



Quick Installation Guide

Smart Meter

(GMK120 | GMK140 | GM330)

V1.2-2024-02-25

01 IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

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

NOTICE

The equipments are designed and tested strictly complies 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 inverters are electrical equipment.

General Safety

NOTICE

- 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.
- If the voltage of the power grid fluctuates, resulting in the voltage to exceed 265V, in this case, long-term overvoltage operation may cause damage to the meter. It is recommended to add a fuse with a rated current of 0.5A on the voltage input side of the meter to protect it.
- CT direction: House-->Grid.
- Ensure to connect the voltage input side of the Smart Meter between Loads and Household meter, CT and L cable connected correctly as well. Otherwise, the monitoring data may be wrong.
- Pay attention to the silkscreens on the device when connecting the voltage input cables. A wrong connection may cause damage to the device.
- Pay attention to the silkscreens on the device when connecting the CT and RS485 to the Smart Meter. A wrong connection may cause incorrect reading values.

- 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.
- The ingress protection rating of the smart meter is IP20, which is suitable to be installed indoors or inside of the distribution box. For outdoor installation, prepare a waterproof cover to protect the smart meter. Otherwise it will cause damage to the equipment, which is beyond the manufacturer's liability.
- Strictly follow the National Electrical Code, ANSI/NFPA 70, and Canadian Electrical Code C22.1 during operations.

Personal Requirements

NOTICE

- Personnel who install or maintain the equipment must be strictly trained, learn about safety precautions and correct operations.
- Only qualified professionals or trained personnel are allowed to install, operate, maintain, and replace the equipment or parts.

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

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

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 generate, 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

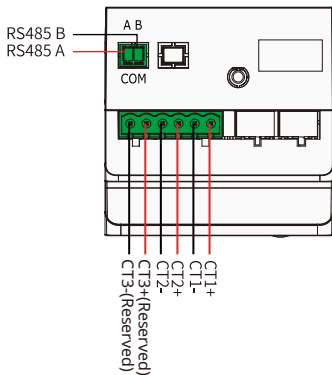
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

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.

