

**GOODWE**



# **User Manual**

**AC Charger**

HCA Series

(7-22kW)

V1.0-2022-10-20

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### **NOTICE**

The information in this user manual is subject to change due to product updates or other reasons. This guide cannot replace the product labels or the safety precautions in the user manual unless otherwise specified. All descriptions in the manual are for guidance only.

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# 1 About This Manual

This manual describes the product information, installation, electrical connection, commissioning, troubleshooting and maintenance of the charger. Read through this manual before installing and operating the product. All the installers and users have to be familiar with the product features, functions, and safety precautions. This manual is subject to update without notice. For more product details and latest documents, visit <https://en.goodwe.com/>.

## 1.1 Applicable Model

This manual applies to the listed chargers below: (Hereinafter referred to as HCA).




- GW7K-HCA
- GW11K-HCA
- GW22K-HCA

## 1.2 Target Audience

This manual applies to trained and knowledgeable technical professionals only. The technical personnel has to be familiar with the product, local standards, and electric systems.

## 1.3 Symbol Definition

Different levels of warning messages in this manual are defined as follows:

 <b>DANGER</b>
Indicates a high-level hazard that, if not avoided, will result in death or serious injury.
 <b>WARNING</b>
Indicates a medium-level hazard that, if not avoided, could result in death or serious injury.
 <b>CAUTION</b>
Indicates a low-level hazard that, if not avoided, could result in minor or moderate injury.
<b>NOTICE</b>
Highlight and supplement the texts. Or some skills and methods to solve product-related problems to save time.

## 1.4 Updates

The latest document contains all the updates made in earlier issues.

### V1.0 2022-10-20

- First Issue

## 2 Safety Precaution

Please strictly follow these safety instructions in the user manual during the operation.

### NOTICE

The charger is designed and tested in compliance with related safety rules. Read and follow all the safety instructions and cautions before any operations. Improper operation might cause personal injury or property damage as the charger is electrical equipment.

### 2.1 General Safety

#### NOTICE

- The information in this user manual is subject to change due to product updates or other reasons. This guide cannot replace the product labels or the safety precautions in the user manual unless otherwise specified. All descriptions in the manual are for guidance only.
- Before installations, read through the user manual to learn about the product and the precautions.
- All installations should be performed by trained and knowledgeable technicians who are familiar with local standards and safety regulations.
- Use insulating tools and wear personal protective equipment when operating the charger to ensure personal safety. Wear anti-static gloves, cloths, and wrist strips when touching electronic devices to protect the charger from damage.
- Strictly follow the installation, operation, and configuration instructions in this manual. The manufacturer shall not be liable for equipment damage or personal injury if you do not follow the instructions. For more warranty details, please visit: <https://en.goodwe.com/warranty>.










### 2.2 AC Charger Safety

#### DANGER

- Do not dismantle the charger modules personally. Do not extend the charging cable. Otherwise, it may cause Ingress Protection Rating derating or electric danger.
- The equipment supports charging Electric Vehicle (EV hereinafter) only. Do not charge other devices.
- Wrap the charging cable around the charger after using. Water or other debris shall not enter into the charging plug.
- The charger and cables shall not be over bended, squeezed or entangled. Otherwise, it may cause damage to the equipment.
- Disconnect the charger and its upstream switches before installation, maintenance and other operations.
- It is strictly forbidden to touch the charging connector when the charger is live.

#### WARNING

Check whether the cover and appearance of the charger are normal regularly.

 <b>DANGER</b>			
<ul style="list-style-type: none"> <li>All labels and warning marks should be visible after the installation. Do not cover, scrawl, or damage any label on the equipment.</li> <li>Warning labels on the Charger are as follows:</li> </ul>			
	<p><b>HIGH VOLTAGE HAZARD</b> High voltage exists during the charger's running. Disconnect all incoming power and turn off the product before working on it.</p>		<p>Delay discharge. Wait 5 minutes after power off until the components are completely discharged.</p>
	<p>Read through the user manual before any operations.</p>		<p>Potential risks exist. Wear proper PPE before any operations.</p>
	<p>High-temperature hazard. Do not touch the product under operation to avoid being burnt.</p>		<p>British UKCA Certification Marking</p>
	<p>CE Certification Marking</p>		<p>Do not dispose of the charger as household waste. Discard the product in compliance with local laws and regulations, or send it back to the manufacturer.</p>

### 2.3 Personnel Requirements

NOTICE	
<ul style="list-style-type: none"> <li>Personnel who install or maintain the equipment must be strictly trained, learn about safety precautions and correct operations.</li> <li>Only qualified professionals or trained personnel are allowed to install, operate, maintain, and replace the equipment or parts.</li> </ul>	

### 2.4 Declaration of Conformity

#### EU

The product with wireless communication function sold in the European market meets the requirements of the following directives:

- Radio Equipment Directive 2014/53/EU (RED)
- Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863 (RoHS)

#### UK

The product with wireless communication function sold in the British market meets the requirements of the following directives:

- Radio Equipment Regulations 2017
- The Restrictions of the use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (S.I. 2012/3032)

## 3 Product Introduction

### 3.1 Product Overview

HCA series product is one AC household charger mainly for EV charging, with functions like charging protection, online monitoring, remote upgrading, and so on.

#### Model

This manual applies to the listed chargers below:

- GW7K-HCA
- GW11K-HCA
- GW22K-HCA

#### Model description

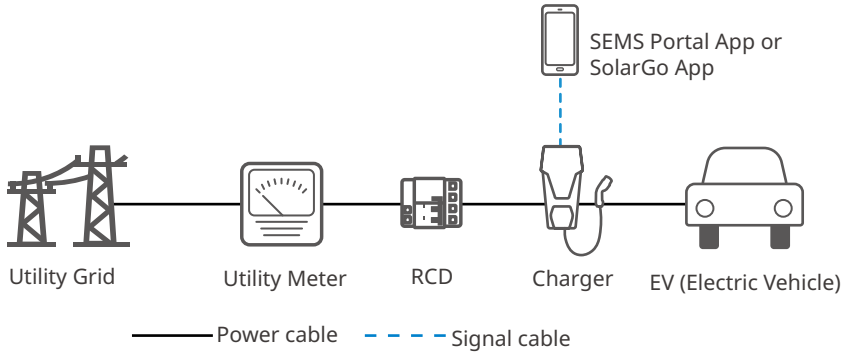
### GW11K-HCA

1 2 3

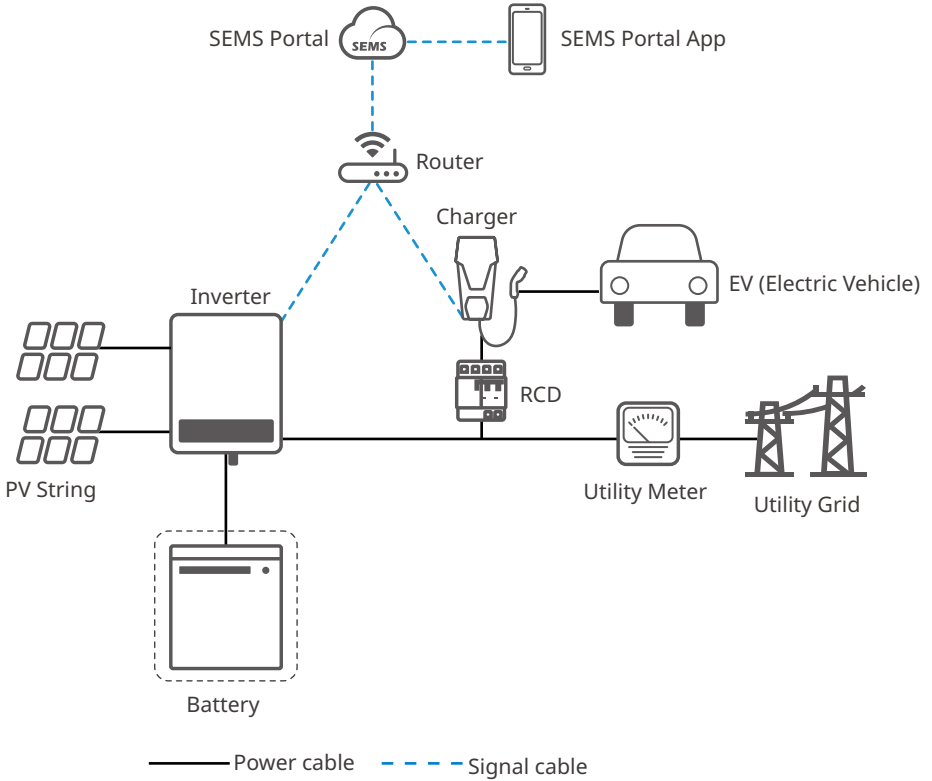
No.	Referring to	Explanation
1	Brand Code	GW: GoodWe
2	Norminal Power	<ul style="list-style-type: none"> <li>• 7K: the output power is 7kW.</li> <li>• 11K: the output power is 11kW.</li> <li>• 22K: the output power is 22kW.</li> </ul>
3	Series	HCA: HCA Series

