

OCULAR



# IQ DUAL COMMERCIAL INSTALLATION GUIDE

IOCAW31-22S (Multi-phase)

Version 1.1

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## IMPORTANT!

Please read this entire document before installing or using the charger. Failure to do so or to follow any of the instructions and warnings in this document can result in fire, electrical shock, serious injury, or death.

The charger must be installed by a qualified electrician.

The entire installation must comply with the latest  
“AS/NZS3000:2018 & AS/NZS:3008 standards”.

# SPECIFICATIONS

Model Number	IOCAW31-22kW (Multi-phase)	
Power		
Power Output	7kW (1-Phase) per port	22kW (3-Phase) per port
EV Charging Connector	Type-2 Socket	
Input and Output Voltage	230V ± 20%	400V ± 20%
Input and Output Current	32A max per phase per port	
Frequency (Hz)	50/60Hz	
User Interaction		
Display	7" LCD Touch Screen + LED indication lights	
Charger Control Method	Mobile app, physical button, RFID (ISO14443), plug and charge	
Safety		
Internal RCD	30mA AC & 6mA DC leakage protection	
Electrical Protection	Over current, Short circuit, Over voltage, Under voltage, Ground fault, Lightning surge, Over temperature	
Communication		
OCPP	1.6J and 2.0.1 (Firmware upgrade required)	
Internet Connection	Ethernet, Wi-Fi, 4G (Nano size sim)	
Communication Type	Modbus (TCP/IP)	
Energy Meter	2 x MID Meter, Optional NMI Pattern Approved	
Load Control	Compatible with Ocular Load Controller or OCPP smart profiles	
General Data		
Ambient Air Temperature for Operation	-30°C to +50°C in operation	
Ambient Air Temperature for Storage	-40°C to +70°C in storage	
Working Humidity	5% - 95% relative humidity, non-condensing	
Material	Powder Coated Stainless Steel	
Protection Rating	IP55, IK10	
Mounting	Wall Mount	
Dimension (H x W x D, mm)	550 x 320 x 177 mm	
Net Weight	18.5 kg	
Certification	CE, IEC /EN 61851-1, IEC/EN 61851-21-2, IEC 62196-2, RCM	
Warranty	2 Years (Extended warranties available)	

# FEATURES

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## Self Monitoring and Recovery

The charger will automatically resume charging after a minor fault such as OVP, UVP, OTP or OCP, with no user intervention required.

## OCPP 1.6J & OCPP 2.0.1 Full Profiles & Smart Charging Support

The charger supports OCPP 1.6J & OCPP 2.0.1 full profiles, including the latest smart charging to balance the load of charging stations with limited power supply.

# PRODUCT OVERVIEW

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No	Item
1	Wi-Fi & 4G Antenna
2	Window for MID Meter value
3	LED indicator
4	7" Touch LCD screen
5	RFID card reader
6	Universal Type-2 socket

# SAFETY INSTRUCTIONS

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## WARNINGS

Do not install or use the charger near flammable, explosive, harsh, or combustible materials, chemicals, or vapors.

Turn off input power at the circuit breaker before installing or maintaining.

Do not use or stop using the charger if it is defective, appears cracked, frayed, broken or otherwise damaged, or fails to operate.

Do not attempt to open, disassemble, repair, tamper with, or modify the charger. The charger is not user serviceable. Contact your installer for any repairs.

Do not use the charger when either you, the vehicle or the charger is exposed to severe rain, snow, electrical storm or other inclement weather.

Do not touch the charger sockets with sharp metallic objects, such as wire, tools or needles.

Do not put fingers into the charger sockets.

Do not use this charger if the EV charging cable is frayed, has broken insulation, or displays any other indication of damage.

Do not use this charger if the enclosure or the EV charging connector is broken, cracked, open, or shows any other indication of damage.

## CAUTIONS

The charger should be installed only by a qualified electrician.

Make sure that the materials used and the installation procedures follow local building codes and safety standards.

Incorrect installation and testing of the charger could potentially damage either the vehicle's battery and/or the charger itself. Any resulting damage is excluded from the warranty for both the vehicle and the charger. Do not operate the charger in temperatures outside its operating range of -30°C to +50°C.

Ensure that the EV charging cable is positioned properly to the charging sockets.  
Do not use cleaning solvents to clean any of the charger's components.

Be careful not to damage the circuit board when removing the power entry knock-out.

