

**GOODWE**



# Quick Installation Guide

## Smart Meter

(GMK120 | GMK140 | GM330)

V1.0-2022-05-30

## 01 Safety Precautions

### General Disclaimer

- The information in this quick installation guide is subject to change due to product updates or other reasons. All descriptions here are for guidance only.
- Before installations, read through the quick installation guide.
- All operations should be performed by trained and knowledgeable technicians who are familiar with local standards and safety regulations.
- Check the deliverables for correct model, complete contents, and intact appearance. Contact the manufacturer if any damage is found or any component is missing.
- Strictly follow the installation, operation, and configuration instructions in this guide and user 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>.

### Safety Disclaimer

#### **WARNING**

- Make sure that the device is powered off before any operations.
- Ensure the cables are connected tightly, securely, and correctly. Inappropriate wiring may cause poor contact or damage the device.
- Additional circuit breakers are recommended on the voltage input side to avoid personal injury or device damage.
- Specification of the protective fuse should be 0.5A.
- In areas at risk of lightning, if the input cable of the device exceeds 10m (33ft), you are recommended to use an external lightning protection device. If the communication cables are wired with grounded metal conduits, the lightning protection device is not necessary.
- Strictly follow the National Electrical Code, ANSI/NFPA 70, and Canadian Electrical Code C22.1 during operations.

### Check before Power-on

No.	Check Item
1	The product is firmly installed at a clean place that is well-ventilated and easy-to-operate.
2	The input power cables, CT Cables, and communication cables are connected correctly and securely.
3	Cable ties are intact, routed properly and evenly.

## Storage

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

Do not unpack the outer package or throw the desiccant away.

Store the equipment in a clean place. Make sure the temperature and humidity are appropriate and no condensation.

If the smart meter has been long term stored, it should be checked by professionals before being put into use.

## Federal Communications Commission (FCC) Interference Statement

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## RF exposure warning

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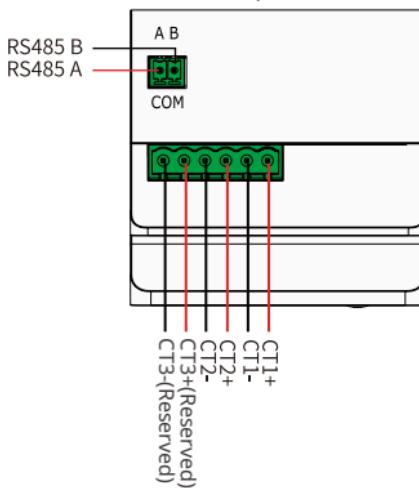
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

