



GARO Twinbox GTB

Quick start (EN)

Manual 380230 1.3



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INFORMATION

GARO GTB assortment is a range of EVSE stations for Mode-3 AC charging.

Below are some example of standard features:

- Double outlets or cables for Mode-3 EV charging.
- Up to 2x22kW simultaneous charging from one EVSE depending on model.
- RCCB with DC-fault monitoring for each side.
- Internal static DLM (Dynamic Load Management).
- Remote control function for activated charging.
- Double mains terminals for easy forwarding of mains cable to next GTB.
- Suitable for installation on wall or pole.
- LED status indication.
- Upgradeable firmware

Some models also have:

- Energy meters for each side
- Communication module for Wifi/LAN functions
- RFID readers

General functions:

- Install and administrate RFID readers
- Connect mobile/tablet/PC to webinterface
- Activate scheduled charging via webinterface
- Schedule for electric current limitation via webinterface
- Install external energy-meter for advanced DLM
- Connect up to 16pcs GTB in a cluster for advanced DLM
- Update firmware via webinterface




Some functions require specific installed hardware ie communication module.

For full user manual: www.garoemobility.com/support














Warnings

- ⚠ Dielectric Voltage Withstand Test is not allowed on GTB Twinbox
- ⚠ 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 GTB Twinbox range of charging stations is designed exclusively for charging electric vehicles.
- ⚠ The GTB Twinbox must be grounded according to local country installation requirements.
- ⚠ Do not install or use the GTB Twinbox near flammable, explosive, harsh, or combustible materials, chemicals, or vapors.
- ⚠ Turn off the electrical power at the circuit breaker before installing, configuring or cleaning of the GTB Twinbox.
- ⚠ Use the GTB Twinbox only within the specified parameters.
- ⚠ Never spray water or any other liquid directly at the GTB Twinbox. 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 terminals with fingers or any other objects.
- ⚠ Do not insert foreign objects into any part of the GTB Twinbox.

Cautions

-  Do not use private power generators as a power source for charging. Variations in the electrical voltage can damage the vehicle's battery and/or the GTB Twinbox itself.
-  Incorrect installation and testing of the GTB Twinbox could potentially damage either the vehicle's battery and/or the GTB Twinbox itself.
-  Do not operate the GTB Twinbox in temperatures outside its operating range – see technical specifications.

Notes

-  All installation must be carried out by an authorised installer and comply with local installation regulations. If any questions, please contact your local electrical authority.
 -  Ensure that the GTB Twinbox'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.
 -  Do not use cleaning solvents to clean any of the GTB Twinbox's components. The outside of the GTB Twinbox, 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.
 -  Be careful not to damage the circuit boards or components during installation.
 -  Refer to local standards and regulations not to exceed charging current limitations.
 -  The front cover must always be locked in order to ensure compliance with IP Code IP44.
 -  Avoid installing the GTB Twinbox in direct sunlight to avoid any heat-problems.
-  To even out the load, it is important to rotate the phases when connecting several of GTB Twinboxes to the same supply. Note that 1-phase charging is common in electric vehicles and L1 and L2 in the GLB is used for this purpose.
 -  Ventilation signal from EV is not supported.
 -  Adapters for charging connectors are not allowed to be used.
 -  Cord extension sets for charging cable is not allowed to be used.
 -  Electrical vehicles (EV) software and the GTB Twinbox firmware are continuously updated.
To make sure that the GTB Twinbox is working properly, it is necessary to update the firmware and it requires a communication card.
Communication cards are available as an accessory. GTB twinboxes installed in a cluster only need the master to have the communication card installed.

INSTALLATION OF STANDALONE GTB WALLBOX

(For installation of GLB in cluster, see User manual at www.garoemobility.com/support)

- The installation must be performed by a professional electrician. The installed mains cable need to handle up to 63A during long term period. Calculate the required cable length and select the appropriate cable-area to minimize the risk of voltage-drop.
- Follow local country regulations.
- Left hand side PCB (CC1) controls the left side outlet/cable and the right hand side PCB (CC2) controls the right hand side outlet/cable.