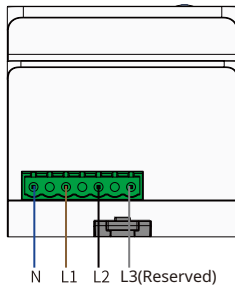
02 Product Introduction

GMK120

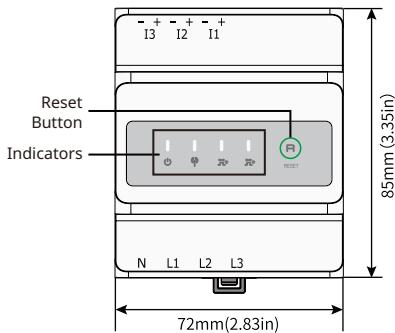
Top view



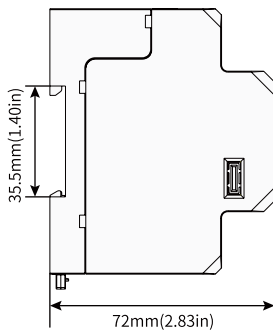
Bottom view



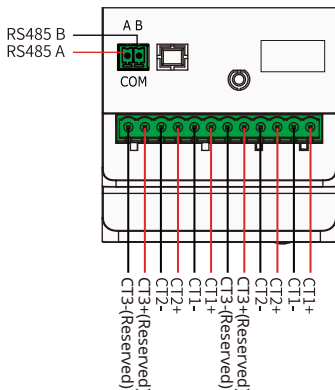
Front View



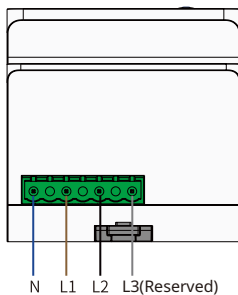
Side view



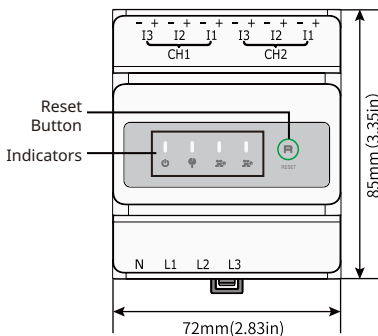
Top view



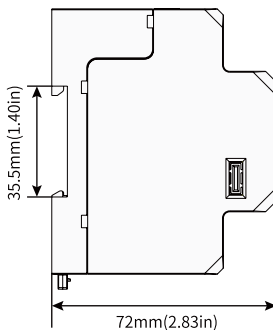
Bottom view



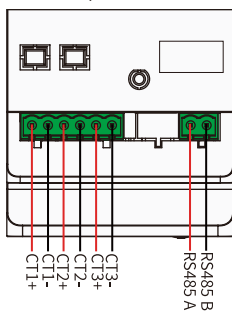
Front View



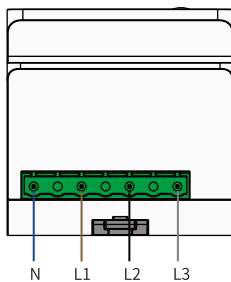
Side view



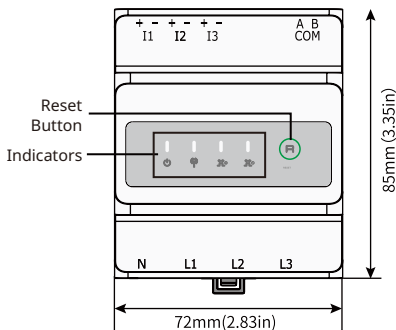
Top view



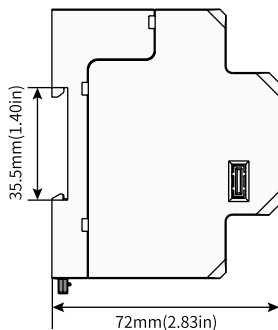
Bottom view



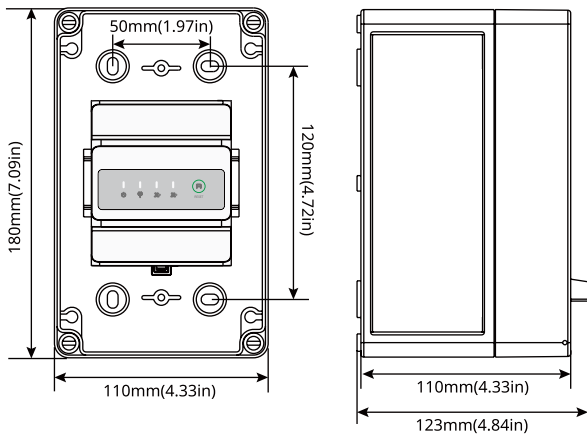
Front View



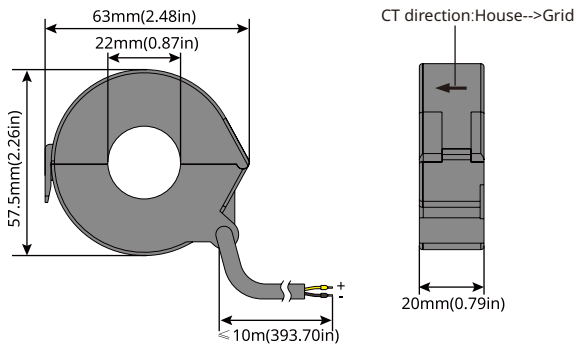
Side view



Waterproof box

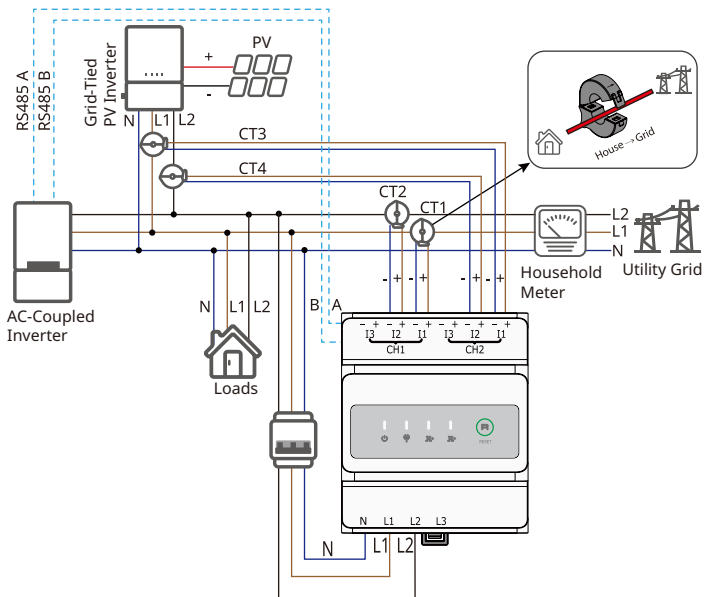


CT



NOTICE

Recommended cross-sectional area of the smart meter input power cable: $1\text{mm}^2(18\text{AWG})$.

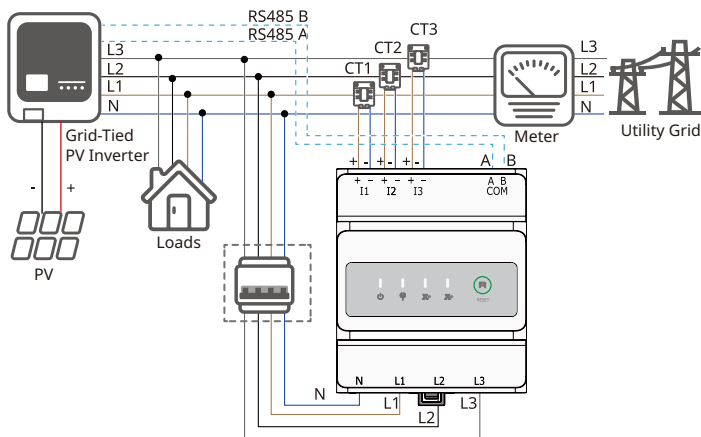


NOTICE

- Recommended cross-sectional area of the smart meter input power cable: $1\text{mm}^2(18\text{AWG})$.