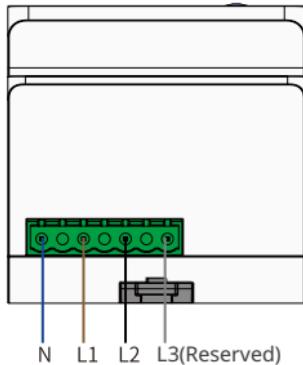
## 02 Product Introduction

### GMK120

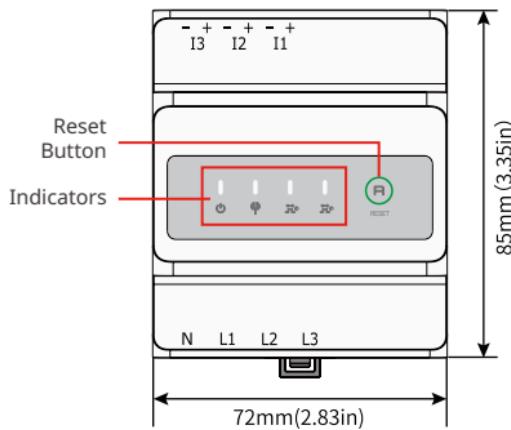
Top view



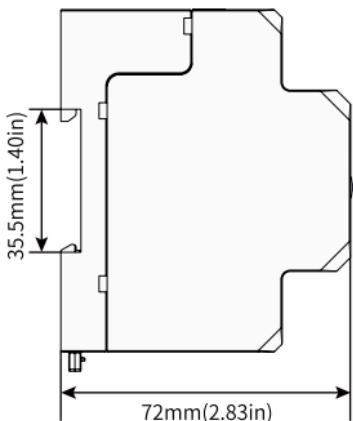
Bottom view

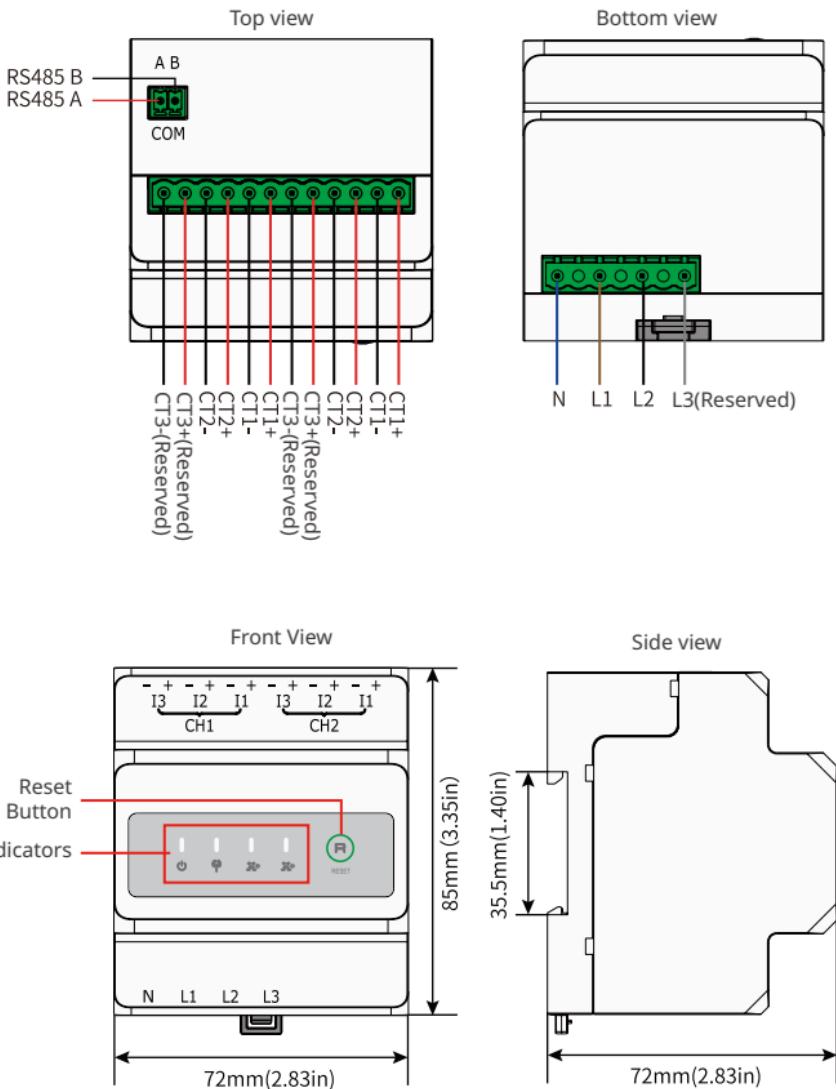


Front View

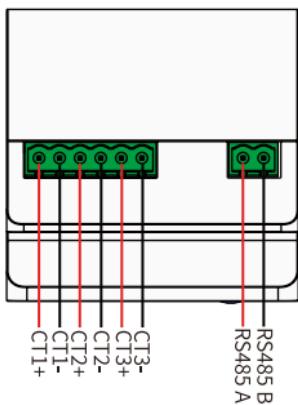


Side view

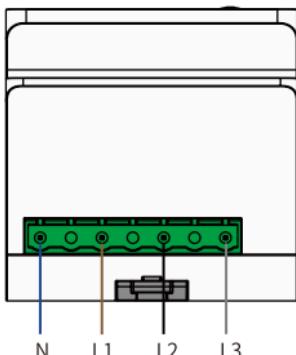




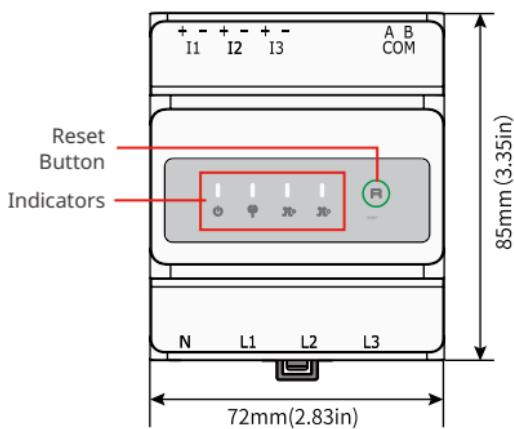
Top view



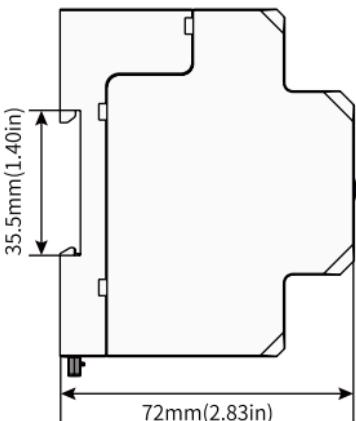
### Bottom view



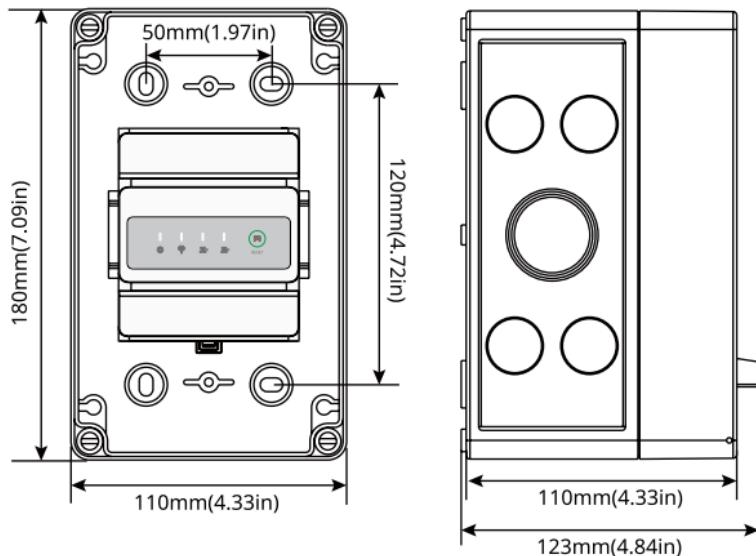
### Front View



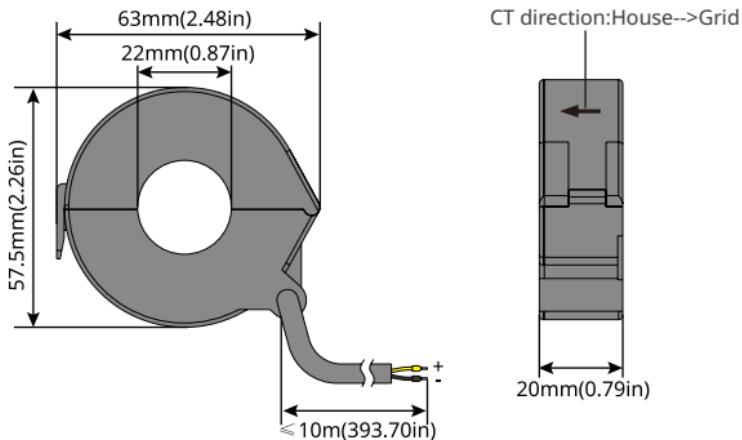