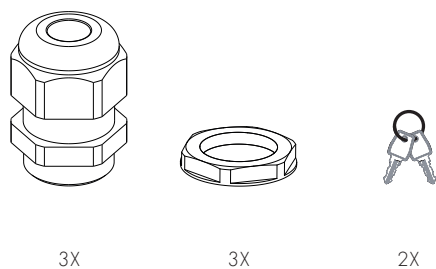
1. Select the appropriate group fuse and cable size for the electrical installation.

When the GTB twinbox uses max rated power, the consumed electrical current = table 1.

NOTE! Due to high currents for a long time in the cable, there is a high risk of voltage drop if the cable is under-dimensioned which can damage the electronics in an EV.

2. Fill in the information in the Warranty form.

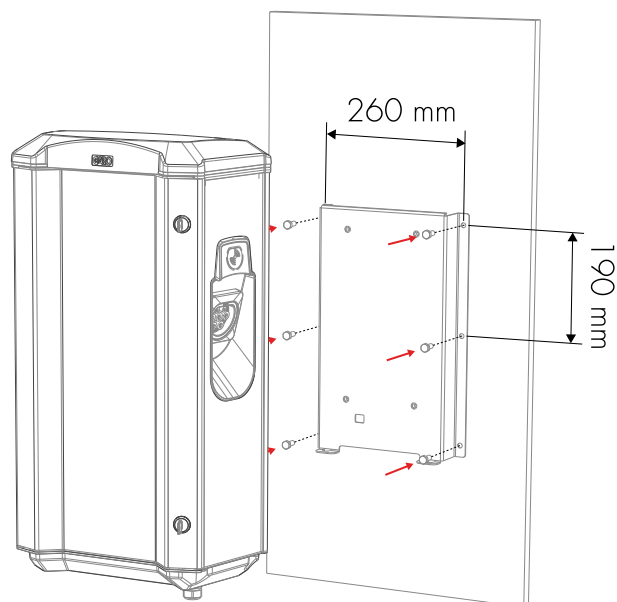
3. Mount the GTB Twinbox on a wall/pole according to the installation sketches, (picture 1-6)



MAX Ampere per modell

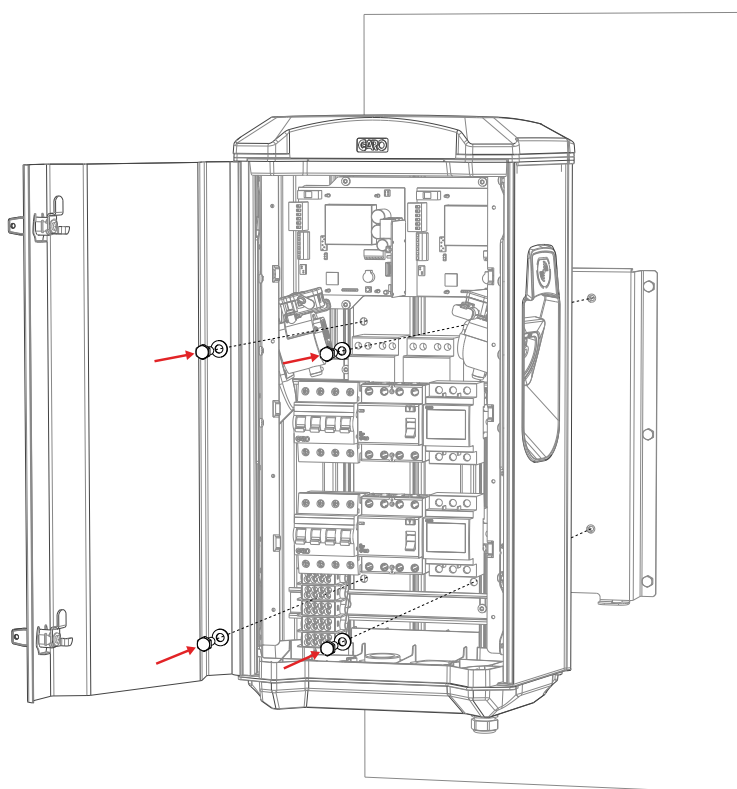
GTB 3,7 kW = 16 A
GTB 7,4 kW = 32 A
GTB 11 kW = 32 A
GTB 22 kW = 63 A

(table 1)



6 Ø 8,5mm (screws not included)

(picture 1)

