

waEV⚡charge

EV_{1s} | EV_{1i}



Installation and Setup Guide

Powered by:

waEV⚡smart



The next generation of EV chargers...

1. Important Safety Notice

This charger complies with Mode 3 (IEC61851 and CE-LVD).

When using electric chargers, 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 mains power to the charger before performing any maintenance.
- The device is designed only for vehicles that are compatible with the Mode 3 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 waEV-charge Customer Service or your installer for any repairs.
- Do not use the charger when you are in the vehicle, 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 to prevent 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 & sparking parts that should not be exposed to flammable vapors.



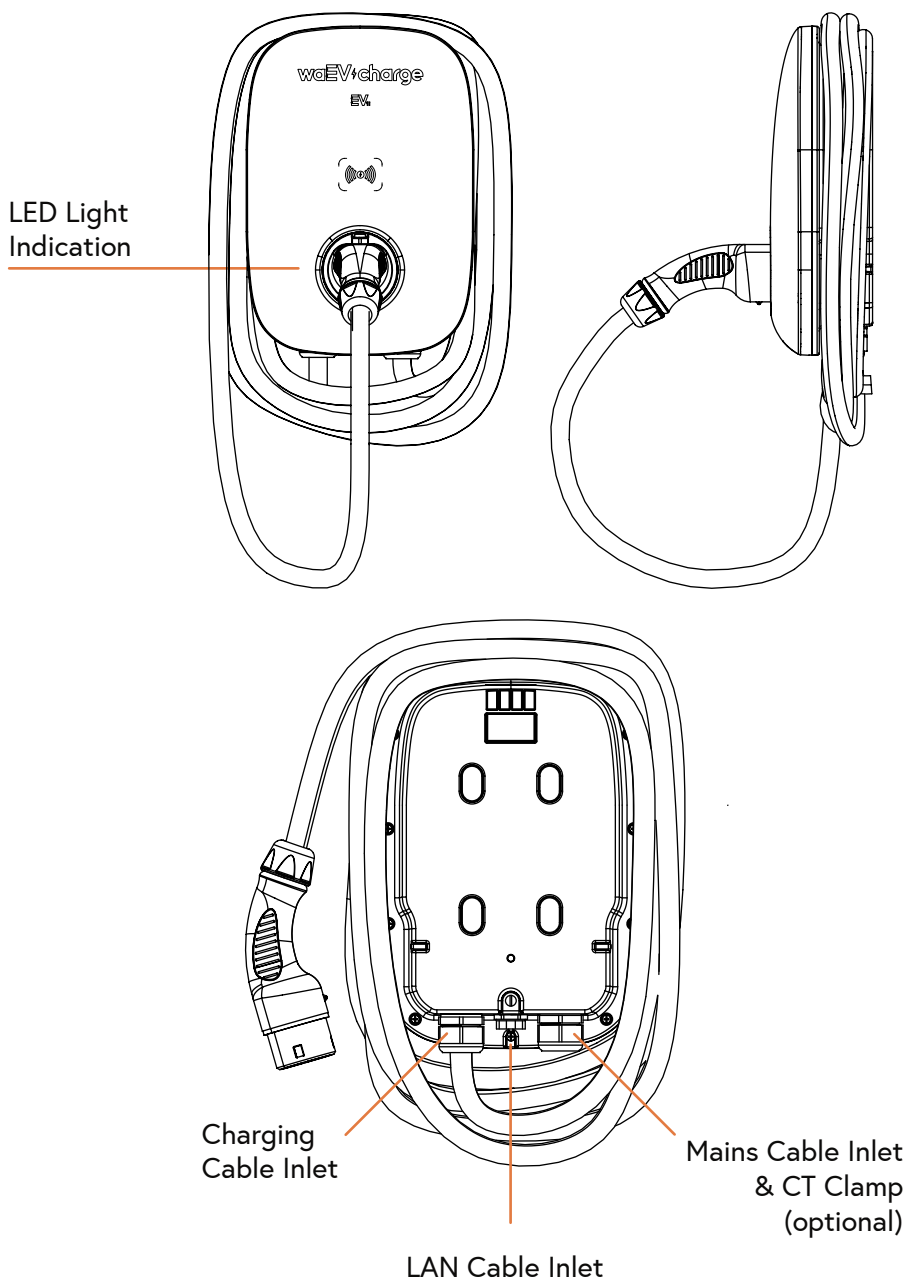
- Risk of electric shock. Do not remove cover or attempt to open the enclosure or the device when power is on.
- To reduce the risk of serious injury or death and damage to the charger, this device should be installed, adjusted, and serviced by a qualified electrician, familiar with the construction and operation of this type of charger and the dangers involved. Failure to observe these 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 charger.
- 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 signs of damage.
- Install according to the local electrical regs, confirm the wire diameter and wire type corresponds to the current rating and the temperature rating required.
- Before starting the installation, ensure all power is turned off at source.

