



USER MANUAL



ThunderCord mode-2 Charger



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Table of contents

1	Safety	4
1.1	Intended use	4
1.2	Safety precautions	5
2	Description of the product.....	6
2.1	Main features of the product	6
2.2	Technical parameters	7
3	Installation	8
3.1	Installation requirements	8
3.2	Security of the Charging Point.....	8
3.3	Installation environment requirements	9
3.4	EVshield APP	10
3.5	Polarity detection	13
4	General Troubleshooting	18
5	Maintenance	21
5.1	Service.....	21
6	Disposal	21
7	Warranty Policy.....	22
8	Declaration of Conformity	23

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1 Safety

Disclaimer. The information provided is intended solely as a guideline and should not be considered as professional advice or an exhaustive representation of all applicable regulations. Users are encouraged to consult with qualified professionals and adhere to specific local, national, and international standards and regulations governing the installation and safety of charging points. Any reliance on the information provided is at the user's own discretion and risk. The entity providing this information shall not be held responsible for any consequences arising from its use or interpretation.

This manual has been translated into multiple languages. The original is written in UK English. All other languages are translations of the original. This manual may be modified without notification beforehand, please refer to our official website for the latest version of this manual.

1.1 Intended use

This device is a mobile charger intended to charge electrical vehicles using power from a household power grid. The device may be used indoors and outdoors. The charging current can be adjusted to adapt to the availability of power at the charging location.

This device must be used with specifications as per this manual.
Safe use can only be guaranteed when the device is used as intended by this manual.





1.2 Safety precautions

Read all the safety precautions and instructions thoroughly before using the device. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious personal injury.

- Do not put fingers into the electric vehicle connector.
- Do not use the device when the cables are frayed, broken or otherwise damaged.
- Do not use this device if the enclosure is damaged, broken or otherwise damaged.
- Do not drop or bump the device.
- Do not store or use the device in environmental conditions that exceeds the conditions as stated in this manual.
- Do not remove the charging plug while the charging process is active. This may cause irreversible damage to the charger and the car.
- Do not modify the power plug or any other component.
- Do not use extension cords, multi-outlets power strips or similar products with this device.
- Do not immerse the device in water or other liquids. The device has limited dustproof and waterproof capabilities. The equipment has been flooded, immediately cut off the power and stop using it.
- The device is not serviceable, do not open the device.
- Use of any adapter with this product is not allowed.
- Only use the device with a properly grounded power outlet in compliance with local guidelines.
- During use, strictly follow this manual, otherwise the equipment may be damaged.
- Make certain the device is used in such a way that it will not be stepped on, tripped over or otherwise subjected to damage.
- The charger and cable can get warm during normal operation.
- The device should not be operated by children.





2 Description of the product

2.1 Main features of the product

2.2.1 Equipped with LCD/LED status indication.

2.2.2 The device has the function of controlling the current regulation and scheduling the charging times.

2.2.3 With Wi-Fi/Bluetooth function, online current adjustment and charging appointment function can be realized through mobile phone APP.

2.2.4 System protection functions include:

- ✓ Overvoltage protection
- ✓ Undervoltage protection
- ✓ Overcurrent protection
- ✓ Short circuit protection
- ✓ Leakage protection
- ✓ Overtemperature protection
- ✓ Lightning protection

2.2.6 A variety of different specifications of plugs, adapt to the socket standards of any country. Intelligent identification of adapter power and output current ensure the safety of equipment power.

2.2.8 The shell is of a waterproof and dustproof design, with IP65 protection level, suitable for indoor and outdoor usage.