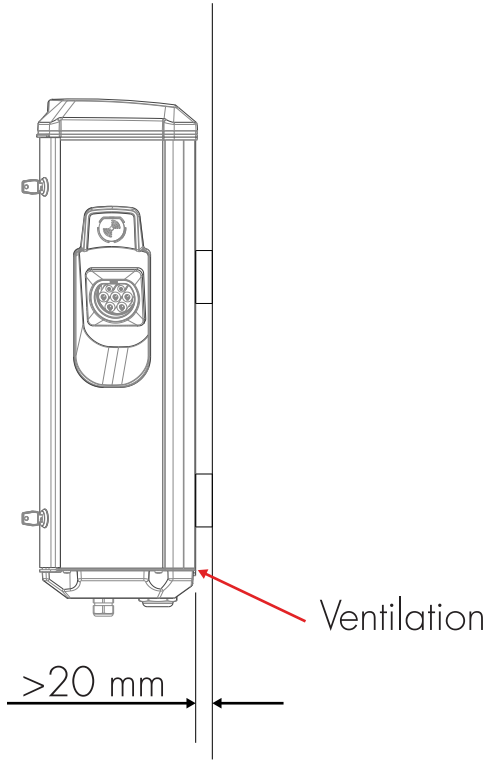
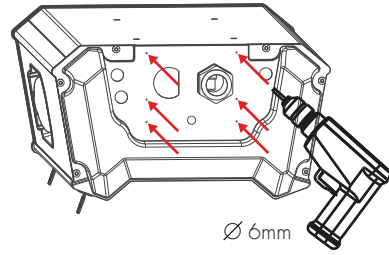


4x M8 L20mm

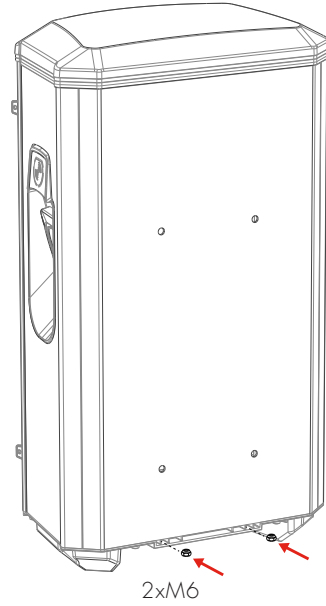
(picture 2)

INSTALLATION OF STANDALONE GTB WALLBOX

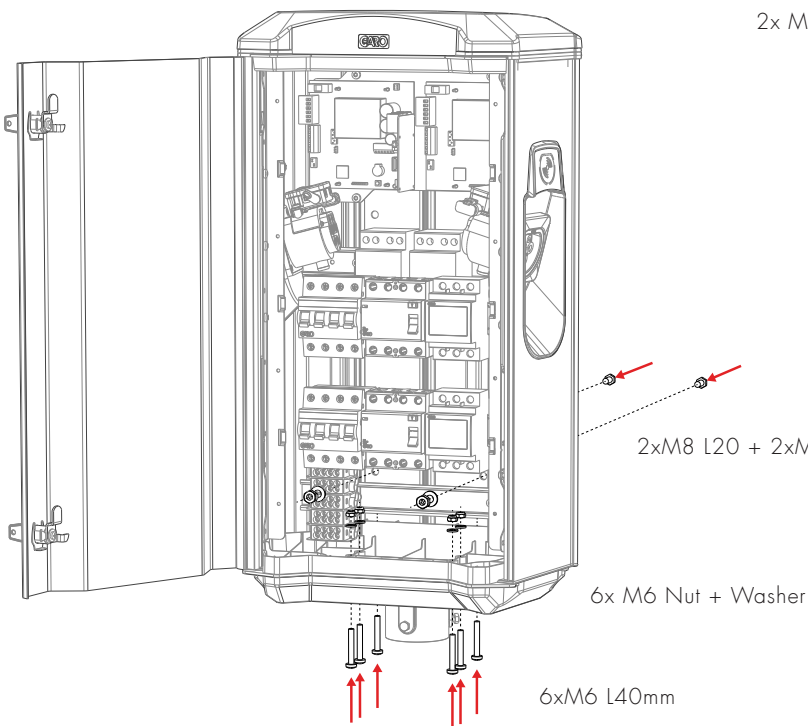
Note! When installed on a wall, there must be 20mm space between the Twinbox and the wall. The space is needed to achieve correct cooling for the Twinbox (picture 3). When installed on a pole, the 2pcs holes for wall mounting must be closed with attached screws (figure 6).



