

Micro Inverter

GW1.6K-MIS-G20

GW1.8K-MIS-G20

GW1.875K-MIS-G20

GW2K-MIS-G20

GW2.25K-MIS-G20

GW2.5K-MIS-G20

User Manual

GOODWE

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NOTICE

Due to product version upgrades or other reasons, the content of this document is updated periodically. Unless otherwise agreed, the content of this document cannot replace the safety precautions on the product label. All descriptions in this document are for guidance only.

About This Manual

Overview

This document mainly introduces the product information, installation wiring, configuration testing, troubleshooting, and maintenance of the micro inverter. Please read this manual carefully before installing and using the product to understand the safety information and familiarize yourself with the functions and features of the product. The document may be updated periodically; please obtain the latest version and more product information from the official website.

Applicable Model

This document applies to the following inverter models:

Product Model	Nominal output power	Nominal output voltage
GW1.6K-MIS-G20	1600W	220/230/240, L/N/PE
GW1.8K-MIS-G20	1800W	220/230/240, L/N/PE
GW1.875K-MIS-G20	1875W	220/230/240, L/N/PE
GW2K-MIS-G20	2000W	220/230/240, L/N/PE
GW2.25K-MIS-G20	2250W	220/230/240, L/N/PE
GW2.5K-MIS-G20	2500W	220/230/240, L/N/PE

Symbol Definition

 DANGER
Indicates a situation with a high potential hazard, which, if not avoided, will result in death or serious injury.
 WARNING
Indicates a situation with a moderate potential hazard, which, if not avoided, could result in death or serious injury.

 CAUTION

Indicates a situation with a low potential hazard, which, if not avoided, could result in moderate or minor injury.

NOTICE

Emphasizes or supplements the content, may also provide tips or tricks for optimal product use, which can help you solve a problem or save your time.

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1 Safety Precautions

The Safety Precautions information contained in this document must always be followed when operating the device.

WARNING

The device has been designed and tested in strict compliance with safety regulations. However, as electrical equipment, relevant safety instructions must be followed before performing any operation. Improper operation may lead to serious injury or property damage.

1.1 General Safety

NOTICE

- Due to product version upgrades or other reasons, the document content is updated periodically. Unless otherwise specified, the document content cannot replace the safety precautions on the product label. All descriptions in the document are for guidance only.
- Please read this document carefully before installing the equipment to understand the product and precautions.
- When operating the equipment, use insulated tools and wear personal protective equipment to ensure personal safety. Wear anti-static gloves, wrist straps, clothing, etc., when handling electronic components to protect the equipment from electrostatic damage.
- Unauthorized disassembly or modification may cause equipment damage, and such damage is not covered by the warranty.
-
- Equipment damage or personal injury resulting from installation, use, or configuration not in accordance with the requirements of this document or the corresponding user manual is beyond the manufacturer's liability. For more product warranty information, please visit the official website:
<https://en.goodwe.com/warrantyrelated.html>.

1.2 Personnel Requirements

NOTICE

To ensure safety, compliance, and efficiency throughout the entire process of equipment transportation, installation, wiring, operation, and maintenance, all tasks must be performed by professionals or qualified personnel.

1. Professionals or qualified personnel include:
 - Individuals who have mastered the working principles, system structure, and knowledge of risks and hazards of the equipment, and have received professional operation training or possess extensive practical experience.
 - Individuals who have received relevant technical and safety training, possess certain operational experience, are aware of the potential dangers specific tasks may pose to themselves, and can take protective measures to minimize risks to themselves and others.
 - Qualified electrical technicians who meet the regulatory requirements of the country/region where they are located.
 - Individuals holding a degree in electrical engineering/an advanced diploma in electrical disciplines or equivalent/professional qualifications in the electrical field, and possessing at least 2/3/4 years of experience in testing and regulatory work using electrical equipment safety standards.
2. Personnel involved in special tasks such as electrical work, work at height, and operation of special equipment must hold valid qualification certificates required by the location where the equipment is installed.
3. Operation of medium-voltage equipment must be performed by certified high-voltage electricians.
4. Replacement of equipment and components is only permitted to be carried out by authorized personnel.

1.3 System Safety

DANGER

- Before making electrical connections, disconnect all upstream switches of the equipment to ensure it is powered off. Live operation is strictly prohibited, as it may lead to hazards such as electric shock.
- All operations, including transportation, storage, installation, operation, use, and maintenance, must comply with applicable laws, regulations, standards, and specifications.
- The specifications of cables and components used for electrical connections must meet local legal, regulatory, standard, and specification requirements.
- Use the cable connectors provided in the package to connect equipment cables. Damage caused by using connectors of other models is not within the responsibility of the equipment manufacturer.
- Ensure all equipment cables are connected correctly, securely, and without looseness. Improper wiring may cause poor contact or damage the equipment.
- To protect the equipment and its components from damage during transportation, ensure transport personnel are professionally trained. Record operational steps during transportation and keep the equipment balanced to avoid dropping.
- Ensure the equipment is placed stably and not tilted. Equipment tipping may cause equipment damage and personal injury.

WARNING

- During device installation, avoid placing weight on the terminal blocks, otherwise the terminals may be damaged.
- If the cable is subjected to excessive tension, poor connections may result. When wiring, leave a certain length of slack in the cable before connecting it to the device's terminal port.
- Cables of the same type should be bundled together. Different types of cables should be routed at least 30mm apart and must not be intertwined or cross-routed.
- Using cables in high-temperature environments may cause insulation aging or damage. Maintain a distance of at least 30mm between cables and heat-generating components or the periphery of heat source areas.

1.3.1 PV String Safety



- Ensure the component frames and mounting system are properly grounded.
- After completing the DC cable connections, ensure the connections are tight and secure without any looseness. Improper wiring may lead to poor contact or high impedance, potentially damaging the inverter.
- Use a multimeter to measure the DC cables to ensure correct polarity (no reverse connection) and that the voltage is below the Max. DC Input Voltage. Damage caused by reverse connection and overvoltage is not covered by the equipment manufacturer's warranty.
- The PV string output does not support grounding. Before connecting the PV string to the inverter, ensure the minimum insulation resistance to ground of the PV string meets the minimum insulation resistance requirement ($R = \text{Max. Input Voltage (V)} / 30\text{mA}$).
- Do not connect the same PV string to multiple inverters, as this may cause damage to the inverters.
- The photovoltaic modules used with the inverter must comply with IEC61730 Class A standards.
- The microinverter's DC input ports are designed for connection to photovoltaic modules. Do not connect batteries or other power sources.

1.3.2 Inverter Safety



- Ensure that the voltage and frequency at the grid connection point comply with the inverter's grid connection specifications.
- It is recommended to add protective devices such as circuit breakers or fuses on the AC side of the inverter, and the rating of the protective devices should be greater than 1.25 times the maximum AC output current of the inverter.
-

1.4 Safety Symbols and Certification Marks

DANGER

- After the equipment is installed, the labels and warning signs on the enclosure must be clearly visible. Do not cover, alter, or damage them.
- The following enclosure warning label descriptions are for reference only. Please refer to the actual labels used on the equipment.

No.	Symbol	Meaning
1		Potential hazards exist during device operation. Take protective measures when operating the device.
2		High voltage hazard. High voltage is present during device operation. Ensure the device is powered off before performing any operations.
3		The inverter surface is at high temperature. Do not touch during operation to avoid burns.
4		Delayed discharge. After powering off the device, wait for 5 minutes until it is completely discharged.
5		Please read the product manual carefully before operating the device.
6		This device must not be disposed of as household waste. Dispose of it according to local laws and regulations, or return it to the manufacturer.
7		CE certification mark.
8		ANATEL certification mark.

1.5 EU Declaration of Conformity

1.5.1 Devices with wireless communication functions

Equipment with Wireless Communication Modules sold on the European market must comply with the following directives:

- Radio Equipment Directive 2014/53/EU (RED)
- Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863 (RoHS)
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

1.5.2 Devices without wireless communication functions

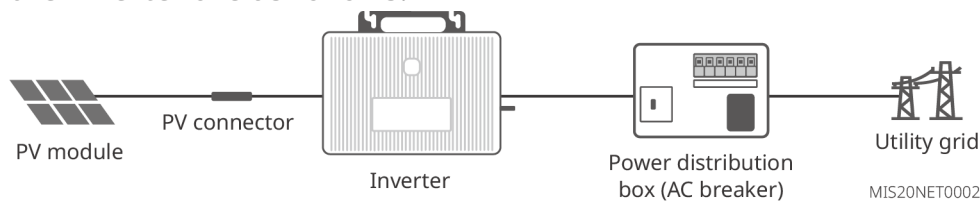
Devices without wireless communication functions that can be sold in the European market meet the following directive requirements:

- Electromagnetic compatibility Directive 2014/30/EU (EMC)
- Electrical Apparatus Low Voltage Directive 2014/35/EU (LVD)
- Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863 (RoHS)
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

2 System Introduction

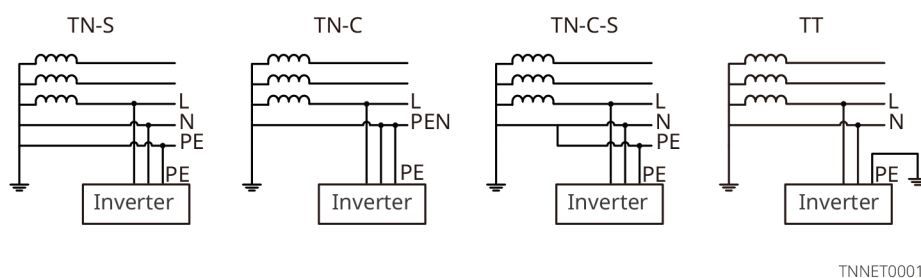
2.1 Functional Description

The MIS series inverter is a single-phase photovoltaic grid-tied microinverter, which converts the direct current generated by PV modules into alternating current that meets grid requirements and feeds it into the grid. The main application scenarios of the inverter are as follows:



- Before grid connection, please ensure you have obtained local grid approval.
- Supports connection to a single or multiple PV modules. Please ensure the PV DC input meets the following requirements: open-circuit voltage not exceeding 60V, short-circuit current not exceeding 26A.
- Supports local connection and commissioning of the microinverter via the SEMS+ App, or remote monitoring of the microinverter and power station information.
- The system supports a maximum of 25 microinverters in parallel.

