GARO Wallbox GLB+  380200-2.0
Assembly instructions / End User Instruction (EN)
**GARO Wallbox GLB+**

with cable and connector, type 1 or 2

- A. Front cover
- B. Cover
- C. Back panel
- D. Indication light
- E. Key
- F. Connector type 1 or 2
- G. Type 2 socket outlet
- H. RCCB (Residual Current Circuit Breaker) or RCBO (Residual Current Breaker with Overcurrent Protection). Energy meter.

**GARO Wallbox GLB+**

with type 2 socket outlet

- H. RCCB (Residual Current Circuit Breaker) or RCBO (Residual Current Breaker with Overcurrent Protection). Energy meter.
About this manual

The purpose of this Manual is to provide you with the necessary information to charge your electric vehicle using Garo Wallbox, models GLB+. This document contains general descriptions which are verified to be accurate at the time of printing. However, because continuous improvement is a goal at GARO, we reserve the right to make product modifications at any time.
Safety Information

Hazard categories and special symbols
Read these instructions carefully before trying to install, operate, or maintain the wallbox. Save the manual for future use.

⚠ Indicates a potentially hazardous situation which could result in death or serious injury
⚠ Indicates a potentially hazardous situation which could result in minor or moderate injury
ℹ Indicates practices that do not involve the risk of bodily injury

Warnings

⚠ This equipment should not be used by anyone (including children) with reduced physical, sensory or mental capacity, or anyone lacking in experience or knowledge, unless they are provided with supervision or prior instruction in how to use the equipment by the person responsible for their safety.

⚠ The GLB+ Wallbox range of charging stations is designed exclusively for charging electric vehicles.

⚠ The GLB+ Wallbox must be grounded through a permanent wiring system.
⚠ Do not install or use the GLB+ Wallbox near flammable, explosive, harsh, or combustible materials, chemicals, or vapors.
⚠ Turn off input power at the circuit breaker before installing, configuring or cleaning of the GLB+ Wallbox.
⚠ Use the GLB+ Wallbox only within the specified operating parameters.
⚠ Never spray water or any other liquid directly at the GLB+ Wallbox. Never spray any liquid onto the charge handle or submerge the charge handle in liquid. Store the charge handle in the dock to prevent unnecessary exposure to contamination or moisture.
⚠ Do not use this equipment if it appears to be damaged or if the charging cable appears to be damaged.
⚠ Do not modify the equipment installation or any part of the product.
⚠ Do not touch the GLB+ Wallbox’s end terminals with fingers or any other objects.
⚠ Do not insert foreign objects into any part of the GLB+ Wallbox.
Cautions

⚠️ Do not use private power generators as a power source for charging.

⚠️ Incorrect installation and testing of the GLB+ Wallbox could potentially damage either the vehicle’s Battery and/or the GLB+ Wallbox itself.

⚠️ Do not operate the GLB+ Wallbox in temperatures outside its operating range – see technical data.

Notes

ℹ️ All installation must be carried out by a qualified installer and comply with local installation regulations.

ℹ️ Ensure that the GLB+ Wallbox’s charging cable is positioned so it will not be stepped on, driven over, tripped over, or subjected to damage or stress.

ℹ️ Unroll the charging cable to prevent it from overheating.

ℹ️ Do not use cleaning solvents to clean any of the GLB+ Wallbox’s components. The outside of the GLB+ Wallbox, the charging cable, and the end of the charging cable should be periodically wiped with a clean, dry cloth to remove accumulation of dirt and dust.

ℹ️ Be careful not to damage the circuit boards or components during installation.

ℹ️ Refer to local standards and regulations to ensure that charging current limits are not exceeded.

ℹ️ The front cover must always be locked in its upper position in order to ensure compliance with IP Code IP44.

ℹ️ Avoid mounting the wall box in direct sunlight. The charging current will be reduced to 16A if the temperature limit inside the wallbox is exceeded. Charging can also be completely turned off should the wallbox be too hot, this is a safety feature to ensure a long lifetime of the product.

ℹ️ To balance out the load, it is important to rotate the phases when connecting several of GLB Wallbox to the same system. Note that 1-phase charging is common in electric vehicles and L1 in the GLB+ is used for this purpose.

ℹ️ This product is already internally Dielectric Voltage Withstand Tested from the factory. It is important not to connect the product when doing an external Dielectric Voltage Withstand Test, since the product has electronics connected to the PE.

