



USER MANUAL



ThunderCord mode-2 EV charger



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Table of contents

1	Safety Information	4
1.1	Intended use	4
1.2	Safety precautions	5
2	EVshield APP	6
3	Function Overview	10
3.1	START Charging.....	11
3.2	STOP Charging	11
3.3	Adjust maximum Charging Power	12
3.4	Timer.....	13
3.5	Reset Wi-Fi.....	13
4	Installation	14
4.1	Minimum Conductor Cross Section	15
4.2	Distribution Board Protection Requirements.....	15
4.3	Disable Ground detection & Polarity detection	16
5	Polarity detection.....	17
6	Status indicators and Troubleshooting	19
6.1	LED overview	21
7	Maintenance	22
8	Service	22
9	Disposal	22
10	Technical Specifications	23





1 Safety Information

The information provided in this manual 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. EVshield 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 www.EVshield.eu for the latest version of this manual.

1.1 Intended use

The device referred to in this manual is a mobile charger intended to charge electric vehicles from standardized outlet sockets. 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. Make sure you have read and understand the instructions in this manual before attempting to install or use the device. Always comply with any applicable laws and regulations that have not been accounted for in this manual.

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 body parts 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 or connectors.
- Do not store or use the device in environmental conditions that exceed the conditions as stated in this manual.
- Do not remove the charging plug or socket plug, while the charging process is active. This may cause irreversible damage to the charger and the vehicle.
- Use of any adapter with this product is not allowed, 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. If the device has been flooded, immediately cut off the power and stop using it.
- The device is not user-serviceable, do not open or modify the device.
- 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.





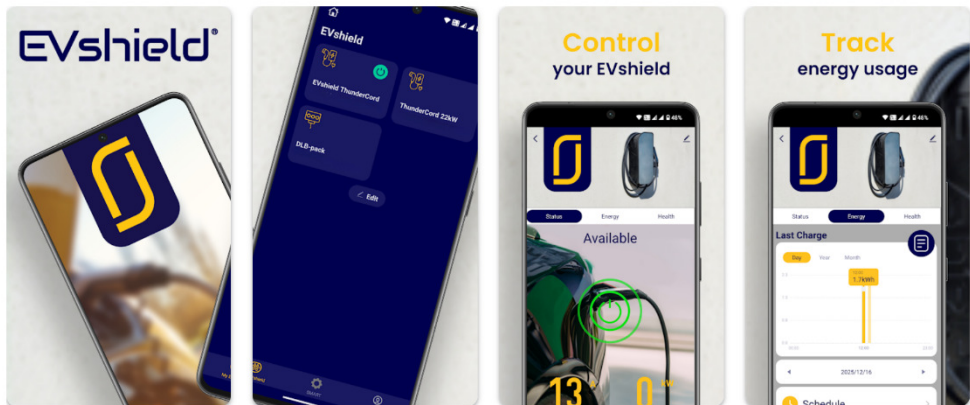
2 EVshield APP

Note: The ThunderCord supports 2.4GHz Wi-Fi networks only. It cannot connect directly to a 5GHz Wi-Fi network.

During the pairing process, connect your phone to the 2.4GHz Wi-Fi network that will be used by the ThunderCord. A combined 2.4GHz and 5GHz network may also work. If pairing fails, temporarily connect the phone to a dedicated 2.4GHz network and try again.

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 without a registered account.
- 2) In the top right-hand corner. Press the  symbol to add a new device.

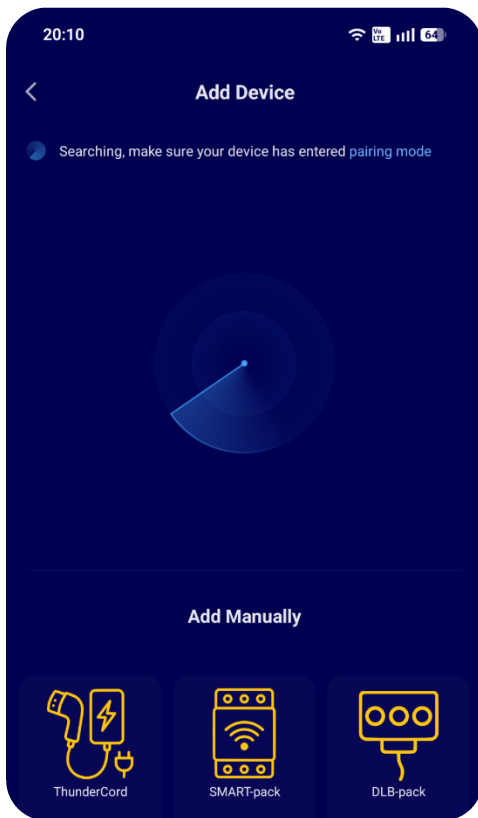


- 3) Make sure the ThunderCord is connected to mains power, but not inserted into a vehicle. The Display will switch ON.