### 3.2 Application Scenarios

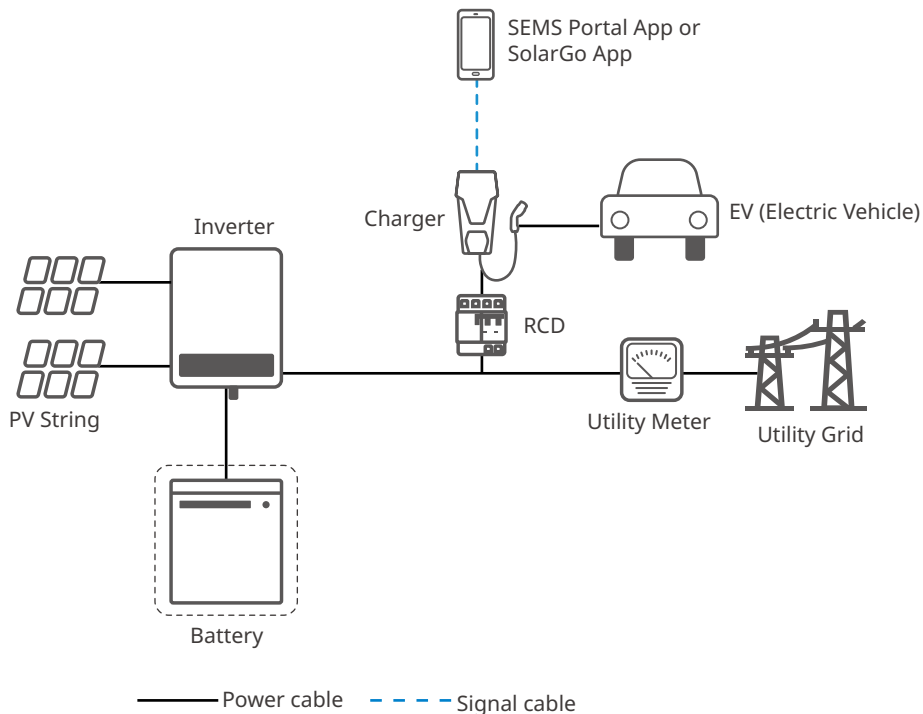
#### Connected to Grid



#### Connected to PV String and Batteries (Remote Control)



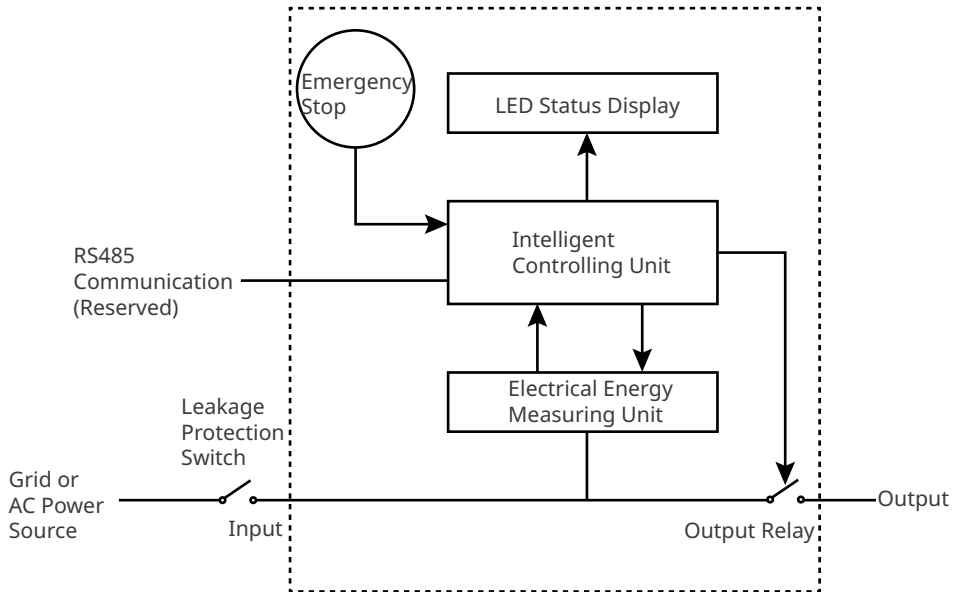
### Connected to PV String and Batteries (Near Field Control)



No.	Parts	Description
1	Inverter	Refers to GoodWe Grid-Tied PV Inverters and Hybrid Inverters.
2	Battery	Refers to batteries matched with GoodWe inverters (Only Hybrid Inverters hereof).
3	RCD	Provides overcurrent protection for the charger. Contact the charger manufacturer for purchasing. Recommended RCD specifications: TYPE A, with a nominal residual operating current of 30mA. Nominal voltage of GW11K-HCA and GW22K-HCA: AC 400V(4P).Nominal voltage of GW7K-HCA: AC 230V(2P). Nominal current of GW7K-HCA and GW22K-HCA: 40A. Nominal current of GW11K-HCA: 25A.
4	Charger	GoodWe HCA Series Charger.

### Circuit Diagram

Below is the circuit diagram for HCA Charger:



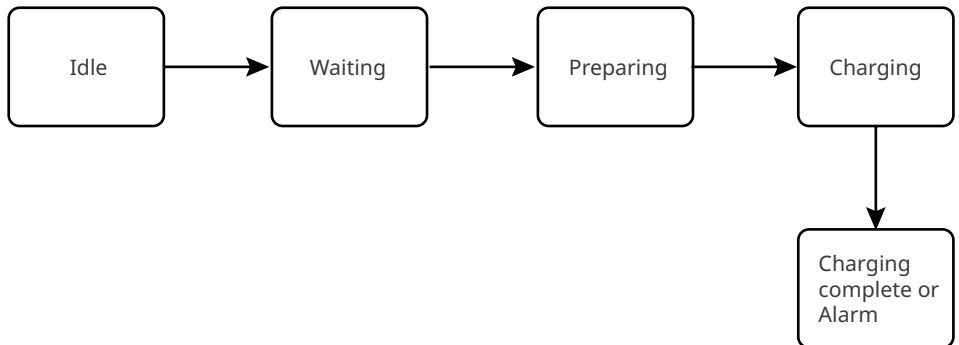
(Reserved) It is able to communicate with the inverters or smart meter via the RS485 communication port.

For single phase AC charger and three phase AC charger, the input port is used to connect with single-phase three-wire power cable and three-phase five-wire power cable respectively.

The output port is used to connect with the charging connector.

Emergency Stop refers to the emergency stop button.

### 3.3 Operating Status of the Charger





## 3.4 Functionality

### Applicable for Diverse Scenarios

- The charger can be used together with grid-tied or hybrid inverters to form a PV-Storage-Charging integrated ecological system.
- The charger can be connected with grid.

### Remote Control

When the charger is on line, users can control it remotely via SEMS Portal app, and upgrade the firmware remotely via the device management platform.