ℹ️ To confirm that the GLB+ Wallbox is functioning correctly after installation, test with an EVSE test box.
## Technical data

### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product type:</strong></td>
<td>all GLB models</td>
</tr>
<tr>
<td><strong>Standards/directives:</strong></td>
<td>IEC 61851-1 and IEC TS 61439-7</td>
</tr>
<tr>
<td><strong>Installation:</strong></td>
<td>on wall</td>
</tr>
<tr>
<td><strong>Voltage rating:</strong></td>
<td>230V/400 50Hz</td>
</tr>
<tr>
<td><strong>Installation systems:</strong></td>
<td>TT, TN and IT systems</td>
</tr>
<tr>
<td><strong>Charging type:</strong></td>
<td>Mode 3</td>
</tr>
<tr>
<td><strong>IP classification:</strong></td>
<td>IP44</td>
</tr>
<tr>
<td><strong>Mechanical impact resistance:</strong></td>
<td>IK08</td>
</tr>
<tr>
<td><strong>Application temperature:</strong></td>
<td>-25°C – +40°C [without direct sunlight]</td>
</tr>
<tr>
<td><strong>Storage temperature:</strong></td>
<td>-35°C – +55°C</td>
</tr>
<tr>
<td><strong>Installation height:</strong></td>
<td>0.5–1.5 metres above ground/land to lower edge of charger</td>
</tr>
<tr>
<td><strong>Weight:</strong></td>
<td>around 3 kg including socket outlet</td>
</tr>
<tr>
<td></td>
<td>3.8–4.1 kg including cable and connector, 1-phase</td>
</tr>
<tr>
<td></td>
<td>5.4 kg including cable and connector, 3-phase</td>
</tr>
<tr>
<td><strong>Cable length:</strong></td>
<td>5 m (Only GLB models with fixed cables)</td>
</tr>
</tbody>
</table>
ASSEMBLY INSTRUCTIONS FOR INSTALLER

The GARO Wallbox is an AC charger enabling Mode 3 charging which complies fully with the requirements of IEC 61851-1 and IEC TS 61439-7. The product complies with IP Code IP44, with a closed front. It is designed to be fixed to a wall or mounted on a GARO Wallbox stand and all installation must be carried out by a qualified installer and comply with local installation regulations.

Important information for installer:

1. All installation must be carried out by an authorised installer and comply with local installation regulations.

<table>
<thead>
<tr>
<th><strong>Protection type</strong></th>
<th>1-phase</th>
<th>3-phase</th>
<th>No RCBO</th>
<th>RCBO</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLB+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLB-B--..37..-A-..</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLB-B--..74..-A-..</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLB-B--..22..</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. 1-phase chargers fitted with a Residual Current Breaker with Overcurrent Protection (RCBO) can be connected in parallel. This group of chargers must be protected by a backup fuse in the distribution box. The backup fuse shall not exceed 125A.

2. 3-phase chargers must be protected with both a Type A 30mA Residual Current Device (RCD) and a fuse of maximum 32A in the supply distribution box.

- GLB+ Wallbox have a internal DC-monitor protection implemented which is compliant with follow IEC 60364-7-722.
- Calculate to determine the maximum operating current. Use conductors that are sized in accordance with local wiring regulations. The selected cable must be able to sustain periods of constant load of up to 32A. Manufacturers recommendation is to use minimum 6mm² conductors (16A) / 10mm² conductors (32A) to avoid voltage drop.
- Calculate the distance to ensure minimal voltage drop.
Tools and Materials Required

Before installing the Garo Wallbox, gather the following tools and materials:

- Pencil or marker
- Hole punch (optional, to push through cardboard template)
- Wire cutter
- Voltmeter or digital multimeter (to measure AC voltage at the installation site)
- Small flathead screwdriver
- Medium flathead screwdriver
- Large flathead screwdriver (optional, to remove plastic knock-outs on back panel of GLB+ Wallbox)
- T20 Torx driver
- 3 screws (and plugs) suitable for wall type
- Ferrules (the diameter of the ferrule depends on the diameter of the power wiring and the construction)
- Level
- Power drill
- Cable gland for communication cable (Optional only when knock-outs on back panel of GLB+ Wallbox is used)

Box Contents

- Drill template (see the back of the box)
- GLB Wallbox
- Keys
- Manual
- Language labels
1. Read Safety Instructions
   - All installation must be carried out by a qualified installer and comply with local installation regulations.

2. Ensure the supply cable is isolated
   - Turn off input power at the circuit breaker before installing, configuring or cleaning of the GLB+ Wallbox.