# INSTALLATION

## TOOLS REQUIRED

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- Slotted #6 screwdriver
- Philips #2 screwdriver
- Electric drill

## OVERVIEW OF STEPS

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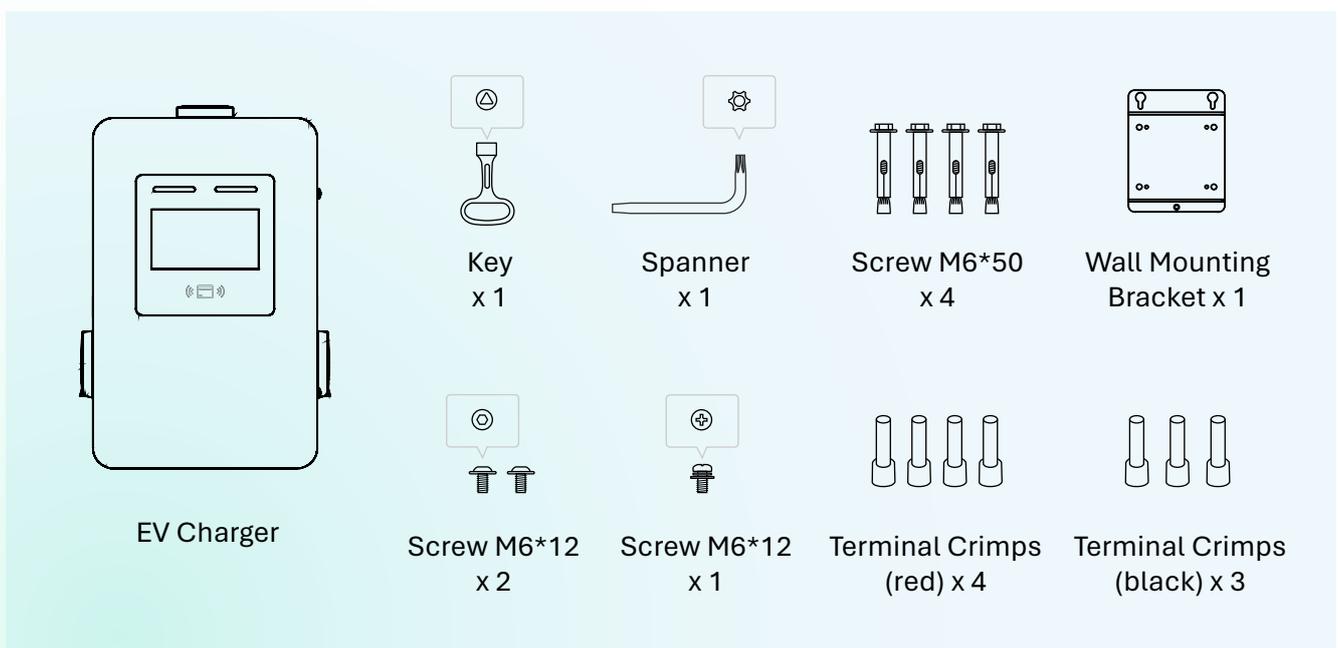
### TURN OFF THE POWER SUPPLY

Then follow these steps to install the charger:

1. Check box contents
2. Wall mounting
3. Power cable wiring
4. Internet connection
5. Verify the installation
6. Secure cover and power up

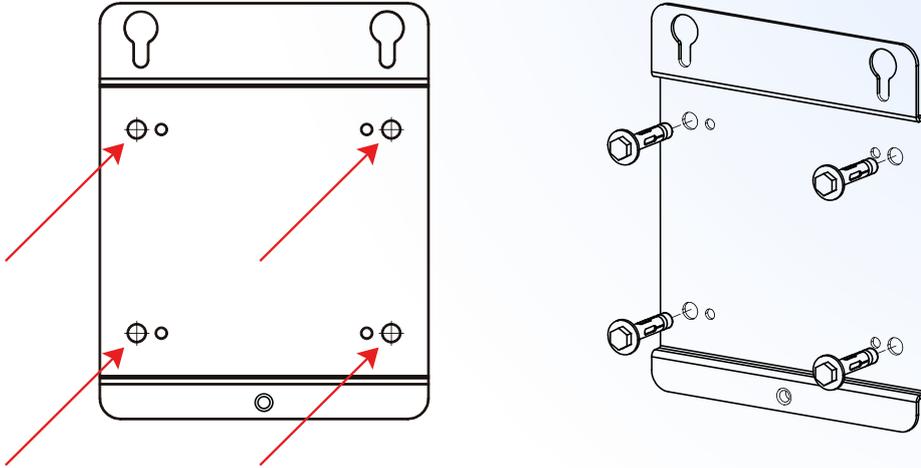
### STEP 1 - Check box contents

If any components are damaged or missing, please contact your installer or Ocular Charging.

