card scanning or for use with NFC authorized smart devices
B	LED strip Indicates the operating state of the EV charger.
C	Socket
D	Input cable gland
E	Communication cable gland
F	Type label
G	QR code
H	Knockout entry reserved for input AC cable

Cable Version

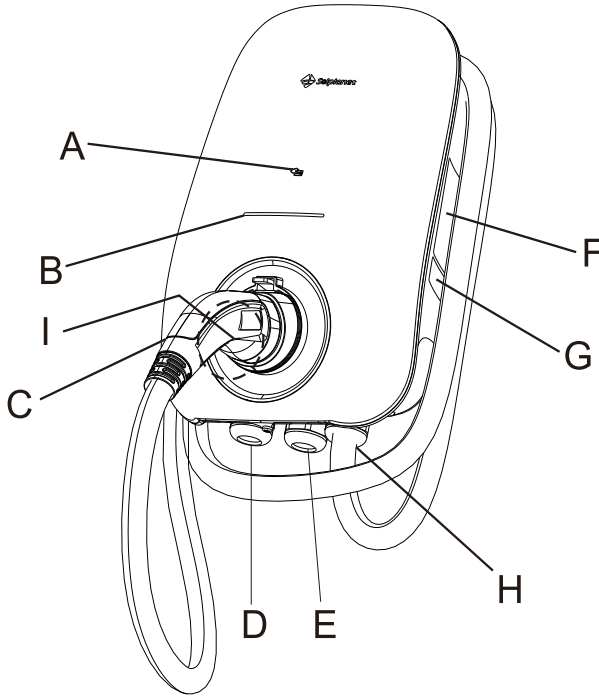


Figure 2: Overview of the cable version

Position	Description
A	RFID / NFC Reader Area for RFID card scanning or for use with NFC authorized smart devices
B	LED strip Indicates the operating state of the EV charger.
C	Charging plug
D	Input cable gland
E	Communication cable gland
F	Type label
G	QR code
H	Charging plug cable
I	Knockout entry reserved for input AC cable

4.2 System overview with power management

The SOL APOLLO EV charger provides the Load Balance function for users when installed together with an energy meter. This function automatically adjusts the charging power depending on the power flow within the system. When the homes' power consumption is stable and the PV power increases, the EV charger charging power will increase accordingly. The increase of power will be no greater than 32 A and can be also limited by the EV on-board charger (OBC).

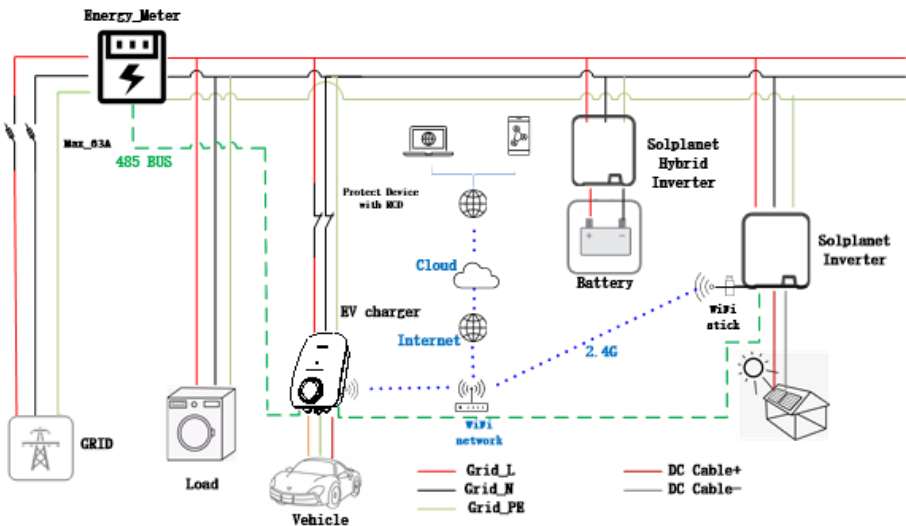


Figure 3: System Layout Overview (example with SOL7.4H)

4.3 LED Indicators

The EV charger is equipped with one LED strip which provides information about the various operating states represented by four colours.

Explanation of the different light signals:

EV Charger Status	LEDs Status
Standby	Green - solid
- Connected to vehicle and ready to charge - End of charging - Charging paused	Ice blue - solid
Charging	Blue - pulsing
Charging (with full green power)	Green - pulsing
Charging (mix of grid/green power)	Ice blue - pulsing
E-LOCK	Yellow-solid
Fault	Red - blinking
Firmware update	Purple - blinking
RFID card identification succeeded (with operation)	Ice blue - blinking (once)
RFID card binding succeeded	Ice blue - blinking (twice)
RFID card identification succeeded (without operation)	Purple - blinking (once)
Invalid RFID card	Purple - blinking (twice)
Binding RFID cards over limit	Purple - blinking (three times)

4.4 Interfaces

The SOL APOLLO EV charger is equipped with the following interfaces and functions:

WLAN

The EV charger is supplied with WLAN interface as standard.

BLE

The EV charger is supplied with a BLE (identifiable by the EV charger serial number) interface as standard. The BLE connection facilitates a point-to-point

connection between the EV charger and a smart mobile device.

Ethernet (optional)

The EV charger is supplied with Solplanet Speedwire as optional configuration, which is a type of communication based on the Ethernet standard. Solplanet Speedwire is designed for a data transfer rate of 100 Mbps and enables optimum communication between the EV charger and the Ai-charging app via a router.

4G (optional)

The EV charger is supplied with a 4G module which allows an LTE-FDD/WCDMA/GSM network connection link in situations where there is no WLAN or ethernet available.

NFC Authorization

This function activates the EV charger by detecting the digital key stored in a smart phone or smart device. Check whether the smart phone is compatible with NFC and NFC function which is required to be activated. Follow your smart phone's NFC instructions and place the authorized RFID card on the phone's NFC area, and copy the card data onto your smart phone. Please note that this function does not support iPhone or other apple products due to Apple's restrictions for NFC.

4.5 Special Features

Dynamic load balancing (requires an energy meter)

Dynamic load balancing ensures you never overdraw your property's power capacity by balancing the power consumption between your EV charger and other electrical household appliances. The system measures the power consumption of the house by the energy meter and allocates all available power to your EV. The charge power is continuously adjusted, in response to changes in generation or power consumption elsewhere around the house. You can maintain a safe and convenient charging at all times while keeping

costs low. The EV charger may prioritise the use of excess solar power generated by a PV system, if available, rather than the grid power.