- Short circuit N and L2 in the three-phase three-line system.
- Set the CT's turns ratio via SolarGo App. For example, set the CT ratio to 40 if a 200A/5A CT is selected.
- Scan the QR code below to get more information.



SolarGo App
User Manual



Connect CT cables

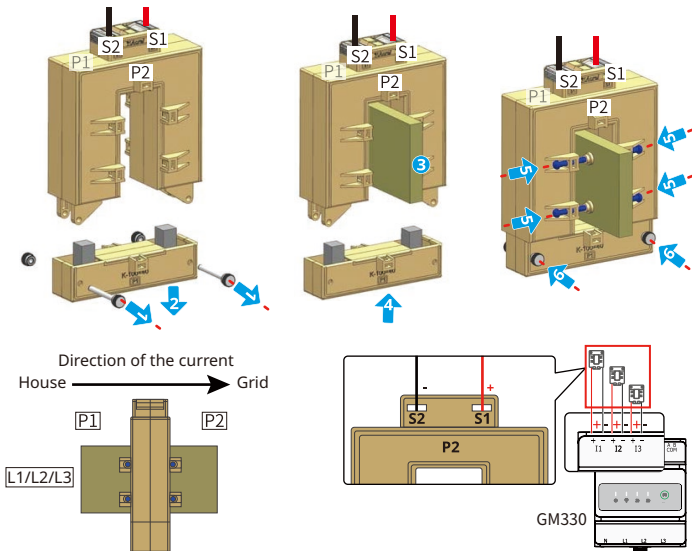
NOTICE

- Only applicable to GM330.
- Prepare the CT. Or contact the device manufacturer for purchasing.
- Specifications of the CT:
 - Choose nA/5A for the current transformation ratio of the CT. (nA: For primary current of the CT, n ranges from 200 to 5000. Set the current value depending on the actual needs. 5A: The output current of the secondary current of the CT.)
 - The recommended precision of the CT: 0.5, 0.5s, 0.2, 0.2s. Ensure the sampling error for the CT current shall be $\leq 1\%$.
- The CT bore diameter shall be bigger than the outer diameter of AC power cable, to ensure the AC power cable can be inserted through CT.
- Do not use network cable as CT cable, as excessive current may cause damage to the meter.