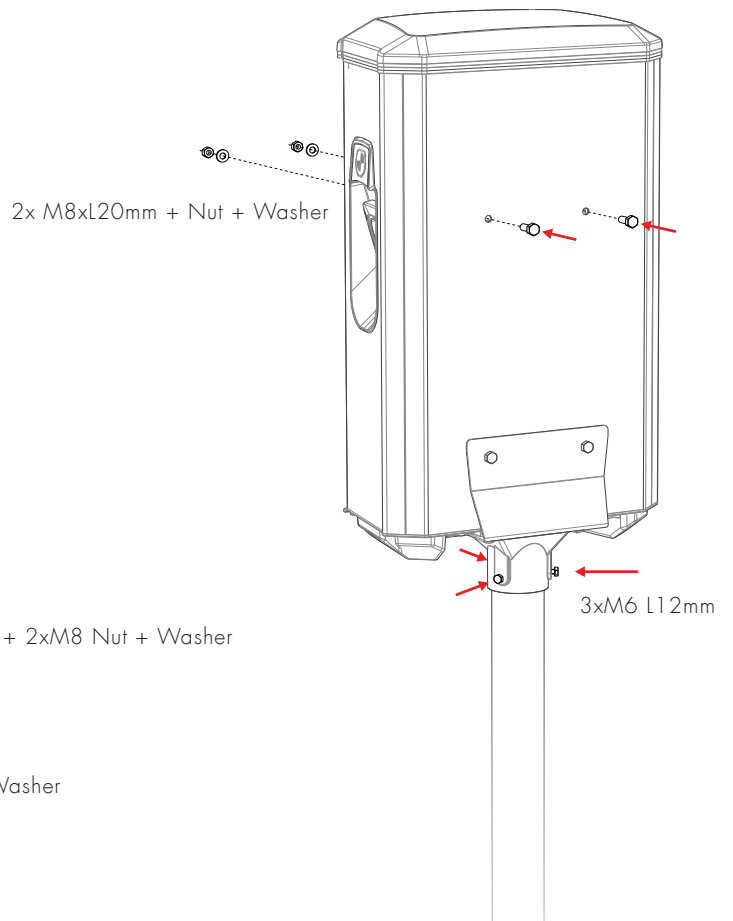
(picture 3)



(picture 4)



(picture 5)



(picture 6)

INSTALLATION OF STANDALONE GTB WALLBOX

4. Set dip switch CC2 SW1 to the max Ampere (A) that the Twinbox can supply according to the rating label, i.e. GTB1 1kW= 16+16A = 32A. SW1 position: see picture 7.

5. You can by setting Dip switch SW2 on both CC1 and CC2 reduce the charging current for left or right hand side if needed. Normally, this is normally not necessary. Available range is 6-32A (picture 8). Dip switch 2 location See picture 7.

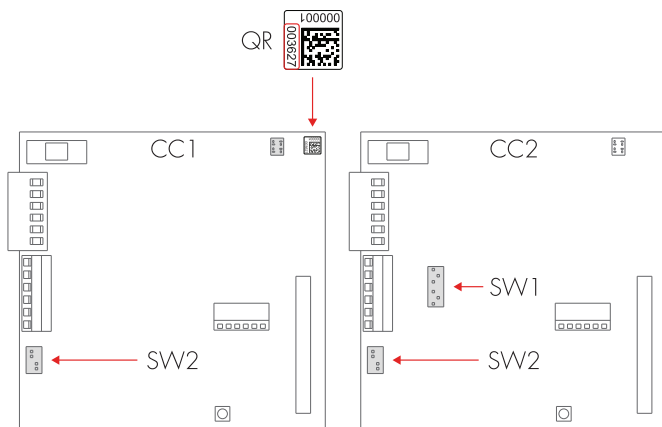
- It is allowed to set different values on left and right hand side.
- CC1 SW2 controls left hand side outlet/cable CC2 SW2 controls right hand side outlet/cable

Note! Max allowed (A) for each side according to table 2.