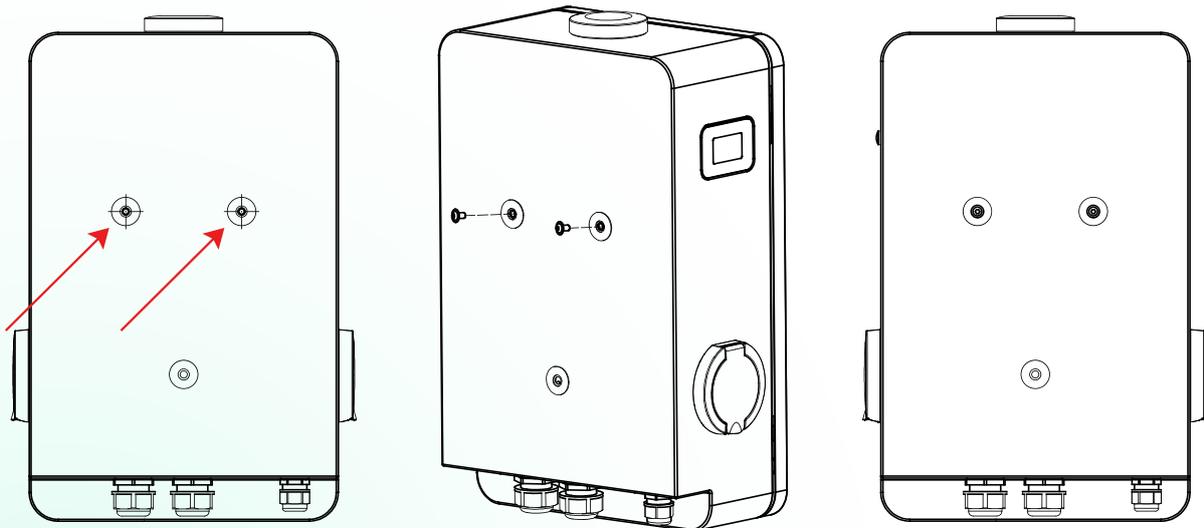


## STEP 2 - Wall Mounting

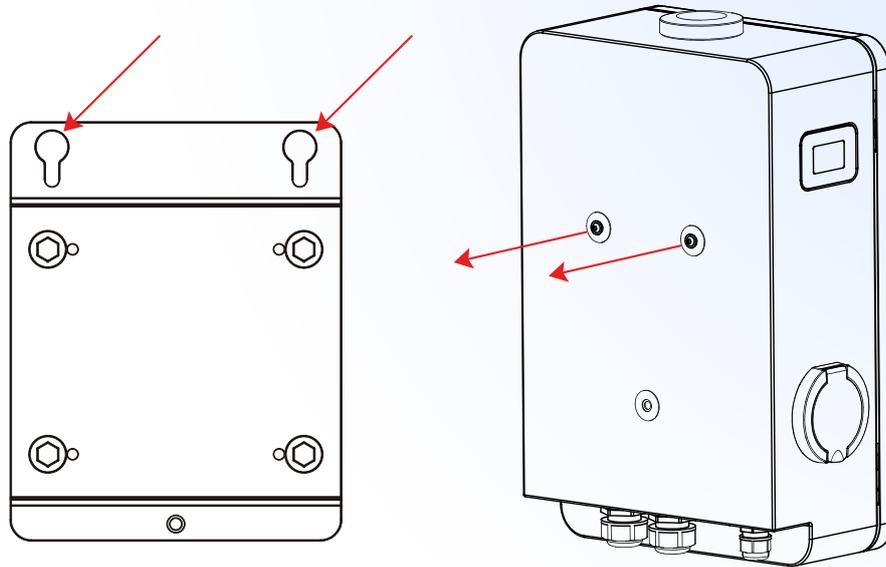
1. Mount the backplate to the wall with 4 x M6\*50 screws.