2.2 Technical parameters

	1 Phase	3 Phase
Input Type	1 Phase	3 Phase
Max output power	3KW 7kW	11KW 22KW
Input Voltage	AC 240V	AC 400V
Input Voltage frequency	50Hz/60Hz	
Output Voltage	AC 240V	AC 400V
Output Current	13A 32A	16A 32A
Output Power	The output power can be adjusted	
Efficiency	≥98	
Insulation Resistance	≥10MΩ	
Idle Power Consumption	≤7W	
RCD	Type-A + DC 6mA	
Working Temperature	-30°C~+50°C	
Storage Temperature	-40°C~+80°C	
Ambient Humidity	5% ~95%	
Altitude	No more than 2000 meters	
Status Indicator	LED Indicator /2.8" LCD	
Comm. Method	Wi-Fi 2.4GHz & Bluetooth	
Charging System	IEC 61851, Mode 2	
Charging Port	IEC 62196, Type2	
Protection class	IP65 + IK10	
Safety Protections	Overvoltage, undervoltage, grounding, lightning, leakage, flame retardant shell, overcurrent, temperature control.	
Energy Meter	≥1.0 Level	
Weight	Varies depending on cable length	





3 Installation

Always comply with any applicable laws and regulations that have not been accounted for in this manual.

Make sure you have fully read, understand the instructions in this manual before attempting to install or use the device.

3.1 Installation requirements

Choose the minimum cable diameter according to local legislations.

Minimum recommendations up to 25 meters are:

Voltage	Amps [Up to]	Cable diameter [min.]
240	16	2.5 mm ²
240	32	6 mm ²
400	16	2.5 mm ²
400	32	6 mm ²

3.2 Security of the Charging Point

The device must be installed according to the standard **IEC 61851-1 ed. 3**:

- Each charging point must be protected by its own residual current device (RCD) with a maximum rating of 30mA. This device may be installed either in the charging station or in the distribution board.
- Protection against DC fault currents must be provided, which can be achieved by using a type B residual current device. However, when implementing Type B, in some situations, other type B residual current devices may also need to be installed or replaced for selectivity reasons. Type B must comply with the above standards and with: NEN-EN-IEC 62423.
- In the event of a direct current (DC) fault exceeding > 6 mA, the installation must be disconnected.





3.3 Installation environment requirements

5.2. The charger is a universal indoor and outdoor charger, which meets the IP65 protection level.

5.2.2 Please ensure that the ambient temperature range of the installation site is within the allowable range of -30°C to $+50^{\circ}\text{C}$.

5.2.3 The installation site must be below 2000 meters above sea level.

5.2.4 There should not be severe vibration and flammable and explosive materials near the installation site.

5.2.5 The installation site should not be in low-lying areas or areas prone to water accumulation.

5.2.6 The charger installation must be supported by the wall, if there is no wall support, it is recommended to use a special floor bracket for installation and fixation.

5.2.7 When installing the charger body, ensure that the charger body is vertical, and the installation height ranges from the type-2 plug to the horizontal ground is between: 500~1500mm.



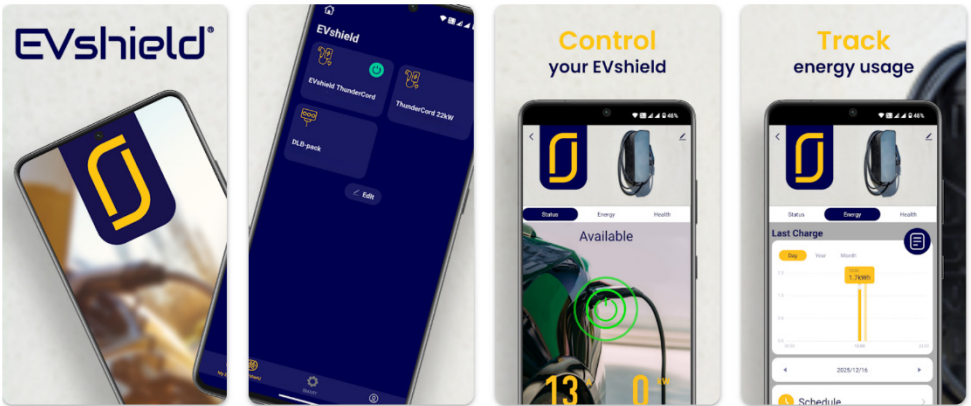



3.4 EVshield APP

The ThunderCord does not support 5GHz Wi-Fi networks, you must confirm that the local Wi-Fi network is a **2.4GHz network**.