Circuit Breaker Options Table			
	1-phase	3-phase	
AC Charger Output Amperage (A)	32A	16A	32A
Circuit Breaker Options (A)	40A	20A	40A
Example Circuit Breaker Model	A9F18240	A9F18420	A9F18440

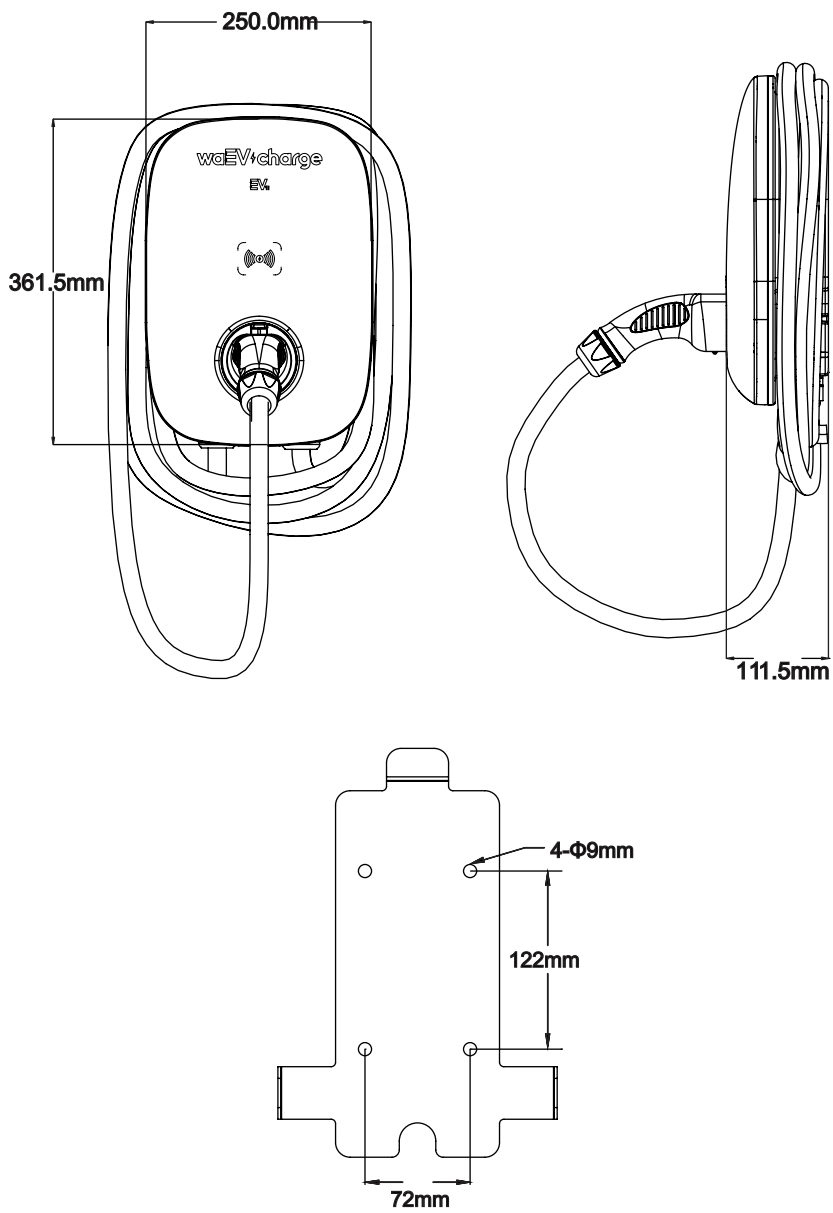
The waEV-charge EV1i & EV1s charger can be safely installed without an earth-rod and features integrated 6mA DC RCD leakage protection. Only type A RCD + 32/40A MCB or equivalent protection is normally required at source.

A DC leakage fault in the vehicle will render ineffective a type "AC" RCD. You should never wire the waEV-charge EV1i & EV1s into an existing upstream Type "AC" RCD.

