

GARO Nova

Installation instructions / User manual (EN)



Manual 380232 1.3

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INFORMATION

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

Below are some example of standard features:

- Double outlets for Mode-3 EV charging.
- Up to 2x7,4kW simultaneous charging from one EVSE depending on model.
- MCB and RCCB with DC-fault monitoring for each outlet.
- Internal static DIM (Dynamic Load Management).
- Suitable for installation on ground or wall.
- LED status indication.

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
- Remote charging activation from a relay/timer etc.
- 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 Nova



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 Nova range of charging stations is designed exclusively for charging electric vehicles.



The Nova must be grounded according to local country installation requirements.



Do not install or use the Nova 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 Nova.



Use the Nova only within the specified parameters.



Never spray water or any other liquid directly at the Nova. Never spray any liquid onto the charge handle or submerge the charge handle in liquid.



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 NOVA.

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 Nova itself.
-  Incorrect installation and testing of the Nova could potentially damage either the vehicle's battery and/or the Nova itself.
-  Do not operate the Nova in temperatures outside its operating range – see technical specifications.

-  To even out the load, it is important to rotate the phases when connecting several of Nova 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 Nova firmware are continuously updated. To make sure that the Nova is working properly, it is necessary to update the firmware and it requires a communication card. Communication cards are available as an accessory.

Notes

-  All installation must be carried out by an authorized installer and comply with local installation regulations. If any questions, please contact your local electrical authority.
 -  Ensure that the 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 Nova's components. The outside of the Nova, 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 Nova in direct sunlight to avoid any heat-problems.
-  Nova charging station is designed for safe electric vehicle charging for temporary installations. When installing NOVA charging station, the supply cable should be preceded by an RCCB type A.
 -  When used in public environments, such as events of various kinds, incoming and outgoing CEE shall be locked with appropriate protection. Appropriate protection is available in GARO's range.

INSTALLATION OF STANDALONE NOVA

The installation must be performed by a professional electrician.
The installed mains cable need to handle up to 32A during long term period.

Calculate the required cable length and select the appropriate cable-area to minimize the risk of voltage-drop.

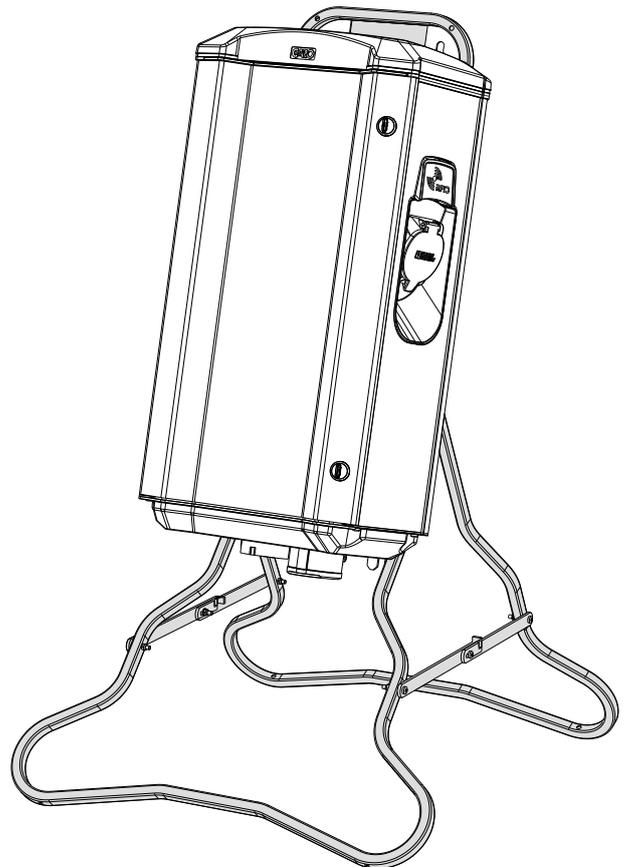
Follow local country regulations.

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. Nova have a CEE inlet where the mains cable.

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. Mount the Nova according to picture 1.