5 Mounting

5.1 Planning the Installation

Qualified Person

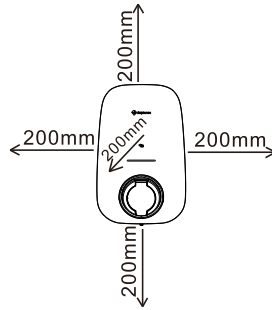
Installing and connecting the product must be done by a qualified electrician. Laws and regulations, relevant to the country of installation, regarding the safety of persons, animals, and property must be observed. A typical planning procedure may include but are not limited to the following:

1. Calculate the existing electrical load to determine the maximum operating current.
2. Calculate the appropriate cable size with respect to distance to minimize voltage drops.
3. Obtain any necessary permits from the local authority that has jurisdiction and confirm that the follow-up inspection has been scheduled by a qualified electrician after the installation is complete
4. Use only copper conductors.
5. Use conductors that are sized in accordance with local wiring regulations. The selected cable gauge must be able to sustain periods of a constant load up to 16A / 32A.
6. Each unit should be connected to an appropriately sized circuit breaker.
7. Knowledge of the current capacity of the site (in amperes).

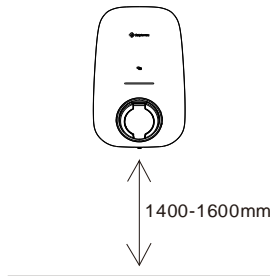
5.2 Site Requirements

1. Ensure the product is installed out of reach from children.
2. Ensure appropriate access to the product for installation and maintenance.
3. Ensure there is adequate heat dissipation by observing the minimum clearance to walls, other EV chargers or objects:

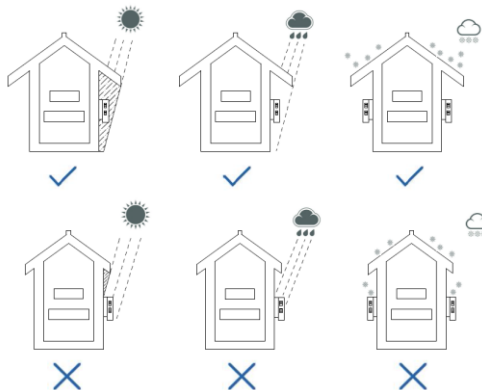
Direction	Min. Clearance (mm)
above	200
below	200
sides	200



The installation height from the ground is between 1400 mm and 1600 mm



4. The ambient temperature below 40°C is recommended (to ensure optimal operation).
5. It is recommended to mount the product under a shaded site of the building or to mount a sun shield above the product.
6. Avoid exposing the product to direct sunlight, rain and snow to ensure optimal operation and an extended service life.



7. The mounting method, location and surface must be suitable for the products weight and dimensions.
8. If mounted in a residential area, we recommend mounting the product on a solid surface. Plasterboard and similar materials are not recommended.
9. Do not place any objects on the product.

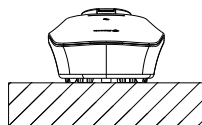
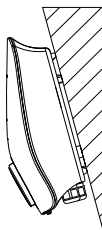
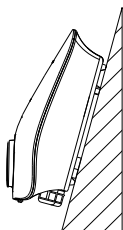
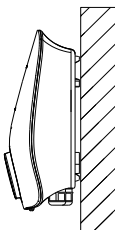
5.3 Selecting the mounting location



DANGER

Danger to life due to fire or explosion

- Despite careful construction, if installed incorrectly or mounted in unsuitable locations, electrical devices can cause fires which may result in death or serious injury.
- Do not mount the product on flammable construction materials.
- Do not mount the product in areas where flammable materials are stored.
- Do not mount the product in areas where there is a risk of explosion.



1. Mount the product vertically or tilted backward by a maximum of 15°.
2. Never mount the product tilted forward or sideways.
3. Never mount the product horizontally.
4. Mount the product at eye level to make it easy to operate and to read the LED strip.
5. The electrical connection area must point downwards.

5.4 Mounting the product

Removing the decorative cover

1. Remove the bottom screw (A) on the flat workbench.
2. It is recommended to start at the bottom of enclosure (C) when removing the decorative cover (B).

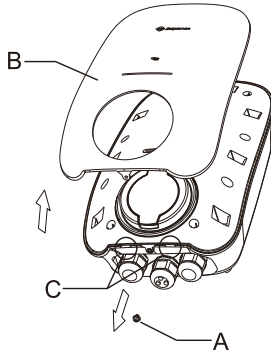


Figure 4

Drill three $\Phi 10$ mm holes at a depth of approximately 70 mm for the mounting screws

1. Hold the mounting template (A) against the wall and ensure that the installation is level by using the spirit level.
2. Mark the location for three mounting holes (B).
3. Drill three mounting holes (B).
4. Insert the wall plugs (C) into the mounting holes (B).

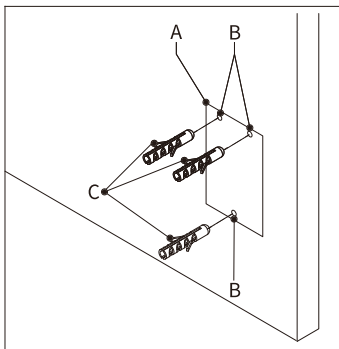


Figure 5

Inserting the upper mounting screws

1. Install the upper mounting screws (A) in the upper holes (B).
The recommended torque is 4.4 Nm.
2. Ensure the screw protrudes at a length X out from the wall.
The length of X is recommended to be 3mm (0.12inch).

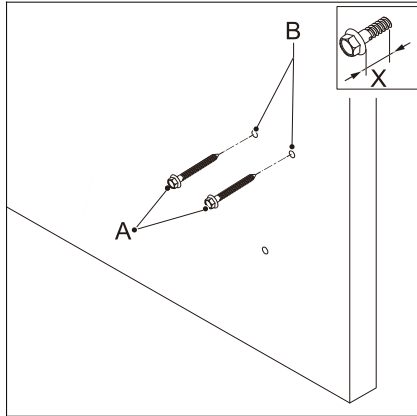


Figure 6

Installing the EV charger on the wall

1. Align the openings (A) over the upper mounting screws (B).
The upper mounting screws support the EV charger.

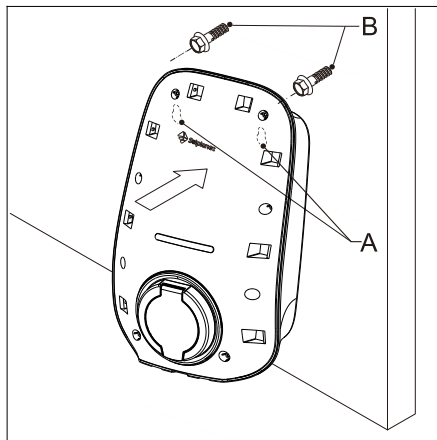


Figure 7

Removing the top cover

1. Remove the eight screws (A) located on the top cover (B).
2. Remove the top cover (B) (Take care of the cable wires that connect to the top cover for the socket version).