2. waEV-charge EV1i & EV1s Basic Interface



3. waEV-charge EV1i & EV1s Dimensions

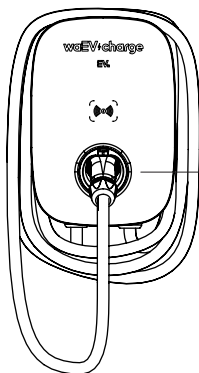


4. Specification

Model Name	waEV-charge EV1i & EV1s	
Rated Input Voltage	AC220B240V / Single Phase	AC400±10% / Three Phase
Rated Output Current	32A	16/32A
AC Power Frequency	50/60 Hz	
Input Protection	UVP, OVP, SPD, 6mA DC RCD & Ground Fault Protection	
Output Protection	OCP, OTP, Control Pilot Fault Protection, DLB	
Charging Connector	Tethered, IEC 62196/Type 2	
Operating Humidity	Up to 95% RH	
Operating Temperature	-30°C to +50°C	
Charging Protocol	Mode 3 (EN/IEC 61851)	
Safety/Charging Compliance	EN 61851-1:2019 / IEC 62955:2018 / TUV CE / UKCA	
Version	LAN Version / Wi-Fi/LAN Version / Solar CT Version	
RJ45 Cable Inlet*	10M/100M Base-T	
Wi-Fi Function**	802.11 b/g/n / 2.4GHz	
Cable Length	5m	
Protection Level	IP65	
Installation Type	Wall-Mounted/Pile	
Shipping Weight	7.4kWh - 5.3kg / 22kWh - 6.6kg	
Status Light Indication	Red, Green, Blue LED	

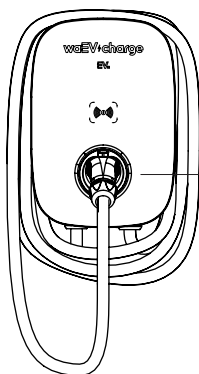
* LAN Version & Wi-Fi Version

** Wi-Fi Version



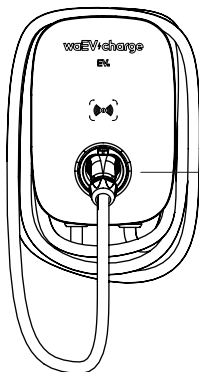
READY

Standby - Blue Light
The READY light stays illuminated in standby mode.



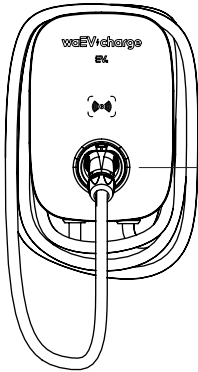
CHARGE

Waiting for Charging - Green Light
After the charger plug is connected to the vehicle inlet, the CHARGE light is constantly lit



CHARGING

Charging - Green Light Flashing
The CHARGE light flashes while charging.

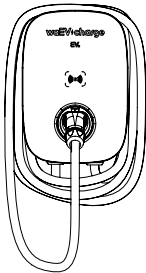


FAULT

Fault - Red Light

The red light is lit the charger is in fault mode. Please refer to section "8 Error and Warning Messages" for detailed information.

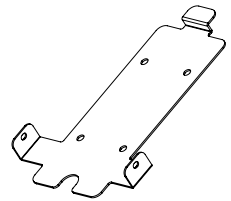
6. Packing List



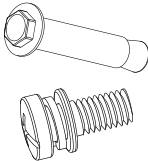
1



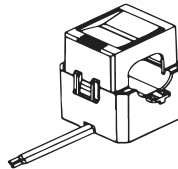
2



3



4



5



6

7. Installation Instructions

7.1 Safety Requirements

- Be sure to read the installation manual in full and ensure local building and electrical regs are reviewed before installing the AC charger.
- The AC charger should be installed by a qualified electrician according to the install manual and local safety regulations.
- Use appropriate protection when connecting to the main power distribution cable.

The waEV-charge EV1i & EV1s charger can be safely installed without an earth-rod and features integrated 6mA DC RCD leakage protection. Only type A RCD + 32/40A MCB or equivalent protection is normally required at source.

