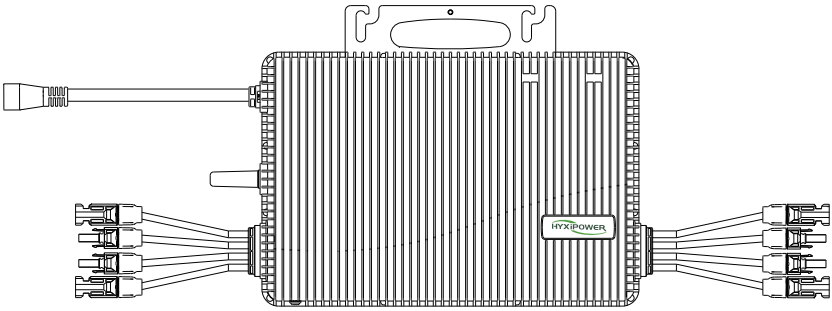
HYXI | HYXiPOWER

User Manual

MICRO INVERTER

HYX-M2500D-SW



Carefully read this user manual before using the product.
Read and save these instructions.

TRADEMARKS

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Contents

Preface

HYX-M2500D-SW series microinverters can efficiently convert direct current into alternating current that meets the requirements of the power grid and feed the power into the power grid.

Overview

This manual provides the user with product information, storage, detailed installation and troubleshooting.

To ensure the proper installation and use of the product and its superior performance, before handling, installation, operation and maintenance of the product, please read the operating instructions in detail and follow all safety precautions in the instructions.

Scope of Application

This manual is intended for the following device:

- HYX-M2500D-SW

For Readers

This manual is intended for professional technicians who need to install, operate and maintain the product and for users who need to check the product parameters.

All installation operations must be carried out by professional technicians and only by professional technicians.

Use of the Manual

Please read the manual carefully before using the product, the content of the manual will be updated and corrected, but it is inevitable that there is a slight discrepancy or error with the actual product. Users should refer to the actual product purchased and obtain the latest version of the manual by downloading from www.hyxipower.com or through sales channels.

The latest version of the manual is available for download at or through sales channels.

Use of Symbols

To ensure user safety and property protection during product use, relevant information is provided and highlighted with the following symbols.

⚠ DANGER

- Indicates a high potential hazard that, if not avoided, could result in death or serious injury.

⚠ CAUTION

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

NOTICE

- Indicates a potential risk which, if not avoided, could result in the equipment not functioning properly or in property damage.

1 Safety Precautions

HYX-M2500D-SW series microinverters can efficiently convert direct current into alternating current that meets the requirements of the power grid and feed the power into the power grid. They are designed and tested in strict accordance with relevant national safety standards.

The installation, trial operation, operation and maintenance of the product must comply with relevant safety regulations. Incorrect operation or use will endanger:

- Life and personal safety of operators or third parties.
- Other property of the operators or third parties.

Important Safeguards and Warnings

To ensure the installation and operation safety of microinverter and reduce the risk of electric shock, this manual uses the following safety symbols to mark some danger indications and safety precautions. Safeguards and Warnings in the specific operation process will also be explained in detail in the corresponding chapters.

This manual contains important instructions when installing and maintaining the Micro Storage. You should read this manual thoroughly before installing or debugging the Micro Storage.

For safety, the technicians responsible for the installation, operation and maintenance of this microinverter must have corresponding qualifications, received relevant training and master relevant skills. Installation, operation and maintenance must strictly follow the instructions contained in this manual.

1.1 Safety Instruction

- Do not place this product in high temperature environment or in a fire.
- Do not place the machine near heat sources, such as in direct sunlight inside a car, near fire, or beside a heater.
- Avoid exposing it to moisture or submerging it in liquids.
- Do not place the product in unventilated areas during use.
- To avoid scalding, do not directly contact the shell of the microinverter, because the temperature of the shell can reach up to 80°C .
- Before disconnecting the microinverter from the PV module, AC side power grid must be disconnected first.
- Do not disassemble this product. Consult official channels for service or repair. Improper disassembly or reassembly may cause fire or personal injury.
- Ensure the product is not subjected to impact, drops, or severe vibration. Secure it during transport to prevent damage. If severely damaged, immediately turn off the power and stop using the product.