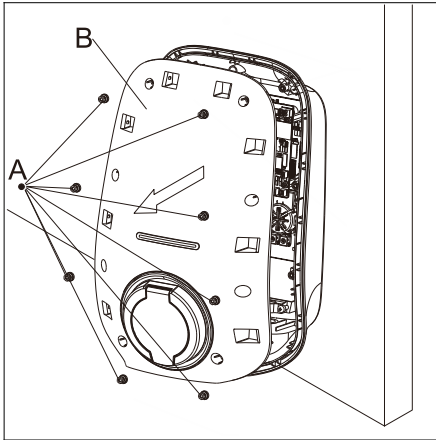


Figure 8

Installing the inner screw on the bottom cover

1. Thread the screw (A) through the sealing rubber (B). Then install the mounting screw (A) to secure the enclosure to the surface. The recommended torque is 4.4 Nm.

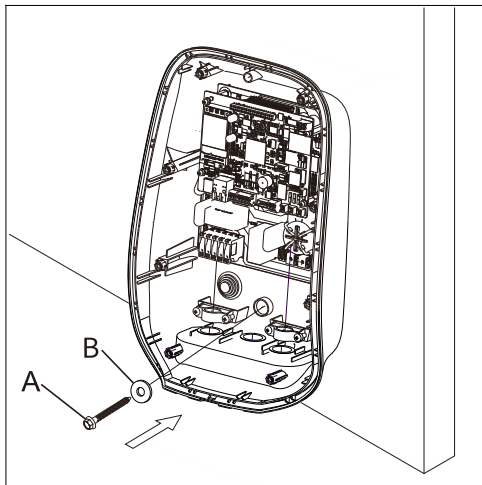


Figure 9

Install the incoming AC supply cable



- All electrical installations must be done in accordance with all local and national rules.
- Ensure that all power sources have been electrically isolated before any electrical terminations have been made.

There are two options for installing the incoming AC supply cable.

Option 1:

Through the cable gland (A) located on the bottom of the enclosure.

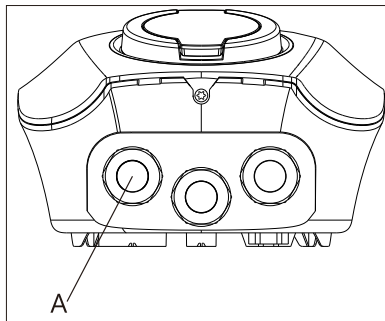


Figure 10

Option 2:

Drilling a hole through the rubber seal located on the rear of the enclosure (A).

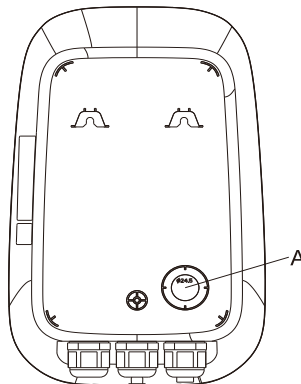
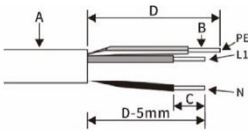


Figure 11

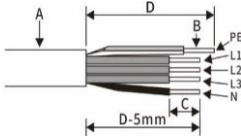
- Strip the incoming AC supply cable as shown below, and crimp the copper wire to the appropriate OT terminal (according to DIN 46228-4, provided by the customer).

Single phase



Object	Description	Value
A	External diameter	18-21mm
B	Copper conductor cross-section	4-16mm ²
C	Stripping length of the insulated conductors	12mm
D	Stripping length of the cable outer sheath	75mm
Note: the PE conductor is at least 5mm longer than the L and N conductors.		

Three phase



Object	Description	Value
A	External diameter	18-21mm
B	Copper conductor cross-section	4-16mm ²
C	Stripping length of the insulated conductors	12mm
D	Stripping length of the cable outer sheath	75mm
Note: the PE conductor is at least 5mm longer than the L and N conductors.		

2. Install the incoming AC supply cable

Option 1

Remove the cable gland from the bottom of the enclosure.

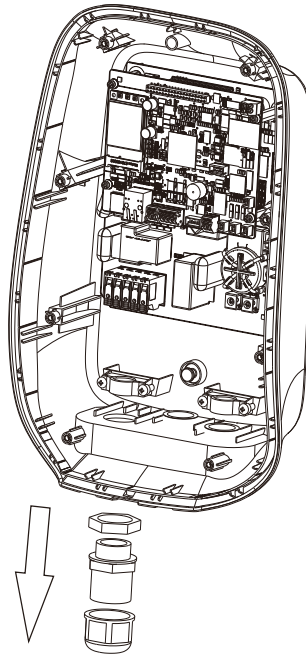


Figure 12

Thread the incoming AC supply cable through the cable gland, loosen the nut (A).

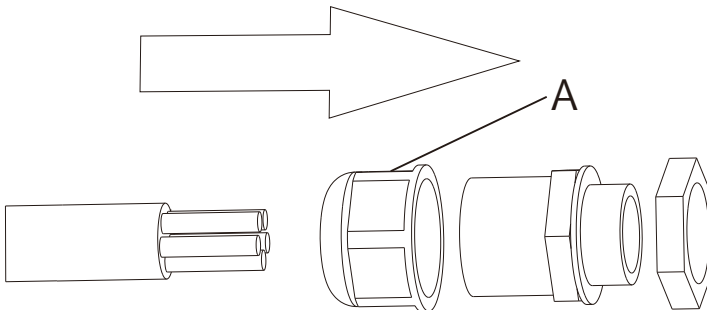


Figure 13

Install the cable gland on the bottom of the enclosure, fasten the nut (B) and then fasten the nut (A).

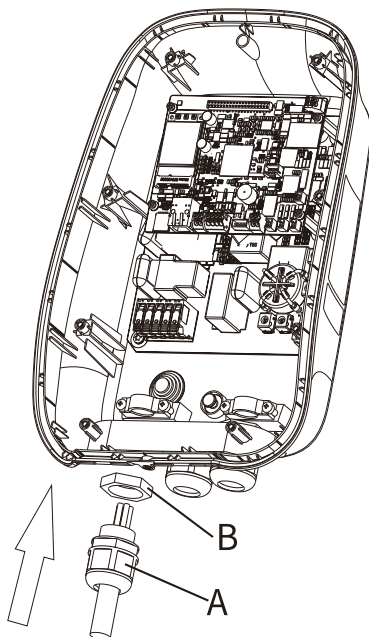


Figure 14

Option 2:

According to the diameter of the incoming AC supply cable, select the appropriate circle on the rubber seal to penetrate.

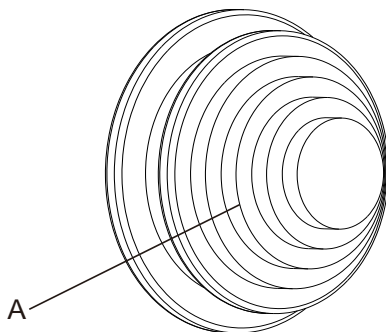


Figure 15

Thread the input cable through the rubber.