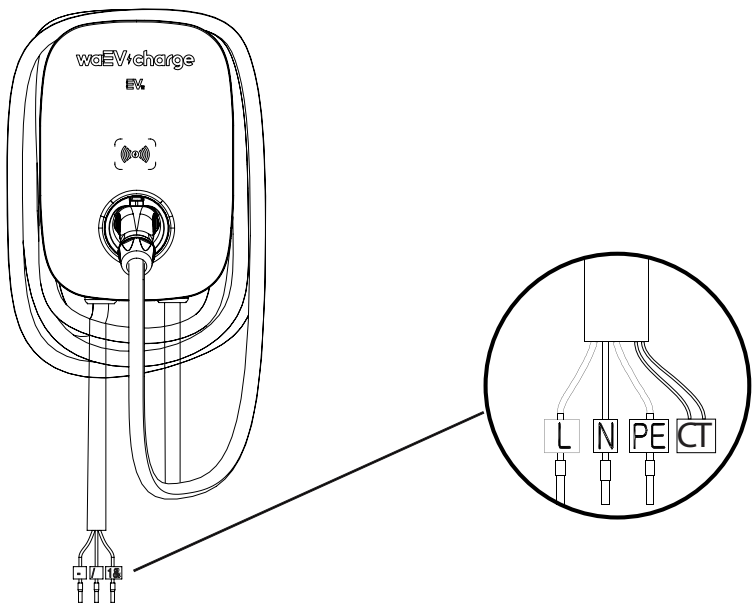
A DC leakage fault in the vehicle will render ineffective a type "AC" RCD. You should never wire the waEV-charge EV1i & EV1s into an existing upstream Type "AC" RCD.

No.	Product Name	Quantity	Note
1	EV1i & EV1s Charger (With Cable)	1	
2	User Manual	1	
3	Wall-Mounted Bracket	1	
4	M5 Security & M6 Expansion Screws	2 & 4	
5	CT Clamp (Optional)	1	
6	RFID Card (RFID Version Only)	1	

7.2 Wiring

waEV-charge EV1i & EV1s - 7kW - Single Phase

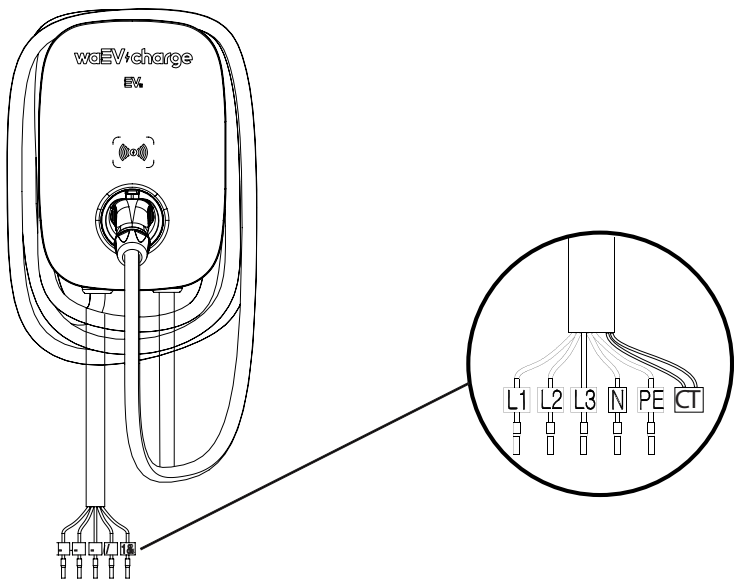
For safe installation, it is recommended to install a double pole isolator on the input part of the EV charger. Connect the L1 lead to the grid L1, connect the L2 lead to the grid L2, connect the L3 lead to the grid L3, connect the N lead to the grid N, connect the PE lead to the grid PE (for Three Phase)



Circuit Breaker Options Table	
Output Amperage (A)	32A
Circuit Breaker Options (A)	40A

waEV-charge EV1i & EV1s - 22kW - Three Phase

For safe installation, it is recommended to install a double pole isolator on the input part of the EV charger. Connect the L1 lead to the grid L1, connect the L2 lead to the grid L2, connect the L3 lead to the grid L3, connect the N lead to the grid N, connect the PE lead to the grid PE (for Three Phase)



Circuit Breaker Options Table		
Output Amperage (A)	16A	32A
Circuit Breaker Options (A)	20A	40A

7.3 Tools and Materials Required

Tools required before installing the Wall-Mounted EV1i & EV1s charger, gather the following tools:

- Wire stripper
- Crimpers
- Security TORX screwdriver for M5
- Slotted screwdriver for 4~5.5MM
- Adjustable Wrench M6
- Head gasket screw 10-10.5mm
- EV Voltmeter/Digital multi-meter testing equipment
- It is recommended to use 3 core/6mm cable for Single Phase / 5 core/6mm cable for three phase (XLPE or equivalent cable) to pull the cable from the distribution box.
- Power Drill
- Pencil or marker

Installer Notes

It is recommended the charger is installed at a height of 500mm-1500mm as per building regulations BS8300:2018.

An isolator switch (rated 45 Amps) is a mandatory requirement for "new builds", but optional for existing dwellings.

The isolator switch (if fitted) should be mounted between 500mm and 1500mm above finished floor level to comply with regulations. All installations must comply to BS7671: 2018.