SW2 MAX Ampere

GTB 3,7 kW = MAX 16 A
GTB 7,4 kW = MAX 32 A
GTB 11 kW = MAX 16 A
GTB 22 kW = MAX 32 A

(table 2)

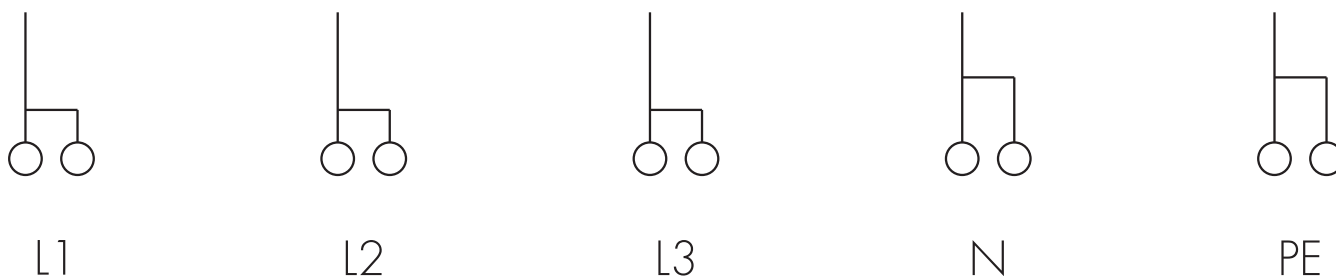


(picture 7)

SW1				SW2			
	ON	OFF		ON	OFF		
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON
16A				6A			
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF
20A				10A			
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON
25A				13A			
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF
32A				16A			
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON
40A				20A			
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF
50A				25A			
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF
63A				29A			
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON
32A							

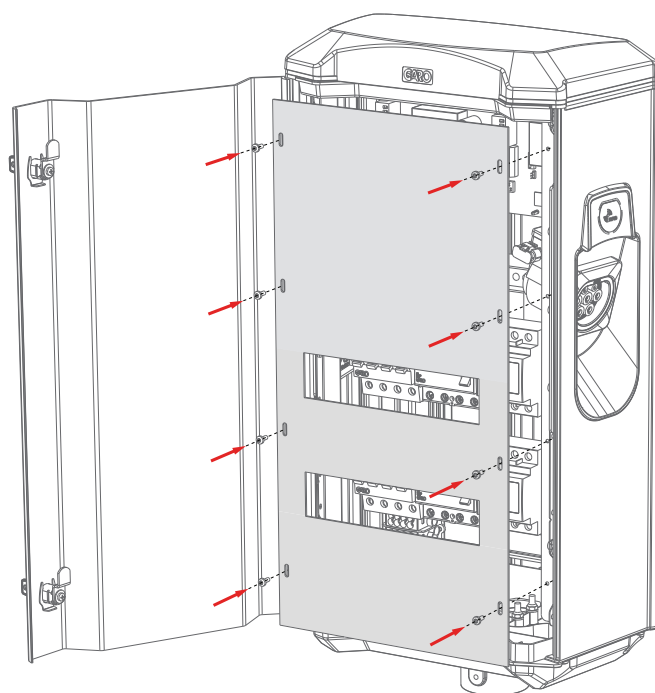
(picture 8)

6. Install the electrical power supply cable according to local regulations, see picture 9.
7. Fill in serial number in the Warranty form. See QR code label at upper right corner of the main board, see picture 7.
8. Mount the front cover on the enclosure + close the front door, see picture 10.