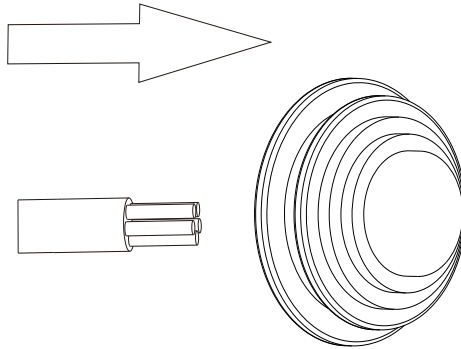


Figure 16

Install the rubber seal (A) on the rear of the enclosure (B).

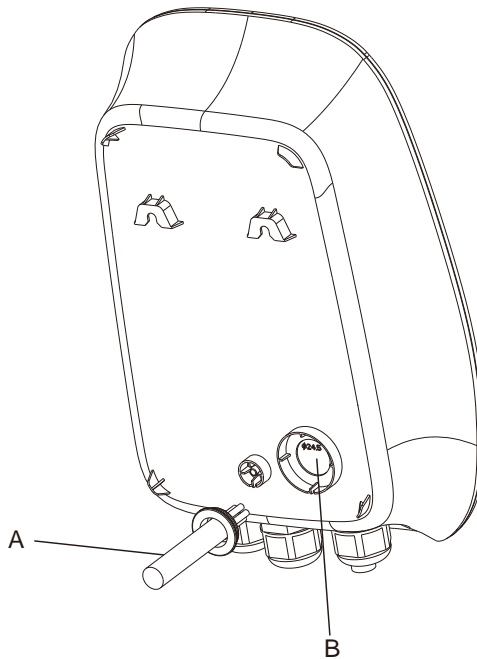


Figure 17

- Secure the cables (A) with the cable clip (B). Install the two screws (C) to secure the cable. (For Option 1)

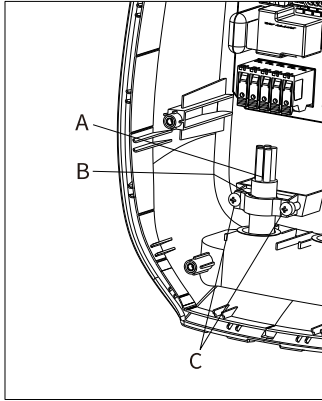


Figure 18

- Terminate the incoming AC supply cable.

Single phase

Loosen the cable clamps (A) of the terminal block.

Insert the cables into terminal block (B).

Connect the below wires:

- Line (C)
- Neutral (D)
- Earthing (E)

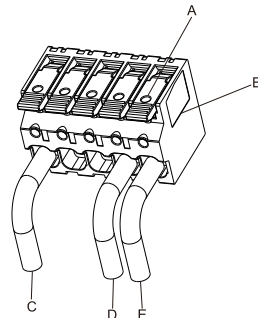


Figure 19

Three phase

Loosen the cable clamps (A) of the terminal block.

Insert cable into the terminal block (B).

Connect the below wires:

- Line L1 (C)
- Line L2 (F)
- Line L3 (G)
- Neutral (D)
- Earthing (E)

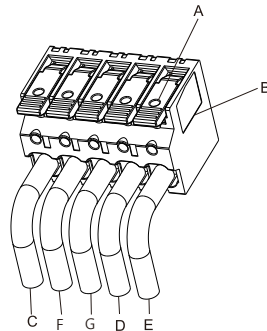


Figure 20

Installing the Ethernet (RJ45) (optional Ethernet)

To connect the EV charger to a router, ensure an ethernet cable is connected to the ethernet (RJ45) port of the EV charger and to an RJ45 port of the router. The pin assignment is as the table below.

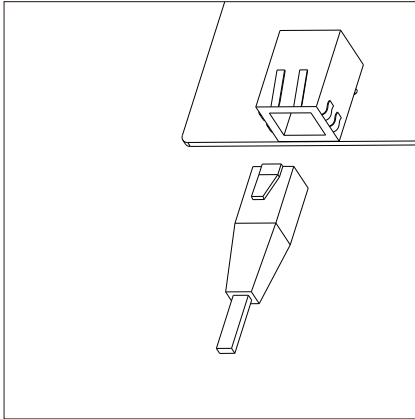


Figure 21

Pin	Name	Description
1	TX+	Tranceive data+
2	TX-	Tranceive data-
3	RX+	Receive data+
4	N/C	Not connected
5	N/C	Not connected
6	RX-	Receive data-
7	N/C	Not connected
8	N/C	Not connected

RS485 communication cable for energy meter

1. For RS485 communication a standard ethernet cable is recommended. The pin assignments are shown below. Strip the wire as shown in the figure, and crimp the copper wire to the appropriate OT terminal (according to DIN 46228-4, provided by the customer) if the cable is multi strand flexible conductor. The other end of the cable should be connected to the corresponding terminals of the energy meter, please refer to the energy meter manual for further information.

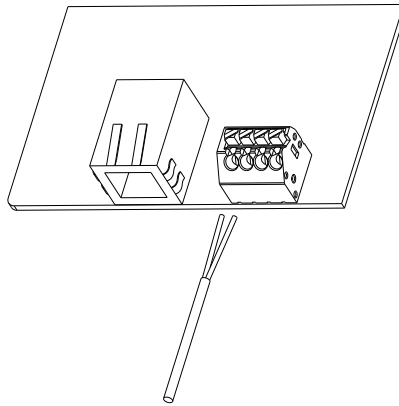


Figure 22

CN310

Pin	Name	Description
1	RS485A-1	For communication with an energy meter
2	RS485B-1	
3	RS485A-2	For communication with an energy meter
4	RS485B-2	

2. Remove the middle cable gland (A) at the bottom of the enclosure.

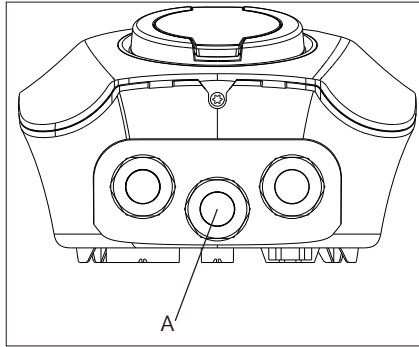


Figure 23

3. Remove the external nut (A), then remove the rubber plug (B). Next, insert the ethernet cable into the hole (C). Repeat the similar step for the RS485 cable installation.