1.2 Symbols on the Label

Symbol	Description
	There is a fatal danger of electric shock ! Disconnect power for at least 5 minutes before servicing the inverter.
	Risk of danger! There are potential hazards when the equipment is in operation, please take precautions when operating the equipment.
	Beware of electric shock! High voltage exists when the equipment is in operation, so when operating the equipment, make sure the equipment is powered off.
	Hot surface ! Do not touch the inverter enclosure while it is in operation.
	Observe enclosed documentation.
	CE certification mark. The inverter complies with the regulations of CE.
	Do not dispose of the product together with the household waste.

1.3 Radio Wave Interference Statement

After testing, this microinverter meets the requirements of CE and EMC and is free from electromagnetic interference. This product might cause electromagnetic interference if it is improperly installed.

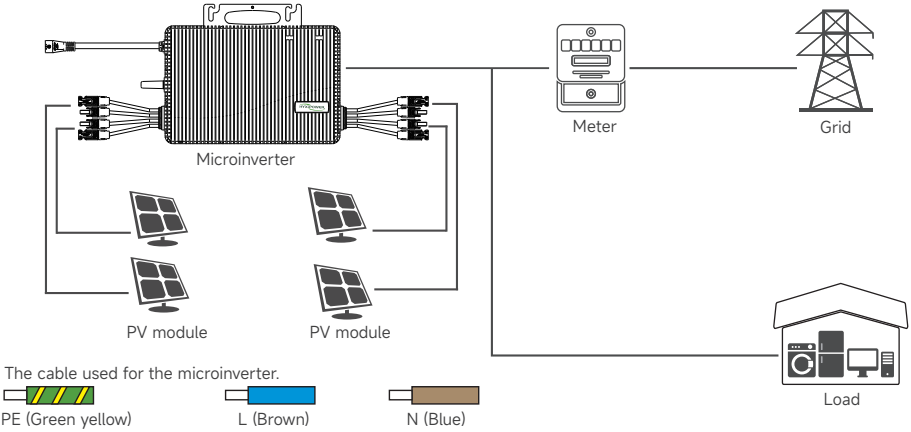
You can turn off the microinverter and then start it again to detect whether the radio is interfered by the inverter. If the inverter interferes with radio, take the following measures to eliminate the influence:

- Relocate the receiving antenna away from other devices.
- Increase the distance between the microinverter and the antenna.
- Use metal or concrete materials to separate the microinverter from the antenna.
- Consult a local supplier or skilled radio technician.

2 Product Introduction

2.1 Photovoltaic On-Grid System

The on-grid system diagram of HYX-M2500D-SW series microinverter is as follows:



2.2 Microinverter

HYX-M2500D-SW series are 4-in-1 microinverters, which can connect four photovoltaic modules. They are module-level photovoltaic inverters with module-level monitoring function.

The whole system consists of two parts, photovoltaic on-grid power generation system and photovoltaic monitoring system. Photovoltaic on-grid power generation system includes photovoltaic modules, microinverter, AC cable and other accessories.

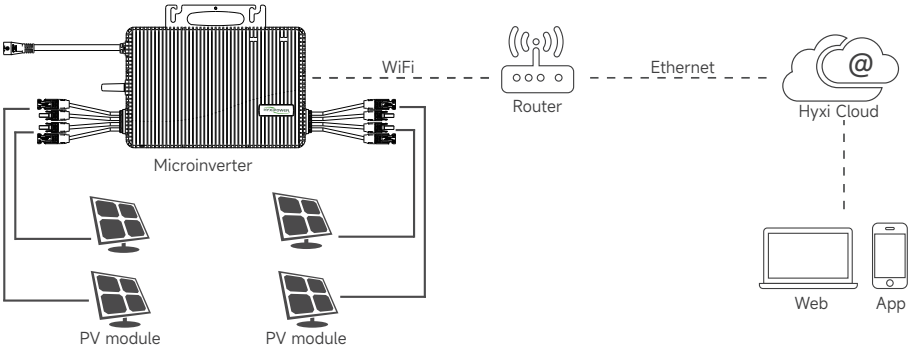
The microinverter is the core product of the photovoltaic power generation system, equipped with dual independent maximum power point tracking (MPPT) control, which can simultaneously optimize power generation for two PV modules.

It can maximize the energy output of the whole PV array and maximize the power generation performance of photovoltaic system no matter how the array is arranged or when it encounters unsatisfactory conditions such as shadow occlusion, dirt accumulation, illumination deviation or mismatch in practical application.

The microinverters do not require the consistency of PV modules like central and series inverters. Each microinverter transformer can be easily mounted on the rack below the PV module. The module-side low-voltage DC line can be directly connected to the microinverter, eliminating the danger of high-voltage DC voltage.