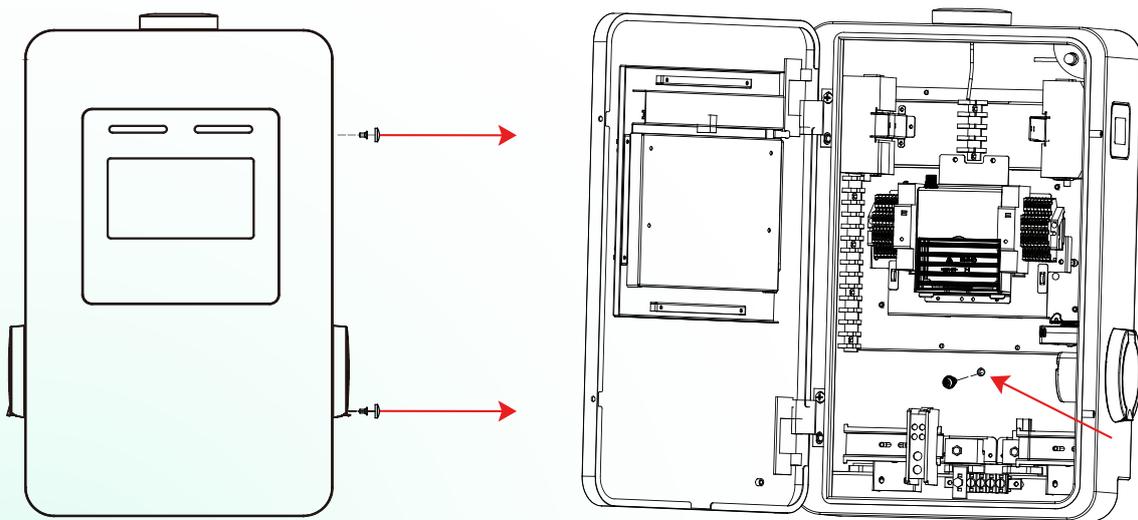
2. Fix 2 x M6\*10 screws to the back of the EV Charger and hang on the backplate.



3. Fix the EV charger to the backplate with M6\*12 screw.

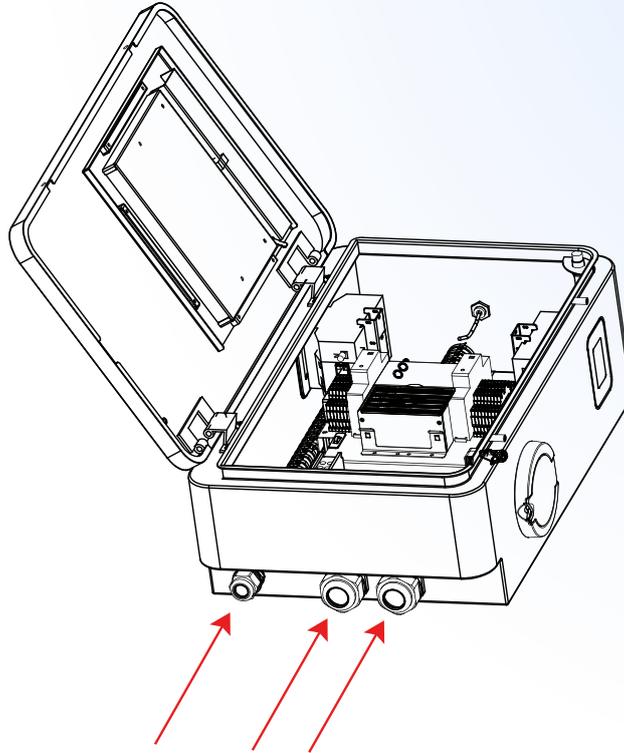


4. Loosen the screw cap on the right side of the charger and remove the screw. And then fix the EV charger to the backplate with M6\*12 screw.