(picture 1)

INSTALLATION OF STANDALONE NOVA

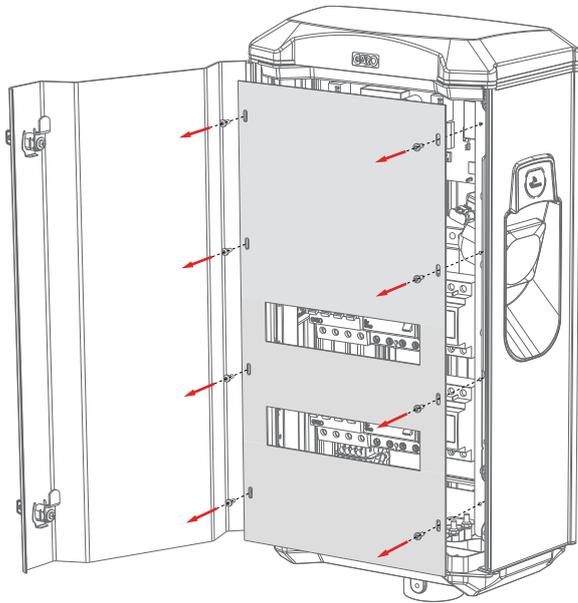
3. You can by setting Dip switch SW2 on both CC1 and CC2 (picture 2 and 3) reduce the charging current for left or right hand side if needed. Normally, this is normally not necessary. Available range is 6-32A (table 1 and picture 4). It is allowed to set different values on left and right hand side.

4. Install the electrical power supply cable in the CEE inlet, see picture 3.

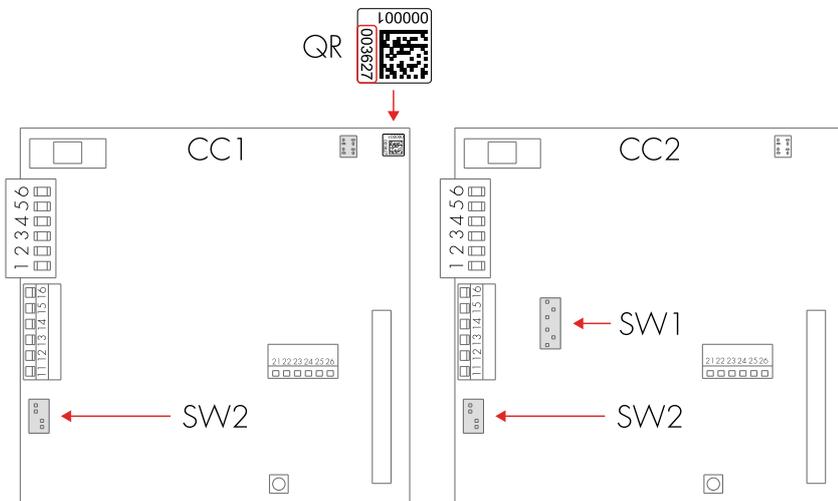
SW2 MAX Ampere

$$\frac{\text{Nova } 7,4 \text{ kW} = 32 \text{ A}}$$

(table 1)



(picture 2)



(picture 3)

		SW2			
		ON	OFF		
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF	6A	
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF		
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON		

3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF	10A	
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON		
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF		

3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF	13A	
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON		
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON		

3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	16A	
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF		
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF		

3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	20A	
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF		
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON		

3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	25A	
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON		
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF		

3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3=OFF	29A	
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2=OFF		
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1=OFF		

3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3=ON	32A	
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2=ON		
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1=ON		

(picture 4)

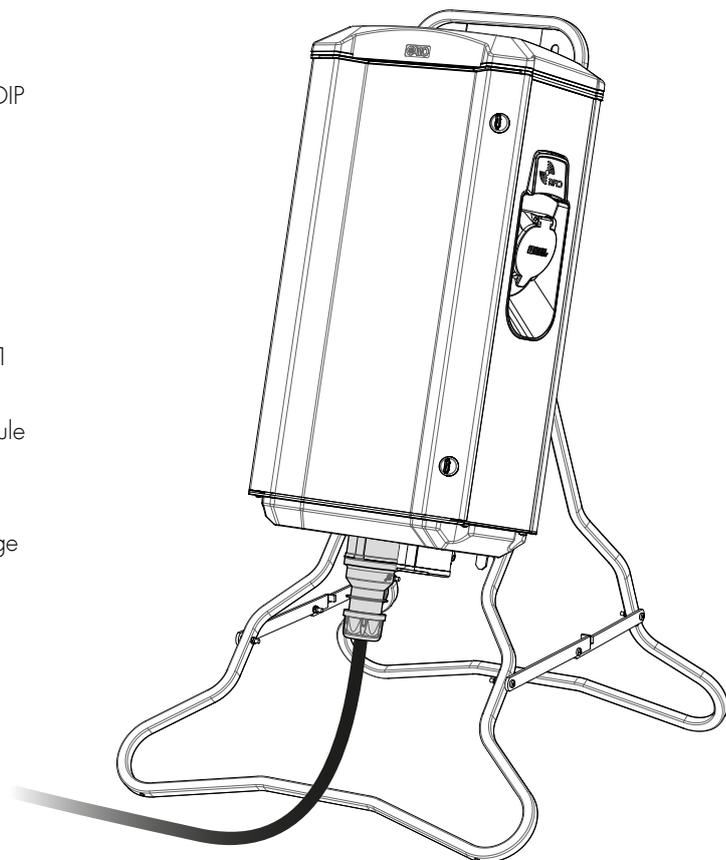
Nova is prepared with a socket outlet and the purpose is daisy chain connecting up to 3pcs Nova, see picture 6. The 32A socket outlet is phase rotated to spread the load on all phases.