### Side view



## Waterproof box



## CT

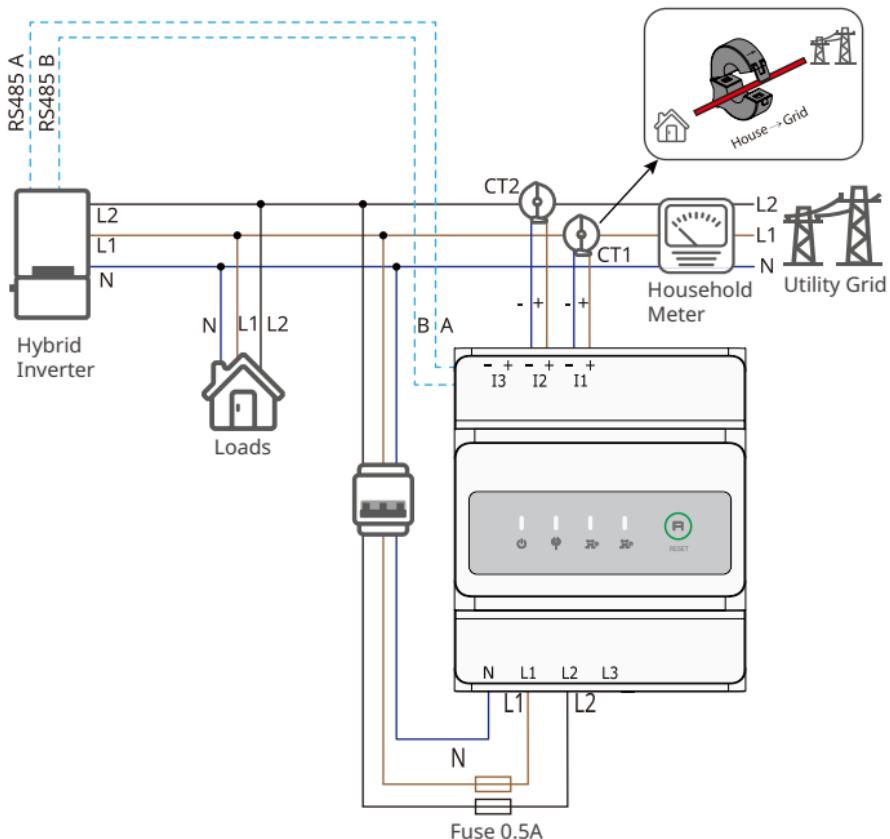


## 03 Wiring System

GMK120

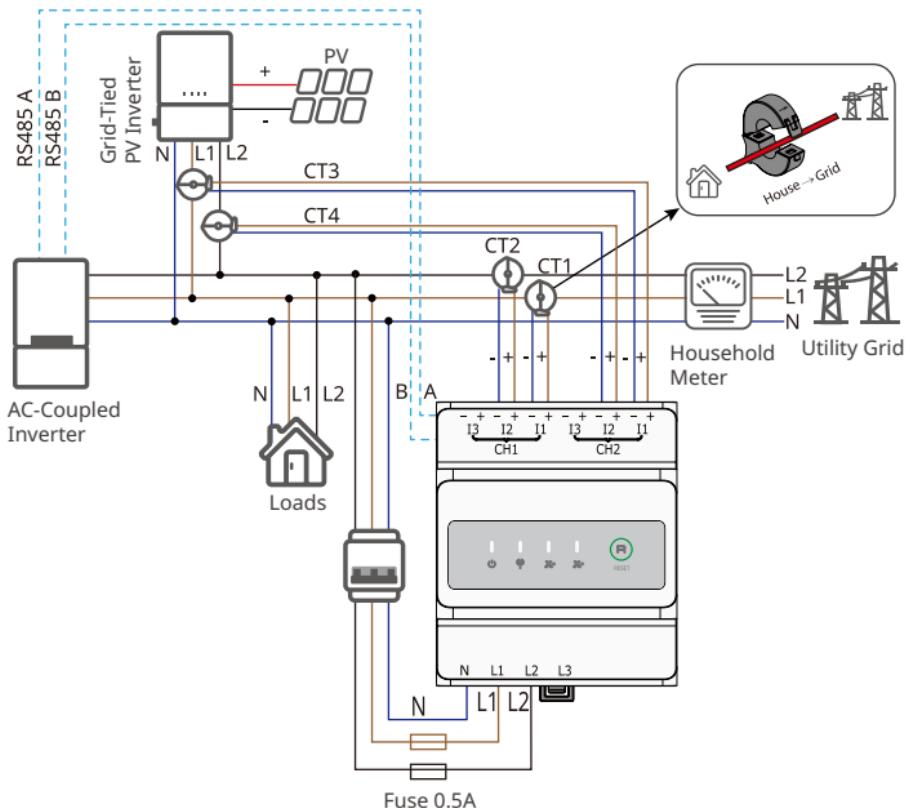
### NOTE

- Recommended cross-sectional area of the smart meter input power cable: 1mm<sup>2</sup>(18AWG).
- CT direction: House-->Grid.
- You are recommended to add fuses with a rated current of 0.5A to L1and L2 on the meter side.
- To ensure the correctness of the monitoring data, connect CT1 to L1, CT2 to L2. Also, the N wire, L1, and L2 need to be connected between the loads and the utility meter.



## NOTE

- Recommended cross-sectional area of the smart meter input power cable: 1mm<sup>2</sup>(18AWG).