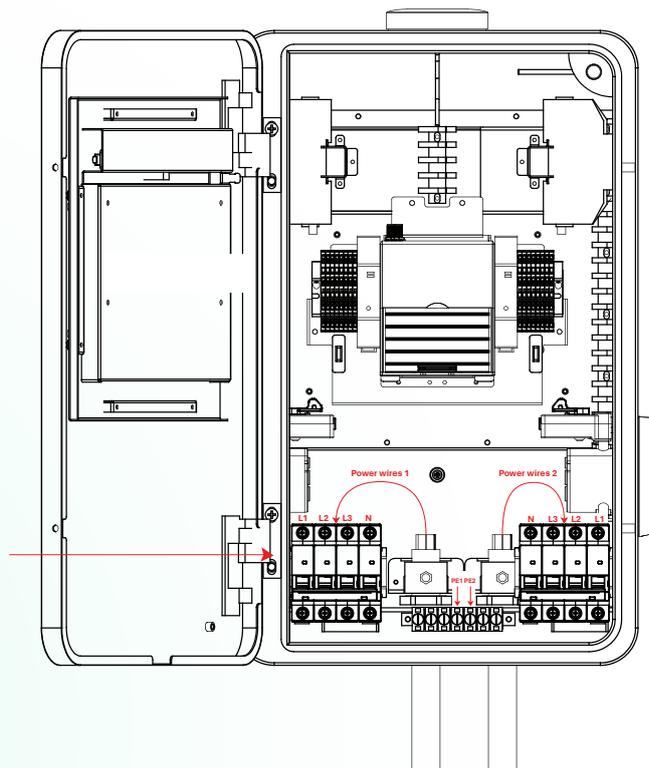
## STEP 3 - Power Cable Wiring

1. Cross the power wires through the bottom hole.



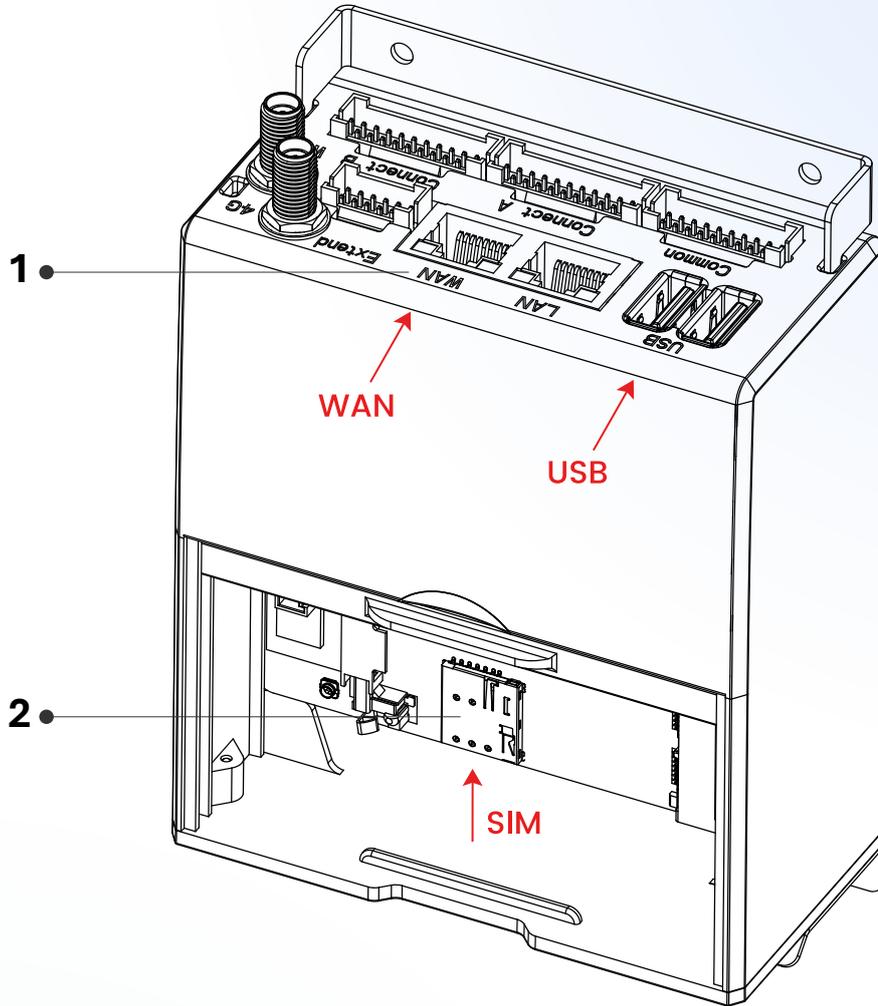
2. Connect the power cables to the MCB.

Connect to single-phase or three-phase power as indicated on the terminal block label.