- 4) The ThunderCord remains in pairing mode for approximately one minute after startup if it has not previously been paired with an app
- 5) If the ThunderCord has previously been connected to another App, please remove the device from this App and account first. If you have lost access to his account, the ThunderCord can be reset by following section 3.3 "RESET Wi-Fi".
- 6) The APP will automatically search for the ThunderCord, select the ThunderCord once it is displayed on the screen. If no device is found please try to add manually.





- 7) After pairing with the App, the ThunderCord must be connected to the 2.4GHz Wi-Fi network.
- 8) The ThunderCord has now been added to the EVshield app. After pairing, the ThunderCord must remain connected to the configured 2.4GHz Wi-Fi network and must have access to the internet. Your phone does not need to remain connected to the same Wi-Fi network. You can control the ThunderCord through the EVshield app while your phone is connected to another Wi-Fi network or while using mobile data.

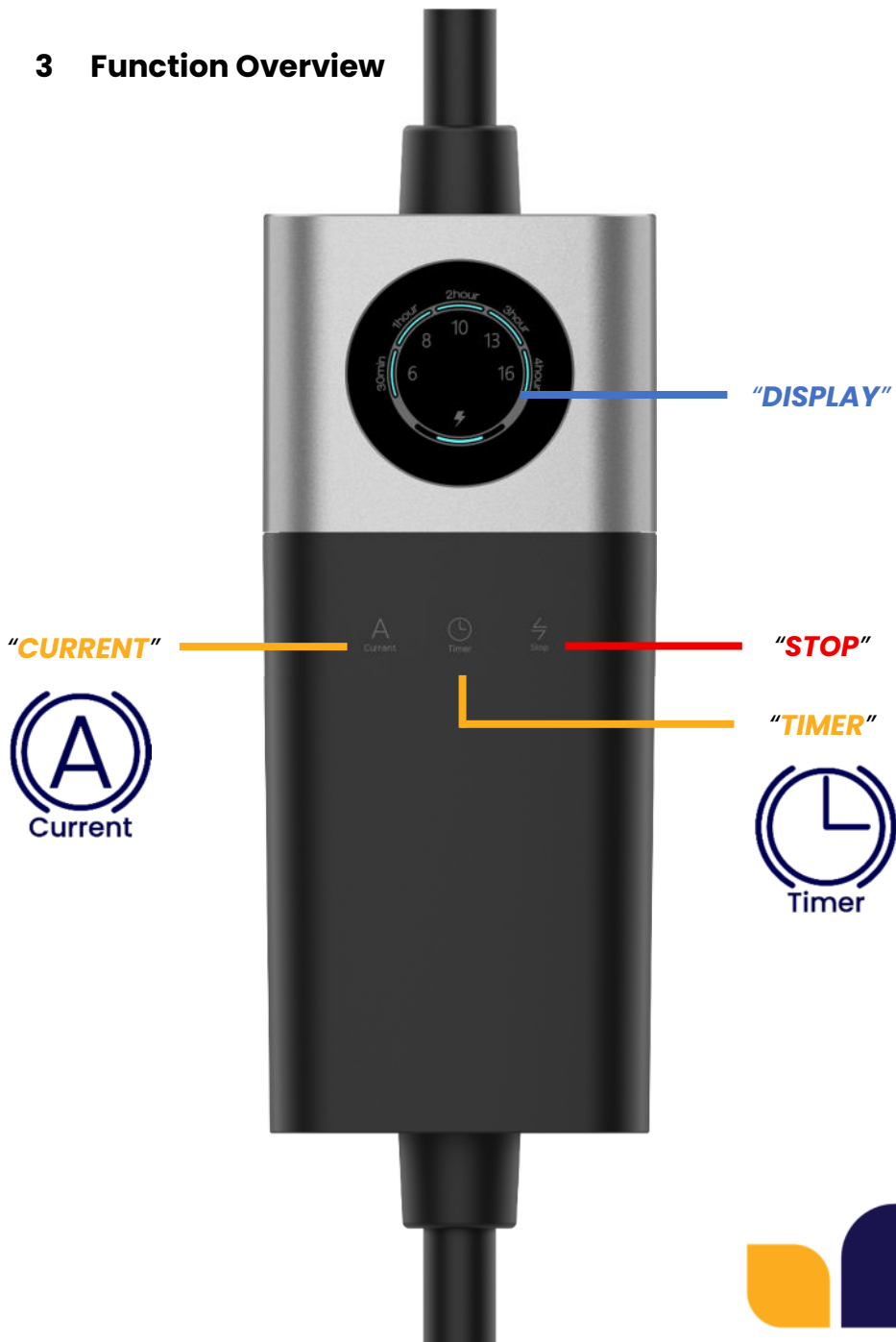
If the ThunderCord is moved to a location with a different Wi-Fi network, app control will be unavailable until the Wi-Fi connection has been reset and the ThunderCord has been connected to the new network.