- CT direction: House-->Grid.
- You are recommended to add fuses with a rated current of 0.5A to L1 and L2 on the meter side.
- To ensure the correctness of the monitoring data, connect CT1, CT3 to L1, CT2, CT4 to L2. Also, the N wire, L1, and L2 need to be connected between the loads and the utility meter.



## NOTE

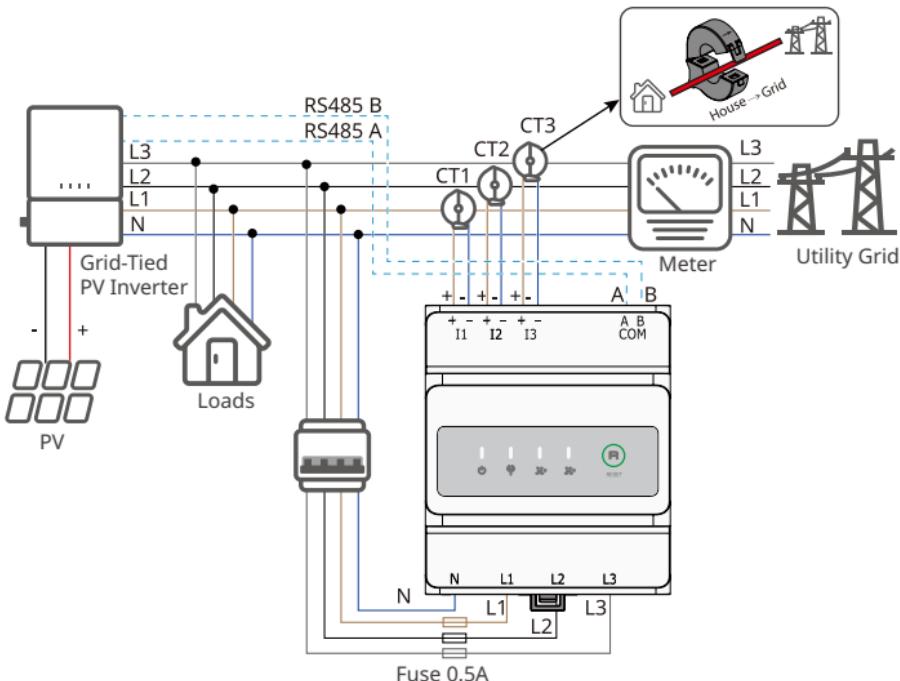
- Recommended cross-sectional area of the smart meter input power cable: 1mm<sup>2</sup>(18AWG).
- Customers need to prepare CT and CT cables. Certified CTs are recommended. Recommended cross-sectional area of the CT cable: 1.6mm<sup>2</sup>(15AWG).
- CT direction: House->Grid.
- You are recommended to add fuses with a rated current of 0.5A to L1, L2, and L3 on the meter side.
- To ensure the correctness of the monitoring data, connect CT1 to L1, CT2 to L2, and CT3 to L3. Also, the N wire, L1, L2, and L3 need to be connected between the loads and the utility meter.
- Short circuit N and L2 in the three-phase three-line system. Set the smart meter to Three Phase Three Line mode via Solar Go app or PV Master app. Scan the QR code below to get more information.