3. Remove the drill template from the packaging (refer to Box Contents)

4. Attach the drill template to the wall where the charger will be installed.
   - Suitable height - refer to Technical Data.
   - Do not install or use the GLB+ Wallbox near flammable, explosive, harsh, or combustible materials, chemicals, or vapors.
   - Avoid mounting the wall box in direct sunlight. The charging current will be reduced to 16A if the temperature limit inside the wallbox is exceeded. Charging can also be completely turned off should the wallbox be too hot, this is a safety feature to ensure a long lifetime of the product.

5. Drill/mark in accordance with the instructions on the drill template.

6. Unlock the front cover with the key provided and slide the cover downwards.

7. The front cover has a built-in stop-position. To move past this position, grip the underside of the cover and lift outwards gradually while pulling downwards.

8. Loosen the seven screws and carefully remove the cover from the back panel.
10. Screw the back panel onto the wall using three screws suitable for the wall surface. See red arrows in figure 9.

11. Feed the cable through the cable inlet.
   
   - Be careful not to damage the circuit boards or components during installation.

12. Connect the cable onto the terminal blocks. The terminal blocks are compatible with cables measuring 1.5 mm²–6 mm² up to 10 mm² in 32A Wallbox.
   
   - The GLB+ Wallbox must be grounded through a permanent wiring system.
   
   - Use the GLB+ Wallbox only within the specified operating parameters.

13. Check if the charging current needs to be reduced. If so, refer to the section: Reducing the charging current.

   - Incorrect installation and testing of the GLB+ Wallbox could potentially damage either the vehicle’s Battery and/or the GLB+ Wallbox itself.

   - Refer to local standards and regulations not to exceed charging current limitations.

   - To balance out the load, it is important to rotate the phases when connecting several of GLB+ Wallbox to the same system. Note that 1-phase charging is common in electric vehicles and L1 in the GLB+ is used for this purpose.

   - This product is already internally Dielectric Voltage Withstand Tested from the factory. It is important not to connect the product when doing an external Dielectric Voltage Withstand Test, since the product has electronics connected to the PE.

9. (Optional, only when connecting communication cable to GLB+)
Press out the knock-out on the GLB+ Wallbox back panel, mount a cable gland. See red circle in figure 9. Feed the communication cable through the cable inlet.
14. Carefully place the cover in position from the front. Ensure the inserts on the right hand side fit into the groove and the cover is perfectly positioned all around.

15. Adhere language label/labels on the side of the charger, choosing language suitable for the site. See figure 10.

16. Securely attach the cover using the seven screws.

17. Verify that the RCCB/RCBO is switched on.

18. Re-install the front cover by feeding it in from below.

19. Lock the front cover with the key.
20. Connect the power and ensure the indication light is solid green.
21. If not refer to the section on: Troubleshooting
22. When solid green light is shown, the charger is ready for use.

To confirm that the GLB+ Wallbox is functioning correctly after installation, test with an EVSE test box.
END USER INSTRUCTION

Congratulations on selecting a GARO Wallbox and contributing to a better environment. The GARO Wallbox is an AC charger enabling Mode 3 charging which complies fully with the requirements of IEC 61851-1 and IEC TS 61439-7. The product complies with IP Code IP44, with a closed front. It is to be fitted to a wall or GARO Wallbox stand, and all installation must be carried out by a qualified installer and comply with local installation regulations.

This equipment should not be used by anyone (including children) with reduced physical, sensory or mental capacity, or anyone lacking in experience or knowledge, unless they are provided with supervision or prior instruction in how to use the equipment by the person responsible for their safety.

The GLB+ Wallbox range of charging stations is designed exclusively for charging electric vehicles.

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

Use the GLB+ Wallbox only within the specified operating parameters.

Do not use this equipment if it appears to be damaged or if the charging cable appears to be damaged.

Do not touch the GLB+ Wallbox’s end terminals with fingers or any other objects.

Do not use private power generators as a power source for charging.

Incorrect installation and testing of the GLB+ Wallbox could potentially damage either the vehicle’s Battery and/or the GLB+ Wallbox itself.

Do not operate the GLB+ Wallbox in temperatures outside its operating range – see technical data.

Ensure that the GLB+ Wallbox’s charging cable is positioned so it will not be stepped on, driven over, tripped on, or subjected to damage or stress.

Unroll the charging cable to prevent it from overheating.

Avoid mounting the wall box in direct sunlight. The charging current will be reduced to 16A if the temperature limit inside the wallbox is exceeded. Charging can also be completely turned off should the wallbox be too hot, this is a safety feature to ensure a long lifetime of the product.
Charging electric vehicles

1. Connect the wallbox to the vehicle using the cable.
2. When charging starts, a pulsing blue light intensity indicates charging in progress.
3. Stop charging. As a rule, the wallbox socket and vehicle inlet locks the cable. As a result, charging must be stopped from the vehicle before the cable is removed. Terminate charging according to the vehicles instruction manual, removing connector from car before removing connector at charger end.
4. After charging, ensure the cable is either removed or coiled and suspended to avoid damage and eliminate the risk of a trip hazard.