## STEP 4 - Internet Connection

Supporting Ethernet and Cellular connection



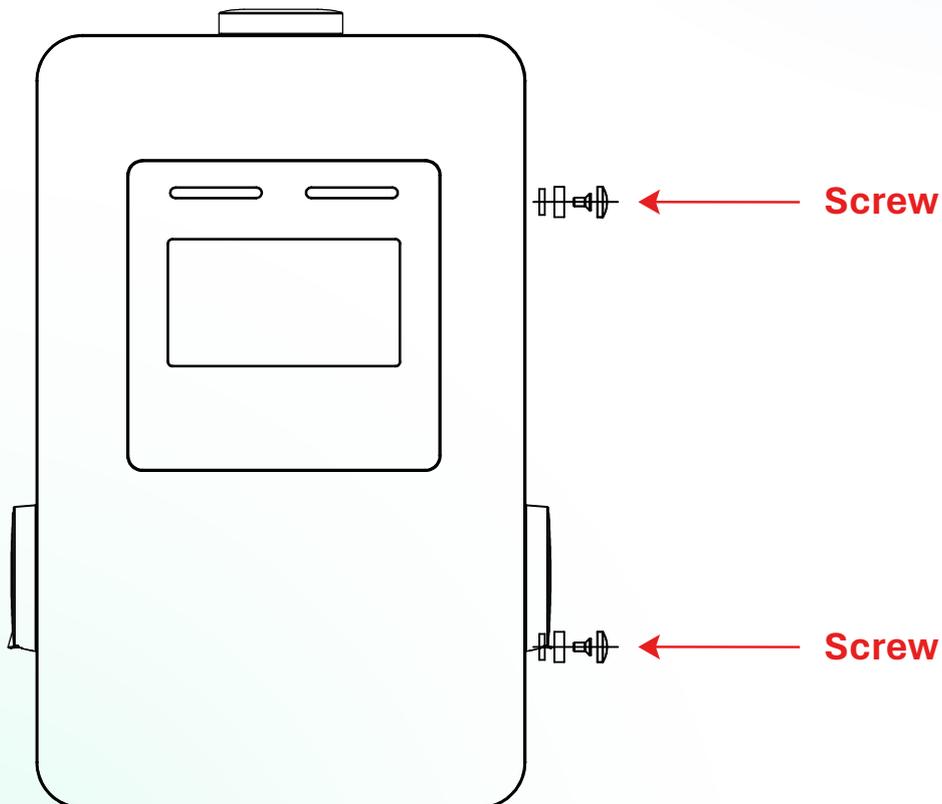
No.	Item
1	Connect the internet cable for Ethernet connection
2	Insert SIM card to the card slot for cellular connection

## STEP 5 - Verify the Installation

1. Verify the power cables are wired properly.
2. Power on the charger unit, and you should see the LED lights sequentially illuminate white.
3. If the LED red light illuminates or flashes, refer to the Troubleshooting table on pg18.
4. Test the live charging process with simulator or electric vehicle if the installation is completely verified.

## STEP 6 - Secure Cover

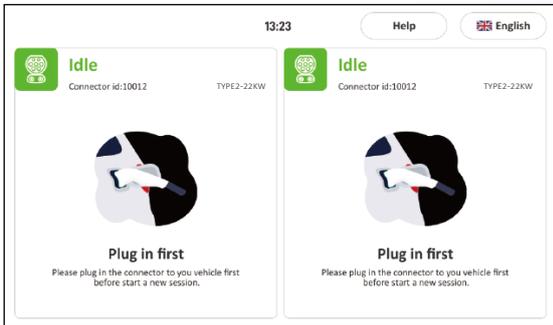
Secure the EV charger with screws.



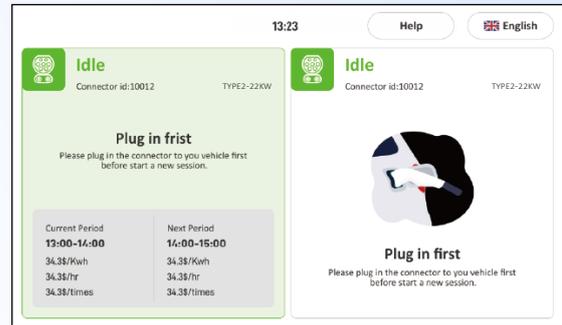
# STATUS INDICATOR

LED Diagram	LED Status	Definition
	Slow breathing white	Idle
	Fast breathing white	Charging
	Fast breathing yellow	Suspend
	Slow breathing cyan	Reserved
	Slow breathing red	Unavailable
	Flashing red	Fault