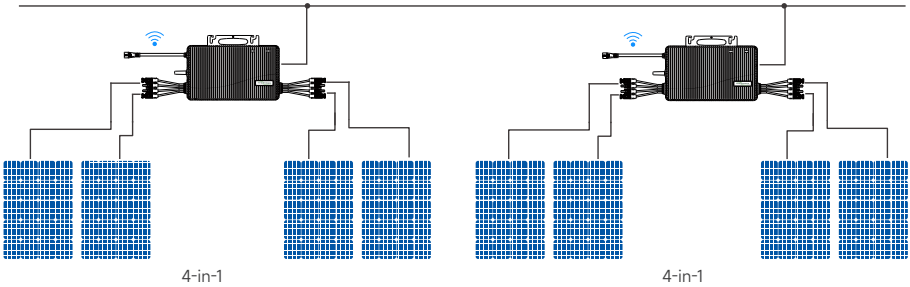
Remote monitoring platform:

The operating data and working status of the microinverter are transmitted through the wireless router, and the user is provided with module-level monitoring through the Web or App application to realize remote operation and maintenance.



2.3 4-in-1 Microinverter System

The microinverter supports 4 input channels, and the PV modules can be connected as shown in the diagram below.



This HYX-M2500D-SW series microinverter delivers outstanding performance among 4-in-1 products, with an output power of up to 2500VA. Each microinverter can be connected to 4 PV modules, equipped with dual independent maximum power point tracking (MPPT) control and module-level data monitoring, offering high power generation efficiency and convenient maintenance.

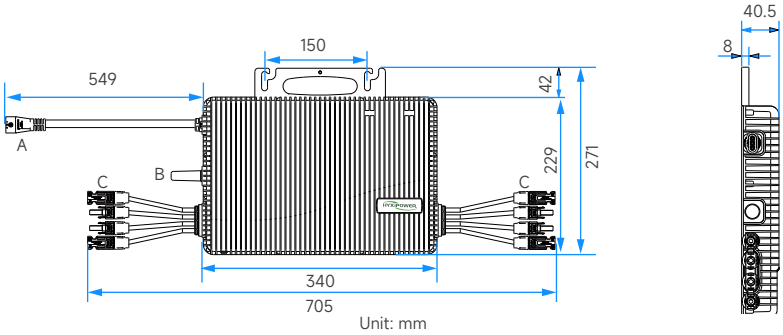
2.4 Communication Technology

HYX-M2000D-SW series microinverter adopts a new WiFi wireless communication solution. It operates in the 2.4GHz frequency band. (The transmission distance is weaker than the Sub-1G frequency band.) It does not need additional communication equipment and can directly communicate with Hxyi Cloud.

2.5 Product Features

- Maximum output power 2500W.
- Module-level MPPT, the peak conversion efficiency reaches 97.2%.
- IP67 enclosure, 6000V surge protection for higher reliability.

2.6 Product Appearance



Unit: mm

No.	Item
A	AC Branch Connector
B	Antenna
C	PV terminal

3 Pre-Installation Preparation

3.1 Unpacking and Inspection

The equipment has been completely tested and strictly inspected before leaving the factory, but it may still be damaged during transportation, please make a detailed inspection before signing the product.

- Check whether there is any damage to the packing box.
- Check whether the goods are complete and in accordance with the packing list.
- Unpack and check whether the equipment inside is intact.

If there is any damage or any accessories missing, please contact with the shipping company or directly with Zhejiang Hyxi Technology Co., Ltd. Please provide photos of the damage to facilitate the provision of services.

3.2 Packing List

Including in the package:


Microinverter


Installation map


Quick guide

Sold separately:


T-junction cable


M8*25 screw


T-junction bus connector


End plug for T-junction


Removal tool for T-junction


Protection cover for T-junction branch line port

NOTICE

- The above accessories are not included in the product package and need to be purchased by users.

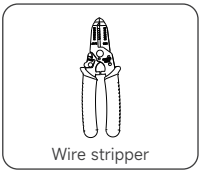
3.3 Storage

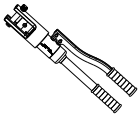
If the product is not immediately put into use, it is necessary to meet the following requirements when storing the product:

- Do not remove the outer packaging of the product.
- The product needs to be stored in a clean and dry place and protected from dust and water vapor.
- Avoid chemically corrosive substances, otherwise it may corrode the product.
- During the storage period, regular inspection is required. If insects and rodents bite the product or damage the packaging, the packaging material should be replaced in time.
- When restarting equipment that has been out of service for a long time, a complete inspection of the equipment must be carried out.
- Please do not dispose of the original packaging of the device. It is better to store the device in the original box after it is dismantled.