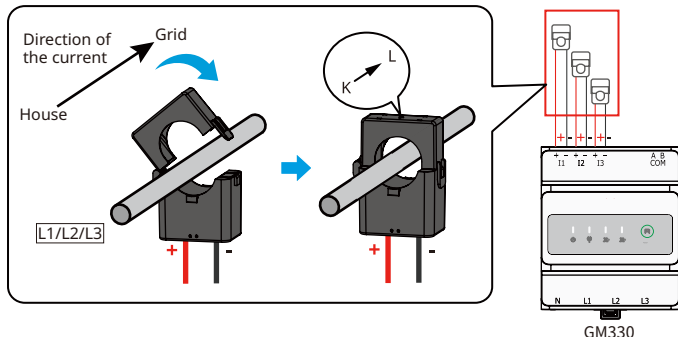
The dimension and appearance of the CT differs slightly according to its type provided by the device manufacturer. However, the installation and wiring methods are the same.

Example CT1

The recommended conductor cross-sectional area of the CT's secondary output cable: 1.6mm^2 (15AWG cable).



Example CT2



For specific CT wirings, refer to the documents provided by the respective manufacturer.

04 Installation

Packing List



x 1^[1]



x 1^[2]



x 1^[2]



x 1^[2]



x 1^[3]



x 1^[3]



x 14



x 1



x 1



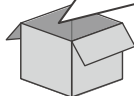
x 1^[4]



x 4^[4]



x 4^[4]



[1]. GMK120-CT x 3; GMK140: CT x 6; GM330 is not equipped with CT.

[2]. Only for GM330.

[3]. Only for GMK120, GMK140.

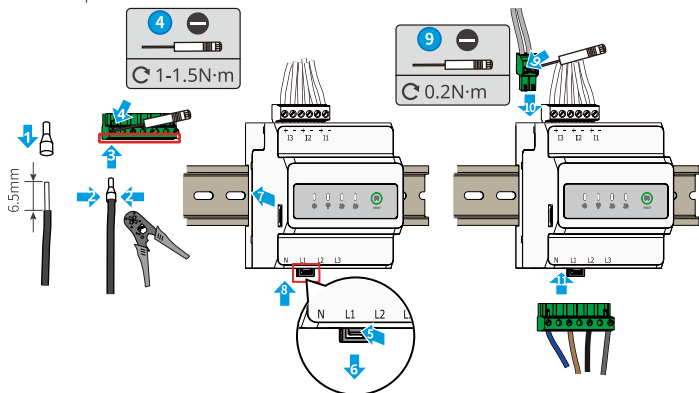
[4]. Optional.

Installation and Cable Connection

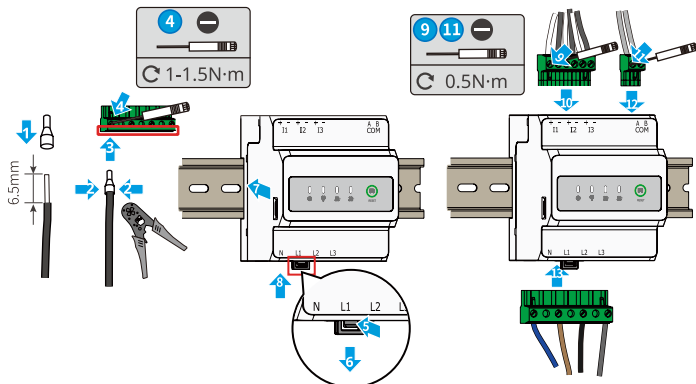
Installing the rail

GMK120/GMK140

GMK120 and GMK140 are connected in the same way. The following illustrations take GMK120 as an example.