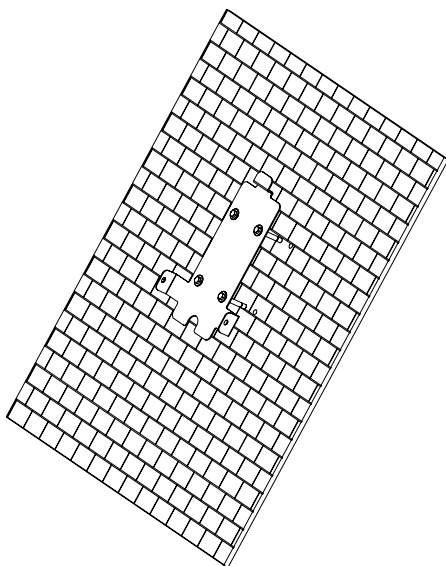
The waEV-charge EV1i & EV1s charger is designed to be connected to a dedicated AC supply only. The property must comply with minimum BS7671 standards before installation commences and the supply must be adequately rated for the additional load required for EV charging.

The waEV-charge EV1i & EV1s charger must be connected to a strong WiFi signal in order to function correctly with smart apps. If the WiFi signal strength is 2 bars or lower, we strongly advise the use of a WiFi booster or alternatively the charger to be hardwired via the external LAN socket, directly into a router/hub.

7.4 Wall Mounted Bracket Installation

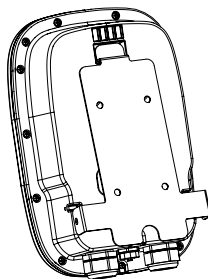
Step 1:

- Set the positions of the 4 screw holes and drill them, with a diameter of 8mm and a depth of 52mm.
- Use 4 sets expansion screw and M6 screw to fix the wall-mounted bracket on the wall.



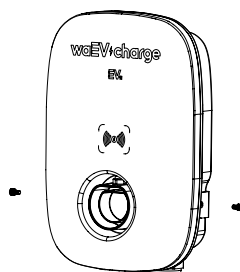
Step 2:

Align the rear notch of charger into the wall-mounted bracket and fit the screw holes of the right and left side.



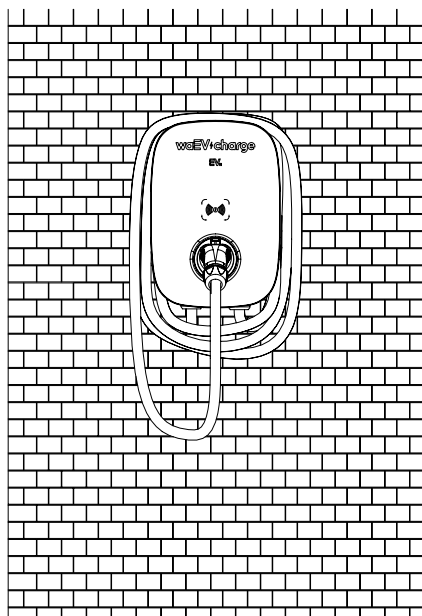
Step 3:

Fix the two M5 security TORX screws to complete the installation.

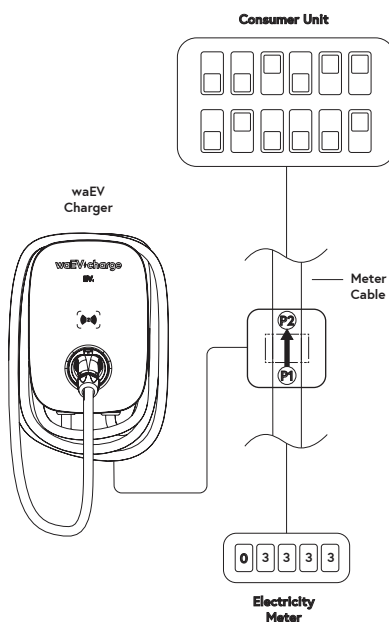


Overall outlook picture after installation:

Wall-mounted cable winding



CT Clamp (Optional):



8. Error and Warning Messages

Status	Red	Remark
Input OVP	1 flash 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
OTP	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	Constantly Bright	Contact Customer Service
Output OCP Stop Charging	Constantly Bright	Contact Customer Service
OTP Stop Charging	Constantly Bright	Contact Customer Service

9. Charger WiFi Setup via waEV-Installer App

Scan QR Code to download installer app



or head to:

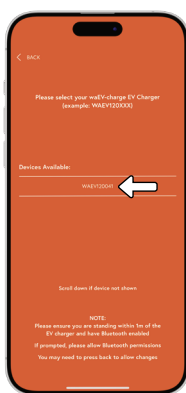
<https://waevcharge.co.uk/waevcharge-installer-info>



1

Open the Installer app and Select Installer Setup

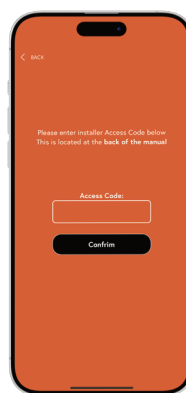
Select "Installer Setup".