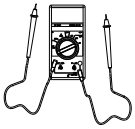
3.4 Installation Tools Requirement

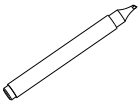
Installation tools include, but are not limited to, the following recommended tools. And if necessary, other auxiliary tools can be used on site.

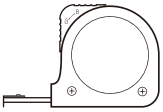

Wire stripper

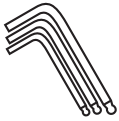

Hydraulic plier


Phillips screwdriver

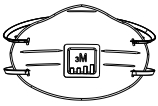

Multimeter


Marker


Tape measure


Hexagon wrench


Cable tie


Dusk mask


Goggles


Insulated shoes


Protective gloves

4 Installation

4.1 Mechanical Installation

NOTICE

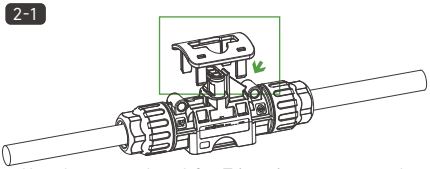
- Each microinverter is installed on a rack below the PV module.
- The low-voltage DC cables on the PV module side may be directly connected to the microinverter, but must be shielded from direct sunlight, rain, snow accumulation and ultraviolet radiation. It is recommended to maintain a clearance of at least 50 mm around the microinverter enclosure to ensure adequate ventilation and heat dissipation.

4.1.1 Making T-Junction Bus

Step 1: Prepare several T-junction cables according to the number of microinverters to be installed on site.

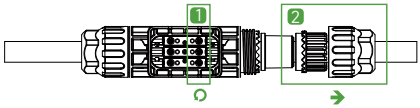
Step 2: Remove the end of the T-junction cable. (Screw tighten torque: 0.8±0.1N·m; Swivel nut tighten torque: 2.5±0.5N·m)

2-1



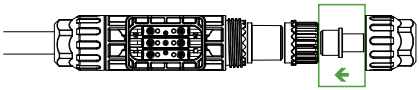
Use the removal tool for T-junction to remove the lower cover.

2-2



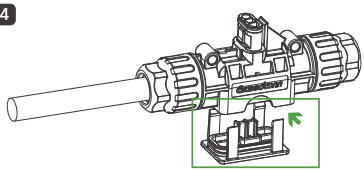
Loosen the inner screws, then loosen the swivel nut, and remove the cable.

2-3



Install the end plug for T-junction at the end of the T-junction.

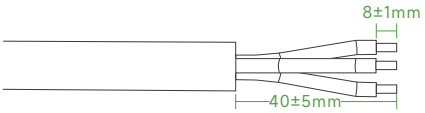
2-4



Insert the lower cover back and make sure it is secure.

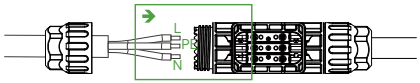
Step 3: T-junction and bus connection.

3-1



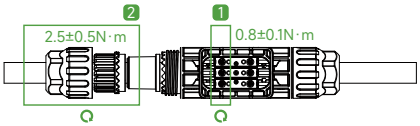
Prepare AC cable, and strip the cable as above length.

3-2



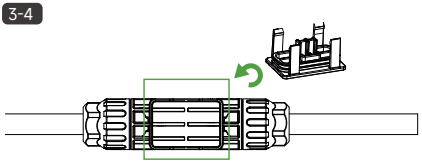
Insert the L/PE/N cable into the corresponding port in T-junction connector.

3-3



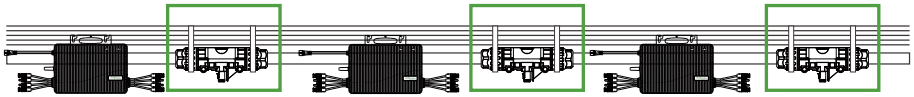
Tighten the screws, and then tighten the swivel nut.

3-4



Insert the lower cover back and make sure it is secure.

Step 4: Secure the T-junction cable: put the T-junction cable on the rack and fix it with cable tie.