### Easy to Use and Maintain

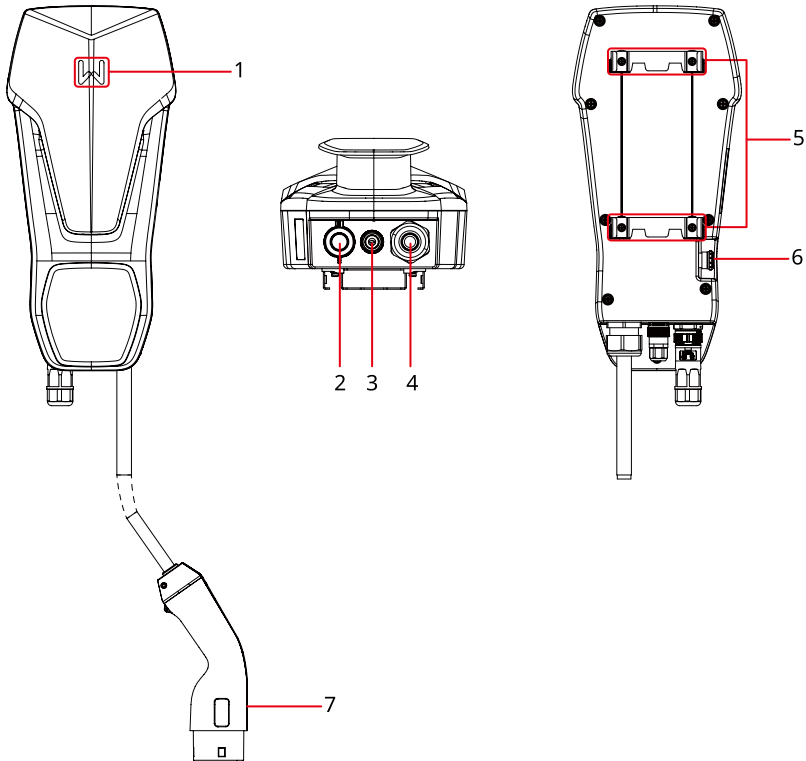
- The charger supports operation via commands issued by APP remotely when it is on line.
- The charger supports operation via Bluetooth connected to APP in a short distance when it is off line.
- The charger supports charging EV directly under Plug And Charge mode.
- Users can check the charger's real-time status via its indicator.
- Users can check the charger's fault and operating data via APP.

### Safe and Reliable

- The ingress protection rating of the charger is IP65, and the ingress protection rating of the charging plug is IP55. With a high rating, the charger has excellent anti-dust and waterproof features and can be operated and maintained outdoors.
- To protect the product and ensure a secure running status, the product is integrated with over voltage and under voltage protection, over load protection, short-circuit protection, leakage protection, grounding, over temperature protection, EMS protection and protection against lightning.

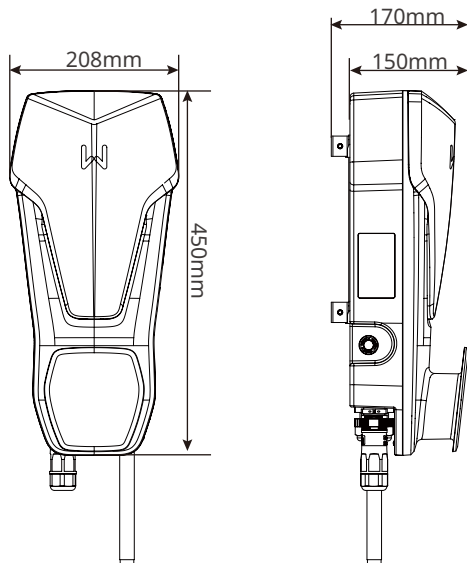
## 3.5 Appearance

### 3.5.1 Parts Description

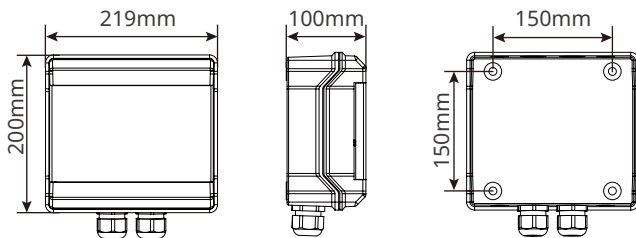


No.	Parts	Description
1	Indicator	Indicates the operating status of the charger.
2	Input Port for AC cable	Connects with single or three phase AC input cable.
3	(Reserved) RS485 Communication Port	Connects with RS485 cable to communicate with the inverter.
4	Charging Cable	-
5	Mounting Plate	Fixes the charger on the support.
6	Emergency Stop Button	Used for emergency protection.
7	Charging Plug	Connected to EV charging port.

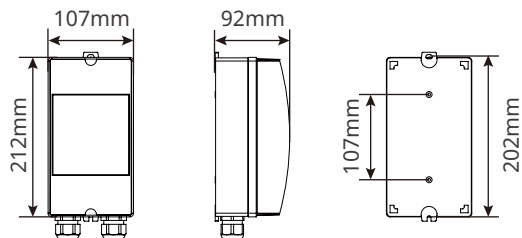
### 3.5.2 Dimension



#### (Optional) Residual Current Device Distribution Board

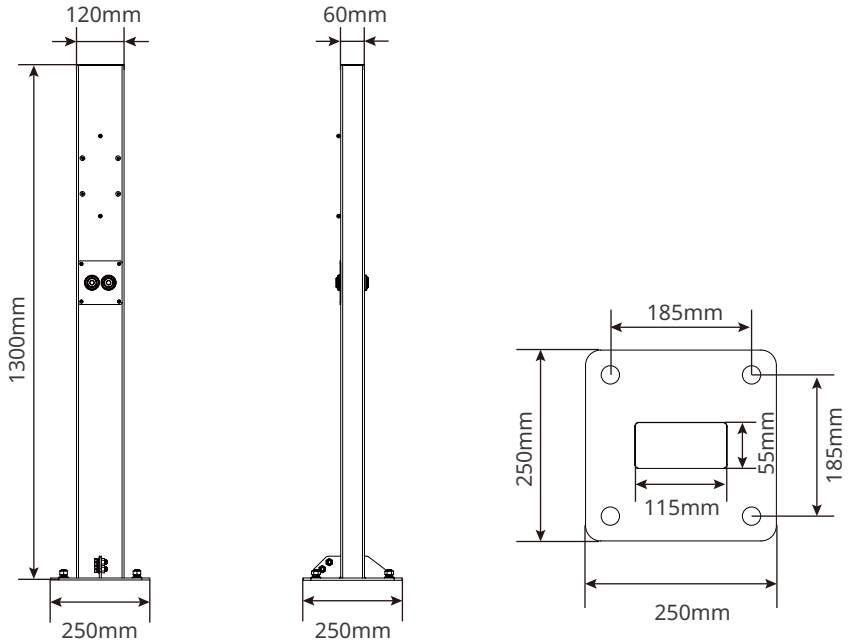


RCD for GW11K-HCA & GW22K-HCA




RCD for GW7K-HCA

**(Optional) Installation Post**

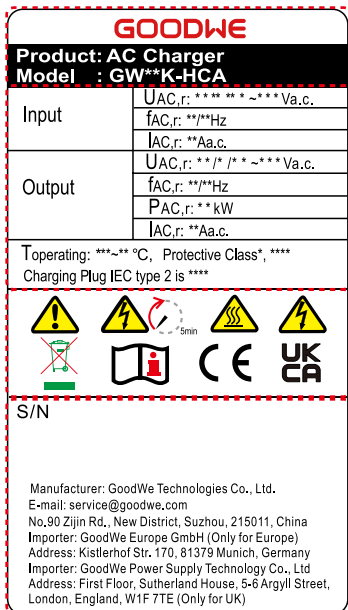


**3.5.3 Indicator Description**

Indicator	Color	Explanation
	Green ON	The charger is standby.
	Flash in Green	The system of the charger is upgrading.
	Blue ON	The charger is in charging.
	Red ON	A fault has occurred.

### 3.5.4 Nameplate

The nameplate is for reference only.



GOODWE trademark, product type, and product model

Technical parameters

Safety symbols and certification marks

Contact information and serial number

## 4 Check and Storage

### 4.1 Check Before Receiving

Check the following items before receiving the product.

1. Check the outer packing box for damage, such as holes, cracks, deformation, and others signs of equipment damage. Do not unpack the package and contact the supplier as soon as possible if any damage is found.
2. Check the charger model. If the charger model is not what you requested, do not unpack the product and contact the supplier.
3. Check the deliverables for correct model, complete contents, and intact appearance. Contact the supplier as soon as possible if any damage is found.

### 4.2 Deliverables

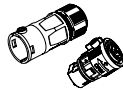


#### WARNING

Connect the DC cables with the delivered terminals. The manufacturer shall not be liable for the damage if other terminals are used.



Charger x 1



AC connector x 1



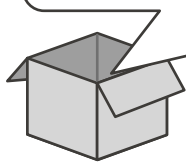
Expansion  
bolt x 4



RS485  
communication  
connector x N



Documents  
\*1



N=Quantity depends on the specific system configuration.