Download the official **EVshield APP** from the APP store, scan the QR code to download the App or search for “EVshield” in the App store:





- 1) Create an account to unlock all Smart functions, or try the APP as a guest.
- 2) In the top right-hand corner. Press the  symbol to add a new device.

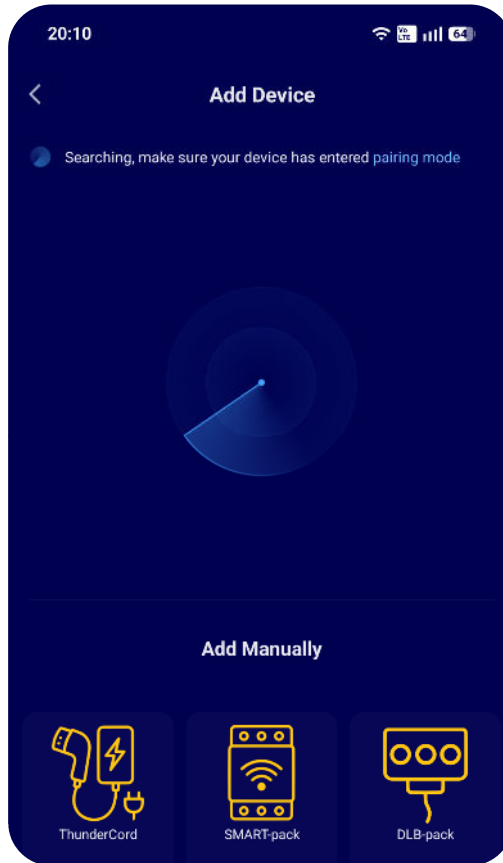


- 3) Make sure the ThunderCord is connected to mains power, but not inserted into a vehicle.





- 4) The APP will now search for the ThunderCord, connect it to the 2.4GHz Wi-Fi network.



- 5) The ThunderCord is now added to the APP and can be used by the APP. Please keep in mind that the ThunderCord will only work on the local 2.4 Ghz Wi-Fi network as set in the APP, if the device is used on another location or network the APP won't connect to the charger. Use the buttons to control the device instead.





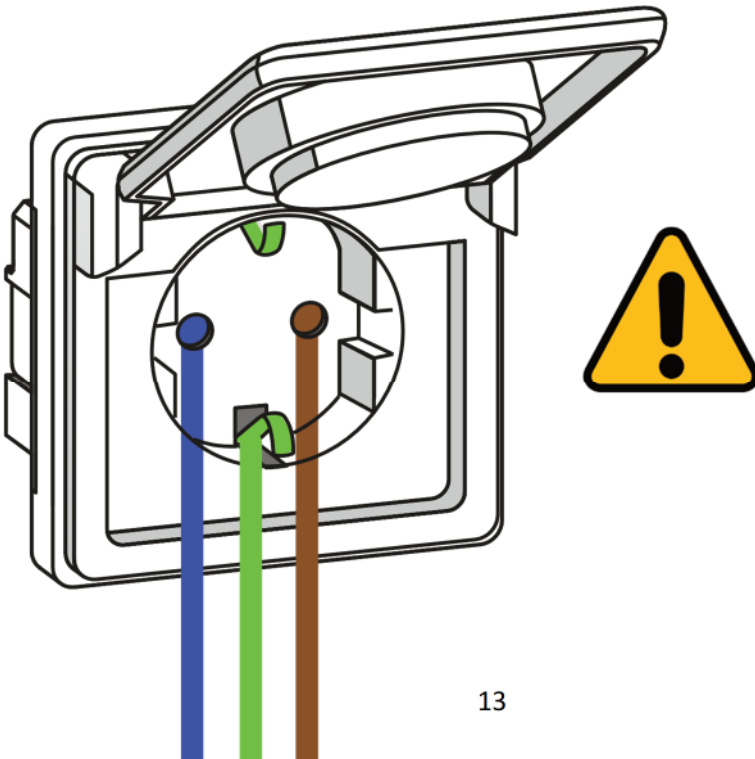
3.5 Polarity detection

The ThunderCord charger is available in both single phase and three phase configurations. Because a shared firmware platform is used across all variants, the presence and position of the neutral conductor is always verified before charging starts. This means the ThunderCord requires the neutral and live conductors to be connected to the correct terminals. If the charger shows a flashing “red lightning” error symbol, check that the live and neutral connections are correctly wired and positioned.