⚠ CAUTION

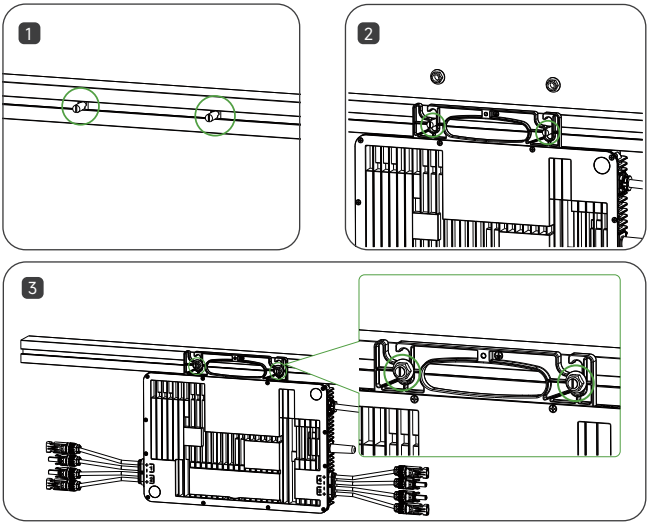
- Do not over-tighten the screws and swivel nut. Do not damage the sealing ring in the T-junction connector during assembly and disassembly.
- Do not contact T-junction bus connector with water directly.
- Use a professional tool to uninstall the T-junction bus connector.

4.1.2 Microinverter Installation

Step 1: Mark the installation position of the microinverter on the rack according to the layout of the PV modules. Insert the M8*25 screws.

Step 2: Thread the micro-inverter mounting holes through the M8*25 screws. (The back of the microinverter should face the rack.)

Step 3: Then tighten the screws to fix the microinverter. (Torque: 9N·m)

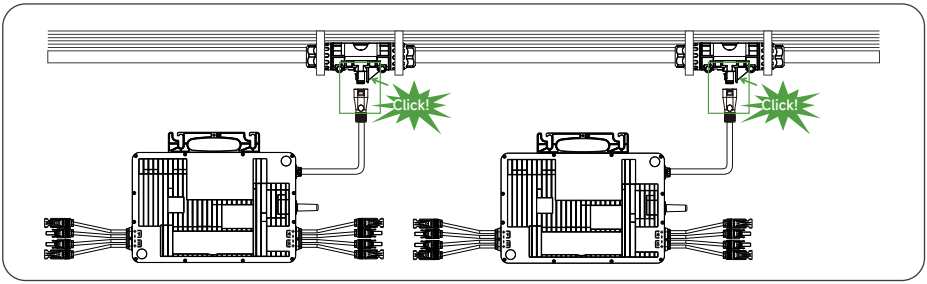


⚠ CAUTION

- Install the microinverter and all DC connections under the PV module to avoid direct sunlight, rain and snow, etc.
- Leave ≥ 20 mm space between Microinverter and PV module for Ventilation and heat dissipation.

4.1.3 Connecting Microinverter to T-junction

Insert the AC branch connector of the microinverter into the T-junction bus connector until hearing a "click" sound. Ensure that the installation is tight.

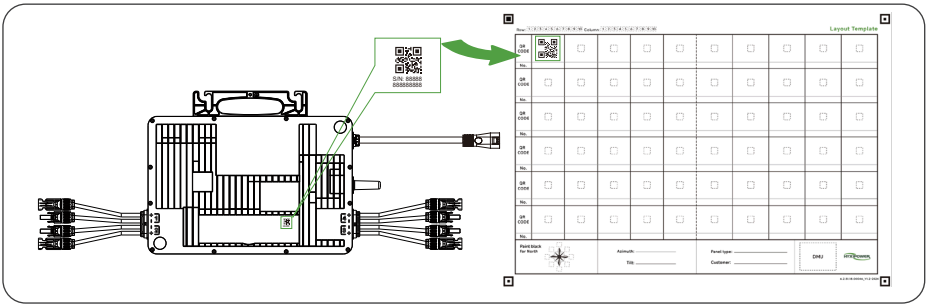


NOTICE

- Based on the rated current carrying capacity of 10 AWG AC cables, and after current and temperature rise verification according to IEC standards, the recommended number of devices connected to the same AC branch is as follows:
  - » 2500 W: ⩽ 2 units
  - » 2250 W / 2000 W: ⩽ 3 units