2

Select the Charger to Configure

Click on the relevant CPID.



3

Enter the Access Code and Press Confirm

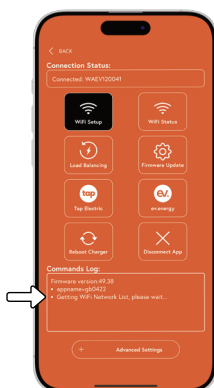
Located on the back of the Installer Guide.



4

Select WiFi Setup

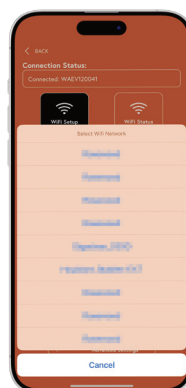
To connect the charger to WiFi.



5

Wait for the WiFi List to Pop-up

Click "WiFi Setup" to scan for nearby WiFi networks.

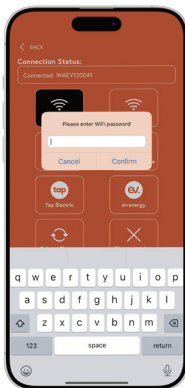


6

Select the Correct WiFi Network

Select the customer's WiFi network. Make sure to select the 2.4GHz when connecting.

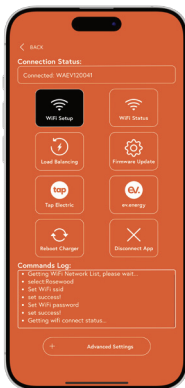
PLEASE NOTE: waEV-charge EV chargers must be connected to a 2.4GHz band WiFi network!



7

Enter the WiFi Password.

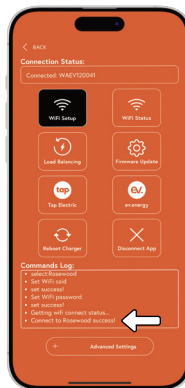
The WiFi password will be located on the customer's router or access point. (unless it has been changed)



8

Wait for the Charger to Connect to WiFi

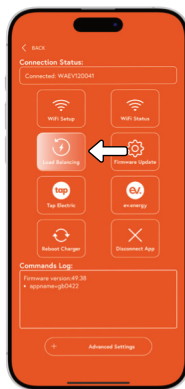
Once connected, the charger status light will flash 5 times, and confirmation of connection will be shown in app.



9

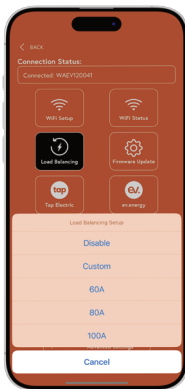
Check Log for Connection Success

Connection successful will be displayed in the Commands Log.



10

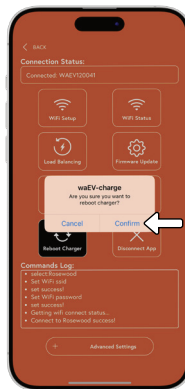
Select Load Balancing Setup



11

Select the Main Fuse Rating

Check the fuse rating of the install location.



12

Reboot the Charger

IMPORTANT: You must reboot the charger before commissioning.

OPTIONAL: Only when CT clamp is fitted.

Still need help?

If you require any further assistance, please contact us at support@waevcharge.co.uk
Alternatively, you can contact our support helpline on **0330 043 1353**.

10. waEV-smart App Setup



Scan QR Code to download waEV-smart

or head to:

<https://www.waevcharge.co.uk/software/waev-smart>



STEP 1

Welcome to waEV-smart
To get started, you'll need a waEV account

Continue

Open the waEV-smart app and click Continue. You can download it from the [App Store](#) here, or from [Google Play Store](#) here.

STEP 2

Before we begin

You need to provide your consent for us to access your smart meter data.

☒ I agree to the [Terms and Conditions](#)

☒ I consent to waEV and its trusted service providers handling my half-hourly smart meter energy data for the purpose of operating waEV-smart. I can withdraw my consent at any time by contacting support.

Continue

Before proceeding, please agree to the terms and conditions, then press Continue.