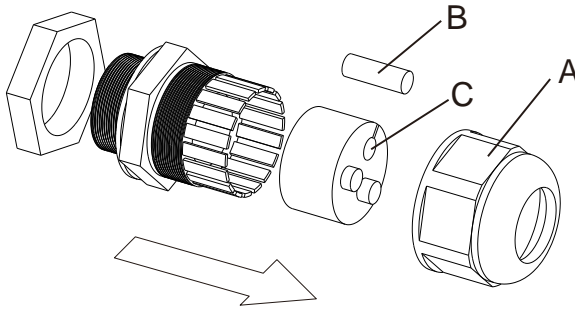


Figure 24

4. Assemble the cable gland and loosen the external nut (A).

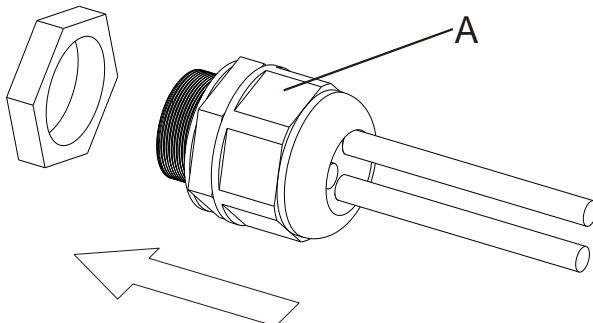


Figure 25

5. Install the cable gland at the bottom of the enclosure and fasten the nut (B), afterwards fasten the nut (A).

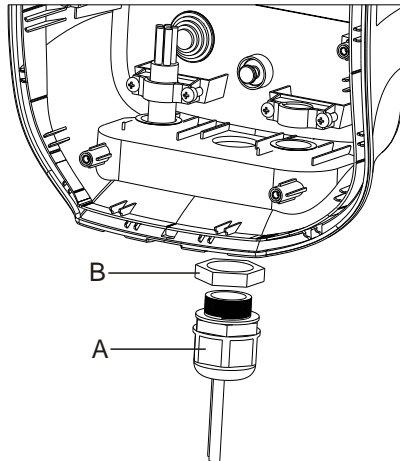


Figure 26

6. Insert the RJ45 plug of the ethernet cable in the RJ45 socket (A). Connect the RS485 cable in the RS485 socket (B)

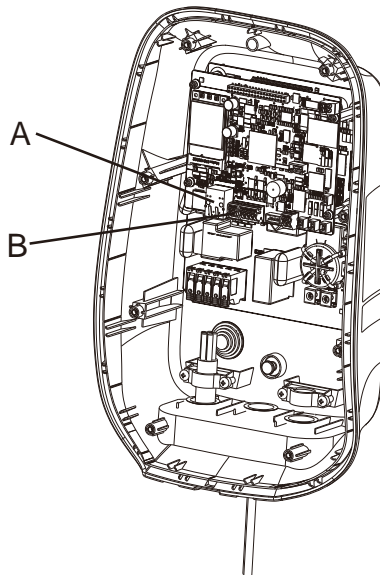


Figure 27

Insert 4G SIM card (optional)

Insert the SIM card (A) into the sim card holder (B). Ensure the position of the connection points are correct.

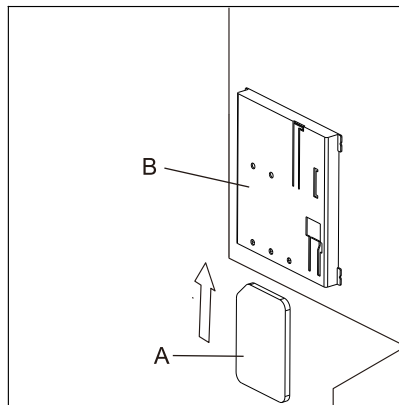


Figure 28

Access to parts

Removing the decorative cover

Removing the following parts:

Screws (A)

It is recommended to start at the bottom of the enclosure (C) when removing the decorative cover (B)

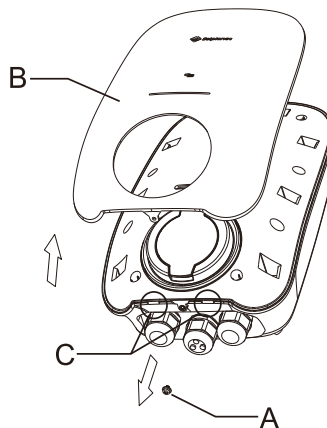


Figure 29

Installing the decorative cover

Install the following parts:

Screw (A)

Decorative cover (B)

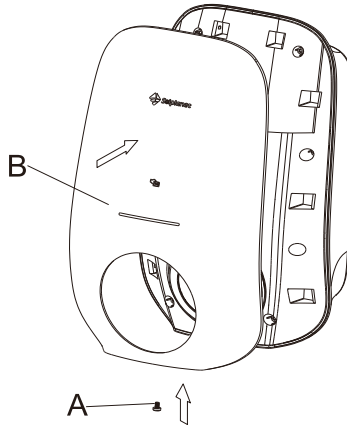


Figure 30

Removing the top cover

Remove the following parts:

Screws (A)

Top cover (B)

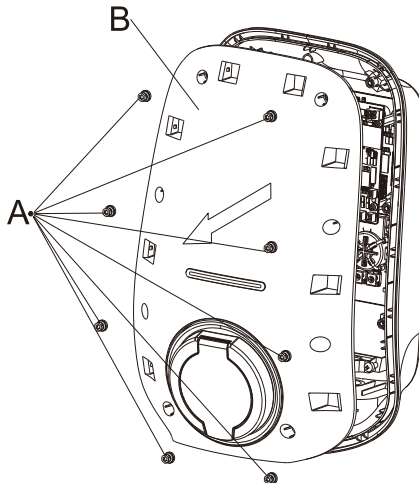


Figure 31

Installing the top cover

Install the following parts:

Screw (A)

Top cover (B)

The recommended torque is 0.8 Nm.

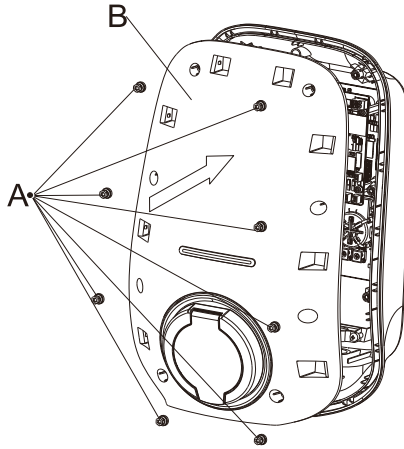


Figure 32

6 Commissioning and operation

NOTICE

Risk of injury due to incorrect installation

- We strongly recommend carrying out preliminary checks before commissioning to avoid possible damage to the device caused by faulty installation.

6.1 Mechanical checks

Carry out the main mechanical checks to ensure the EV charger is waterproof and ready for use.

- ① Ensure the EV charger has been correctly mounted with the supplied mounting screws.
- ② Ensure the AC input cable has been correctly installed.

⚠ warning!

If the AC input cable neutral line is connected opposite to the L line, the EV charger will become damaged due to the higher voltage.

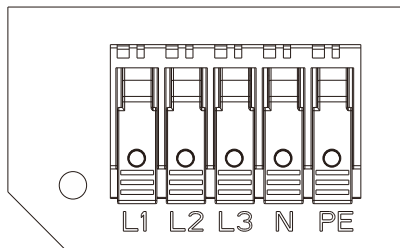


Figure 33

- ③ Ensure the communication cable has been correctly wired and secured.
- ④ Ensure the cable gland has been correctly installed and secured.

6.2 Electrical checks

Carry out the main electrical tests as follows:

- ① Close the circuit breaker or isolating device that supplies power to the EV charger.