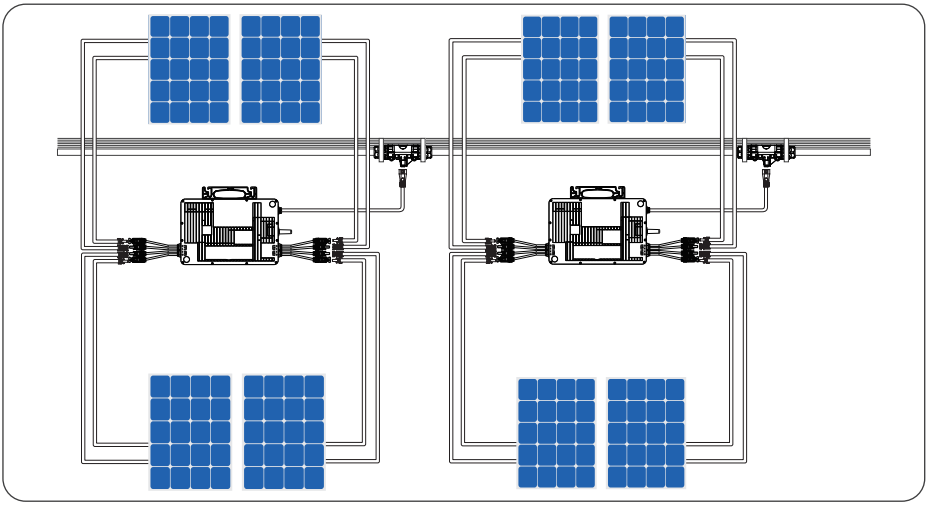
4.2 Drawing the Installation Map

Remove the serial number label of the microinverter and attach it to the installation map according to the arranged installation place for quick identification during maintenance.



4.3 PV Connection

Connect the PV connector to the PV terminals. Ensure that the PV connectors have the correct polarity before connection.



⚠ CAUTION

- Ensure that the output current and voltage of the PV modules are consistent with the microinverter.
- Operating DC voltage range of the PV module must be within the input voltage range of the microinverter.
- The maximum open circuit voltage of the PV module shall not exceed the maximum input voltage of the microinverter.
- DC output power of PV module shall not exceed 1.5 times that of the AC output power of the microinverter.

5 Troubleshooting

Only qualified professionals can implement the following troubleshooting operations when the microinverter PV system is not working properly.

5.1 LED Operation

5.1.1 Start up LED

When the DC side of the microinverter is powered on for the first time :

- The green light blinking briefly indicates startup success.
- The red light blinking briefly indicates startup failure.

5.1.2 Operating LED

Light	Status	Meaning
Green	Fast flashing: the light is on for 0.5 seconds and off for 1 second.	Normal
	Fast flashing: the light is on for 0.5 seconds and off for 3 seconds.	Standby reconnect
	Fast flashing: the light is on for 0.5 seconds and off for 5 seconds.	Communication error
Red	Fast flashing: the light is on for 0.5 seconds and off for 1 second.	AC-type alarm
	Fast flashing: the light is on for 0.5 seconds and off for 3 seconds.	DC-type alarm
	Fast flashing: the light is on for 0.5 seconds and off for 5 seconds.	Other alarms

5.2 Alarm Troubleshooting

Fault code	Fault description	Solution
3101 3102 3103 3104	PV1~PV4 Overcurrent	• If the input DC current is too high, please ensure that the input PV module current is not higher than the maximum input current of the microinverter. • If the current of PV module is without the normal range for three days and the microinverter does not work, please contact the dealer or equipment manufacturer.
3105 3106 3107 3108	PV1~PV4 Overvoltage	• If the input DC voltage is too high, please ensure that the input voltage of the PV module does not exceed the maximum input voltage of the microinverter. • If the voltage of PV module is without the normal range for three days and the microinverter still does not operate, please contact the dealer or equipment manufacturer.