STEP 3

Please select option below:

New user?
Create an account

Already have an account?
Log in

Please note: The waEV-smart account is **NOT** the same as your energy account. If this is the first time you have seen this page, please create a new account.

Please select Register or Sign in if you already have a waEV-smart account.

Notice: this is not the same details as your energy account you will need to register if you don't have an account.

STEP 4

Create your Account

Email
[Email field]
Press button below to request verification code. This will be sent to your email address.

Request verification code

Enter verification code
[Verification Code field]

Password
[Password field]

Confirm Password
[Confirm Password field]

Create Account

To register, please enter your email address then press get code to complete verification. You will receive code by email. Then enter a password and press Register & Sign in.

STEP 5

Please enter your waEV-smart Serial Number below to continue.

[Serial Number field]

Your charger Serial Number is detailed on the specification label which is located on the right side of your EV charger.
Example: WAEV123456

Confirm

Please enter your charger Serial Number located on the right side of your EV charger.

STEP 6

Confirm Authentication

Are you sure you want to authenticate your energy meter using your credentials?

Confirming authentication will mean the following:

1. Your energy provider will access your charger using your credentials.
2. waEV-smart may update your tariff as part of the following process.
3. To enable your half-hourly green prices, dynamic charging will be turned on and your price cap may be turned off.

Confirm

Cancel

Press Confirm on the next screen to authenticate your EV charger to waEV-smart.

STEP 7

Set up smart charging

Connect charger and car
We'll connect to your waEV charger, and your car if you have an app for it too.

Set your charging preferences
Tell us your charging needs so we can find the best slots to charge in.

Please note you don't have any other services controlling your charging. This could lead to conflicts and prevent us from being able to smart charge your car.

Next

Press Next to start setting up your smart charging.