2.2 Supported Grid Types



2.3 Features

Power Derating

To ensure the safe operation of the inverter and meet local safety regulations, the inverter will automatically reduce output power when operating in non-ideal environmental conditions. The following are factors that may cause power derating;

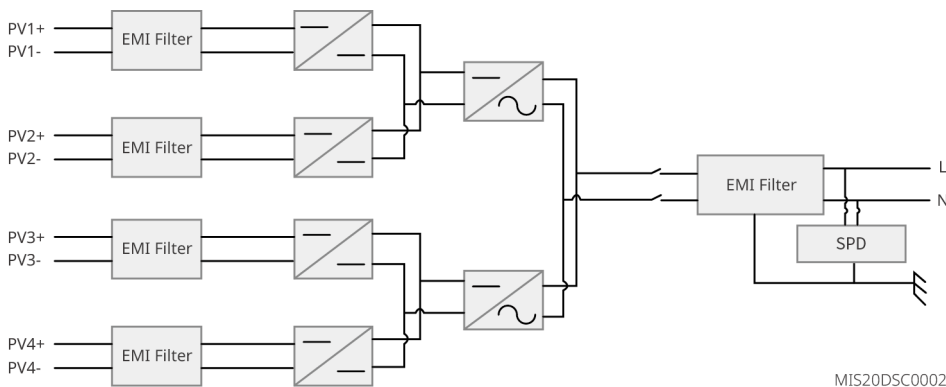
please try to avoid them during use.

- Adverse environmental conditions, such as direct sunlight, high temperature, etc.
- The output power percentage of the inverter has been set.
- Over-frequency load reduction.
- High input current value.

Communication

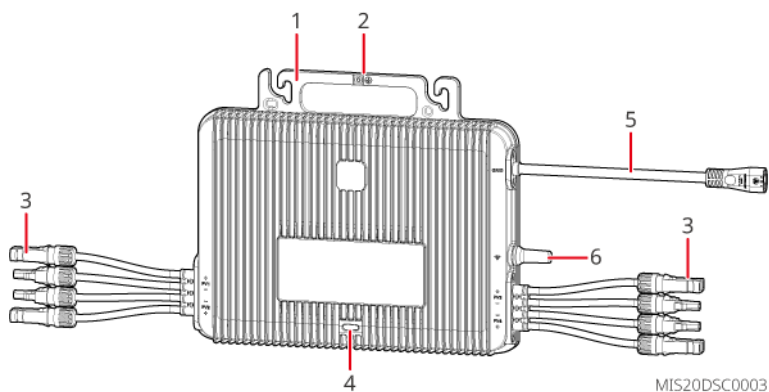
- The inverter supports local setup via Bluetooth or cloud connection via WiFi to monitor the inverter's operating status, power plant operation, etc.
- Bluetooth: Complies with Bluetooth 5.0 standard.
- WiFi: Supports 2.4G frequency band; the router needs to be set to 2.4G or 2.4G/5G coexistence mode.
- The router's wireless signal name supports a maximum input of 32 bytes.
- To ensure communication quality, it is recommended to choose a router with high wireless gain and multiple antennas. If necessary, a wireless repeater or outdoor router can also be used.

2.4 Circuit Block Diagram



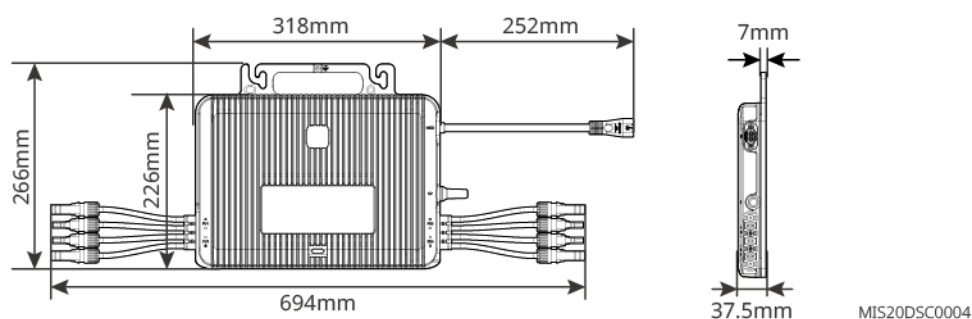
2.5 Appearance Description

2.5.1 Component Introduction



No.	Component	Description
1	Case handle	Used for carrying or mounting the inverter.
2	Protective grounding	Used for grounding the case.
3	DC cable connector	Connects to the PV modules. model: MC4 or Jinko connector.
4	LED indicator	Indicates the operating status of the inverter.
5	AC cable connector	Summarizes the AC branch lines on the inverter side to the AC bus.
6	antenna	Used for wireless communication, providing WiFi/Bluetooth signals.

2.5.2 Size Guide



2.5.3 Indicator Light Description

Indicator Status	Description
	Green light slow flashing: The device is powered on and in standby mode.
	Green light fast flashing: The device has started up and is in self-test mode.
	Green light steady on: The device is operating normally and generating grid-connected power, all four PV inputs are normal.
	Red and green lights alternating flash: The device is generating grid-connected power, but there is an abnormal PV input.
	Red light flashes twice: Grid fault.
	Steady red: Device fault.
	Red and green lights alternating fast flash: Software is updating.

2.5.4 Nameplate Description

The nameplate is for reference only. Please refer to the actual product.

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Product: Micro Inverter
Model: *****


More Info

PV
Max. Input Voltage
MPPT Operating Voltage Range
Max. MPPT Current
Max. MPPT Short Circuit Current
General Data
Operating Temperature Range
Galvanically Isolated HF Transformer, IP67,
Protective Class: I, OVC: DC II/AC III

***Vd.c.
***Vd.c.
***Ad.c.
***Ad.c.
***°C

On-grid
Nominal Voltage
Nominal Frequency
Rated Power
Max. Apparent Power
Rated Output Current
Max. Output Current
Power Factor

***Hz
***W
***VA










S/N

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S/N

MIS20DSC0005

No.	Description	No.	Description
1	Goodwe Trademark and Product Type and Model	2	Product Technical Parameters

No.	Description	No.	Description
3	Product Safety Symbols and Certification Marks	4	Contact Information, Serial Number Information

3 Check and Storage

3.1 Pre-Acceptance Inspection

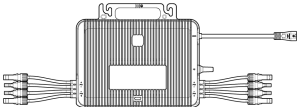
Before accepting the product, please carefully inspect the following:

1. Check the outer packaging for any damage, such as deformation, holes, cracks, or any other signs that may have caused damage to the equipment inside the box. If damage is found, do not open the packaging and contact your dealer.
2. Verify that the inverter model is correct. If it does not match, do not open the packaging and contact your dealer.
3. Check that the type and quantity of delivered items are correct, and inspect their appearance for any damage. If any damage is found, please contact your dealer.

3.2 Deliverables

NOTICE

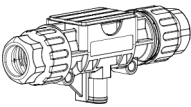
- For electrical connections, please prepare connectors compatible with the DC connector model on the inverter side. Damage caused by using incompatible connector models is not covered under warranty.
- The delivered quantity is subject to the actual shipment.
- The T-type AC connectors and their accessories vary by region. Please refer to the actual delivery.
- T-type AC connector Type 2 is standard in China and Brazil and is not provided in other regions.
- AC connector Type 1 and other optional accessories should be purchased and shipped separately by the customer from the manufacturer based on actual needs. The delivered quantity is subject to the actual purchase quantity; the quantities described in the manual are for reference only.

Part	Description	Part	Description
	Inverter x 1		Product materials x 1

T-type AC connector type one:

Part	Description	Part	Description
	Wired T-type AC connector x 1 The number of connectors matches the number of inverters		Waterproof rubber plug x 30
	PIN terminal x 30	-	-

T-type AC connector type two:

Part	Description	Part	Description
	T-type AC connector x 1		Waterproof plug x 1
	PIN terminal x 8	-	-

Optional accessories:

Component	Description	Component	Description
	AC Connector Removal Tool x N		AC Connector Removal Tool x N
	Dust Cover x N	-	-

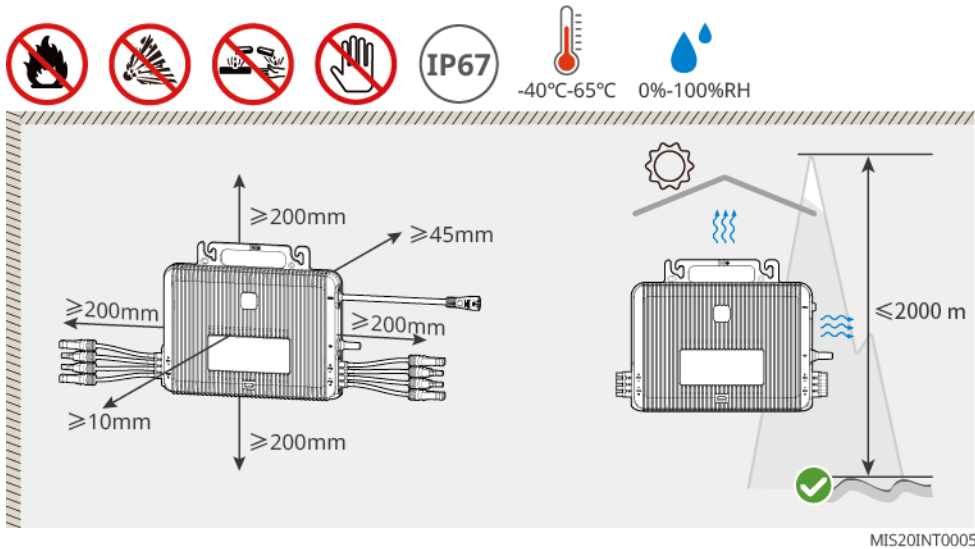
3.3 Storage

If the inverter is not put into use immediately, please store it according to the following requirements:

1. Ensure the outer packaging box is not removed.
2. Ensure the storage environment is clean, with appropriate temperature and humidity ranges, and free from condensation.
3. Ensure the stacking height and orientation of the inverters are arranged according to the instructions on the packaging box label.
4. Ensure there is no risk of the stacked inverters toppling over.
5. If the inverter storage time exceeds two years or the non-operational period after installation exceeds 6 months, it is recommended to have it inspected and tested by qualified personnel before putting it into use.
6. To ensure the good electrical performance of the internal electronic components of the inverter, it is recommended to power it on once every 6 months during storage. If it has not been powered on for more than 6 months, it is recommended to have it inspected and tested by qualified personnel before putting it into use.