SolarGo App  
User Manual

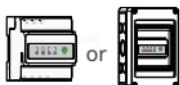


PV Master App  
User Manual



## 04 Installation

### Packing List



x 1



x 1



x 1



x 1



x N



x N



x N



x N



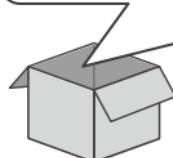
x 1



x N



x N



N = Quantity depends on the inverter model.

### Installation and Cable Connection

#### DANGER

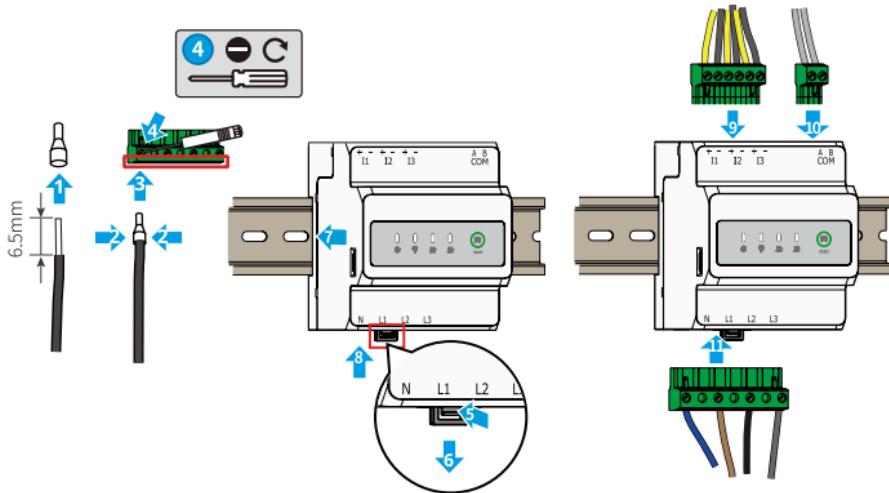
- Pay attention to the silkscreens on the device when connecting the voltage input cables. Otherwise, the device may be damaged.
- Pay attention to the silkscreens on the device when connecting the CT and RS485 cables. Otherwise, the read-in data may be wrong.

#### NOTE

- The model of the smart meter differs, but the installation and cable connection steps are the same. In this guide, the GM330 is used as an example to illustrate the installation steps.
- Connect CT1+, CT1-, CT2+, and CT2- only when connecting cables of GMK120 or GMK140. CT3+ and CT3- are reserved.