### 4.3 Storage

If the charger is not to be installed or used immediately, please ensure that the storage environment meets the following requirements:

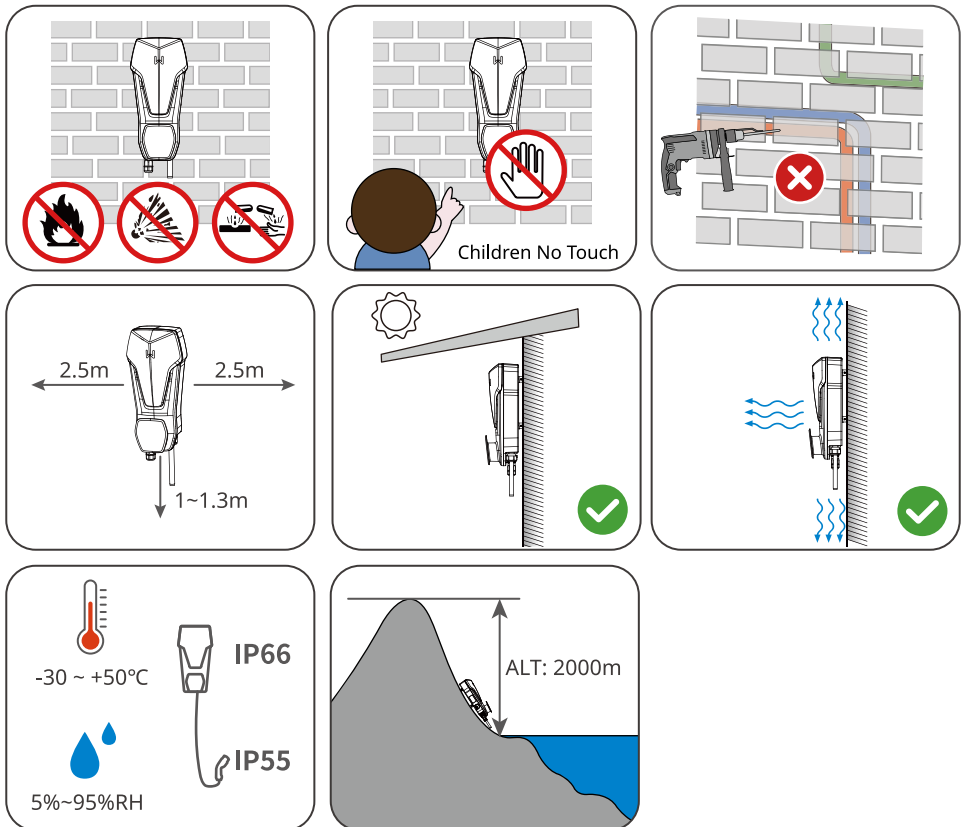
1. Do not unpack the outer package or throw the desiccant away.
2. Store the charger in a clean place. Make sure the temperature and humidity are appropriate and no condensation.
3. The height and direction of the stacking chargers should follow the instructions on the packing box.
4. The chargers must be stacked with caution to prevent them from falling.
5. If the charger has been long term stored, it should be checked by professionals before being put into use.

## 5 Installation

### 5.1 Installation Requirements

#### Installation Environment Requirements

1. Do not install the equipment in a place near flammable, explosive, or corrosive materials.
2. Do not install the equipment in a place that is easy to touch. High temperature exists when the equipment is working. Do not touch the surface to avoid burning.
3. Avoid the water pipes and cables buried in the wall when drilling holes.
4. Install the equipment in a sheltered place.
5. The place to install the equipment shall be well-ventilated for heat radiation and large enough for operations.
6. The equipment with a high ingress protection rating can be installed indoors or outdoors. The temperature and humidity at the installation site should be within the appropriate range.
7. Install the equipment at a height that is convenient for operation and maintenance, electrical connections, and checking indicators and labels.
8. The altitude to install the charger shall be lower than the maximum working altitude 2000m.
9. Install the equipment away from electromagnetic interference.

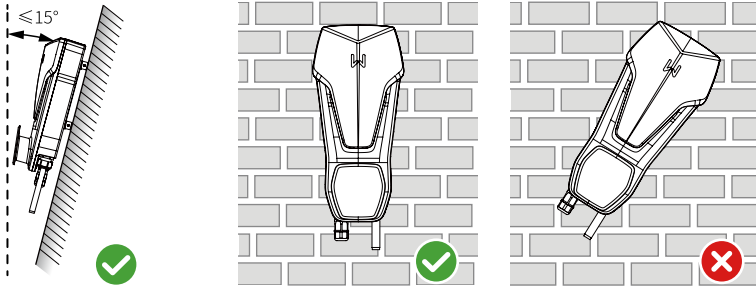


### Mounting Support Requirements

- The mounting support shall be nonflammable and fireproof.
- Install the charger on a surface that is solid enough to bear the charger weight.

### Installation Angle Requirements




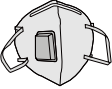






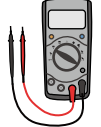

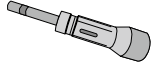

- It is recommended to install the charger vertically.
- Do not install the charger upside down, forward tilt, back forward tilt, or horizontally.





## Installation Tool Requirements

The following tools are recommended when installing the equipment. Use other auxiliary tools on site if necessary.

				
Goggles	Safety shoes	Safety gloves	Dust mask	Rubber hammer
				
Diagonal pliers	Wire stripper	Hammer drill	Marker	Level
		 M2, M3, M5, M6		
Multimeter	Cable tie	Torque wrench	Vacuum cleaner	

## 5.2 Installation

### 5.2.1 Moving the Charger

#### CAUTION

Move the charger to the site before installation. Follow the instructions below to avoid personal injury or equipment damage.

1. Consider the weight of the equipment before moving it. Assign enough personnel to move the equipment to avoid personal injury.
2. Wear safety gloves to avoid personal injury.
3. Keep the equipment in balance during moving to avoid its falling down.

## 5.2.2 Installing the Charger

### NOTICE

- Avoid the water pipes and cables buried in the wall when drilling holes.
- Wear goggles and a dust mask to prevent the dust from being inhaled or contacting eyes when drilling holes.
- Make sure the charger is firmly installed in case of falling down.

**Step 1** Take the mounting plate from the charger.

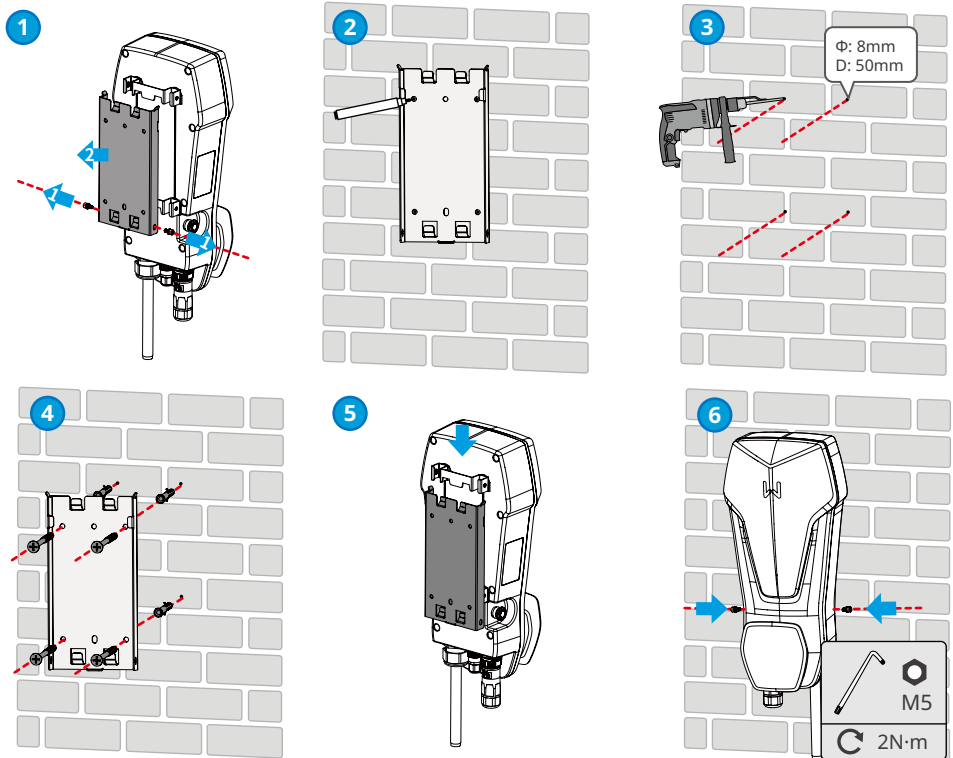
**Step 2** Put the plate on the wall horizontally and mark positions for drilling holes.