Refer to the image below for the correct L and N connection layout **for single-phase 3kW ThunderCord chargers**:

NEUTRAL – EARTH – LIVE

BLUE – GREEN – BROWN





Single-phase 7kW

EARTH – NEUTRAL – LIVE

GREEN – BLUE – BROWN



Triple-phase 11kW & 22kW

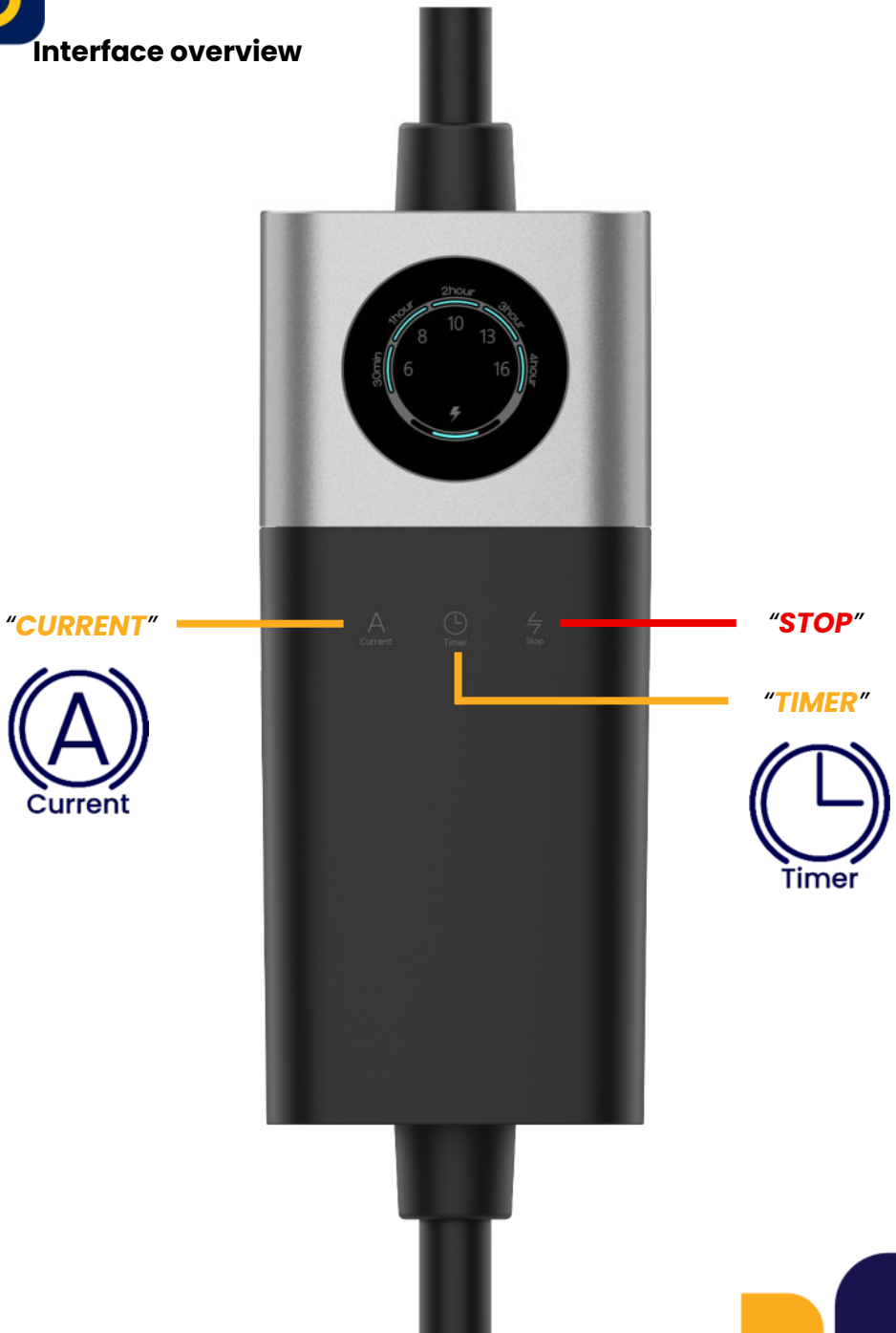
EARTH – NEUTRAL – LIVE 3 – LIVE 2 – LIVE 1