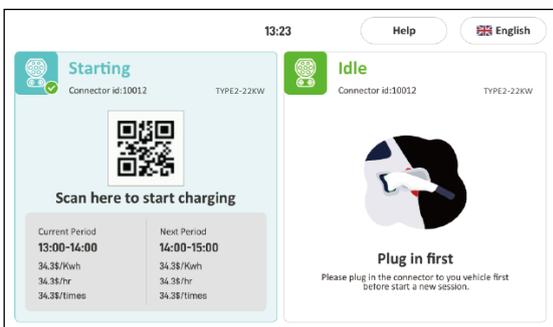
# LCD SCREEN DISPLAY DETAILS



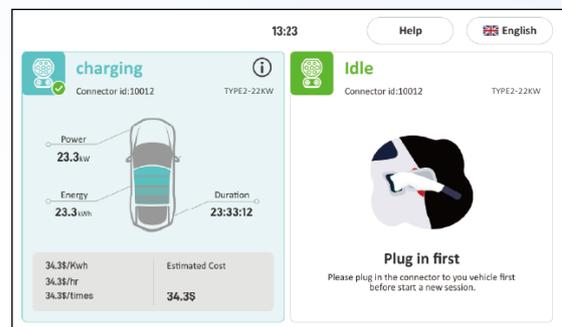
Idle



Connect the charging plug



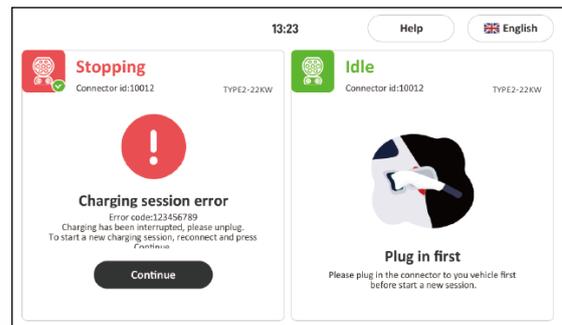
Scan the QR code or swipe the RFID card to start charging