**Step 3** Drill holes to 50mm in depth by using the hammer drill with 8mm in diameter.

**Step 4** Use the expansion bolts to fix the charger on the wall.

**Step 5** Install the charger on the mounting plate.

**Step 6** Tighten the nuts to secure the mounting plate and the charger, ensure the charger's installation is reliable.



## Installing the Residual Current Device Distribution Board

### NOTICE

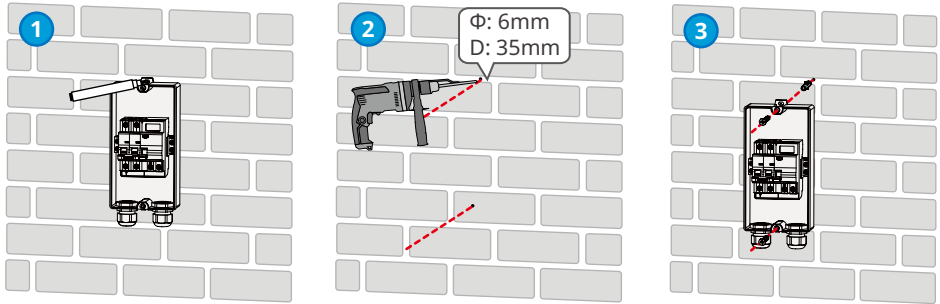
Contact the manufacturer to purchase the residual current device (RCD for short).

**Step 1:** Put the distribution board on the wall horizontally and mark positions for drilling holes.

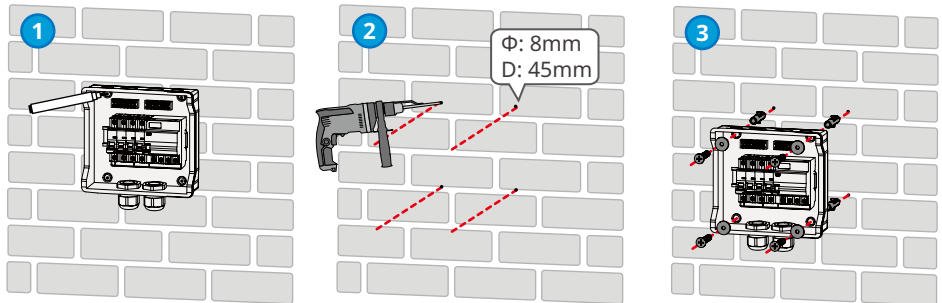
**Step 2:** Drill holes using the hammer drill.

**Step 3:** Use the expansion bolts to fix the distribution board on the wall.

### Type I Distribution Board



### Type II Distribution Board



### 5.2.3 Installing the Charger (Post Mounting)

#### NOTICE

Contact the manufacturer to purchase a post if you need to install the charger on a Post.

#### Installing the Charger

**Step 1** Take the mounting plate from the charger.

**Step 2** Put the post on the ground vertically and mark positions for drilling holes. A cable pipe with a diameter of 60mm has to be embedded underground.

**Step 3** Drill holes to 75mm in depth by using the hammer drill with 14mm in diameter.

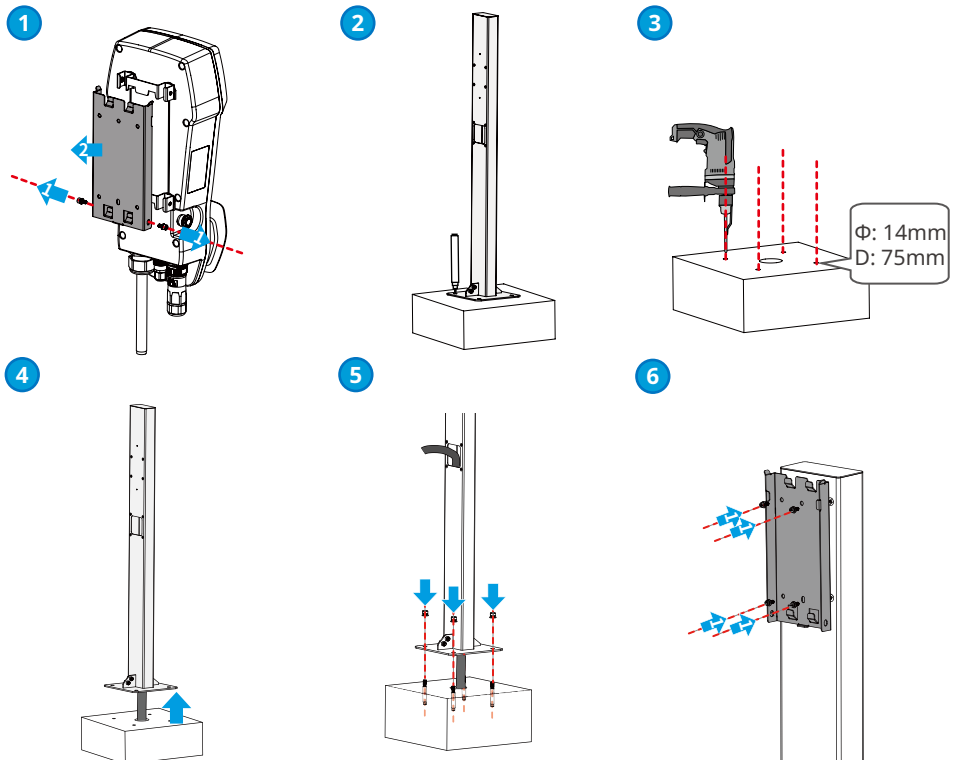
**Step 4** Run the embedded cable through the post.

**Step 5** Use the expansion bolts to fix the charger on the ground.

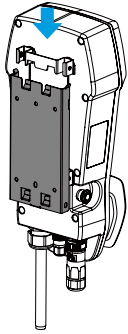
**Step 6** Install the mounting plate on the post.

**Step 7** Install the charger on the mounting plate.

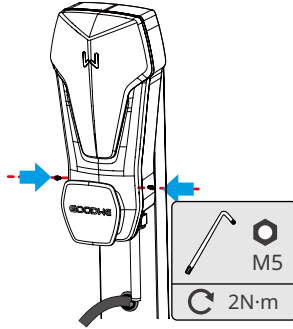
**Step 8** Tighten the nuts to secure the mounting plate and the charger, and ensure the charger is installed reliably.



7



8



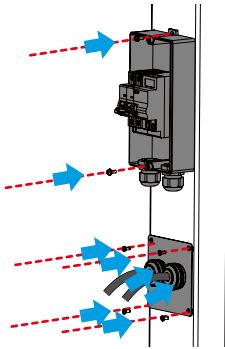
### Installing the Residual Current Device Distribution Board

#### NOTICE

Contact the manufacturer to purchase the residual current device (RCD for short).

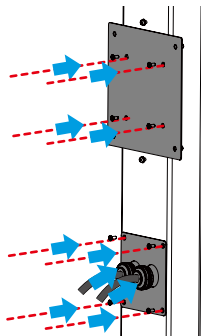
#### Type I Distribution Board

1

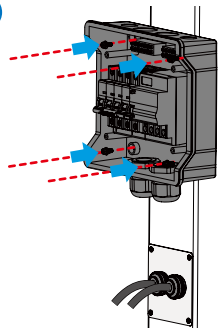


#### Type II Distribution Board

1



2



## 6 Electrical Connection

### 6.1 Safety Precaution

#### DANGER

- All operations, cables and parts specification during the electrical connection shall be in compliance with local laws and regulations.
- Disconnect the upstream switch before electrical connection. Do not work with power on. Otherwise, an electric shock may occur.
- Tie the same type cables together, and place them separately from cables of different types. Do not place the cables entangled or crossed.
- If the cable bears too much tension, the connection may be poor. Reserve a certain length of the cable before connecting it to the charger cable port.
- When crimping the terminals, ensure that the conductor part of the cable is in full contact with the terminals. Do not crimp the cable jacket with the terminal. Otherwise the charger may not operate, or its terminal block getting damaged due to heating and other phenomena because of unreliable connection after the operation.

#### WARNING

- Connect the AC input cables to the corresponding terminals such as "L1", "L2", "L3", "N" and "PE" ports correctly. Otherwise it will cause damage to the charger.
- Ensure that the whole cable cores are inserted into the terminal holes. No part of the cable core can be exposed.
- Ensure that the cables are connected securely. Otherwise it will cause damage to the charger due to overheat during its operation.

#### NOTICE

- Wear personal protective equipment like safety shoes, safety gloves, and insulating gloves during electrical connections.
- All electrical connections should be performed by qualified professionals.
- Cable colors in this document are for reference only. The cable specifications shall meet local laws and regulations.