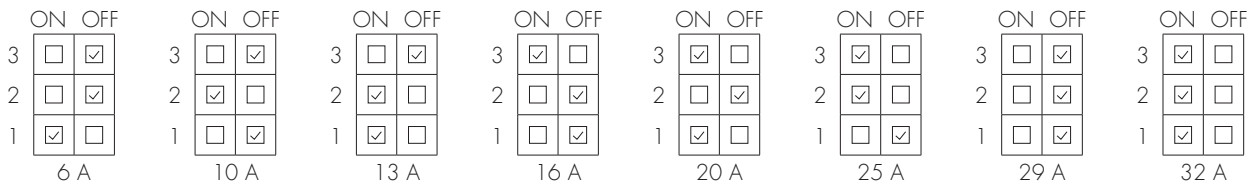
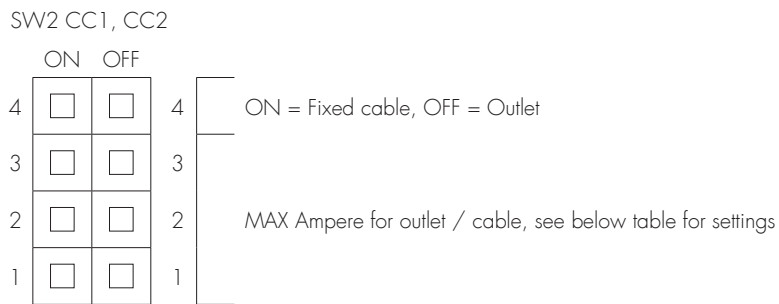
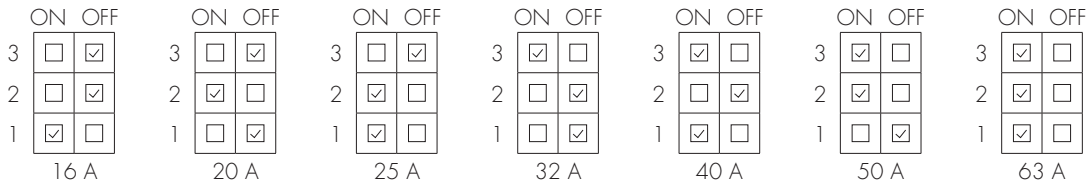
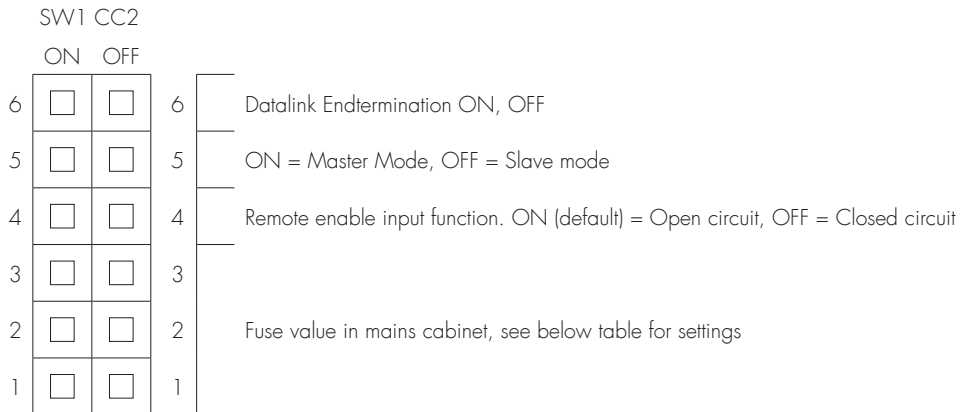
(picture 9)

9. Turn on the electrical power to the GTB Twinbox.
10. For GTBDCW... models: Connect a mobile device (PC/ Tablet/Mobile) to the GTB Twinbox Wifi network. You find SSID and password on the label inside the front door. Type in 172.24.1.1 in your web browser and check that the GTB web interface is visible. This action confirms that the GTB Twinbox communication module is working properly.
11. Test the GTB Twinbox both sides with a test instrument or test to charge an electric vehicle to ensure that the charger is working properly.
12. Doublecheck that the Warranty Form is filled in completely, sign with name, date and company that the warranty is valid.



(picture 10)

Dip Switch Information



USER MANUAL

Normal use / Charging

Connect the charging cable to the EV. Charging will start immediately if the EV is ready for charging. See your EV charging manual.

When finishing charging, follow the car's instructions.

After charging: Release the charging cable from your EV and place the charging cable at designated place.

Note!

It is the EV that determines how much electrical current (A) the GTB should provide. GTB Twinbox can provide the maximum rated power according to the rating label. When both sides are in use, the GTB Twinbox will balance the load equally between both sides.

In cases where the required power exceeds the available power to the Twinbox, the left hand side is prioritized. The electrical current can also be reduced by the Dynamic Load Management (DLM) functions.

If the GTB Twinbox is equipped with outlets, it is important to use correct charging cable.

For example, if you want to use 32A from the Twinbox, you must use a 32A charging cable.