For wallboxes with a socket, it is important to ensure that the current rating of the charging cable is sufficient for the wallbox output current. For example, to charge at 32A, a 32A cable is required.

The status of the wallbox can be obtained from the colour of the Indication light (D):
- Solid green light: charger ready, vehicle not connected
- Shifting blue light intensity: device connected to vehicle, charging in progress.
- Flashing yellow light: check authorisation of RFID-tag.
- Red light: fault, refer to section on Troubleshooting.
Resetting/Conditioning of RCCB or RCBO

Do not modify the equipment installation or any part of the product.

Do not touch the GLB+ Wallbox’s end terminals with fingers or any other objects.

Do not insert foreign objects into any part of the GLB+ Wallbox.

Incorrect installation and testing of the GLB+ Wallbox could potentially damage either the vehicle’s Battery and/or the GLB+ Wallbox itself.

If the wallbox is equipped with a RCCB or RCBO (H). In the event of overload/earth fault, these can be tripped. These components must also be conditioned every 6 months.

Procedure for resetting/conditioning:
1. Disconnect the car.
2. Unlock the front cover with the key provided.
3. Open the front cover (A) by sliding it downwards.
4. Reset the circuit breaker. When conditioning press the test button, then reset the circuit breaker.
5. Close the front cover by sliding it upwards.
6. Lock the front cover with the key.

The front cover must always be locked in its upper position in order to ensure compliance with IP Code IP44.
Care

- Do not install or use the GLB+ Wallbox near flammable, explosive, harsh, or combustible materials, chemicals, or vapors.

- Turn off input power at the circuit breaker before installing, configuring or cleaning of the GLB+ Wallbox.

- Never spray water or any other liquid directly at the GLB+ Wallbox. Never spray any liquid onto the charge handle or submerge the charge handle in liquid. Store the charge handle in the dock to prevent unnecessary exposure to contamination or moisture.

- Do not use cleaning solvents to clean any of the GLB+ Wallbox’s components. The outside of the GLB+ Wallbox, the charging cable, and the end of the charging cable should be periodically wiped with a clean, dry cloth to remove accumulation of dirt and dust.

- Avoid mounting the wall box in direct sunlight. The charging current will be reduced to 16A if the temperature limit inside the wallbox is exceeded. Charging can also be completely turned off should the wallbox be too hot, this is a safety feature to ensure a long life-time of the product.

Cleaning the Charging Station

We recommend cleaning the GLB+ Wallbox with a soft dry cloth. Never use abrasive pads or detergents.

Troubleshooting

<table>
<thead>
<tr>
<th>Indication</th>
<th>Type of fault</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant red light</td>
<td>The residual-current or personal protective current breaker has been tripped.</td>
<td>Reset. Refer to section on Resetting the residual-current or personal protective current breaker.</td>
</tr>
<tr>
<td>Broken cable</td>
<td>Check cable</td>
<td></td>
</tr>
<tr>
<td>Motor lock socket not in latched position.</td>
<td>Contact a qualified electrician.</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Contact a qualified electrician.</td>
<td></td>
</tr>
<tr>
<td>No indication</td>
<td>Check supply fuse.</td>
<td></td>
</tr>
</tbody>
</table>

If the advise does not help, contact your qualified installer.
INDEX

Symbols

A
Application temperature 11
Assembly instructions 14

B
Back panel 2
Box Contents 16

C
Cable length 11
Care 32
Cautions 8
Charging electric vehicles 29
Charging type 11
Cleaning 32
Connector type 1 or 2 2

D
Dimensional drawing 13
Drill template 16

E
End User instruction 26
Energy meter 2

F
Front cover 2

G

H

I
Important information for installer 14
Indication light 2, 29
Installation height 11
IP classification 11

J

K
Key 2, 16

L
Language labels 16

M
Mechanical impact resistance 11

N
Notes 8

O

P

Q

R
RCBO 2
RCCB 2
Resetting/Conditioning of RCCB or RCBO 31

S
Safety Information 6
Sound indications 29
Standards/directives 11
Step-by-Step Installation 18
Storage temperature 11

T
Technical data 11
Tools and Materials Required 17
Troubleshooting 33
Type 2 socket outlet 2
Type label 14

U

V
Voltage rating 11

W
Warnings 6
Weight 11

X

Y

Z