## Wiring Specifications

Model	Cable	Specification
GW7K-HCA	Multiple core outdoor AC cable	<ul style="list-style-type: none"> <li>Copper, -30°C ~ +50°C, 450/750V</li> <li>Outer diameter: 11~17mm</li> <li>Conductor cross-sectional area: 6mm<sup>2</sup></li> </ul>
GW11K-HCA		<ul style="list-style-type: none"> <li>Copper, -30°C ~ +50°C, 450/750V</li> <li>Outer diameter: 11~17mm</li> <li>Conductor cross-sectional area: 2.5mm<sup>2</sup></li> </ul>
GW22K-HCA		<ul style="list-style-type: none"> <li>Copper, -30°C ~ +50°C, 450/750V</li> <li>Outer diameter: 11~17mm</li> <li>Conductor cross-sectional area: 6mm<sup>2</sup></li> </ul>

## RCD Specifications

Charger Model	RCD Type	RCD Instantaneous Tripping Characteristic	RCD Tripping Current	RCD Normal Current	RCD Normal Voltage
GW7K-HCA	TYPE A	C	30mA	40A	AC 230V (2P)
GW11K-HCA				25A	AC 400V (4P)
GW22K-HCA				40A	AC 400V (4P)

## 6.2 Connecting the RCD Cable

### NOTICE

- The installation instructions below apply to devices purchased from the charger manufacturer. If the device is from another supplier, you have to refer to its user manual.
- AC cable 1 is connected to the utility grid or the AC output of the inverter, and AC cable 2 is connected to the AC input of the charger.

**Step 1** Prepare the AC cable.

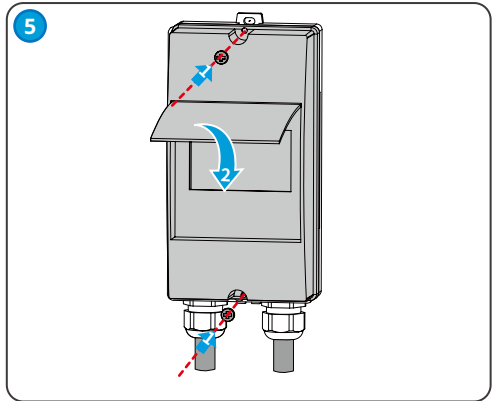
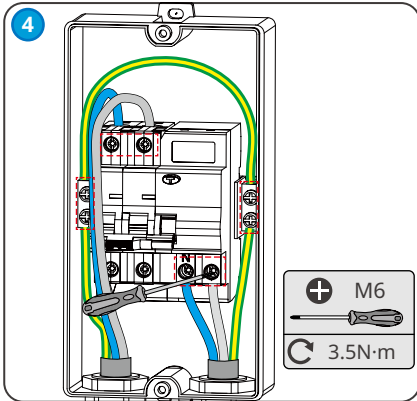
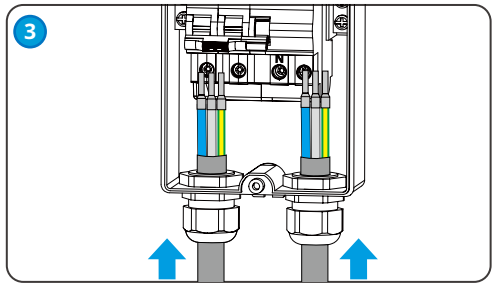
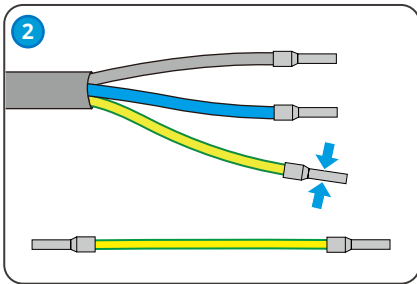
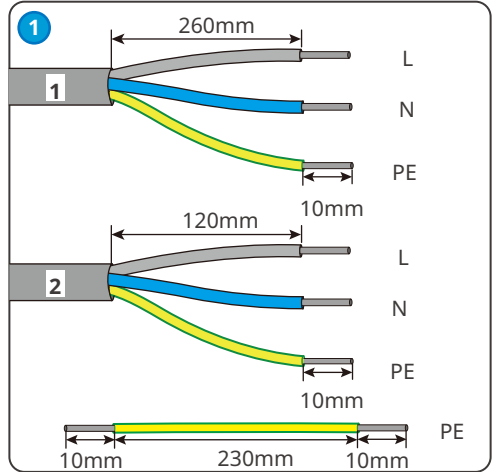
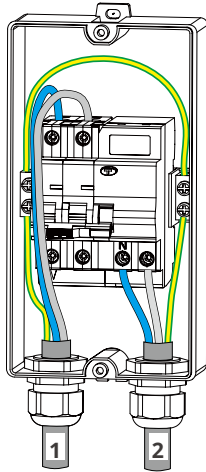
**Step 2** Crimp the AC cable.

**Step 3** Run the AC cable and terminal through the distribution box.

**Step 4** Screw the AC terminal on the RCD.

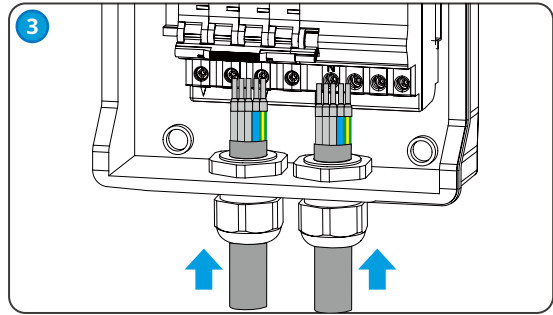
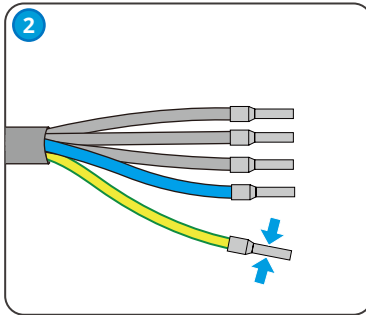
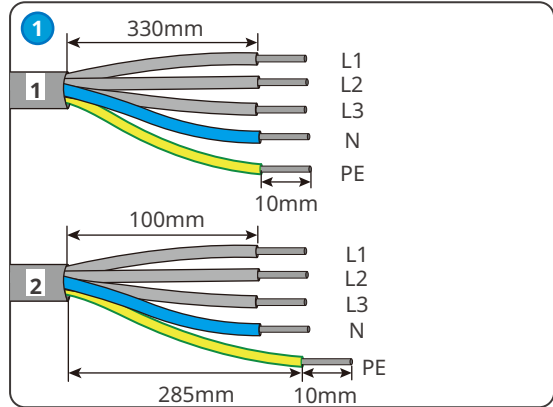
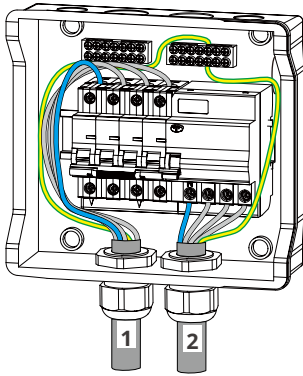
**Step 5** Install the top cover of the RCD distribution box to prevent water or foreign matters.

Type I RCD





## Type II RCD



## 6.3 Connecting the AC Cable



**DANGER**

Connect the single-phase AC input cable to the GW7K-HCA charger; and connect the three-phase AC input cable to the GW11K-HCA and GW22K-HCA chargers.

1. For GW7K-HCA: its voltage shall be 230Vac, L/N/PE; the current shall be 32A; and the frequency shall be 50/60Hz.
2. For GW11K-HCA: its voltage shall be 400Vac, 3L/N/PE; the current shall be 16A; and the frequency shall be 50/60Hz.
3. For GW22K-HCA: its voltage shall be 400Vac, 3L/N/PE; the current shall be 32A; and the frequency shall be 50/60Hz.