3109 3110 3111 3112	PV1~PV4 Undervoltage	• If the input DC voltage is too low, please ensure that the input voltage of the PV module is higher than the minimum input voltage of the microinverter. • If the voltage of PV module is without the normal range for three days and the microinverter still does not operate, please contact the dealer or equipment manufacturer.
3147 3148 3149 3150	PV1~PV4 connection fault	• Check whether the PV terminal is properly connected to the PV module. If the connection is correct, then verify that the port is properly connected. • If the connection is correct but the alarm persists for three days, please contact the dealer or equipment manufacturer.
3113	AC Overvoltage	• If the fault occurs occasionally, it may be a short-time grid abnormality. It will be back to normal without manual intervention after the grid is normal. • If it occurs frequently, please check whether the grid voltage is within the allowable range. If the voltage is significantly high, contact the local power authority; after confirmation, the overvoltage limit can be adjusted through the monitoring platform.
3114	AC Undervoltage	• If the fault occurs occasionally, it may be a short-time grid abnormality. It will be back to normal without manual intervention after the grid is normal. • If it occurs frequently, please check whether the grid voltage is within the allowable range. If the voltage is significantly high, contact the local power authority; after confirmation, the overvoltage limit can be adjusted through the monitoring platform.
3115	AC Overfrequency	• If the fault occurs occasionally, it may be due to abnormal grid frequency. It will be back to normal without manual intervention after the grid is normal. • If it occurs frequently, please check whether the grid frequency is within the allowable range. If the frequency is significantly high, contact the local power authority; after confirmation, the frequency limits can be adjusted through the monitoring platform.

3116	AC Underfrequency	• If the fault occurs occasionally, it may be due to abnormal grid frequency. It will be back to normal without manual intervention after the grid is normal. • If it occurs frequently, please check whether the grid frequency is within the allowable range. If the frequency is significantly high, contact the local power authority; after confirmation, the frequency limits can be adjusted through the monitoring platform.
3089	10-minute Average Overvoltage	• If the fault occurs occasionally, it may be a short-time grid abnormality. It will be back to normal without manual intervention after the grid is normal. • If it occurs frequently, please check whether the grid voltage is within the allowable range. If the voltage is significantly high, contact the local power authority; after confirmation, the overvoltage limit can be adjusted through the monitoring platform.
3081	AC Overcurrent Protection	• If this occurs occasionally, it may be due to abnormal grid voltage. The device will automatically resume operation once the grid returns to normal, with no manual intervention required. • If the alarm persists for three days, please contact the dealer or equipment manufacturer.
3082	Anti-Islanding	• If this fault occurs occasionally, it may be a short-term power grid abnormality. When the power grid is normal, it will resume work without manual intervention. • If all the microinverters in the power station have frequent islanding alarms, please contact the power bureau to confirm whether there is indeed an islanding phenomenon and solve it. • If the problem still cannot be solved, please try to contact the equipment manufacturer or dealer.
3083	Insulation Resistance	• Check whether the wiring on the input side of the microinverter is normal. • Check whether the modules (junction box) are normal.

3084	Device Overtemperature	• Check whether the ambient temperature of the microinverter exceeds the maximum allowable temperature. • If the ambient temperature exceeds the allowable temperature, please improve the installation environment. If the environment is normal, please contact the dealer or equipment manufacturer.
3085	Device Low Temperature	• Check whether the ambient temperature of the microinverter is below the minimum allowable temperature. • If the ambient temperature is outside the allowable range, please improve the installation environment; if the environment is normal, please contact the dealer or equipment manufacturer.
3095	Remote Shutdown	• Confirm whether the anti-backflow is enabled. • If the anti-backflow is not enabled, please contact the dealer or equipment manufacturer.
3137	Zero Drift Error	• Restart the device three times. If the device still cannot operate normally, Observe for two days. If the alarm persists, please contact the dealer.
3139	Offline	• Check the signal between the router and the microinverter. If the signal is weak, please move the microinverter or the router to improve communication. • If the signal is good, please contact the dealer.

5.3 On-Site Inspection

NOTICE

- Only qualified installers can perform this operation.

If the microinverter fails, please troubleshoot according to the following steps:

Step 1: Verify whether the grid voltage and frequency are within the normal range specified in the technical parameter table of the user manual.

Step 2: Check the connection to the grid. Disconnect the AC side first, then the DC side. When the inverter is still working, it is forbidden to disconnect the DC side connection. Reconnect the DC side and observe whether the indicator light flashes green three times briefly.

Step 3: Check the connection of each microinverter in the AC branch, and confirm whether each microinverter is powered by the public grid.

Step 4: Ensure each AC circuit breaker is functioning properly and then confirm it is in the closed position.

Step 5: Check the connection between the microinverter and the PV module.

Step 6: Verify whether the DC voltage of the PV module is within the range specified in the technical parameter table of the user manual.

NOTICE

- If the problem persists, please call Hyxipower's customer support number.