Note! When daisy chain Nova, its recommended to set SW2 DIP 1-3 according to table 2 to avoid overload.

5. Turn on the electrical power to the Nova.

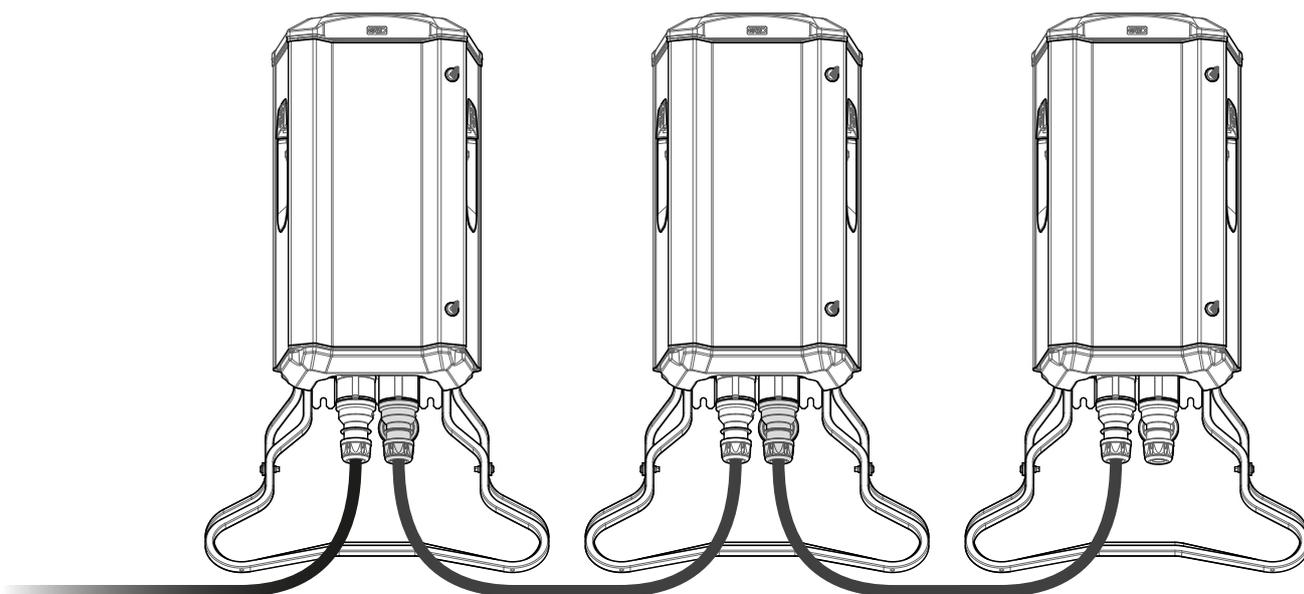
6. For Nova DCW... models: Connect a mobile device (PC/ Tablet/Mobile) to the Nova Wifi network. You find SSID and password on the label inside the front door. Type in 172.24.1.1 in your web browser and check that the Nova web interface is visible. This action confirms that the NOVA communication module is working properly.

7. Test the Nova both sides with a test instrument or test to charge an electric vehicle to ensure that the Nova is working properly.



(picture 5)

	Nova x 2	Nova x 3
CC1 SW2 1-3	16A	10A
CC2 SW2 1-3	16A	10A



(picture 6)

Web interface information (only for Nova DCW...models)

In the Nova web interface there are some information and settings available. (As the firmware is constantly updated and improved there may be differences compared to this manual).

WARNING!

GARO recommend that settings in the web interface are made only by the person with good knowledge of the product. In the wrong settings, you risk overloading the system, which can cause malfunctions.

NOTE!

When Nova is connected to a local network, please use chargebox.garo.se in the web browser. Your computer/mobile/tablet needs to be connected to the same network as the Nova.