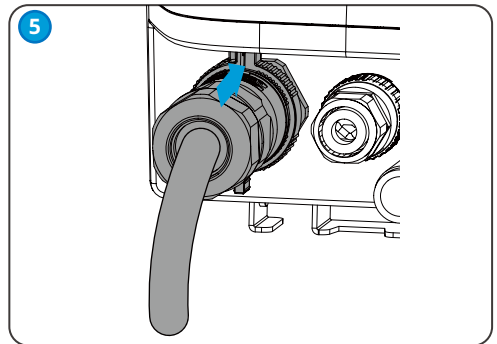
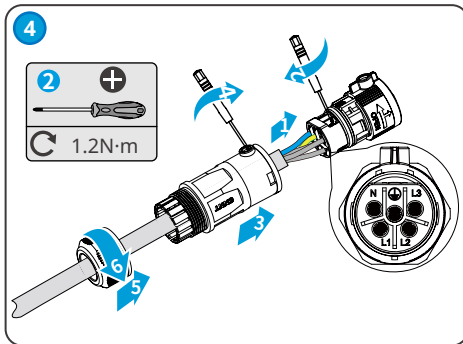
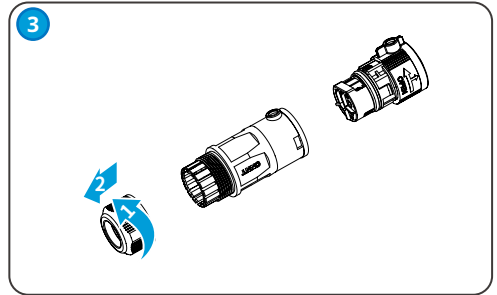
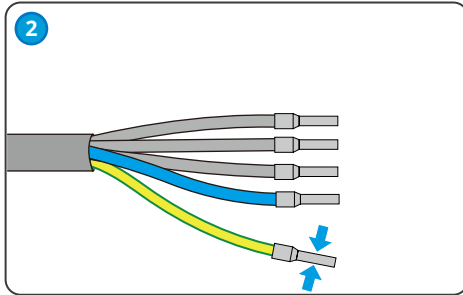
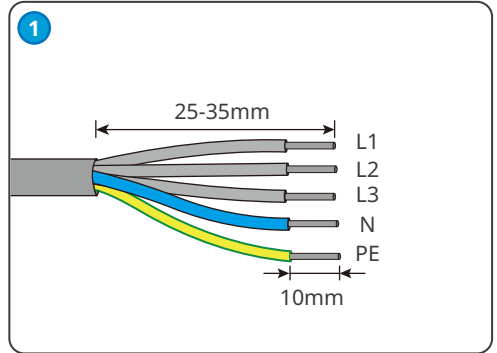
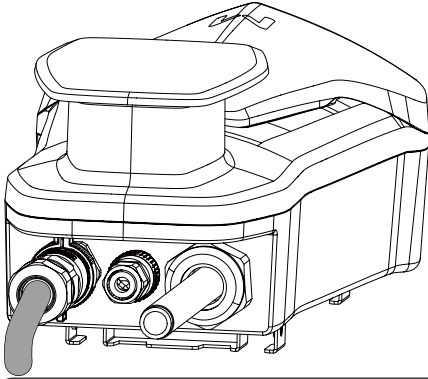
**Step 1** Prepare the AC cable.

**Step 2** Crimp the AC cable.

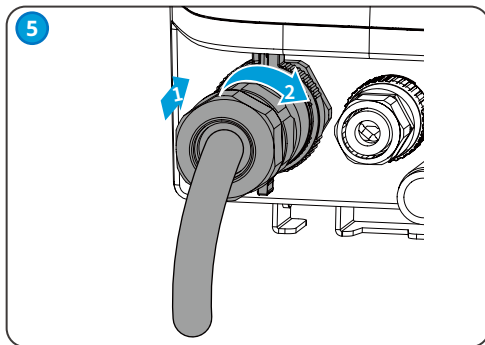
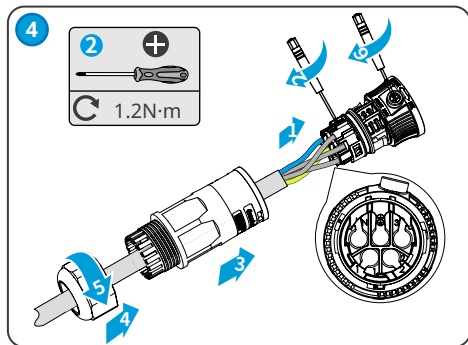
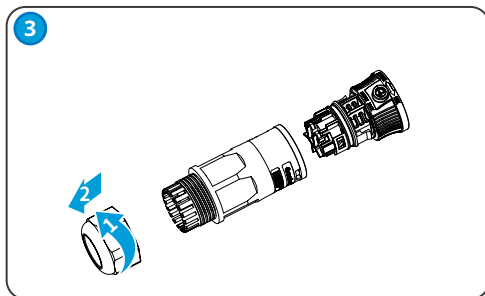
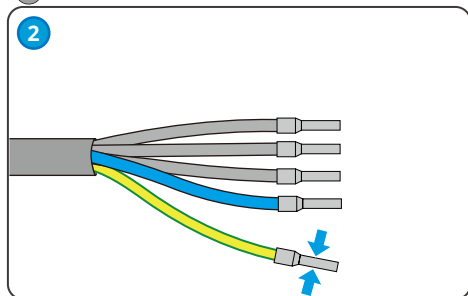
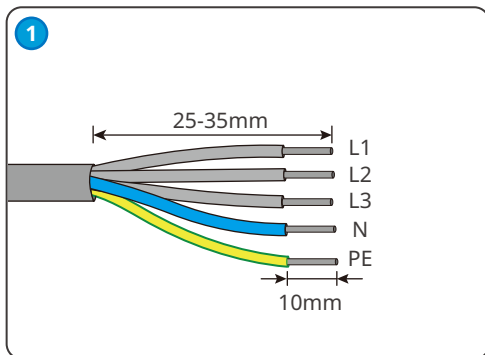
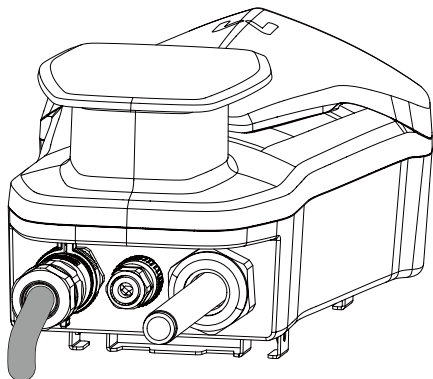
**Step 3** Insert the AC input cable into the AC terminals and tighten it.

**Step 4** Tighten the AC input terminal into the charger.

### AC-1 Connector



### AC-2 Connector



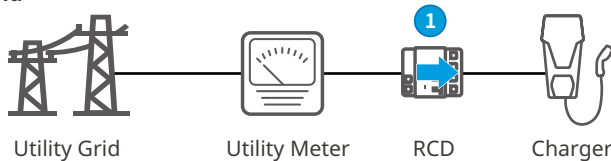
## 7 Equipment Commissioning

### 7.1 Check Before Power ON

No.	Checking Item
1	The charger is firmly installed at a clean place that is well-ventilated and easy to operate.
2	The AC input and communication cables are connected correctly and securely.
3	Cable ties are intact, routed properly and evenly.
4	Unused ports and terminals are sealed.
5	The voltage, frequency and other factors of the grid are in consistent with the working requirement of the charger.

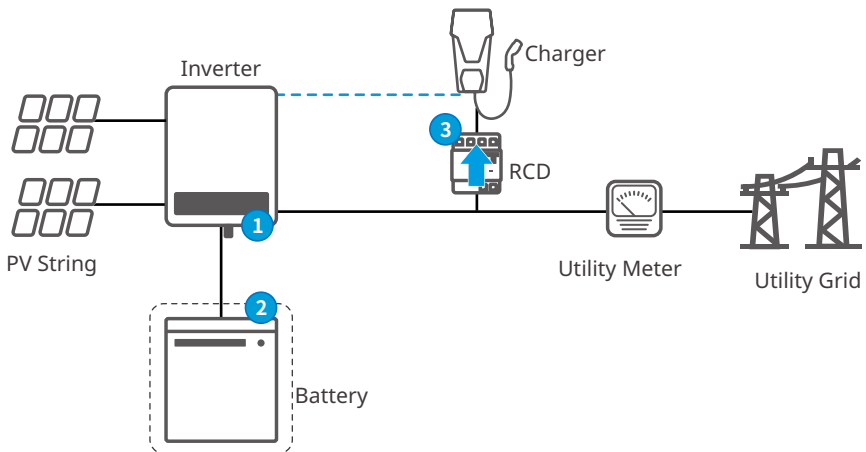
### 7.2 Power On

#### Connected to the grid



Turn on the RCD between the charger and the grid.