Basic LED indications



Solid green light: ready for charging



Flashing green light: GTB Twinbox waiting for start signal from electric vehicle



Shifting blue light intensity: charging

Other LED indications: see User manual at www.garoemobility.com/support

Firmware GTB Twinbox

See User manual at www.garoemobility.com/support

Service / Maintenance

See User manual at www.garoemobility.com/support

Troubleshooting / Support / FAQ mm

See User manual at www.garoemobility.com/support

Technical specifications

Product type	All TWIN models
Standards / Directives	IEC 61851-1 and IEC 61439-7



EMC Classification:	2014/30/EU
Installation method:	Ground / Wall
Installation environment:	Indoor / Outdoor
Location type:	Non-restricted Access
Rated Voltage:	230V / 400V 50Hz
Installation systems:	TT, TN and IT* systems
Charging type:	Mode 3
Charging method:	AC Charging
Protection class:	IP44
Mechanical impact resistance:	IK10
Temperature range:	-25C - +40C
Weight:	14-18kg depending on model
Standard cable length (fixed cable version):	Standard 4m
Rated current withstand	10kA
Rated short-time withstand current	10kA
Rated conditional short-circuit current of an assembly	10kA
Short-circuit protective device type	Type C
Rated impulse withstand voltage	4kV
Rated insulation voltage	230/400V
Rated current of each circuit	32A
Rated diversity factor	RDF=1
Pollution degree:	3
EMC environmental condition	A and B

* 1-phase Twin

WARRANTY CONDITIONS

EU COUNTRIES (EXCEPT SWEDEN)

1. The product benefits from manufacturer's warranty. The applicable warranty period must be stated in purchase documents from your supplier.
2. The product must be installed by a certified installer / contractor.
3. Proper installation, storage and operation conditions must be obtained.
4. Warranties apply only to products installed in their original installation location.
5. Installation, use, care, and maintenance must be normal and in accordance with instructions.
6. Warranty requires a dated, fully filled in Warranty form by an certified installer/contractor. If the original installation date cannot be verified, then the warranty period begins ninety (90) days from the date of product manufacture (as indicated by the model and serial number).
7. Warranty does not cover damage occurred by incorrect use of equipment, use of any non-original spare parts, lack of maintenance or faults caused by disassembly of the product or unauthorized persons intervention,
8. Warranty does not cover software or update thereof.
9. Warranty does not cover aesthetic deficiencies caused by negligent manipulation or accidents (breaks or damage to the carcass).
10. Warranty does not cover damage caused by external overvoltage from either grid or car/charging object.
11. Warranty does not cover damage caused by force major like for example but not limited to: floods, winds, fires, lightning, accidents, sabotage, military conflicts, terrorism, volcanos, earthquakes or corrosive environments.

SVERIGE/SWEDEN

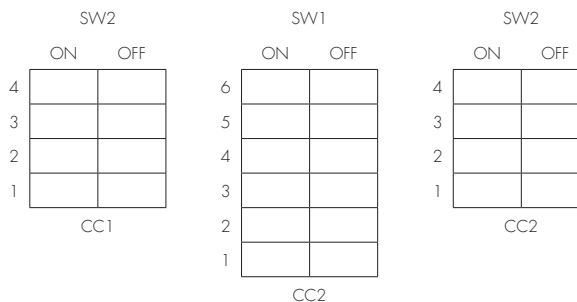
Garantivillkor enl ALEM 09.

OBS! Fullständigt ifylld garantiblankeett krävs.

Garantin gäller ej om produkten varit utsatt för ett isolationstest, sk meggning.

Warranty Form / Garantiformulär

GTB Model: _____ GTB serial no: _____

ELECTRICAL INSTALLATION DATA
ELEKTRISK INSTALLATION INFORMATIONGroup fuse (A):
Gruppsäkring (A): _____Supply cable dimension:
Area matningskabel: _____**OPTION MODULES**
OPTIONS-MODULERRFID yes/no
RFID ja/nej _____Communication Module yes/no:
Kommunikationsmodul ja/nej: _____**SETTINGS**
INSTÄLLNINGARMark existing positions:
Markera nuvarande inställningar:Software version:
Mjukvaruversion: _____**FUNCTION TEST**
FUNKTIONSTESTTestbox / EV (modell)
Testlåda / EV (modell) _____

Date: _____

Sign Installer:
Signatur installatör: _____Company Name:
Företagsnamn: _____Owner / Customer Name:
Ägare / kundens namn: _____Installation adress:
Installationsadress: _____



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