4 Installation

4.1 Installation Requirements



Installation Environment Requirements

- The equipment must not be installed in flammable, explosive, corrosive, or similar environments.
- The temperature and humidity of the installation environment must be within the appropriate range.
- The installation location must be out of reach of children and avoid places that are easily accessible.
- The inverter enclosure temperature is high during operation. Do not touch the enclosure before it cools down to prevent burns.
- It is recommended to avoid installation environments exposed to direct sunlight, rain, snow accumulation, etc., and install in a sheltered location.
- The installation space must meet the equipment's ventilation, heat dissipation, and operational space requirements.
- The equipment installation height should facilitate operation and maintenance, ensuring the equipment indicator lights, all labels are easily visible, and the wiring terminals are easy to operate.
- The equipment installation altitude must be lower than the maximum operating altitude.

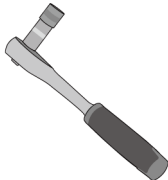
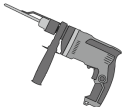
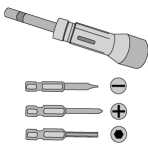
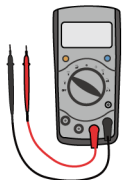
Installation Carrier Requirements

- The installation carrier must not be made of flammable materials and must possess fire-resistant properties.
- Please ensure the installation carrier is sturdy and reliable, capable of bearing the weight of the inverter.

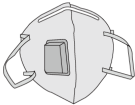
Tool Requirements

NOTICE

During installation, it is recommended to use the following installation tools. If necessary, other auxiliary tools can be used on site.

Tool Type	Description	Tool Type	Description
	socket wrench		Level bar
	hammer drill (bit $\Phi 8\text{mm}$)		torque wrench M4/M8
	rubber hammer		Marker pen
	cable tie		Vacuum cleaner
	multimeter	-	-

personal protective equipment

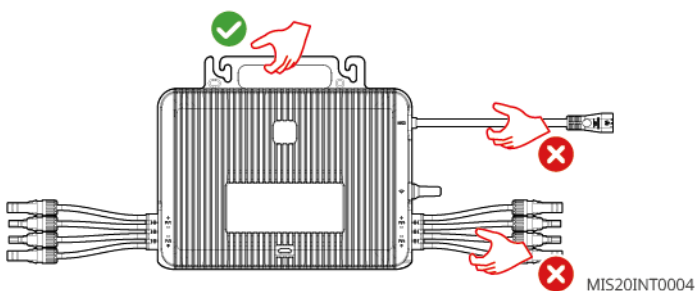
Tool Type	Description	Tool Type	Description
	Insulated gloves, protective gloves		Dust mask
	Goggle		Safety shoes

4.2 Installing the Inverter



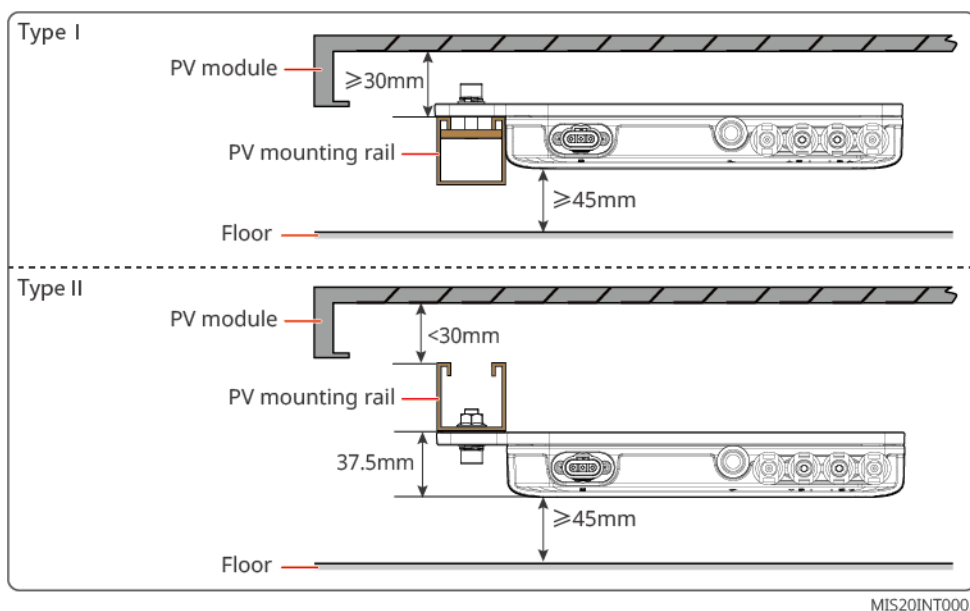
Before installation, the inverter needs to be moved to the installation site. To avoid personal injury or equipment damage during the moving process, please note the following:

1. Avoid bumping or impacting the antenna during the moving process, as this may damage the antenna.
2. When moving the inverter, please grip the inverter handle. Do not lift it directly by the cables, as shown in the figure below.



NOTICE

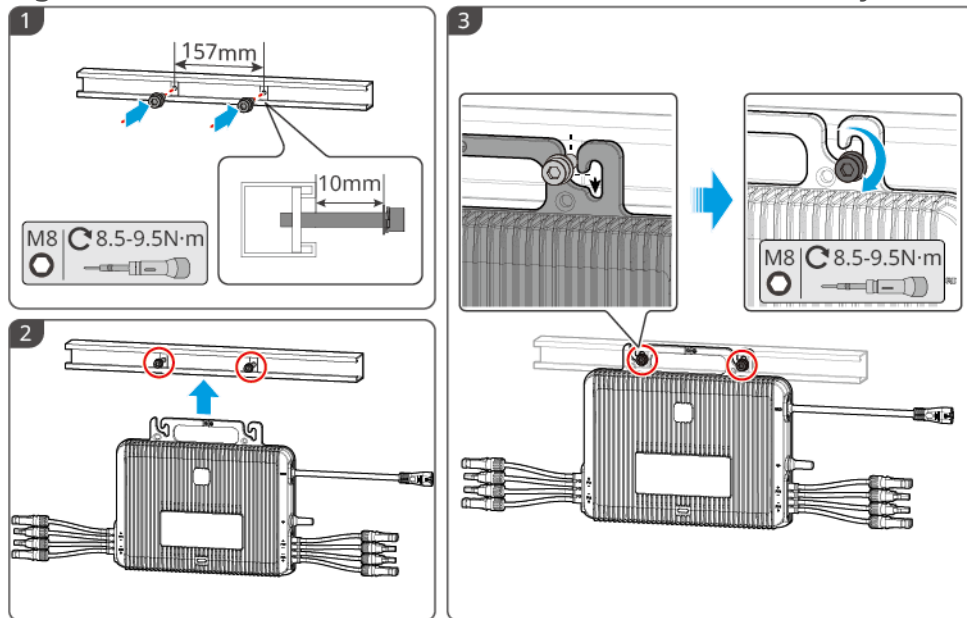
- Before installation, properly plan the installation location to ensure the DC and AC cables are of sufficient length.
 - When installing the inverter on a PV module mounting frame, if the frame's hole positions are unsuitable, prepare your own aluminum blocks and securing screws.
 - When drilling holes, wear safety goggles and a dust mask to prevent dust from being inhaled into the respiratory tract or entering the eyes.
 - The M8 screws used when installing the inverter on a PV module mounting frame must be prepared by the customer. When preparing the screws, consider the screw length to ensure it meets the actual requirements of the frame dimensions and the inverter handle thickness (7mm).
-
- When the distance between the photovoltaic module and the bracket is greater than or equal to 30mm, it is recommended to use installation method type one.
 - When the distance between the photovoltaic module and the bracket is less than 30mm, and there is sufficient space between the bracket and the ground, it is recommended to use installation method type two.



Installing the Inverter steps:

1. Fix the M8 screw on the photovoltaic module bracket, and reserve the length for hanging the inverter.

2. Hang the inverter handle on the screw.
3. Gently push the lever upward to confirm that the buckle is fixed.
4. Tighten the screw to ensure the inverter is installed stably.



MIS20INT0003

5 Electrical Connection



- Before making electrical connections, disconnect the inverter's DC connectors and AC output switch to ensure the equipment is powered off. Operation with power on is strictly prohibited, as it may lead to hazards such as electric shock.
- All operations during electrical connection, as well as the specifications of cables and components used, must comply with local laws and regulations.
- If the cable is subjected to excessive tension, it may result in poor connections. When wiring, leave a certain length of cable slack before connecting it to the inverter's terminal ports.

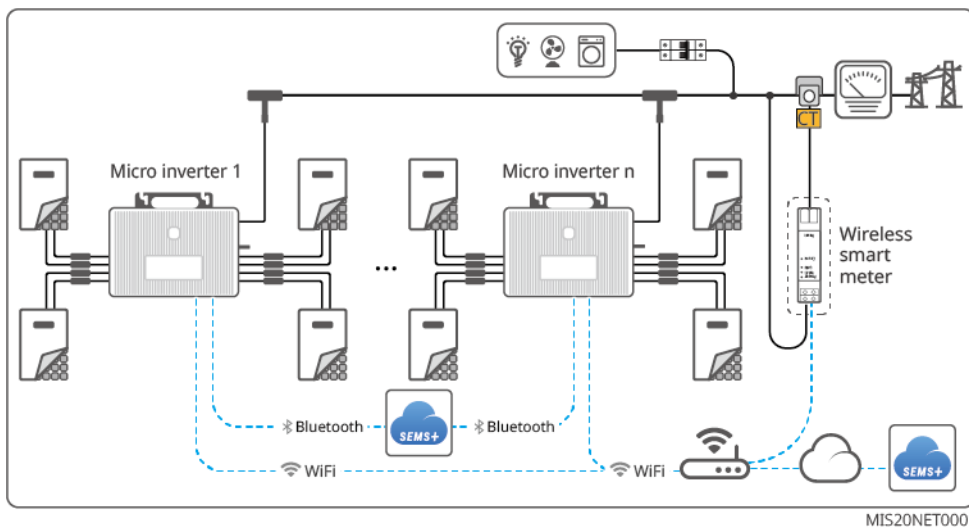
NOTICE

- When performing electrical connections, wear personal protective equipment (PPE) such as safety shoes, protective gloves, and insulating gloves as required.
- Only qualified personnel are permitted to perform electrical connection operations.
- The cable colors in the figures in this document are for reference only. Specific cable specifications must comply with local regulations.
- The inverter can only be connected to the grid after obtaining permission from the local power department in your country/region.