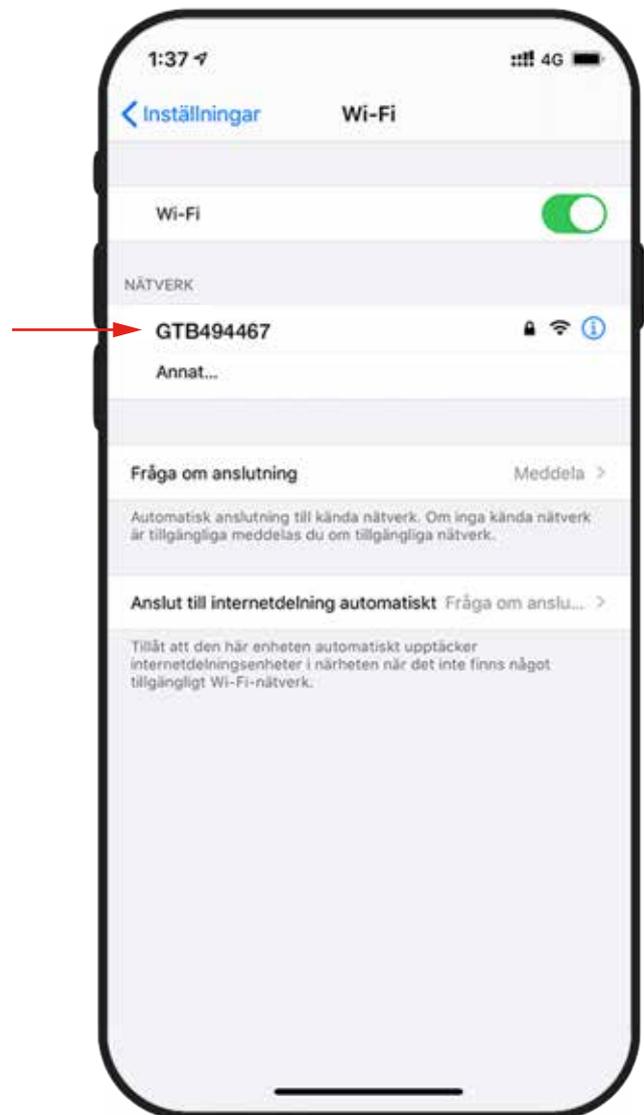
Connect to Nova Wi-Fi accesspoint (AP)

Connect a mobile/tablet/computer to the Nova wifi accesspoint by search for the correct SSID in the wifi settings. See picture 7.

You find the SSID and password inside the front door.

Type in 172.24.1.1 in your web browser and check that the web interface appear.

If your Nova already is connected to a local network, use chargebox.garo.se and follow the instructions.



(picture 7)

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 Nova should provide. Nova can provide the maximum rated power according to the rating label. When both sides are in use, the Nova will balance the load equally between both sides. In cases where the required power exceeds the available power to the Nova, the left hand side is prioritized.

The Nova is equipped with outlets, and it is important to use correct charging cable.

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

Basic LED indications:

Indication



Solid green light: ready for charging



Flashing green light: NOVA waiting for start signal from electric vehicle



Shifting blue light intensity: charging

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

Error codes:

Indication



Solid red light: Reset RCCB/Mains RCB



Solid yellow light: Reconnect charging cable



Solid white light: Uttagen ej aktiverade. Contact your servicepartner.



No visible light: Check all RCCB, RCB and mains RCB. If all protection devices are ok, contact your service partner.



Red flashing: RFID not accepted

Update Nova firmware:

www.garoemobility.com/support

Service/maintenance

See full userguide at www.garoemobility.com/support

Troubleshooting/Support/FAQ etc www.garoemobility.com/support

Technical specifications

Product type:	All Nova models
Standards/directives:	IEC 61851-1 and IEC TS 61439-7



Installation:	Wall/ground mounted
Voltage rating:	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 (without direct sunlight)
Recommended installation height:	0.5–1.5 metres above ground
Weight:	21 kg
Standard cable length (fixed cable versions):	4m

* 1-phase Nova

Sverige/Sweden

Garantivillkor enl ALEM 09.

Uppdatering av laddboxens firmware kan krävas då bilars mjukvaror och firmwares ständigt uppdateras. Uppdatering av laddboxens firmware ingår ej i garantin.

1. The product benefits from warranty, Technical support and free service for a period of 24month or according to local agreement from the date of installation / commissioning, Thus undergoing repair or (if not possible) free replacement of any parts that have manufacturing defects. The deadline for resolving the non-compliance is 60 days.
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 does not cover damage occurred by incorrect use of equipment, use of any nonoriginal spareparts, lack of maintenance or faults caused by disassembly of the product or unauthorized persons intervention.
7. Warranty does not cover aesthetic deficiencies caused by negligent manipulation or accidents (breaks or damage to the carcass).
8. Warranty does not cover damage caused by external overvoltage from either grid or car/charging object.
9. 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, vulcanos, earthquakes or corrosive environments.



IP44

IK10



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