The physical buttons on the ThunderCord can still be used when Wi-Fi or app control is unavailable.





3 Function Overview





3.1 START Charging

Connect the ThunderCord to the power supply and wait several seconds. Check that no red fault indicator is shown. Then connect the Type 2 connector to the vehicle.

The ThunderCord will always start-up in **Plug&Charge** mode. In this mode the charger will start charging when the vehicle is connected.

3.2 STOP Charging

WARNING: Always stop the charging session before unplugging the ThunderCord from either the power supply or vehicle. Wait until the vehicle has released the connector. Disconnect the Type 2 connector from the vehicle first. Then disconnect the ThunderCord from the power supply.

An active charging session can be stopped through the App or via a button on the device.

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





3.3 Adjust maximum Charging Power

Charging power can be adjusted before or during charging. The ThunderCord will save the last selected power level and remember it for the next charging session.

LED model

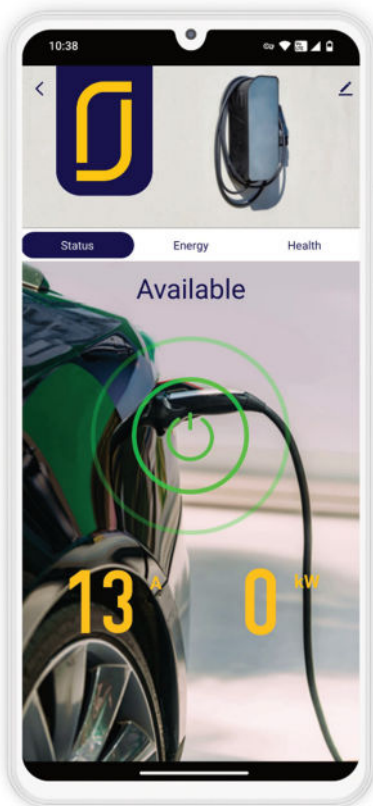
LCD model

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 seconds to confirm

The charging power can also be adjusted through the App by pressing the value on the bottom left corner on the device page.





3.4 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	

3.5 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	





4 Installation

If the ThunderCord is installed in a fixed location, such as when using the EVshield Original or EVshield PLUS, ensure that the installation height from the type-2 plug is between: **500 to 1500mm** from ground level.





4.1 Minimum Conductor Cross Section

The required conductor cross sectional area must be determined by the electrician based on cable length, installation method, ambient temperature, voltage drop, socket rating and applicable local regulations.

Minimum recommendations up to 25 meters are:

Voltage	Amps [Up to]	Cable diameter [min.]
230	16	2.5 mm ²
230	32	6 mm ²
400	16	2.5 mm ²
400	32	6 mm ²

4.2 Distribution Board Protection Requirements

The electrical circuit supplying the ThunderCord must be installed, inspected and tested by a qualified electrician in accordance with all applicable local regulations. Each charging connection must be supplied by an individual final circuit with its own overcurrent protection and residual current protection. The protective devices must be suitable for the maximum current of the ThunderCord and for the installed cable, socket and supply system.

ThunderCord variant	Power Supply	Overcurrent protection	Residual current protection
3kW	230V single phase	16A	Type A, maximum 30mA
7kW	230V single phase	32A	Type A, maximum 30mA
11kW	400V three phase	16A	Type A, maximum 30mA
22kW	400V three phase	32A	Type A, maximum 30mA





An RCBO may be used to combine residual current protection and overcurrent protection in a single protective device.