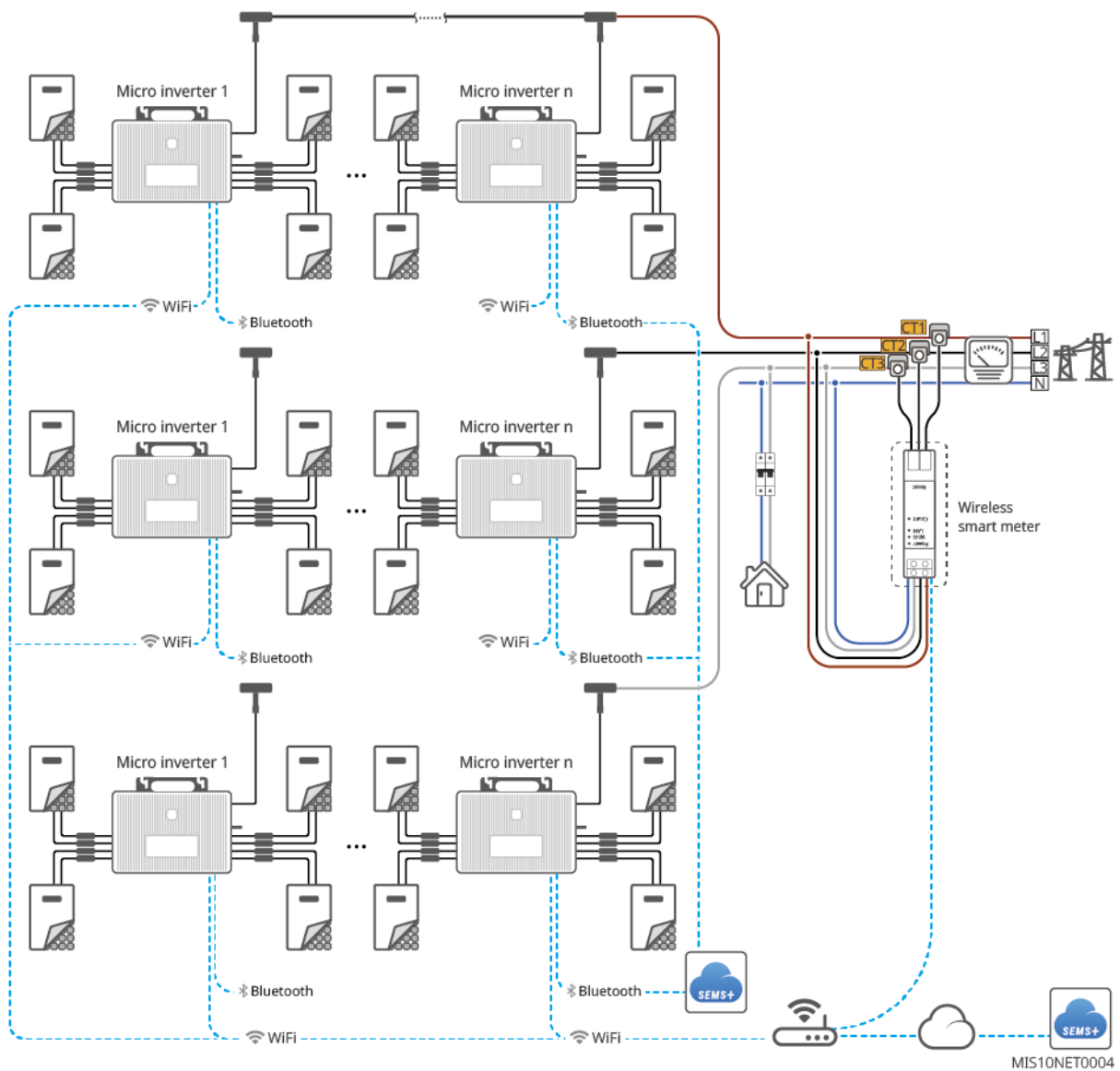
5.1 Detailed System Wiring Diagram

NOTICE

- Please decide whether to install an electricity meter based on your actual needs. If installation is required, please prepare your own wireless smart meter. Connect the wireless meter via WiFi to enable functions such as power limiting. For the installation method and precautions of the wireless meter, please refer to the corresponding meter manual.
- Currently supported meter models:
 - Single-phase scenario: Fineco EM115-Mod-WL; Donghong SEM3-WL-2.
 - Three-phase scenario: Shelly Pro 3EM; Donghong SEM3-WL-2.



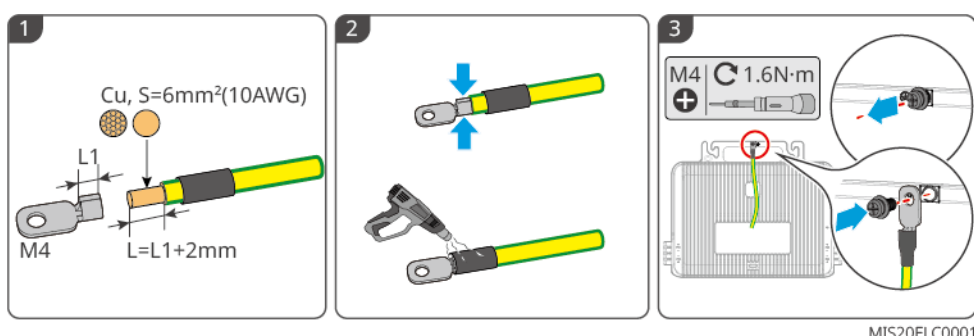
Where permitted by local laws and regulations, multiple inverters can be connected to a three-phase grid separately, as shown in the following figure.



5.2 Connecting the PE cable

! WARNING

- For inverter protective grounding, it is recommended to connect both the grounding point on the chassis enclosure and the grounding point on the AC terminal block.
- When connecting multiple inverters, ensure that the protective grounding points on the chassis enclosures of all inverters are equipotentially connected.
- To improve the corrosion resistance of the terminal, it is recommended to apply silicone sealant or paint over the exterior of the grounding terminal after the protective grounding wire installation is complete.
- Please prepare your own protective grounding wire. Recommended specification: 6mm² (10AWG).
- Please prepare your own M4 grounding OT terminal.



5.3 Connecting AC Output Cables

! WARNING

Do not connect loads between the inverter and the AC switch directly connected to the inverter.

To ensure the inverter can safely disconnect from the grid in case of an abnormality, please install an AC switch at the grid connection point on the AC side of the inverter. Select a suitable AC switch according to local regulations. The following switch specifications are for reference:

model	AC Switch Specifications				
	Single Inverter	Two Inverters	Three Inverters	Four Inverters	Five Inverters
GW1.6K-MIS-G20	10A	25A	32A	40A	50A
GW1.8K-MIS-G20	16A	25A	32A	40A	-
GW1.875K-MIS-G20	16A	25A	32A	40A	-
GW2K-MIS-G20	16A	25A	32A	50A	-
GW2.25K-MIS-G20	16A	32A	40A	-	-
GW2.5K-MIS-G20	25A	42A	50A	-	-

Select whether to install an RCD device based on local laws and regulations. The inverter can be externally connected to a Type A RCD (Residual Current Device) for protection when the leakage current exceeds the limit. For system power below 30kW, an RCD rating of 300mA is recommended. For system power above 30kW, an RCD rating of 30mA/kVA is recommended.

WARNING

- When wiring, ensure the AC bus perfectly matches the "L", "N", and "PE" ports of the T-type terminal. Incorrect cable connection will cause inverter damage.
- Ensure the wire core is fully inserted into the wiring hole of the T-type AC terminal with no exposed part.
- Ensure the cable connection is tight; otherwise, loose connections may cause the terminal to overheat during operation, resulting in inverter damage.
- To maintain the equipment's protection rating, use the provided sealing plugs to seal any unused T-type bus AC terminals.
- If required, purchase AC extension cables from the manufacturer or prepare your own AC bus. Recommended specification: 4-6mm² (12-10AWG).
- For the maximum number of microinverters connectable per AC branch, please refer to the Technical Parameters section.

- When the T-type AC connector is not pre-wired, please refer to the following steps:

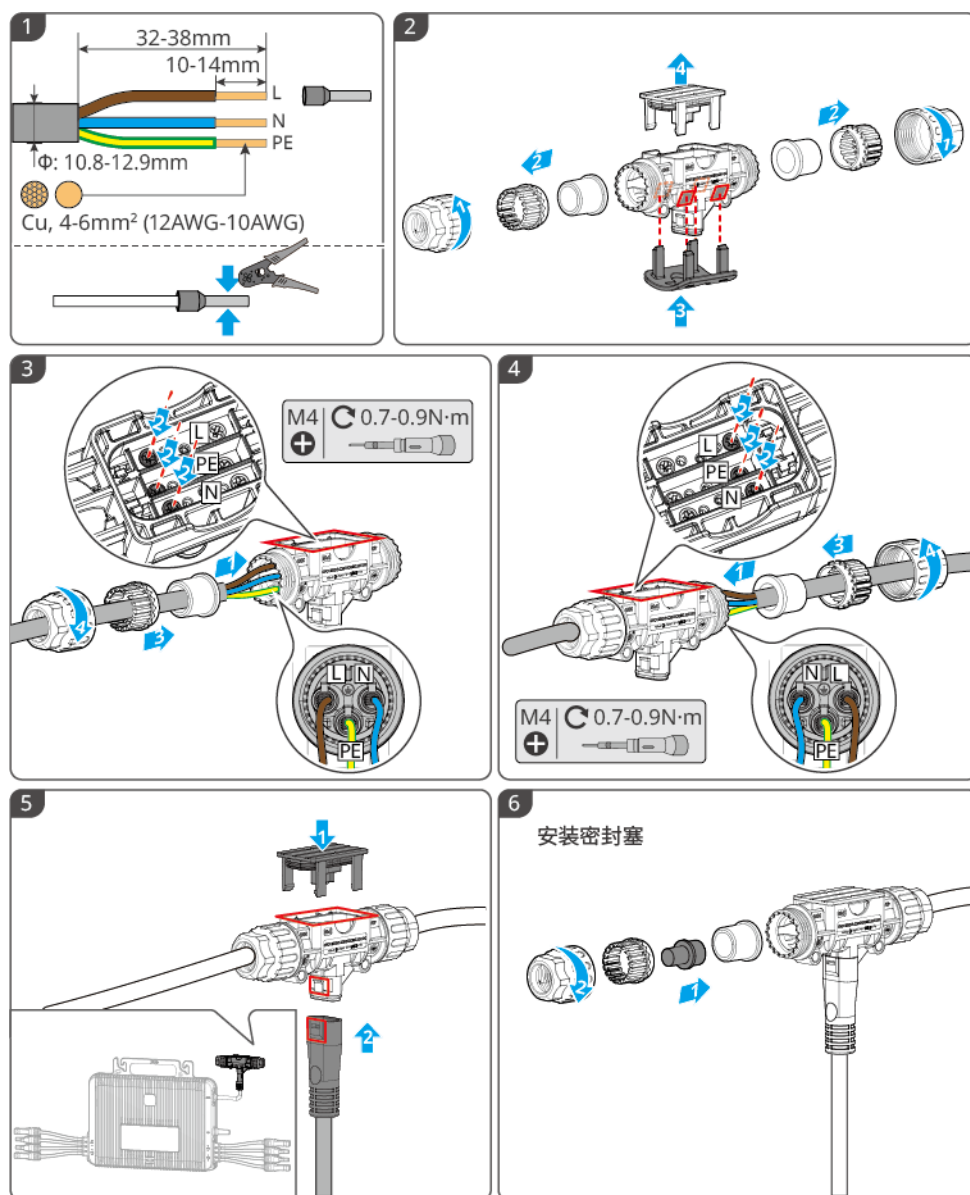
Step 1: Prepare the AC cable.

Step 2: Disassemble the AC connector.

Step 3: Connect the crimped cable to the connector.

Step 4: Connect the assembled connector to the microinverter.

Step 5: Use a blanking cap to seal any unused connectors, and secure the AC cable with cable ties.



MIS20ELC0004

- **When the T-type AC connector is pre-wired, please refer to the following steps:**

NOTICE

- The AC cable comes with 21 T-type AC connectors by default. Before use, please separate the AC cable according to the number of inverters, ensuring the number of remaining T-type connectors matches the number of inverters.
- For the AC cables shipped with the box, the length between each segment is 2.5m. If this does not meet your usage requirements, please prepare your own AC cables that meet the specifications.

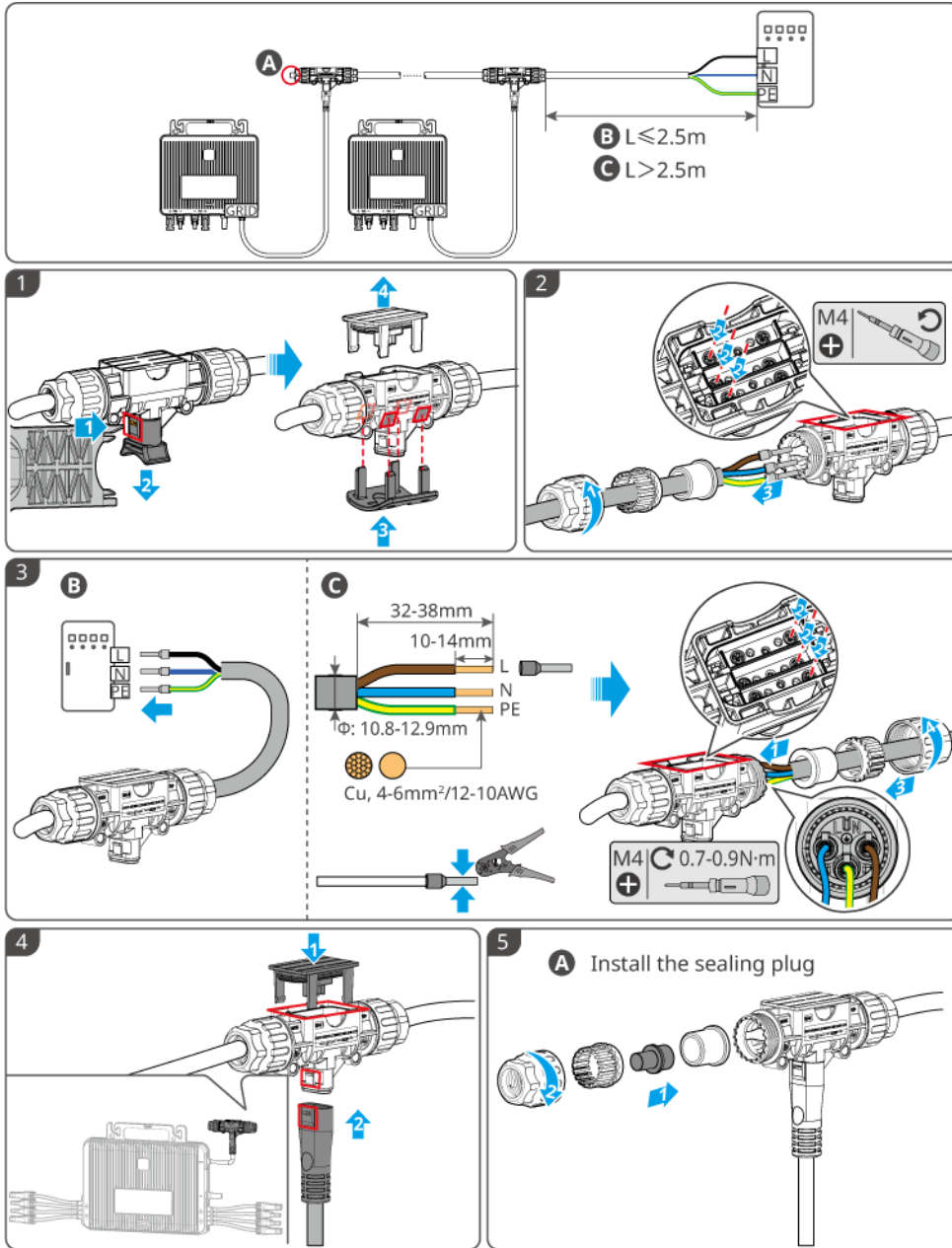
Step 1: Take out the AC cable and confirm the required number of T-type connectors. Use the connector unlocking tool provided in the package to disassemble the T-type connector at the very end of the AC cable.

Step 2: Loosen the screws inside the disassembled T-type connector and remove the crimped AC cable.

Step 3: The length of the AC cable provided in the package is 2.5m. If this length meets the usage requirements, directly connect the end of this AC cable to the distribution box. If the length does not meet the requirements, remove the end section of the provided AC cable, connect your own AC extension cable to the T-type connector, and then connect it to the distribution box.

Step 4: Connect the AC connectors on the inverter side to the T-type connectors on the AC cable side one by one.

Step 5: Install a waterproof plug at the tail of the starting T-type connector on the AC cable.



MIS20ELC0005

5.4 Connecting the DC Input Lines



DANGER

1. Before connecting the PV modules to the inverter, confirm the following information. Otherwise, it may cause permanent damage to the inverter, and in severe cases, may lead to fire, resulting in personal injury and property loss.
 - Ensure the maximum short-circuit current and maximum input voltage of the modules within each MPPT are within the permissible range of the device.
 - Ensure the positive terminal of the module is connected to the PV+ terminal of the inverter, and the negative terminal is connected to the PV- terminal of the inverter.
2. Do not plug or unplug the connectors while the device is operating.



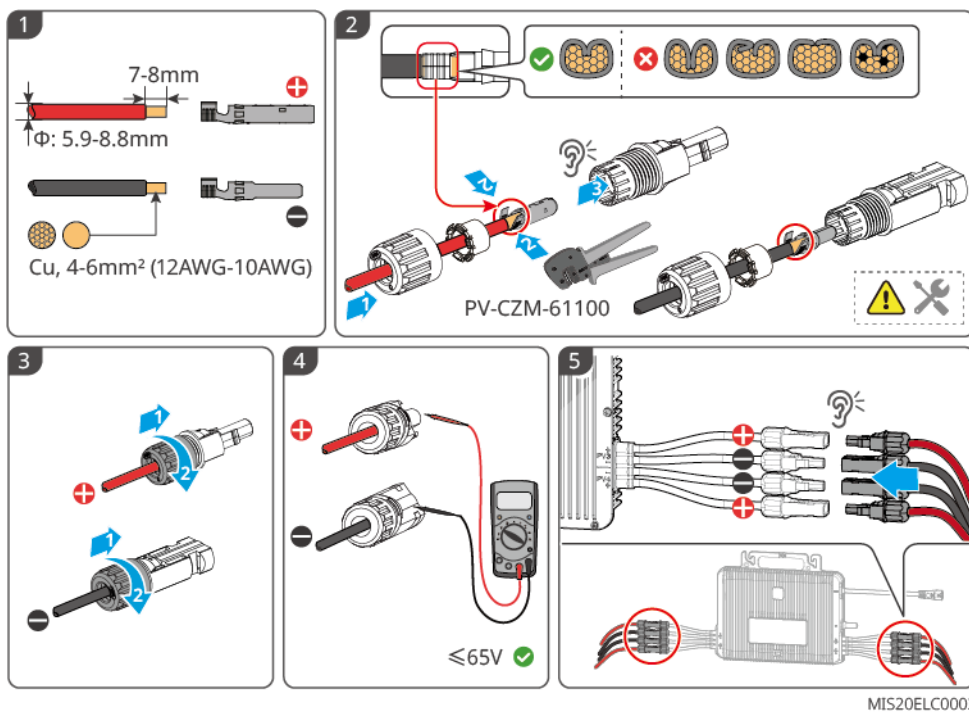
WARNING

- Ensure the PV DC connector on the photovoltaic string side matches the model of the DC connector on the inverter side. Damage caused by using incompatible connector models is not covered under warranty.
- Photovoltaic module output does not support grounding. Before connecting the modules to the inverter, ensure the minimum insulation resistance to ground of the modules meets the minimum insulation resistance requirement.
- Ensure that the DC connectors from the same module string are connected to the same pair of DC connectors on the inverter.
- Recommended connected photovoltaic module specifications:
 - GW1.6K-MIS-G20: 320W - 540W
 - GW1.8K-MIS-G20: 360W - 610W
 - GW1.875K-MIS-G20: 360W - 610W
 - GW2K-MIS-G20: 400W - 675W
 - GW2.25K-MIS-G20: 450W - 760W
 - GW2.5K-MIS-G20: 500W - 850W
- If needed, purchase DC extension cables from the manufacturer or prepare your own. Recommended cable specifications: 4-6mm² (12AWG-10AWG) .