GREEN – BLUE – GREY – BLACK – BROWN





Interface overview





STOP Charging

LED model	LCD model
Press and hold the "STOP" Button for 3 seconds	
The charging session will be aborted	

Reset Wi-Fi

In case the connection to the EVshield App is lost the ThunderCord can be reset to pair a new account or Wi-Fi network.

LED model	LCD model
Make sure the device is connected to mains power, but not inserted into a vehicle.	
Press both "CURRENT" & "TIMER" buttons 10 seconds	
Press the button "TIMER"	Press the button "CURRENT"
Verify that the inner row of lights (Numbers) are <u>ON</u>	Go to "Unlink my Phone"
Hold the button "TIMER" for at least 5 seconds to confirm	
Device will reboot and reset Wi-Fi	

Adjust maximum Charging Power

LED model	LCD model
Make sure the device is connected to mains power, but not inserted into a vehicle.	
Press the button "CURRENT" to select current level	
Hold "CURRENT" button for at least 2 second to confirm	





Timer

The buttons on the ThunderCord can be used to set a time limit on the charge session without using the App.

LED model	LCD model
Make sure the device is connected to mains power, but not inserted into a vehicle.	
Hold the "TIMER" button for at least 2 seconds	
Short press the "TIMER" button to select the desired charging time, the corresponding outer row LED will illuminate.	Short press "TIMER" button to select timer value
	Short press "CURRENT" button to enable or disable timer
Hold "TIMER" button for at least 2 seconds to confirm	

Disable Ground detection & Polarity detection

LED model	LCD model
Make sure the device is connected to mains power, but not inserted into a vehicle.	
Hold both "CURRENT" & "TIMER" 10 seconds	
Press "CURRENT" button	Press "CURRENT" button
Detection Disabled : 1 light <u>ON</u> of outer LED row	Go to "Cancel Ground Detection"
Detection Active : 4 lights <u>ON</u> of outer LED row	
Hold the "TIMER" button for at least 5 seconds to confirm	
Device will set Ground Detection <u>and</u> Polarity detection as requested.	





4 General Troubleshooting

Fault	Possible causes	Solutions
LED indicator or LCD does not light up	Power not connected	Check that the power inlet is energized and that the power switch is closed.
	circuit breaker trips	Check the wiring and socket for improper connection or damage.
	The device is damaged	Please contact the customer service centre for repair
Unable to start charging	The charging cable is not fully connected	Check whether the charging connector is plugged into the bottom of the socket
	Polarity reversed	Polarity reversed. Switch L/N in wall socket. See page 13 of this manual. Red light blinks 2 times every 5s.
	Protection circuit activated	Please refer to the RGB lamp control logic description.
The charging current is less than the rated value	The vehicle malfunctions or is almost fully charged	It is normal for the charging current to drop when the vehicle's battery is nearly full.





seq	STATE	Charging charger status	LED light	Remark
1	Normal state	Standby	Blue light is always on	Normal state
2		ready to charge state	Green light is always on	The connector is not activated.
3		Charging status	Flashing green light (on 500ms, off 500ms)	The connector is activated.
4		Charging completion status	Green light is always on	Stop charging when the car is fully charged or when the charging completion condition is reached.