The ThunderCord includes integrated detection of DC residual currents exceeding 6mA. A Type B residual current device is therefore not normally required solely for protection against DC residual currents.

The integrated protection inside the ThunderCord does not replace the residual current device or overcurrent protective device required in the electrical installation.

Do not connect the ThunderCord to an electrical circuit that has not been inspected or that does not have suitable protective devices.

4.3 Disable Ground detection & Polarity detection

WARNING: *Disabling ground detection or polarity detection may remove an essential electrical safety function. This setting may only be changed by a qualified electrician after verifying that alternative protective measures are present.*

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.	





5 Polarity detection

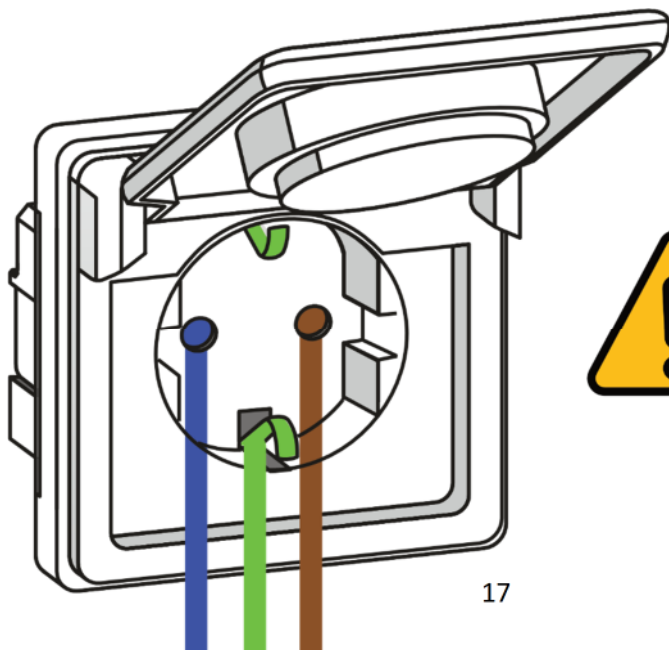
Before charging begins, the ThunderCord verifies the presence and correct polarity of the neutral and live conductors. Charging is only enabled when both conductors are connected to the correct terminals. This safety function helps detect incorrect wiring and prevents the charger from operating when the electrical connection is unsuitable.

If the red lightning symbol flashes on a 3kW model, disconnect the plug from the outlet, rotate it 180 degrees and reconnect it. If the fault remains, disconnect the ThunderCord and do not use the outlet. Have the polarity and wiring checked by a qualified electrician.

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



Three-phase 11kW & 22kW

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

GREEN – BLUE – GREY – BLACK – BROWN





6 Status indicators and 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 center 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
	Neutral fault or polarity reversed	Polarity reversed. Have the polarity and wiring checked by a qualified electrician.
	Protection circuit activated	Please refer to the LED 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.





6.1 LED overview

seq	STATE	Charging charger status	LED light
5	Fault state	Emergency stop failure	Red light blinks 1 time every 5s
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





7 Maintenance

The device is normally 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.

8 Service

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

9 Disposal

If the ThunderCord is defective beyond repair, or no longer used, please recycle it according to local rules, laws and guidelines regarding the disposal of electric devices. If you are unsure on how to dispose of your ThunderCord, please contact EVshield for assistance: support@EVshield.eu





10 Technical Specifications

Input Type	Single Phase		Three Phase	
Max Output Power	3kW	7kW	11kW	22kW
Input Voltage	AC ~240V		AC ~400V	
Mains frequency	50Hz~60Hz			
Output Voltage	AC ~240V		AC ~400V	
Output Current	13A	32A	16A	32A
Nom. Output Power	Adjustable			
Efficiency	≥98%			
Insulation Resistance	≥10MΩ			
Idle Power Consumption	≤7W			
RCD protection(s)	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			
Display	LED Indicator /2.8" LCD			
Wireless communications	Wi-Fi 2.4GHz & Bluetooth			
Charging Mode	IEC 61851, Mode-2			
Charging Port	IEC 62196, Type-2			
Protection classes	IP65 + IK10			
Safety Protections	Overvoltage, undervoltage, grounding, surge protection, leakage, flame retardant shell, overcurrent, temperature control.			
Energy Meter Class	Class 1.0 / Class B			
Weight	Varies depending on cable length			





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Page 17