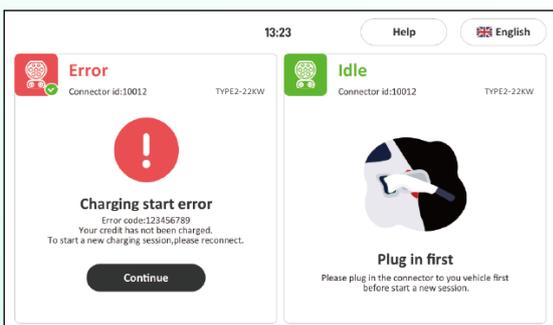
Charging in process



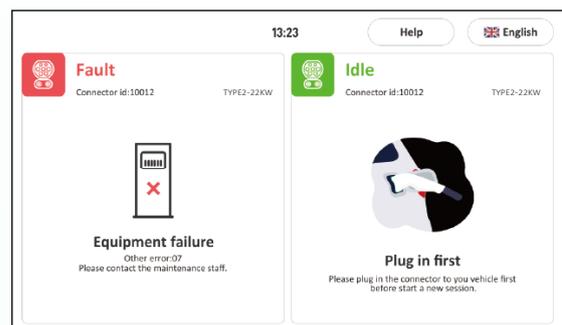
Finished



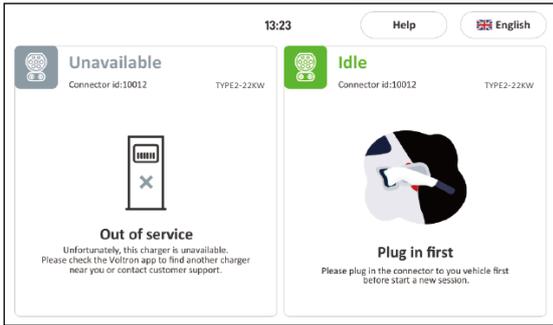
Charging session error



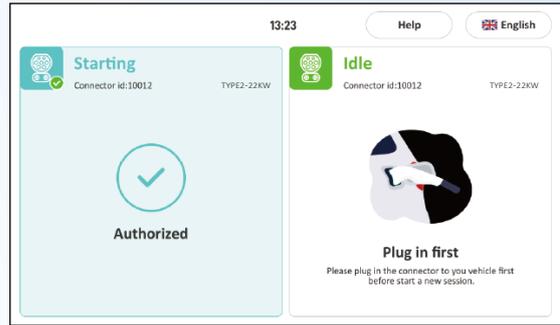
Charging start error



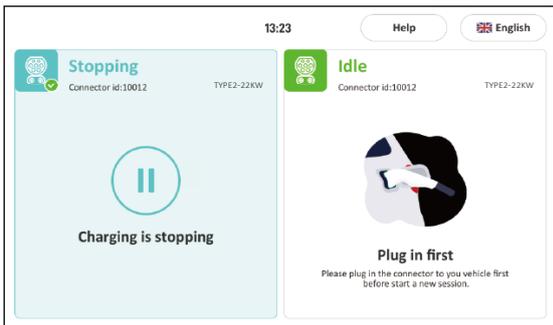
Equipment failure



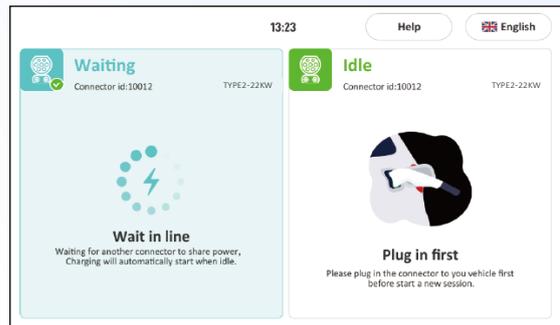
Out of service



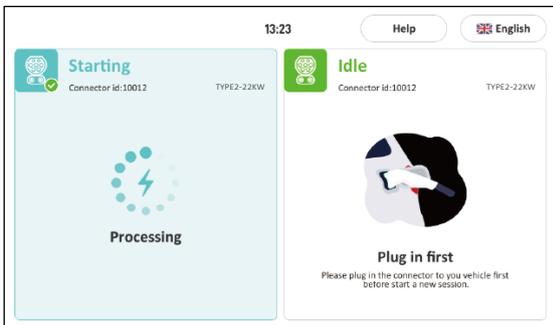
Authorised



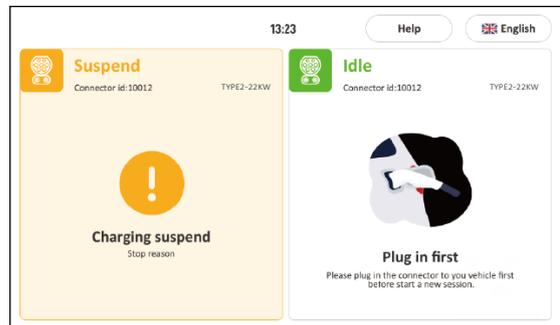
Stopping



Wait in line



Processing



Charging suspend

## TROUBLESHOOTING

Situations	Actions	
Status indicator is not white after the charger is powered on	1	Make sure the AC power input is connected correctly.
	2	Turn OFF the charger and then back ON using the switch.
	3	If the problem persists, contact your installer or Ocular Charging.
Status indicator does not flash white when the charger is connected to the EV	1	Unplug the charging plug and reconnect it fully to the receptacle on the EV.
	2	Inspect the cable and plug for damage.
	3	Inspect the EV and its receptacle for damage.
	4	Try to charge with the portable card set that came with the vehicle; if the problem persists, please contact your installer or Ocular Charging.
Status indicator flashes red while charging	1	There is a temporary error.
	2	Wait until the temporary error is resolved and the charger returns to normal condition. It usually takes less than 10 seconds.
	3	If the status indicator doesn't return to white, turn OFF the charger, and then back ON using the switch.
	4	If the problem persists, please contact your installer or Ocular Charging.
Status indicator is solid red	1	There is a critical error.
	2	Unplug the charging plug from the EV immediately.
	3	Turn OFF the charger and then back ON using the switch.
	4	If the problem persists, please contact your installer or Ocular Charging.

## MAINTENANCE & REPAIR

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- Regularly inspect the Charger. If damage is found, contact your installer or Ocular Charging.
- The charger contains no user-serviceable components. If unit is not operating correctly, contact your installer or Ocular Charging.
- Wipe the outside of the charger regularly with a clean damp cloth to remove any accumulation of dust and dirt to prevent rust.

# OCULAR

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