DANGER

Danger to life due to the presence of AC voltage

- Only touch the insulation of the AC cables.
- Do not touch the electrical live parts of the EV charger.
- Wear personal protective equipment such as insulating gloves.

- ② The EV charger will carry out a series of self-tests (duration of approx. 10 seconds).
- ③ The LEDs will illuminate ice blue after the self-tests, if there is an error, the LED will illuminate red.

6.3 Establish a connection to the Ai-charging app

Requirement:

A mobile device with the Ai-charging app.

- ① Download the Ai-charging app from the Google Play Store or Apple Store.
- ② Start the Ai-charging app.
- ③ Follow the instructions in the Ai-charging app user manual for set-up and operation.

Remark: the Ai-charging app can establish a direct connection via BLE, WIFI, 4G or Ethernet, depending on EV chargers' hardware. For detailed information, please refer to the Ai-charging app user manual.

6.4 Activate the RFID card

Requirement:

The EV charger should be powered on, and the charging cable disconnected from the electric vehicle.

- ① Place RFID card in the front of the card reader on the EV charger.

② The EV charger will emit a “beep” and the LED strip will turn ice blue and blink twice, which means that the card has been successfully bound and activated. (Max 3 RFID cards can be bound to one EV charger).

6.5 Charging EV

Charging with the cable version EV charger

- ① Connect the EV charger charging cable to the electric vehicle, the colour of the EV charger LED strip changes from green to ice blue.
- ② Start the EV charger with the Ai-charging app or RFID card (for plug and play version EV charger, this step will be skipped).
- ③ The EV charger begins charging the electric vehicle.

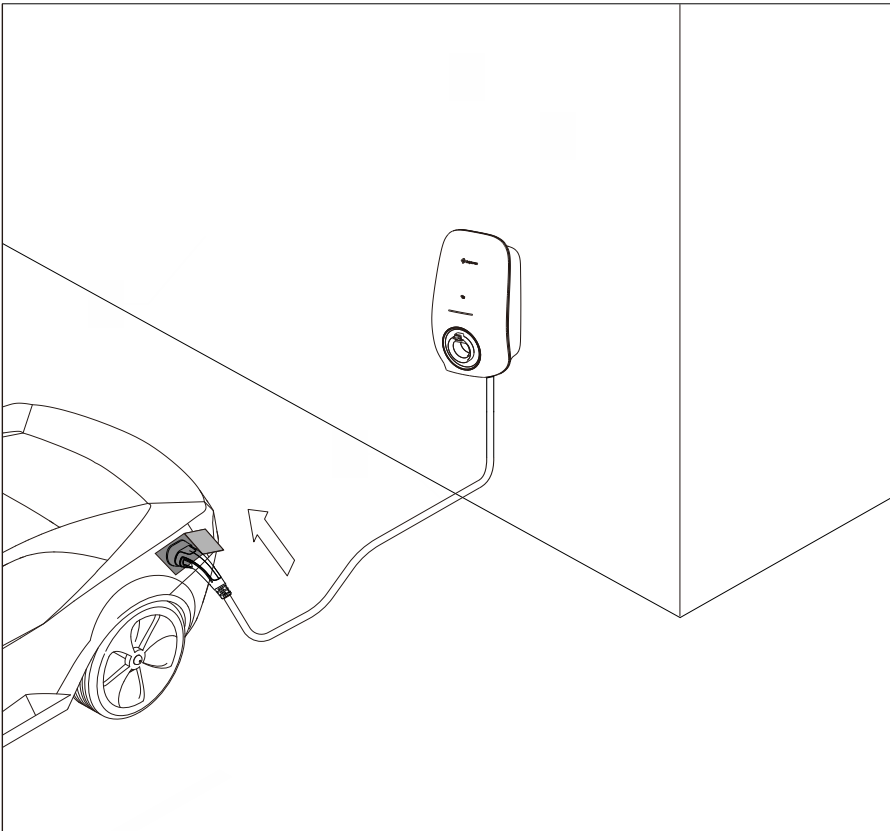


Figure 34

Start charging with the socket version EV charger

- ① Connect the charging cable to the EV charger and to the electric vehicle, the colour of the EV charger LED strip changes from green to ice blue.
- ② Start the EV charger with the Ai-charging app or RFID card (for plug and play version EV charger, this step will be skipped).
- ③ The EV charger begins charging the electric vehicle.

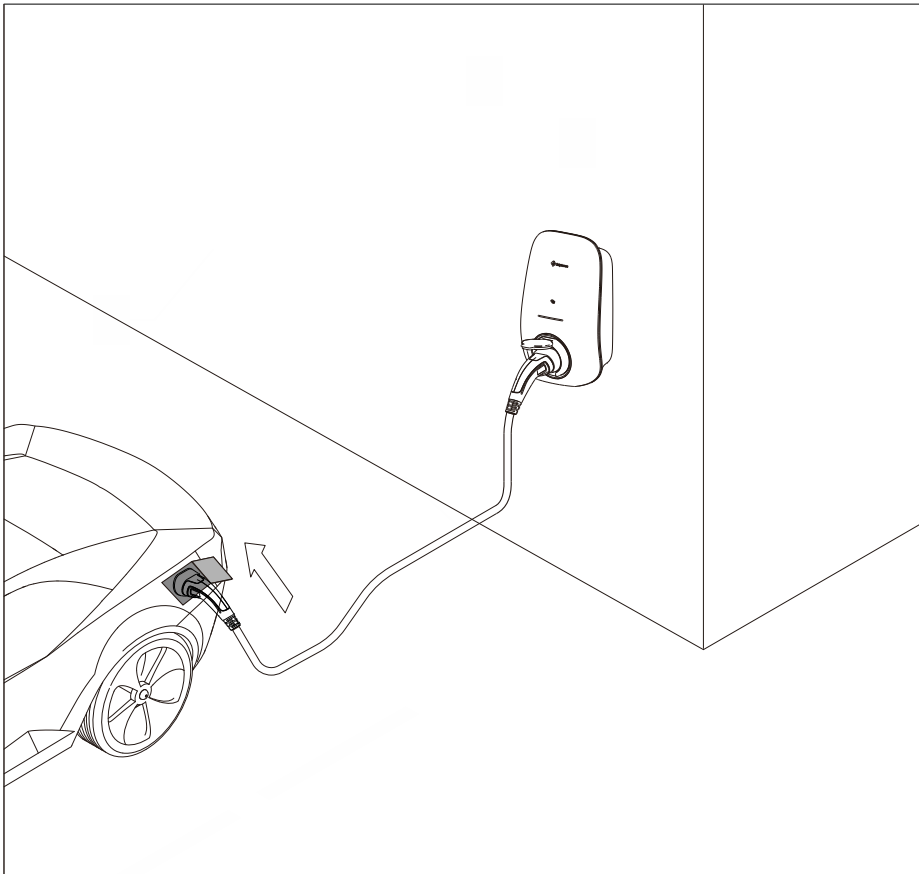


Figure 35

6.6 Stop charging

Stop charging with the cable version EV charger

- ① Stop the EV charger with the Ai-charging app or RFID card. (For plug and play version EV charger, this step will be skipped).
- ② The EV charger stops charging the electric vehicle. The colour of the EV charger LED strip changes to ice blue.
- ③ Disconnect the charging cable from the electric vehicle, the colour of the EV charger LED strip c changes from ice blue to green.
- ④ Wrap the charging cable around the enclosure.