## Installing the rail

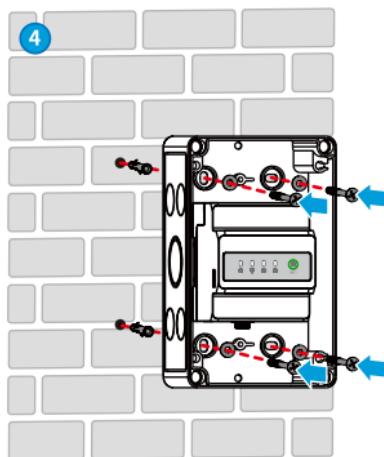
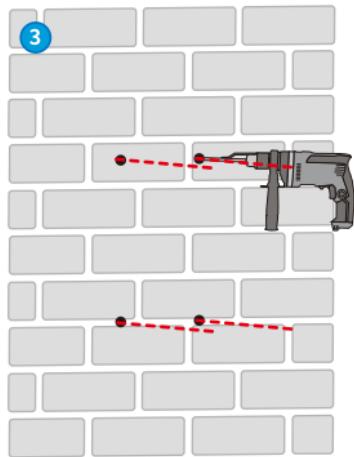
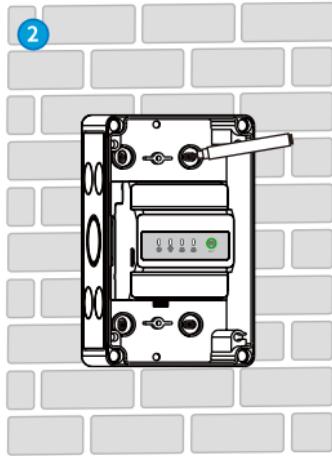
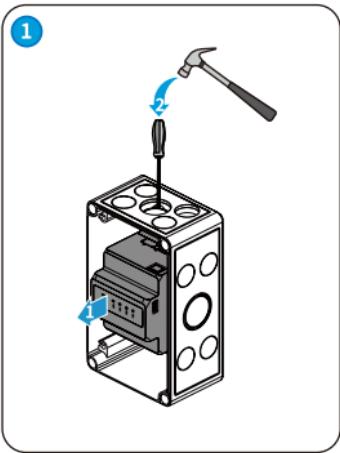
Model	Tightening torque for RS485 terminals
GMK120	0.2N·m
GMK140	0.2N·m
GM330	0.5N·m



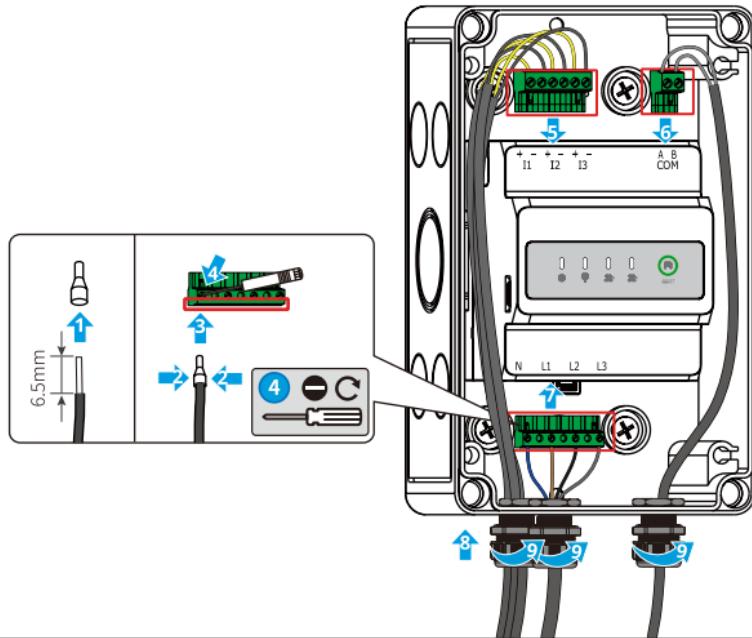
## Installing the waterproof box

### NOTE

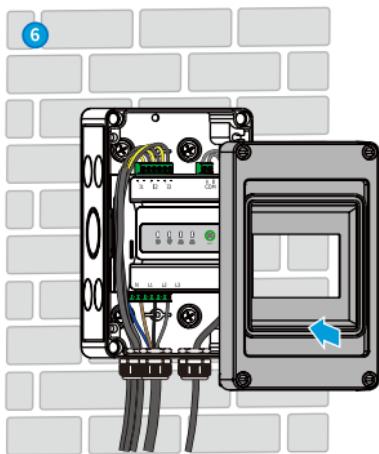
- You are recommended to remove the cable hole cover using a screwdriver and a rubber hammer. Do not damage the smart meter when removing the cover.
- You are recommended to use the cable hole at the bottom of the box to ensure its waterproof performance. Customers need to prepare PG21 and PG16 waterproof connectors and tighten the connectors at the cable hole.