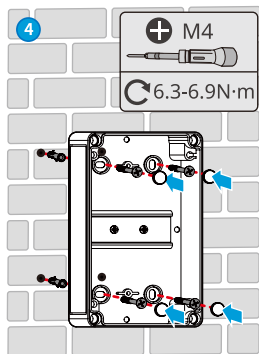
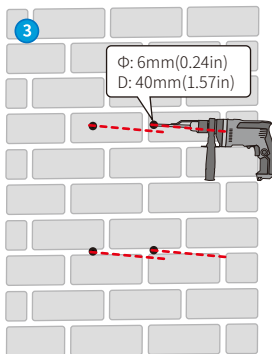
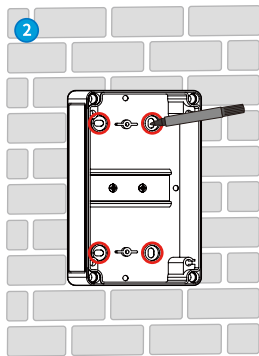
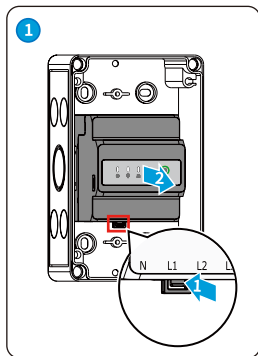
GM330



Installing the waterproof box

NOTICE

- Use the hole digger to drill on the waterproof box. It is suggested to drill holes and route cables on the bottom of the box, thus not influencing the performance of waterproof.
- Prepare the hole digger and waterproof conduit by the customer.

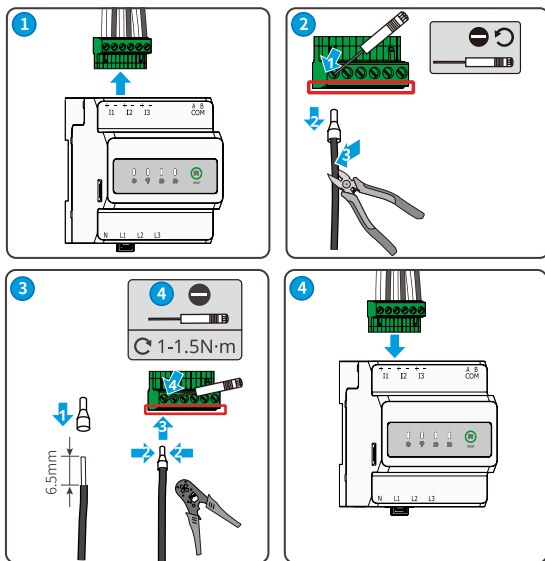


Cut and connect CT cables (optional)

NOTICE

For GMK120 and GMK140 only:

- CT cables can be cut or extended according to actual needs, and the recommended cable length is 1-30m.
- Recommended cross-sectional area of CT cable wire: 1.6mm^2 (15AWG).







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
 Power light	Steady on	Power on, no RS485 communication.
	Blinking	Power on, RS485 communication works properly.
	Off	Power off.
 Communication light	Off	Reserved.
	Blinking	Press the Reset button for more than 5 seconds,power light, buying or selling electricity indicator light flash: Reset the meter.
 Buying or selling electricity indicator light	Steady on	Purchasing from the utility grid.
	Blinking	Selling to the utility grid.
	Off	No purchasing or selling.
 Buying or selling electricity indicator light(Only for GMK360)	Steady on	Purchasing from the utility grid.
	Blinking	Selling to the utility grid.
	Off	No purchasing or selling.

06 Maintenance

DANGER

INSTRUCTIONS PERTAINING TO A RISK OF FIRE OR ELECTRIC SHOCK

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

Power OFF

Step 1 (Optional) Turn off the breaker on the voltage input side.

Step 2 Take out the terminals from the voltage input side of the Smart Meter,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.

Disposing of the Smart meter

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

07 Technical Parameters

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

NOTICE

The smart meter is mainly used for power control at the grid-connection point. The measured energy yield and electricity consumption are for reference only and cannot be used as a basis for calculating electricity fees. Electricity fee measurement is subject to the meter provided by the grid company.



Official Website

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Local Contacts