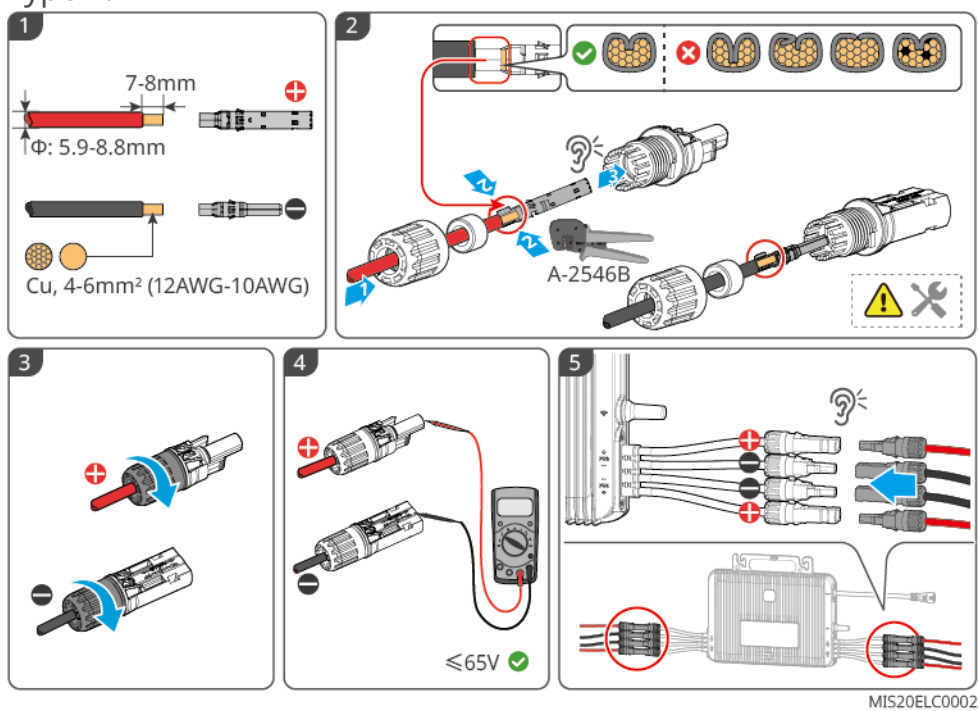
NOTICE

- If the inverter's DC input terminals do not need to be connected to PV strings, please seal the terminals with waterproof caps. Otherwise, the equipment's protection rating may be affected.
- The model of DC connector suitable for different regions may vary. Please refer to the actual product.
- To comply with relevant laws and regulations, please ensure the cable length is less than 3 meters.

Type 1:



Type 2:



6 Equipment Trial Run

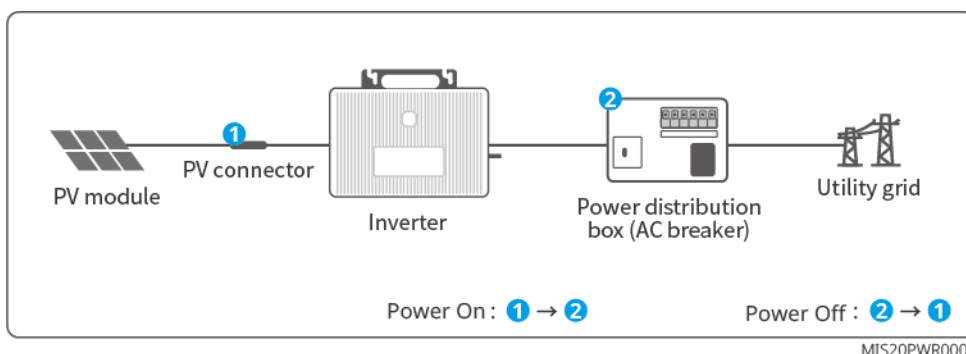
6.1 Pre-power-on Inspection

No.	Inspection Item
1	The inverter is securely installed, the installation location facilitates operation and maintenance, the installation space allows for ventilation and heat dissipation, and the installation environment is clean and tidy.
2	The PE cable, DC input cable, and AC output cable are connected correctly and securely.
3	Cable bundling meets wiring requirements, distribution is reasonable, and there is no damage.
4	Unused ports are sealed.
5	The voltage and frequency at the inverter's grid connection point meet the grid connection requirements.

6.2 Powering On the Device

Step 1: Connect the DC connector between the inverter and the PV string.

Step 2: Close the AC switch between the inverter and the grid.



7 System Commissioning

SEMS+ App is a software for remote power station monitoring or local device commissioning.

Installers or owners can:

- Remotely monitor the operation status of power stations and set operating parameters for stations and devices.
- Locally connect to devices to view their operation status and set device parameters.

Scan the QR code below to download and install.



For detailed functions, please refer to the 'SEMS+ User Manual'. The user manual can be obtained from the official website or by scanning the QR code below.



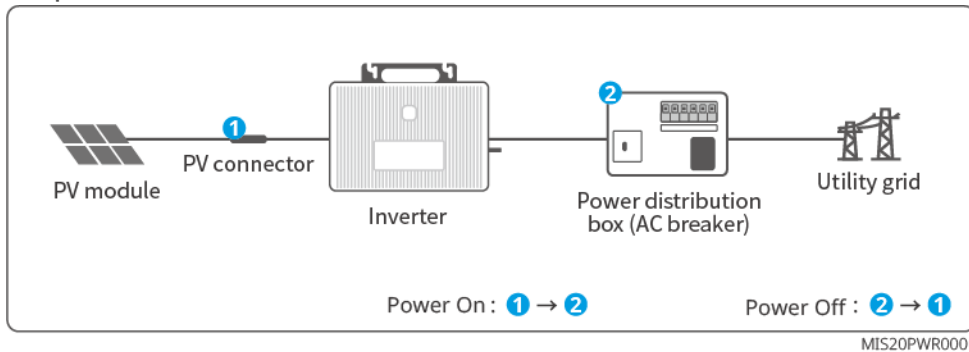
SEMS+ App User Manual

8 Maintenance

8.1 Inverter Power-Off

Step 1: Disconnect the AC switch between the inverter and the grid.

Step 2: Disconnect the DC connectors between the inverter and the PV strings.



8.2 Inverter Removal

WARNING

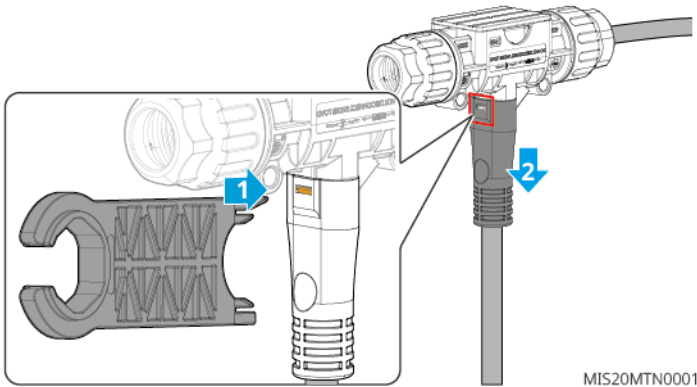
- Ensure the device is powered off.
- Wear personal protective equipment when operating the device.

Step 1: Disconnect all electrical connections of the device, including DC cables and AC cables.

Step 2: Remove the device.

Step 3: Store the device properly. If the device is to be put into use later, ensure the storage conditions meet the requirements.

For steps to disconnect the AC connector, please refer to the figure below:



8.3 Disposal of Inverters

When the equipment can no longer be used and requires disposal, it must be handled according to the electrical waste disposal requirements of the regulations in the country/region where the equipment is located. The equipment must not be disposed of as household waste.

8.4 Routine Maintenance



- Before performing equipment maintenance, ensure you wear the necessary safety protection equipment to prevent electrical shock.
- During the maintenance process, ensure that both the upstream and downstream switches of the equipment are disconnected.
- During the maintenance process, strictly adhere to the correct operating procedures.



WARNING

- If exposed internal copper wire is found in the conductive wire, do not touch it. High voltage hazard. Please contact after-sales personnel. Disassembly by untrained personnel is prohibited.
- In the event of other emergencies, please contact after-sales personnel immediately. Operate under the guidance of after-sales personnel or wait for them to perform on-site operations.

Mainten ance Content	Maintenance Method	Maintenanc e Cycle	Maintenance Purpose
System Cleaning	Check if the installation space meets requirements, and check for any debris accumulation around the equipment.	Once every six months	Ensure normal heat dissipation.
System Installatio n	1. Check if the equipment is installed securely and if the fastening screws are loose. 2. Check for any damage or deformation on the equipment's exterior.	Once every six months to once a year	Confirm the stability of the equipment installation.
Electrical Connectio n	Check if electrical connections are loose, if cable exteriors are damaged, or if there is exposed copper.	Once every six months to once a year	Confirm the reliability of electrical connections.
Sealing	Check if the sealing of the equipment's cable entry holes meets requirements. If gaps are too large or unsealed, reseal them.	Once a year	

8.5 Troubleshooting

Please follow the methods below for troubleshooting. If the troubleshooting methods cannot help you, please contact the after-sales service center.

When contacting the after-sales service center, please collect the following information to facilitate a quick resolution.

1. Product information, such as: serial number, software version, device installation time, fault occurrence time, fault frequency, etc.
2. Device installation environment, such as: weather conditions, whether components are blocked or have shadows, etc. It is recommended to provide photos, videos, and other files to assist in problem analysis.
3. Grid conditions.