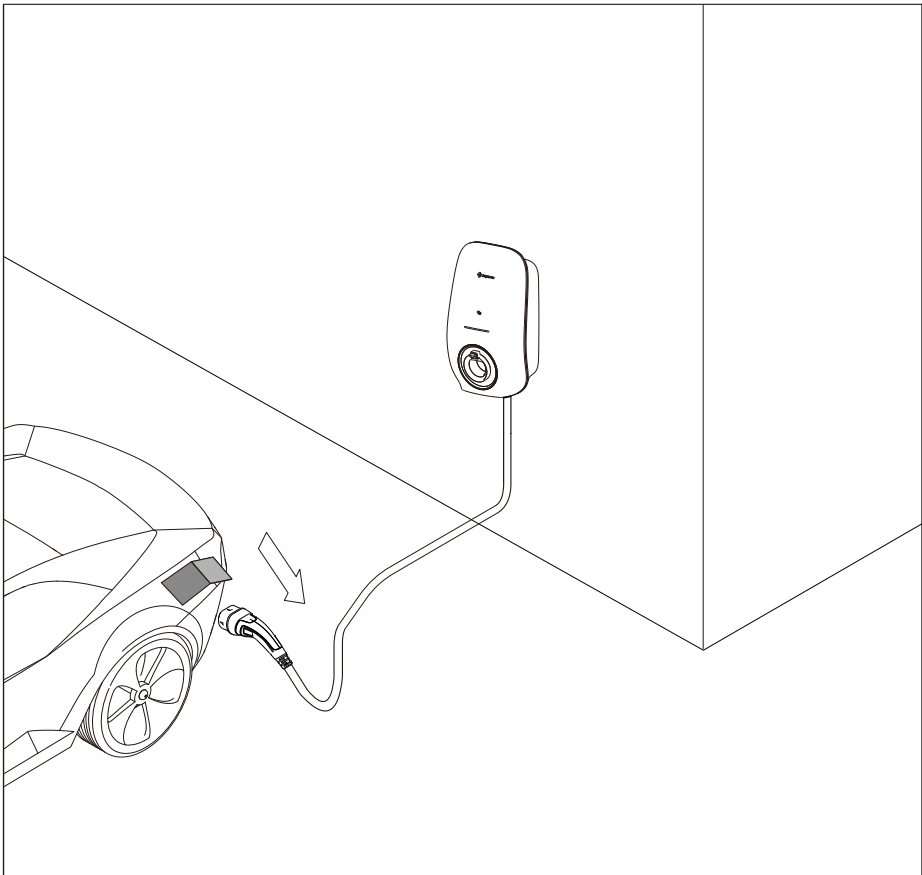


Figure 36

Stop charging with the socket version EV charger

- ① Stop the EV charger with the Ai-charging app or RFID card. (For plug and play version EV charger, this step will be skipped).
- ② The EV charger stops charging the electric vehicle. The colour of the EV charger LED strip changes to ice blue.
- ③ Disconnect the charging cable from the electric vehicle, the colour of the EV charger LED strip changes from ice blue to green.
- ④ The EV charger unlocks the charging cable.
- ④ Disconnect the charging cable from the EV charger.

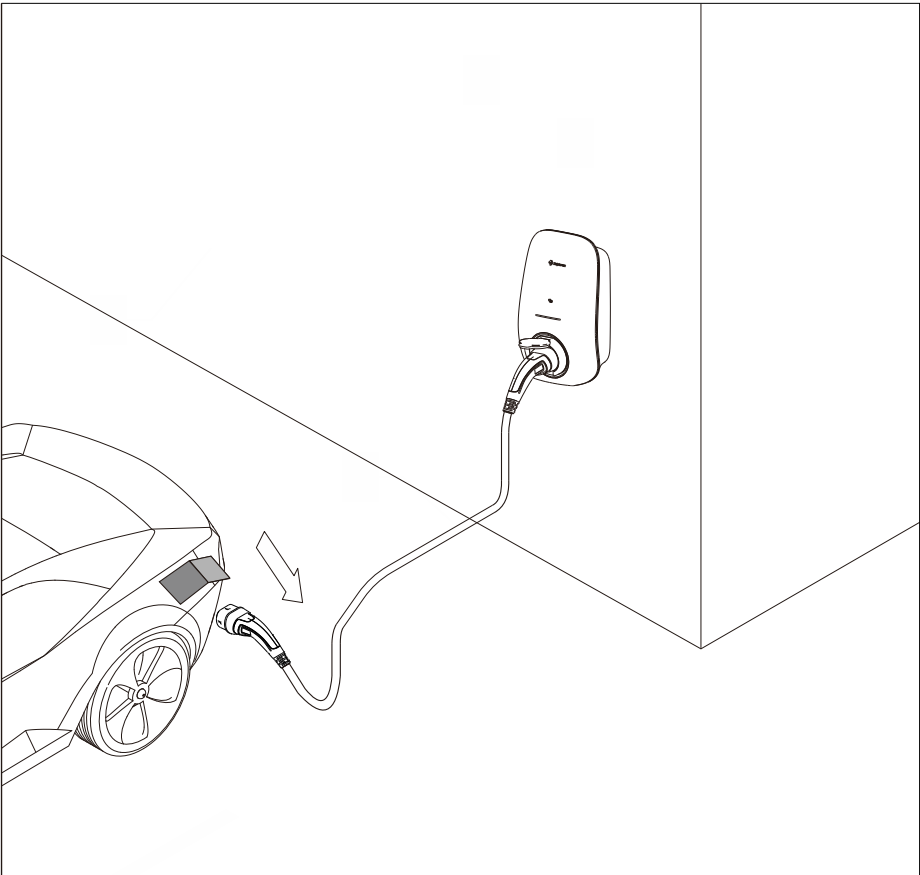


Figure 37

7 Cleaning and Maintenance

Normally, the EV charger requires minimal maintenance with no need for calibration. It is good practice to regularly inspect the EV charger and the cables for visible damage. Disconnect the EV charger from all power sources before cleaning with a soft cloth.



CAUTION

Risk of injury due to hot enclosure

- The enclosure temperature may exceed 50°C during operation. Do not come into contact with the EV charger during operation.
- Wait approx. 10 minutes before cleaning until the enclosure is cool enough to touch.
- Ground yourself before touching any component.

The charging cable must be regularly checked for any damage or deterioration.