#### Connected to PV String and Batteries



**Step 1** Turn on the AC and DC switches on the inverter side.

**Step 2 (Optional)** Turn on the switches on the battery side.

**Step 3** Turn on the RCD.

## 7.3 Charging EV



- Do not move EV during charging.
- Press the emergency stop button to disconnect the power supply once abnormality happens during the charging.
- Do not charge on thunder and rainy days. Make sure that the charging plug and EV charging port are dry if you have to charge.
- Keep children far away from the charger. Children are not allowed to use the charger.
- It is forbidden to charge EV when a fault has occurred or the cable is broken.

### 7.3.1 Online Charging via SEMS Portal App

**Step 1** Plug the charging plug into EV charging port.

**Step 2** Open SEMS Portal App and connect with the charger via the App. Then tab **Start Charging**.

**Step 3** Check EV's charging status via the App or the charger indicator.

**Step 4** Tab **End Charging** on the App and the charging ends.

**Step 5** Disconnect the charging plug and put its cap. Wrap the cable around the charger.

### 7.3.2 Offline Charging Steps via SolarGo App

**Step 1** Plug the charging plug into EV charging port.

**Step 2** Open SolarGo App and connect with the charger via the App. Then tab **Start Charging**.

**Step 3** Check EV's charging status via the App or the charger indicator.

**Step 4** Tab **End Charging** on the App and the charging ends.

**Step 5** Disconnect the charging plug and put its cap. Wrap the cable around the charger.

### 7.3.3 Plug And Charge

**Step 1** Plug the charging plug into EV charging port.


**Step 2** The charging begins automatically.

**Step 3** Check EV's charging status via the charger indicator.

**Step 4** Put its cap after charging and wrap the cable around the charger.

## 8 System Commissioning

### 8.1 Indicator

Indicator	Color	Explanation
	Green	The charger is standby.
	Flash in Green	The system of the charger is upgrading.
	Blue	The charger is in charging.
	Red ON	A fault has occurred.

### 8.2 Setting and Checking Charger Information via SolarGo APP (installers)

SolarGo is a smart phone application used to configure the charger.

Commonly used functions:

- Check the working status of the charger.
- Check the charging records etc.

For more details, refer to SolarGo User Manual. Scan the QR code or visit [https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW\\_SolarGo\\_User%20Manual-EN.pdf](https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_SolarGo_User%20Manual-EN.pdf) to get the user manual.



SolarGo App



SolarGo App User Manual

### 8.3 Setting and Checking Charger Information via SEMS Portal (User)

SEMS Portal is a monitoring platform used to control the charger and inverter remotely.

Commonly used functions:

- Check the working status of the charger remotely or nearly
- Start or stop charging remotely or nearly
- Check the charging records

For more details, refer to SEMS Portal User Manual. Scan the QR code or visit [https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW\\_SEMS%20Portal-User%20Manual-EN.pdf](https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_SEMS%20Portal-User%20Manual-EN.pdf) to get the user manual.



SEMS Portal App



SEMS Master User Manual

## 9 Maintenance

### 9.1 Power Off the Charger



#### DANGER

Power off the charger before operations and maintenance. Otherwise, the charger may be damaged or electric shocks may occur.

Disconnect the RCD between the charger and the grid/inverter.

### 9.2 Dismantle the Charger



#### WARNING

- Make sure that the charger is powered off.
- Wear proper PPE before any operations.

**Step 1** Disconnect all cables, including AC and communication cables.

**Step 2** Remove the charger from the mounting plate.

**Step 3** Remove the mounting plate.

**Step 4** Store the charger properly. If the charger needs to be used later, ensure that the storage conditions meet the requirements.

### 9.3 Discard the Charger

If the charger cannot work anymore, dispose of it according to the local disposal requirements for electrical equipment waste. The charger cannot be disposed of together with household waste.

### 9.4 Routine Maintenance

Maintaining Item	Maintaining Method	Maintaining Period
Emergency Stop Button	Turn the EMS on and off for three consecutive times to make sure that it is working properly.	Once 6 months
Electrical Connection	Check whether the cables are securely connected. Check whether the cables are broken or whether there is any exposed copper core.	Once 6-12 months
Sealing	Check whether all the terminals and ports are properly sealed. Reseal the cable hole if it is not sealed or too big.	Once 6-12 months

## 9.5 Troubleshooting

The charger shows in red when there is fault. Log into SEMS Portal App or PV Master App for detailed troubleshooting.

Perform troubleshooting according to the following methods. Contact the After Sales Service if these methods do not work.

Collect the information below before contacting the After Sales Service, so that the problems can be solved quickly.

1. Charger information like serial number, software version, installation date, fault time, fault frequency, etc.
2. Installation environment, including weather conditions, and so on. It is recommended to provide some photos and videos to assist in analyzing the problem.
3. Utility grid situation.

No.	Fault	Cause	Solutions
1	Gun Connection Failure	The charger is disconnected during charging.	Re-plug the charger.
2	Emergency Stop	The emergency stop button is being pressed.	Loosen the button.
3	Grounding Error	The AC input grounding cable is disconnected.	Check and re-connect the grounding cable.
4	Ambient Temperature	The temperature of the charger is more than 80 degree.	The trouble is removed after cooling, and the charger enters into Standby Status.
5	Overvoltage	The AC Input is overvoltage.	The trouble is removed after the voltage is normal, and the charger enters into Standby Status.
6	Under Voltage	The AC Input is undervoltage	
7	Overcurrent	The output connection is short-circuited or overcurrent.	The trouble is removed after the output is normal, and the charger enters into Standby Status.
8	Deviation Time Out	<ol style="list-style-type: none"> <li>1. The battery of EV is fully charged .</li> <li>2. The environmental temperature is too low and the battery is not able to be charged.</li> <li>3. The connection of the charger is abnormal.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check whether the battery charging is finished via softwares.</li> <li>2. Start the EV for preheating about 5 minutes before charging it when the environment is too cold.</li> <li>3. Check and re-plug the charger's connector.</li> </ol>



No.	Fault	Cause	Solutions
9	Preparing Time Out	The CP signal communication is unsuccessful.	<ol style="list-style-type: none"> <li>1. Check if the EV is fully charged.</li> <li>2. Re-plug the charger. Restart the EV if the problem can not be solved. Contact the dealer or the after-sales service if the problem is still exist.</li> </ol>
10	Welded contactor Fault	The internal component is in fault.	Restart the charger. Contact the dealer or After Sales Service if the problems can not be solved.
11	Meter failure		
12	Leakage Current Fault		
13	Reading Error		
14	EEPROM Fault		
15	Flash error		
16	Leakage detector failure		

## 10 Technical Parameters

Technical Data	GW7K-HCA	GW11K-HCA	GW22K-HCA
Input			
Nominal Input Voltage (V)	230V, L/N/PE	400V, 3L/N/PE	400V, 3L/N/PE
Nominal Input Current (A)	32.0	16.0	32.0
Nominal AC Grid Frequency (Hz)	50/60	50/60	50/60
Output			
Nominal Output Power (W)	7000	11000	22000
Nominal Output Voltage (V)	230, L/N/PE	400, 3L/N/PE	400, 3L/N/PE
Nominal Output Current (A)	32.0	16.0	32.0
Nominal Output Frequency (Hz)	50/60	50/60	50/60
Protection			
Residual Current Protection	Integrated		
Overcurrent Protection	Integrated		
Short Circuit Protection	Integrated		
Overvoltage Protection	Integrated		
Over Temperature Protection	Integrated		
Ground Fault Protection	Integrated		
AC Surge Protection	Type II		
Emergency Power Off	Integrated		
General Data			
Operating Temperature Range (°C)	-30 ~ +50		
Relative Humidity	5% ~ 95% (Non-condensing)		
Max. Operating Altitude (m)	2000		
Cooling Method	Natural Convection		
User Interface	APP, LED		
Start method	WLAN+APP		
Communication	Bluetooth, WiFi		
Communication protocols	GOODWE		
Weight (kg)	5.0	6.0	6.0
Dimension (W×H×D mm)	208 x 450 x 150		

Technical Data	GW7K-HCA	GW11K-HCA	GW22K-HCA
Noise Emission (dB)	< 20		
Standby Power (W)	< 6		
Ingress Protection Rating	IP66*1		
Output Cable & Connector	5m Cable (6m Optional) IEC Type2		
Installation	Indoor or Outdoor		
Mounting	Wall or Floor (With floor post Optional)		
RCD	Type A + 6mA DC Fault Current Protection		
MTBF (h)	100000		
Protective Class	I		
Certifications	IEC61851-1-2017, IEC 62955, CE, UKCA		
EMC	Class B		
Country of Manufacture	China		

\*1: Ingress Protection Rating: Charging Plug IEC type 2 is IP55.




GoodWe Website

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Local Contacts