No.	Fault Name	Fault Cause	Solution
1	Grid Overvoltage Protection	The grid voltage is higher than the allowable range, or the duration of high voltage exceeds the high voltage ride-through setting value.	1. If it occurs occasionally, it may be a short-term grid abnormality. The Inverter will resume normal operation after detecting the grid returns to normal, requiring no manual intervention. 2. If it occurs frequently, please check if the grid voltage is within the allowable range. If not, contact the local power operator. If it is, also modify the grid overvoltage protection point after obtaining consent from the local power operator. 3. If it cannot recover for a long time, please check if the AC side circuit breaker and output cables are connected properly.

No.	Fault Name	Fault Cause	Solution
2	Grid Undervoltage Protection	The grid voltage is lower than the allowable range, or the duration of low voltage exceeds the low voltage ride-through setting value.	1. If it occurs occasionally, it may be a short-term grid abnormality. The Inverter will resume normal operation after detecting the grid returns to normal, requiring no manual intervention. 2. If it occurs frequently, please check if the grid voltage is within the allowable range. If not, contact the local power operator. If it is, also modify the grid undervoltage protection point after obtaining consent from the local power operator. 3. If it cannot recover for a long time, please check if the AC side circuit breaker and output cables are connected properly.
3	Grid Rapid Overvoltage Protection	Abnormal grid voltage detection or extremely high voltage triggers the fault.	1. If it occurs occasionally, it may be a short-term grid abnormality. The Inverter will resume normal operation after detecting the grid returns to normal, requiring no manual intervention. 2. If it occurs frequently, please check if the grid voltage is within the allowable range. If not, contact the local power operator. If it is, also modify the grid undervoltage protection point after obtaining consent from the local power operator. 3. If it cannot recover for a long time, please check if the AC side circuit breaker and output cables are connected properly.

No.	Fault Name	Fault Cause	Solution
4	10min Overvoltage Protection	The sliding average of grid voltage within 10min exceeds the safety regulation range.	Check if the grid voltage is operating at a high level for a long period. If it occurs frequently, check if the grid frequency is within the allowable range. If not, contact the local power operator. If it is, also modify the grid 10min overvoltage protection point after obtaining consent from the local power operator.
5	Grid Overfrequency Protection	Grid abnormality: The actual grid frequency is higher than the local grid standard requirement.	1. If it occurs occasionally, it may be a short-term grid abnormality. The Inverter will resume normal operation after detecting the grid returns to normal, requiring no manual intervention. 2. If it occurs frequently, please check if the grid frequency is within the allowable range. If not, contact the local power operator. If it is, also modify the grid overfrequency protection point after obtaining consent from the local power operator.
6	Grid Underfrequency Protection	Grid abnormality: The actual grid frequency is lower than the local grid standard requirement.	1. If it occurs occasionally, it may be a short-term grid abnormality. The Inverter will resume normal operation after detecting the grid returns to normal, requiring no manual intervention. 2. If it occurs frequently, please check if the grid frequency is within the allowable range. If not, contact the local power operator. If it is, also modify the grid overfrequency protection point after obtaining consent from the local power operator.

No.	Fault Name	Fault Cause	Solution
7	Grid Frequency Instability	Grid abnormality: The rate of change of the actual grid frequency does not comply with the local grid standard.	1. If it occurs occasionally, it may be a short-term grid abnormality. The Inverter will resume normal operation after detecting the grid returns to normal, requiring no manual intervention. 2. If it occurs frequently, please check if the grid frequency is within the allowable range. If not, contact the local power operator.
8	LVRT Undervoltage Fault	Grid abnormality: The duration of abnormal grid voltage exceeds the time specified for high/low voltage ride-through.	1. If it occurs occasionally, it may be a short-term grid abnormality. The Inverter will resume normal operation after detecting the grid returns to normal, requiring no manual intervention. 2. If it occurs frequently, please check if the grid voltage and frequency are within the allowable range and stable. If not, contact the local power operator.
9	HVRT Overvoltage	Grid abnormality: The duration of abnormal grid voltage exceeds the time specified for high/low voltage ride-through.	1. If it occurs occasionally, it may be a short-term grid abnormality. The Inverter will resume normal operation after detecting the grid returns to normal, requiring no manual intervention. 2. If it occurs frequently, please check if the grid voltage and frequency are within the allowable range and stable. If not, contact the local power operator.

No.	Fault Name	Fault Cause	Solution
10	DCI Level 1 Protection	The DC component of the inverter output current is higher than the safety regulation or the machine's default allowable range.	1. If it is due to an abnormality introduced by an external fault, the Inverter will automatically resume normal operation after the fault disappears, requiring no manual intervention. 2. If this alarm occurs frequently, affecting the normal power generation of the power station, please contact the dealer or after-sales service center.
11	DCI Level 2 Protection	The DC component of the inverter output current is higher than the safety regulation or the machine's default allowable range.	1. If it is due to an abnormality introduced by an external fault, the Inverter will automatically resume normal operation after the fault disappears, requiring no manual intervention. 2. If this alarm occurs frequently, affecting the normal power generation of the power station, please contact the dealer or after-sales service center.

No.	Fault Name	Fault Cause	Solution
12	Low Insulation Resistance	1. PV String short circuit to protective earth. 2. The PV String installation environment is humid for a long time and the line has poor insulation to ground.	1. Check the impedance of the PV String/battery port to protective earth. A value greater than 80kΩ is normal. If the checked value is less than 80kΩ, please locate and rectify the short-circuit point. 2. Check if the Inverter's protective earth wire is correctly connected. 3. If it is confirmed that the impedance is indeed lower than the default value in rainy/cloudy weather conditions, please reset the Inverter's "Insulation Resistance Protection Point" via the App. For Inverters in the Australian and New Zealand markets, when an insulation resistance fault occurs, it can also be alerted in the following ways: 1. The Inverter is equipped with a buzzer. When a fault occurs, the buzzer sounds continuously for 1 minute; if the fault is not resolved, the buzzer sounds again every 30 minutes. 2. If the Inverter is added to a monitoring platform and alarm notification methods are set, the alarm information can be sent to the customer via email.

No.	Fault Name	Fault Cause	Solution
13	DAB Overtemperature	1. Poor ventilation at the Inverter installation location. 2. Ambient Overtemperature.	1. Check if the ventilation at the Inverter installation location is adequate and if the ambient temperature exceeds the maximum allowable ambient temperature range. 2. If ventilation is poor or the ambient temperature is too high, please improve its ventilation and heat dissipation conditions. 3. If both ventilation and ambient temperature are normal, please contact the dealer or after-sales service center.
14	PV IGBT Short Circuit Fault	1. IGBT short circuit. 2. Abnormal Inverter sampling circuit.	Disconnect the AC output side switch and the PV String, wait for 5 minutes, then close the AC output side switch and connect the PV String. If the fault persists, please contact the dealer or after-sales service center.
15	Model Identification Fault	The model identification result is outside the series range.	1. Confirm whether the program type and version number match the device model. 2. Disconnect the AC output side switch and the PV String, wait for 5 minutes, then close the AC output side switch and connect the PV String. If the fault persists, please contact the dealer or after-sales service center.

No.	Fault Name	Fault Cause	Solution
16	Bus Overvoltage	1. Damage to the DCDC switching transistor on the inverter side. 2. Abnormal Inverter BUS voltage sampling.	Disconnect the AC output side switch and the PV String, wait for 5 minutes, then close the AC output side switch and connect the PV String. If the fault persists, please contact the dealer or after-sales service center.
17	PV Input Overvoltage	Incorrect PV array configuration. The number of PV panels connected in series per string is too high, causing the string open-circuit voltage to exceed the Inverter's maximum operating voltage.	Check the series configuration of the corresponding PV array string to ensure the string's open-circuit voltage does not exceed the Inverter's maximum operating voltage. After correcting the PV array configuration, the Inverter alarm will disappear automatically.
18	PV Continuous Hardware Overcurrent	1. Unreasonable component configuration 2. Hardware damage	Disconnect the AC output side switch and the PV String, wait for 5 minutes, then close the AC output side switch and connect the PV String. If the fault persists, please contact the dealer or after-sales service center.

No.	Fault Name	Fault Cause	Solution
19	String Reverse Connection	PV String reverse connection	Check if the string is reversely connected.
20	PV Input Undervoltage	Weak or abnormally changing sunlight.	1. If it occurs occasionally, it may be due to abnormal sunlight. The Inverter will automatically resume normal operation, requiring no manual intervention. 2. If this alarm occurs frequently, please contact the dealer or after-sales service center.
21	Inverter Continuous Overcurrent	Inverter current exceeds the hardware protection value.	If it occurs occasionally, no manual intervention is required. If it occurs frequently, please contact the dealer or after-sales service center.
22	INV Software Overcurrent	Short-term sudden changes in the grid or load cause overcurrent.	If it occurs occasionally, no manual intervention is required. If it occurs frequently, please contact the dealer or after-sales service center.
23	Inverter Single Hardware Overcurrent	Short-term sudden changes in the grid or load cause overcurrent.	If it occurs occasionally, no manual intervention is required. If it occurs frequently, please contact the dealer or after-sales service center.
24	PV Hardware Overcurrent	Abnormal change in sunlight.	If it occurs occasionally, no manual intervention is required. If it occurs frequently, please contact the dealer or after-sales service center.

No.	Fault Name	Fault Cause	Solution
25	PV Software Overcurrent	Abnormal change in sunlight.	If it occurs occasionally, no manual intervention is required. If it occurs frequently, please contact the dealer or after-sales service center.
26	DAB Continuous Hardware Overcurrent	Short-term sudden changes in the grid or load cause overcurrent.	If it occurs occasionally, no manual intervention is required. If it occurs frequently, please contact the dealer or after-sales service center.
27	DAB Resonant Cavity Single Hardware Overcurrent	Short-term sudden changes in the grid or load cause overcurrent.	If it occurs occasionally, no manual intervention is required. If it occurs frequently, please contact the dealer or after-sales service center.
28	Flash R/W Abnormal	1. Flash content has changed. 2. Flash lifespan exhausted.	1. Upgrade to the latest program version. 2. Contact the dealer or after-sales service center.
29	DAB Bus Undervoltage	Short-term sudden changes in the grid or load cause overcurrent.	If it occurs occasionally, no manual intervention is required. If it occurs frequently, please contact the dealer or after-sales service center.