STEP 8

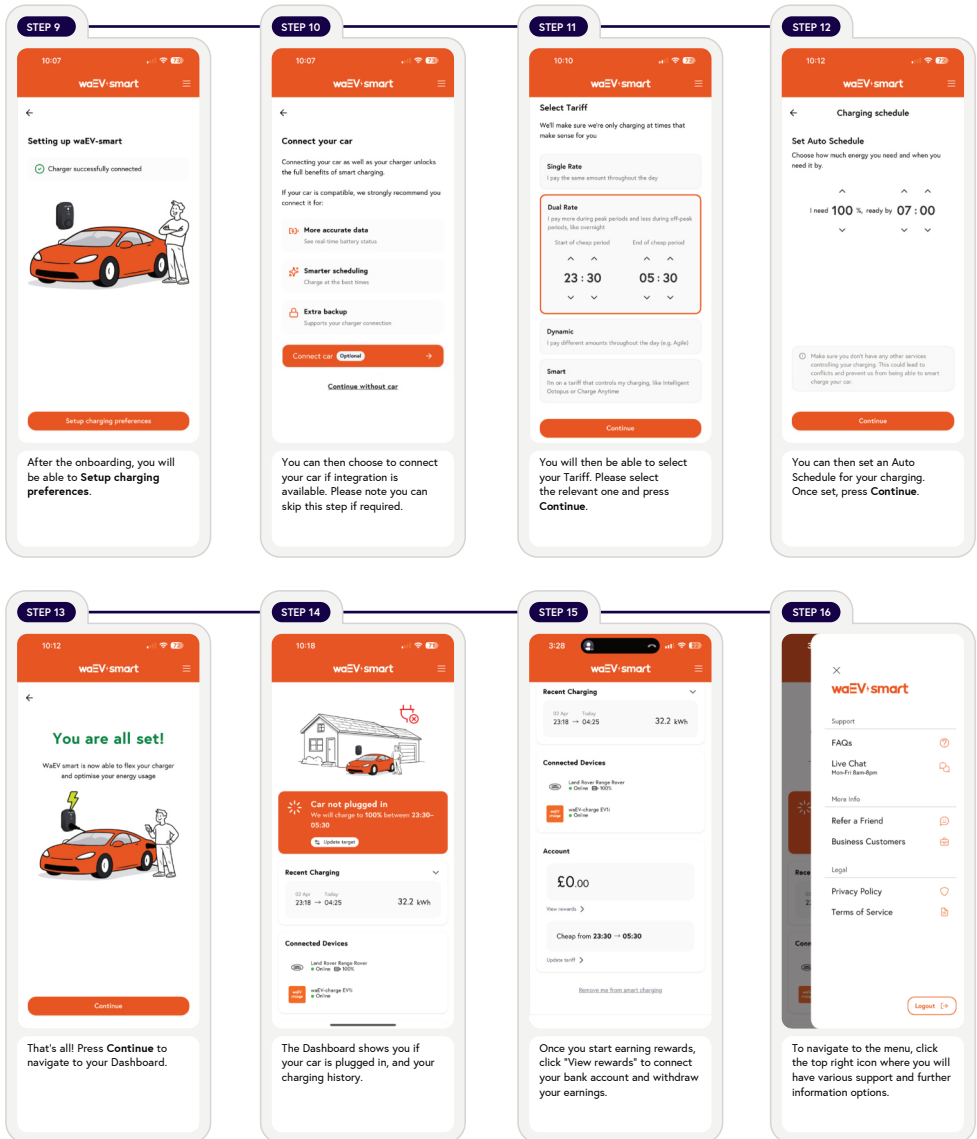
Find your address

Find Address

Enter your postcode
[Postcode field]

Search

Enter your postcode into the box, then Search for your address and select the correct one.



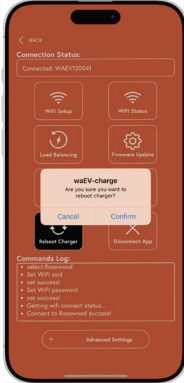
11. Tap Electric Commissioning

Scan QR Code to download installer app



or head to:

<https://waevcharge.co.uk/waevcharge-installer-info>



IMPORTANT: You must reboot the charger before commissioning.



1

Open waEV-Installer App and Select Installer Setup

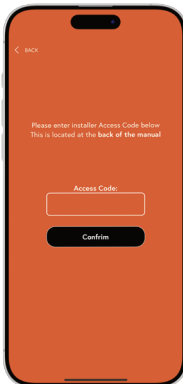
Select "Installer Setup".



2

Select the Charger to Configure

Click on the relevant CPID.



3

Enter the Access Code and Press Confirm

Located on the back of the Installer Guide.



4

Select the Tap Electric Portal



5

Enter the OCPP URL for Tap Electric

Your unique URL will be displayed on your Tap Online Account.

10. waEV-charge Commissioning Troubleshooting

INSTALLERS, PLEASE READ IF YOU ENCOUNTER CONNECTION ISSUES

1. Please ensure the WiFi name (SSID) & password are correct (both are case sensitive so must be entered carefully). We advise connecting another device, such as a mobile phone to the WiFi network from where the EV charger is located to check the WiFi signal is strong, within range and the details are correct.
2. The waEV-charge EV1i & EV1s charger MUST be connected to the 2.4GHz WiFi network only. Dual band or 5GHz networks do not provide a strong & stable connection therefore the charger will not appear online if the 5Ghz/Dual-band WiFi SSID & password is used. All routers can be setup to transmit a standalone 2.4Ghz network. If the customer is unsure of how to set this up, please contact us and we will assist.
3. Once the WiFi SSID & Password are input using the Installer app, ensure that you see SET SUCCESS under both SSID & Password in the bottom status box. Once confirmed, please ensure you REBOOT the device and then wait 2-3 mins before setting up the smart app.
4. If you are still having connection issues, please reboot the customers WiFi router.
5. Ensure the vehicle is not plugged in when the commissioning process is being completed. The status LED should remain BLUE during all commissioning, except during reboot.
6. Selecting "get device info" will display the WiFi details and OCPP URL, this should match the customer WiFi SSID & password and URL.
7. If the customer has already signed up for the ev.energy app and is wanting to setup waEV-smart, please note you will need to register for a new account rather than using your ev.energy account details.

12. Maintenance and Repairs

12.1 Daily Maintenance

Please keep the charger clean and keep in a clean area with low humidity. Do not install it in an environment near the sea, high humidity or high levels of 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 your installer to carry out a full safety inspection before future use.
- If there is any damage or dirt on the vehicle connector, charging cable, or vehicle connector holder, please contact the maintenance installer immediately.
- Please use the charger carefully. Do not hit or press hard on the case. If the case is damaged, please contact your installer.
- Avoid placing the charger near hot objects or in directly sunlight, 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.

12.2 Warranty and Maintenance

- The warranty period for this charger is three years.
- After the event of any repair or maintenance under the warranty period, if there is no purchase to extend the warranty period, waEV-charge shall provide a three-month warranty period for any subsequent paid repair work.

During the warranty period for any malfunction caused by normal use according to the User Manual and Service Instructions (to be determined by certified maintenance technicians of waEV-charge), the product shall be repaired free of charge. Except for the following situations, the charger shall be subject to the above warranty terms:

1. 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 merchant ability, particular and applicable reason ability 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.



Customer Services & Technical Support

E - support@waevcharge.co.uk

W - waevcharge.co.uk/support

Installer App Access Code