Figure 38

8 Troubleshooting

When the EV charger appears not to be operating as per this manual, we recommend the following troubleshooting steps. If an error occurs, the error messages are displayed by the LED strip blinking red. There will be “Event Messages” displayed in the Ai-charging app. The troubleshooting steps are as follows:

Red LED Status	Error Code in App	Causes	Solution
No light	/	No power or incorrect connection or EV charger fault or PEN is disconnected in TN-C system.	Please check if the circuit breaker is turned on and supply cables are connected securely and correctly.
Blinking - once	0x01	The EV charger detects a charging CP signal error.	Please contact the Solplanet service provider.
Blinking - twice	0x02	The EV charger detects a PEN fault.	Please contact the Solplanet service provider.
Blinking - 3 times	0x04	The EV charger detects that the supply voltage is too high.	Please check that the supply voltage is between 185 and 275 V. If it is not within this range, please contact your local electricity supplier. If it is within this range, please contact the Solplanet service provider.

Blinking - 4 times	0x08	The EV charger detects that the supply voltage is too low.	Please check that the supply voltage is between 185 and 275 V. If it is not within this range, please contact your local electricity supplier. If it is within this range, please contact the Solplanet service provider.
Blinking - 5 times	0x10	The EV charger detects over current.	Please contact the Solplanet service provider if it occurs frequently.
Blinking - 6 times	0x20	The EV charger detects that the leakage current is over the prescribed limit.	Please contact the Solplanet service provider.
Blinking - 7 times	0x40	The EV charger detects an RCD module fault.	Please contact the Solplanet service provider.
Blinking - 8 times	0x80	The EV charger detects a Phase loss fault.	Please contact the Solplanet service provider.
Blinking - 9 times	0x100	The EV charger detects a short circuit on the output terminal or a cable short.	Please contact the Solplanet service provider.
Blinking - 10 times	0x200	The EV charger detects an internal meter device fault.	Please contact the Solplanet service provider.
Blinking - 11 times	0x400	The EV charger detects a relay fault.	Please contact the Solplanet service provider.

Blinking - 12 times	0x800	The EV charger detects an overtemperature fault.	Please check whether the ambient temperature around the EV charger is too high or whether it is exposed to direct sunlight. Please stop charging for a few hours and wait for the temperature of the EV charger to cool down. Contact the Solplanet service provider if it occurs frequently.
Blinking - 13 times	0x1000	The EV charger detects a low temperature fault.	Please check whether the ambient temperature around the EV charger is too low. Please stop charging for a few hours and wait for the temperature of the EV charger to heat up. Please contact the Solplanet service provider if it occurs frequently.
Blinking - 14 times	0x2000	The EV charger detects an over-frequency fault.	Please check that the power supply frequency is between 49 Hz and 61Hz. If it is not within this range, please contact your local electricity supplier. If it is within this range, please contact the Solplanet service provider.

Blinking - 15 times	0x4000	The EV charger detects an under-frequency fault.	Please check that the power supply frequency is between 49 Hz and 61Hz. If it is not within this range, please contact your local electricity supplier. If it is within this range, please contact the Solplanet service provider.
others		/	Please contact the Solplanet service provider.

9 Technical data

9.1 Inputs and Outputs (AC)

Parameter	SOL7.4H (1P)	SOL11H (3P)	SOL22H (3P)
Rated active power	7.4kW	11kW	22kW
Rated AC input voltage	230V	400V	
AC power frequency	50Hz		
Standby power consumption	<5W		
Max. output current	32A	16A	32A
Max. output overcurrent protection	35.2A	17.6A	35.2A
Conductor cross-section, rigid or flexible	3 x 6 mm ²	5x 6 mm ²	
Conductor cross-section, rigid	3 x 10 mm ²	5 x10 mm ²	

9.2 General data

General data	7.4 kW / 11 kW / 22 kW	
	Cable Version	Socket Version
communication	WIFI/BLE/RS485/LAN ¹	
RFID/NFC Reader	●	
Status Indication	LED Light Strip	
Smart App	●	
Built-in 4G	○	
Communication Protocol	OCPP1.6J	
Degree of protection	IP65 (Enclosure)	
Operating Temperature	-25°C...+50°C	
Storage Temperature	-40°C...+70°C	
Relative Humidity	Non-condensing	
Altitude	Up to 2000m	
Cooling Concept	Natural Convection	
Impact Protection Class	IK10	
Connector Type	Type 2 cable	Type 2 socket ^{2, 3}
UV Resistant	●	
Mounting	Wall	
Dimensions (W/H/D)	230 / 360 / 130 mm	
Weight	6kg	2.5kg
Cable Holder	●	-
Cable Length	5m/7.5m	-
Color	● Morandi Blue / ● Black	

Remark:

● Standard features / ○ optional features / – not available

1) LAN is optional

2) Self-closing cover and built-in electronic lock is standard

3) Shutter for cover is optional

Optional energy meter for solar charging function and dynamic load balancing

9.3 Safety regulations

Protective devices	7.4 kW / 11 kW / 22 kW
Residual Current Detection	Type A: AC 30 mA / DC 6 mA
DC Leakage Protection	•
Surge Protection (EN60664)	• (Type III)
Certification	CE, TUV / EN/IEC 61851-1
overvoltage category	III(AC)
Over current	Integrated
Over/Under Voltage	
Ground fault	
Over temperature	

10 Recycling and disposal

1. This device is used to charge electric vehicles and is subject to the EU directive 2012/19 / EU on waste electrical and electronic equipment (WEEE).
2. Disposal must be according to national and regional Regulations for electrical and electronic equipment respectively.
3. Old devices and batteries must not be disposed of with household waste or bulky waste. Before the device being disposed of should it be rendered inoperable.
4. Dispose of the packaging material in the region's usual collection container for cardboard, paper, and plastics.



11 EU declaration of conformity

Within the scope of the EU directives:

- Electromagnetic compatibility 2014/30/EU (L 96/79-106 , March 29, 2014)(EMC)
- Low voltage directive 2014/35/EU (L 96/357-374 , March 29, 2014)(LVD)
- Radio equipment directive 2014/53/EU (L 153/62-106 , May 22, 2014)(RED)



AISWEI New Energy Technology (Yangzhong) Co., Ltd. confirms herewith that the EV chargers mentioned in this document are in compliance with the fundamental requirements and other relevant provisions of the above mentioned directives.

The entire EU Declaration of Conformity can be found at www.solplanet.net.

12 Contact

If you have any technical problems with our products, please contact our service.

Provide the following information when you initiate a service request:

- EV charger type
- EV charger serial number
- Error code (LED flash code / status)
- Mounting location
- Proof of purchase

Service Contact:

Website: <https://solplanet.net/contact-us/>

You can submit your claims online by visiting website:

<https://solplanet.net/claims/>

You will receive a response within 24 hours.

AISWEI New Energy Technology (Yangzhong) Co., Ltd.

Add.: No.588 Gangxing Road, Yangzhong Jiangsu, China

Web: <https://solplanet.net>