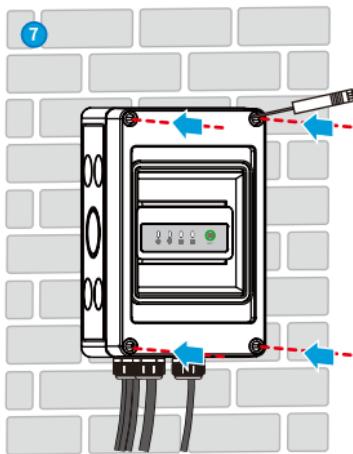
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## 05 Commissioning

### Power ON

**Step 1** Connect the smart meter cables.

**Step 2** Turn on the breaker on the voltage input side. Then the smart meter is powered on.

### Indicator

Type	Status	Description
	Steady on	Power on, no RS485 communication.
	Blinking	Power on, RS485 communication works properly.
	Off	Power off.
	Off	Reserved.
	Steady on	Purchasing from the utility grid.
	Blinking	Selling to the utility grid.
	Off	No purchasing or selling.
 (Only for GMK140)	Steady on	Purchasing from the utility grid.
	Blinking	Selling to the utility grid.
	Off	No purchasing or selling.

### Reset Button

Press Time	Description
≥ 5s	Reset the smart meter.

### DANGER

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

#### Power OFF

Turn off the breaker on the voltage input side. Then the smart meter is powered off.

### WARNING

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

#### Removing the Smart meter

**Step1** Disconnect all the cables, including input power cable cables, CT cables, RS485 communication cables.

**Step2** Press the buckle at the bottom of the device to take it from the rail.

**Step3** Store the smart meter properly. If the smart meter needs to be used later, ensure that the storage conditions meet the requirements.

## 07 Technical Parameters

Model		GMK120	GMK140	GM330
<b>Technical parameters</b>				
<b>Input</b>	<b>Grid</b>		Single-phase(L/N ≤ 265Vac) Split-phase(L/N≤ 265Vac) Three-phase(3-wire,L/L≤ 265Vac) Three-phase(4-wire,L/N≤ 265Vac)	Three-phase(3-wire,L/L ≤ 576Vac) Three-phase(4-wire,L/N ≤ 520Vac)
	<b>Frequency</b>		50/60Hz	
	<b>Voltage</b>	<b>Rated voltage</b>	208V, 120V / 240V	277V/480V
		<b>Voltage range</b>	0.88Un-1.1Un	
	<b>Current</b>	<b>Rated current</b>	200A	5A(MAX)
		<b>Current range</b>	0-200A	0-5A
<b>Communication</b>		RS485 interface, Modbus-RTU		
<b>Communication Distance</b>		RS485:1000m(Use shielded twisted-pair cables)		
<b>Display and button</b>		4 LED (Power supply and network communication indicator,Wireless indicator(reserved),Energy consumption indicator1,Energy consumption indicator2), Reset button		
<b>Measurement precision</b>		Voltage/Current: 0.5 level Active energy: 0.5 level Reactive energy: 1 level		
<b>Power supply</b>		Power consumption ≤5W		
<b>Structural parameters</b>	<b>Dimension (L x W x H)</b>		85 x 72 x 72mm/33.5×28.3×28.3in	
	<b>Weight</b>		240g/0.53lb	
	<b>Installtion</b>		Rail installation	
<b>Environment paraments</b>	<b>Protection class</b>		IP20	
	<b>Working temperature</b>		-30°C+70°C/-22°F+158°F	
	<b>Storage temperature</b>		-30°C+70°C/-22°F+158°F	
	<b>Relative humidity</b>		0%-95%, non-condensing	
	<b>Altitude</b>		≤ 3000m/9842ft	

### NOTE

The smart meters are not kilowatt-hour metering devices. They can only be used to calculate the element and energy in solar and hybrid systems. Please refer to the data measured by a standard kilowatt-hour meter when you need to calculate the electricity tariff.



Official Website

## GoodWe Technologies Co., Ltd.

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-  No. 90 Zijin Rd., New District, Suzhou, 215011, China
-  [www.goodwe.com](http://www.goodwe.com)
-  [service@goodwe.com](mailto:service@goodwe.com)



340-00732-01



Local Contacts