seq	STATE	Charging charger status	LED light	Remark
5	Fault state	Emergency stop failure	Red light blinks 1 time every 5s	In case of failure, the red light blinks ON for 200ms and OFF for 200ms.
6		Neutral fault Polarity reversed	Red light blinks 2 times every 5s	
7		CP error fault	Red light blinks 3 times every 5s	
8		overcurrent fault	Red light blinks 4 times every 5s	
9		overvoltage fault	Red light blinks 5 times every 5s	
10		undervoltage fault	Red light blinks 6 times every 5s	
11		Breaker sticking fault	Red light blinks 7 times every 5s	
12		electric leakage fault	Red light blinks 8 times every 5s	
13		overtemperature fault	Red light blinks 9 times every 5s	
14		Faulty meter	Red light blinks 10 times every 5s	
15	Other faults	Red light on for 1000ms, off for 1000ms		





5 Maintenance

The device is usually maintenance free. Only periodic cleaning of the housing and vehicle connector is required by the user.

- Switch off the device and remove it from any power source.
- Clean the device with a damp cloth.
- Do not use aggressive chemicals or flammable solvents.
- Do not use coarse cleaning tools, like abrasive pads, that may damage the surface.

5.1 Service

The device is not serviceable by the user. If your charger is in need of service, please contact EVshield or your local vendor. Do not attempt to service, repair or modify the device in any way.

6 Disposal

If the device is defective beyond repair, or no longer used, please recycle the charger according to local rules, laws and guidelines regarding the disposal of electrical devices.





7 Warranty Policy

The warranty period of this product is two years, starting from date of delivery. During the warranty period, the manufacturer will repair any malfunctions that are not caused by human error (as determined by an official employee); under normal use in accordance with this instruction manual.

The equipment is covered by the relevant warranty terms above except for the following issues :

- 1) The purchase invoice cannot be provided, or the physical identification of the faulty device is altered or doesn't match the contents on the warranty certificate.
- 2) Beyond the warranty period specified.
- 3) Damage caused by failure to use, maintain and store in accordance with the requirements of the product user manual.
- 4) Damage or malfunction caused by the entry of foreign objects, moisture, water or others.
- 5) Damage caused by disassembly.
- 6) Damage caused by force majeure (such as lightning, excessive voltage, earthquake, fire, flood, and other natural disasters).
- 7) Failure and damage caused by other unavoidable external factors.
- 8) Damage caused by improper use leading to water ingress or other solutions in the equipment.
- 9) Damage caused by using a power supply or voltage other than the specified one.
- 10) Damage as a result of not using the charger in conjunction with the EVshield.





8 Declaration of Conformity

24031701.1



EU DECLARATION OF CONFORMITY



Manufacturer: EVshield, a business unit of OMI-engineering.

This certifies that the following apparatus conforms to the requirements of the directives listed below

This declaration of conformity is issued under the sole responsibility of the manufacturer:

EVshield
Hagelkruis 49
5571PB Bergeijk
The Netherlands

Applicable products

Description

ThunderCord



Reference

8720865767741
8720865767758
8720865767765

The object of the declaration described is in conformity with the relevant Union harmonisation legislation:

Standards Applied

Title

Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Directive 2014/30/EU of the European parliament and of the council on the harmonisation of the laws of the Member States relating to electromagnetic compatibility

Directive 2014/35/EU of the European parliament and of the council on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits

Reference

IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-6:2015, IEC 62321-7-1:2015, IEC 62321-7-2:2017, IEC62321-8:2017

EN IEC61000-6-1:2019, EN IEC 61000-6-3:2021, EN61851-21-1:2017/AC:2017-11, EN IEC 61851-21-2:2021

EN IEC 61851-1:2019, EN 62196-1:2014, EN62196-2:2017, EN62196-3:2014, EN 50620:2017/A1:2019, EN62752:2016/A1:2020, EN61984:2009, EN60998:2004, EN60730-1:2016/A2:2022, EN50470-1:2006/A1:2018, EN50470-3:2022

Name: Robin Bruil
Position: Product designer
Document: 24031701

Signature:

Date:
Revision:

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Page 13