9 Technical Data

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
PV Side						
Max. Input Power (kW)	2.34	2.63	2.75	2.92	3.29	3.65
Max. Input Voltage (V) *2	60	60	60	60	60	60
MPPT Operating Voltage Range (V) *3	12~60	12~60	12~60	12~60	12~60	12~60
MPPT Voltage Range at Nominal Power (V)	32~50	32~50	32~50	32~50	32~50	35~50
Start-up Voltage (V)	15	15	15	15	15	15
Nominal Input Voltage (V)	42	42	42	42	42	42
Max. Input Current per MPPT (A)	20/20/20/20	20/20/20/20	20/20/20/20	20/20/20/20	20/20/20/20	20/20/20/20

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
Max. Short Circuit Current per MPPT (A)	26/26/26/26*4	26/26/26/26*4	26/26/26/26*4	26/26/26/26*4	26/26/26/26*4	26/26/26/26*4
Max. Backfeed Current to The Array (A)	0	0	0	0	0	0
Number of MPP Trackers	4	4	4	4	4	4
Number of Strings per MPPT	1	1	1	1	1	1
AC Side (On-Grid)						
Rated Power (kW)	1.6	1.8	1.875	2	2.25	2.5
Max. Power (kW)	1.6	1.8	1.875	2	2.25	2.5
Rated Power at 40°C (kW)	1.6	1.8	1.875	2	2.25	2.5
Max. Power at 40°C (kW)	1.6	1.8	1.875	2	2.25	2.5

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
Rated Apparent Power (kVA)	1.6	1.8	1.875	2	2.25	2.5
Max. Apparent Power (kVA)	1.6	1.8	1.875	2	2.25	2.5
Nominal Voltage (V)	220/230/240, L/N/PE	220/230/240, L/N/PE	220/230/240, L/N/PE	220/230/240, L/N/PE	220/230/240, L/N/PE	220/230/240, L/N/PE
Voltage Range (V)	176~286 (According to local standard)	176~286 (According to local standard)	176~286 (According to local standard)	176~286 (According to local standard)	176~286 (According to local standard)	176~286 (According to local standard)
Nominal Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60
Frequency Range (Hz)	45~55 /55~65	45~55 /55~65	45~55 /55~65	45~55 /55~65	45~55 /55~65	45~55 /55~65
Rated Output Current (A)	7.3@220V 7.0@230V 6.7@240V	8.2@220V 7.8@230V 7.5@240V	8.5@220V 8.2@230V 7.8@240V	9.1@220V 8.7@230V 8.3@240V	10.2@220V 9.8@230V 9.4@240V	11.4@220V 10.9@230V 10.4@240V

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
Max. Output Current (A)	7.3@220V 7.0@230V 6.7@240V	8.2@220V 7.8@230V 7.5@240V	8.5@220V 8.2@230V 7.8@240V	9.1@220V 8.7@230V 8.3@240V	10.2@220V 9.8@230V 9.4@240V	11.4@220V 10.9@230V 10.4@240V
Max. Output Fault Current (Peak and Duration) (A)	13.4, 4us	15.1, 4us	15.6, 4us	16.7, 4us	18.8, 4us	20.9, 4us
Inrush Current (Peak and Duration) (A)	8.8, 12ms	9.8, 12ms	10.2, 12ms	10.9, 12ms	12.2, 12ms	13.6, 12ms
THDi	<3%	<3%	<3%	<3%	<3%	<3%
Maximum Output Overcurrent Protection (A)	9.5	10.6	11.1	11.8	13.2	14.8
Max. Units Per 4mm ² Branch*5	4	3	3	3	2	2
Max. Units Per 6mm ² Branch*5	5	4	4	4	3	3
Efficiency						

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
Max. Efficiency	96.0%	96.0%	96.0%	96.0%	96.0%	96.0%
European Efficiency	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
MPPT Efficiency	99.80%	99.80%	99.80%	99.80%	99.80%	99.80%
Protection						
PV String Current Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated
PV Insulation Resistance Detection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated
AC Overcurrent Protection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated
AC Short Circuit Protection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
AC Overvoltage Protection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated
AC Surge Protection	Type III	Type III	Type III	Type III	Type III	Type III
Rapid Shutdown	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated
General Data						
Operating Temperature Range (°C)	- 40 ~ +65 (> 50 derating)	- 40 ~ +65 (> 50 derating)	- 40 ~ +65 (> 50 derating)	- 40 ~ +65 (> 50 derating)	- 40 ~ +65 (> 50 derating)	- 40 ~ +65 (> 50 derating)
Power Factor	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging
Operating Environment	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor
Storage Temperature (°C)	- 40 ~ +85	- 40 ~ +85	- 40 ~ +85	- 40 ~ +85	- 40 ~ +85	- 40 ~ +85
Relative Humidity	0~100%	0~100%	0~100%	0~100%	0~100%	0~100%
Max. Operating Altitude (m)	2000	2000	2000	2000	2000	2000

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
Cooling Method	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection
User Interface	LED、APP	LED、APP	LED、APP	LED、APP	LED、APP	LED、APP
Communication	WiFi、Bluetooth	WiFi、Bluetooth	WiFi、Bluetooth	WiFi、Bluetooth	WiFi、Bluetooth	WiFi、Bluetooth
Communication Protocols	Modbus	Modbus	Modbus	Modbus	Modbus	Modbus
Weight (kg)	≤5.1kg	≤5.1kg	≤5.1kg	≤5.1kg	≤5.1kg	≤5.1kg
Dimension (W×H×D mm)	318×226×37.5	318×226×37.5	318×226×37.5	318×226×37.5	318×226×37.5	318×226×37.5
Noise Emission (dB)	≤20	≤20	≤20	≤20	≤20	≤20
Topology	Isolated	Isolated	Isolated	Isolated	Isolated	Isolated
Power Self-consumption at Night (W)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ingress Protection Rating	IP67	IP67	IP67	IP67	IP67	IP67
Anti-corrosion Class	C4M	C4M	C4M	C4M	C4M	C4M

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
DC Connector	Staubli MC4 (6mm ²)	Staubli MC4 (6mm ²)	Staubli MC4 (6mm ²)	Staubli MC4 (6mm ²)	Staubli MC4 (6mm ²)	Staubli MC4 (6mm ²)
AC Connector	Plug and play connector (16AWG / 1.5mm ²)	Plug and play connector (16AWG / 1.5mm ²)	Plug and play connector (16AWG / 1.5mm ²)	Plug and play connector (16AWG / 1.5mm ²)	Plug and play connector (16AWG / 1.5mm ²)	Plug and play connector (16AWG / 1.5mm ²)
Environmental Category	4K4H	4K4H	4K4H	4K4H	4K4H	4K4H
Pollution Degree	III	III	III	III	III	III
Overvoltage Category	DC II / AC III	DC II / AC III	DC II / AC III	DC II / AC III	DC II / AC III	DC II / AC III
Protective Class	I	I	I	I	I	I
Decisive Voltage Classification (DVC)	PV: C AC: C Com: A	PV: C AC: C Com: A	PV: C AC: C Com: A	PV: C AC: C Com: A	PV: C AC: C Com: A	PV: C AC: C Com: A
Mounting Method	Wall Mounted	Wall Mounted	Wall Mounted	Wall Mounted	Wall Mounted	Wall Mounted
Active Anti-islanding Method	AFDPF + AQDPF *6	AFDPF + AQDPF *6	AFDPF + AQDPF *6	AFDPF + AQDPF *6	AFDPF + AQDPF *6	AFDPF + AQDPF *6

Technical Data	GW1.6K-MIS-G20*1	GW1.8K-MIS-G20*1	GW1.875K-MIS-G20*1	GW2K-MIS-G20*1	GW2.25K-MIS-G20*1	GW2.5K-MIS-G20*1
Type of Electrical Supply System	TN、TT、IT	TN、TT、IT	TN、TT、IT	TN、TT、IT	TN、TT、IT	TN、TT、IT
Country of Manufacture	China	China	China	China	China	China
Certification						
Grid Standard	Please refer to the official website.					
Safety Regulation						
EMC						

*1: Brazil only has 1.875kW, 2kW, 2.25kW, and 2.5kW. Europe only has 1.6kW, 1.8kW, 2kW, and 2.25kW. In China, only 2kW, 2.25kW, and 2.5kW are available.

*2: When the input voltage exceeds 65V, the inverter will enter standby mode, and will return to normal operation when the voltage drops back to 63V.

*3: Please refer to the user manual for the MPPT Voltage Range at Nominal Power.

*4: The Brazilian version is 20/20/20/20A.

*5: Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

*6: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.

10 Appendix

10.1 Explanation of Terms

- **Definition of Overvoltage Categories**
 - **Overvoltage Category I:** Equipment connected to circuits with measures to limit transient overvoltages to a relatively low level.
 - **Overvoltage Category II:** Energy-consuming equipment supplied by fixed electrical installations. This category includes appliances, portable tools, and other household and similar loads. If special requirements for reliability and suitability of such equipment are needed, then Overvoltage Category III is adopted.
 - **Overvoltage Category III:** Equipment in fixed electrical installations, where the reliability and suitability of the equipment must meet special requirements. Includes switching devices in fixed electrical installations and industrial equipment permanently connected to fixed electrical installations.
 - **Overvoltage Category IV:** Equipment used in the power supply of distribution installations, including measuring instruments and front-end overcurrent protection devices, etc.
- **Definition of Damp Location Categories**

Environmental Parameters	Level		
	3K3	4K2	4K4H
Temperature Range	0~+40°C	-33~+40°C	-33~+40°C
Humidity Range	5% to 85%	15% to 100%	4% to 100%

- **Definition of Environmental Categories:**
 - **Outdoor Inverter:** Ambient air temperature range is -25 to +60°C, suitable for environments with Pollution Degree 3;
 - **Indoor Type II Inverter:** Ambient air temperature range is -25 to +40°C, suitable for environments with Pollution Degree 3;
 - **Indoor Type I Inverter:** Ambient air temperature range is 0 to +40°C, suitable for environments with Pollution Degree 2;
- **Definition of Pollution Degree Categories**
 - **Pollution Degree 1:** No pollution or only dry non-conductive pollution;

- **Pollution Degree 2:** Normally only non-conductive pollution, but occasional temporary conductive pollution due to condensation must be considered;
- **Pollution Degree 3:** There is conductive pollution, or non-conductive pollution becomes conductive due to condensation;
- **Pollution Degree 4:** Persistent conductive pollution, for example, pollution caused by conductive dust or rain/snow.

11 Contact Information

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