6 Maintenance

6.1 Maintenance Precautions

DANGER

- Do not disassemble and repair the microinverter by yourself ! In order to ensure safety and insulation performance, users are prohibited from repairing internal parts.

CAUTION

- Do not replace the AC cable on the microinverter. If the wire is damaged, the equipment should be scrapped.
- Unless otherwise specified, during maintenance, the connection between the equipment and the power grid must first be disconnected (by switching off the power disconnect switch), and PV modules must be shielded or isolated simultaneously.
- Do not use rags made of filamentous or corrosive materials to clean the equipment, otherwise it may cause corrosion or generate static electricity.
- Do not repair the product without authorization. Qualified parts must be used for maintenance.
- Each branch line should be equipped with a circuit breaker.

NOTICE

- Only authorized personnel are allowed to perform maintenance operations and are responsible for reporting abnormal conditions.
- Wear personal protective equipment for maintenance operations.

6.2 Routine maintenance

Inspection content	Inspection method	Maintenance interval
Environment	• Make sure that the environment meet the normal working requirements of the microinverter. • Ensure that the microinverter is not exposed to harsh weather and is not covered by foreign objects.	once every three months

7 Commissioning

7.1 Power-on the Microinverter

Step 1: Close the main Grid circuit breaker.

Step 2: Close the AC circuit breaker of each microinverter branch, and the system will automatically generate power after about 2 minutes.

Step 3: Set up monitoring system on Hyxipower Smart PV Cloud Platform.

7.2 Replacing the Microinverter

When replacing the failed microinverter , follow the following steps:

Step 1: Disconnect the AC branch circuit breaker.

Step 2: Disconnect the AC connector of the microinverter from the AC Bus.

Step 3: Remove the PV modules from the rack.

Step 4: Use the DC disconnect tool to disconnect the DC connector.

Step 5: Use the AC disconnect tool to disconnect the AC connectors of the failed microinverter and the adjacent microinverter.

Step 6: Loosen the fixing screws on the top of the microinverter and remove the device from the PV rack.

Step 7: Install the new microinverter on the rack, and observe the blinking of the indicator light when the DC cable is reconnected.

Step 8: Connect the AC cable of the new microinverter to the AC bus.

Step 9: Switch on the branch circuit breaker to verify the proper operation of the new microinverter.

7.3 Disposing of the Microinverter

Capacitors, modules and other components contained in the microinverter will pollute the environment, please dispose of them according to local regulations and laws.

8 Human-Computer Interaction

8.1 Installing the App

Method 1

Download and install the HYXI App through the following application stores:

- App Store (iOS)
- Google Play

Method 2

Scan the following QR code to download and install the HYXI App according to the prompt information:

8.2 APP Configuration

For specification configuration, please scan the following QR code to check HYXI APP_User Manual.

9 Appendix

9.1 Technical Parameter

Product Model	HYX-M2500D-SW
Input (DC)	
Typical Module Compatibility [W]	500-790+
Min./Max. MPPT Voltage [V]	16/60
Operating Voltage Range [V]	16 ~ 60
Max. Input Voltage [V]	65
Max. Input Current [A]	18/18/18/18
Max. Short-circuit DC Input Current	25/25/25/25 (For Brazil 20/20/20/20)
Number of MPP Trackers	2
OVC Category	II
Max. Backfeed Current [A]	0
Output (AC)	
Max. Continuous Output Power [VA]	2500
Max. Continuous Output Current [A]	11.36
Rated Output Voltage [V]	220/230/240/183 ~ 288
Nominal Frequency [HZ]	50 / 45 ~ 55, 60 / 55 ~ 65
THDi	< 3%
Nominal AC Voltage Range[1] [V]	176 ~ 288
Max. Units Per 10AWG Branch[2]	2/2/2
Max. Output Fault Current [A]	20 (peak)
OVC Category	IV
Protective Class	Class I
Efficieny	
Peak Efficiency	97.20%
Nominal MPPT Efficiency	99.80%
Protection	
Night-time Power Loss [mW]	< 70
Input Reverse Connection Protection	Yes
Output Overcurrent Protection	Yes
Output Overvoltage Protection	Yes
Anti-islanding Protection	Yes
Surge Protection	Type II
General Data	
Operating Ambient Temperature [° C]	-40 to +75
Dimensions (W*H*D) [mm]	340*229*40.5
Ingress Protection	UL 50E Type6
Cooling Method	Natural Cooling
Weight [kg]	5.8
Relative Humidity [RH]	0-100%
Class of Pollution	PD3

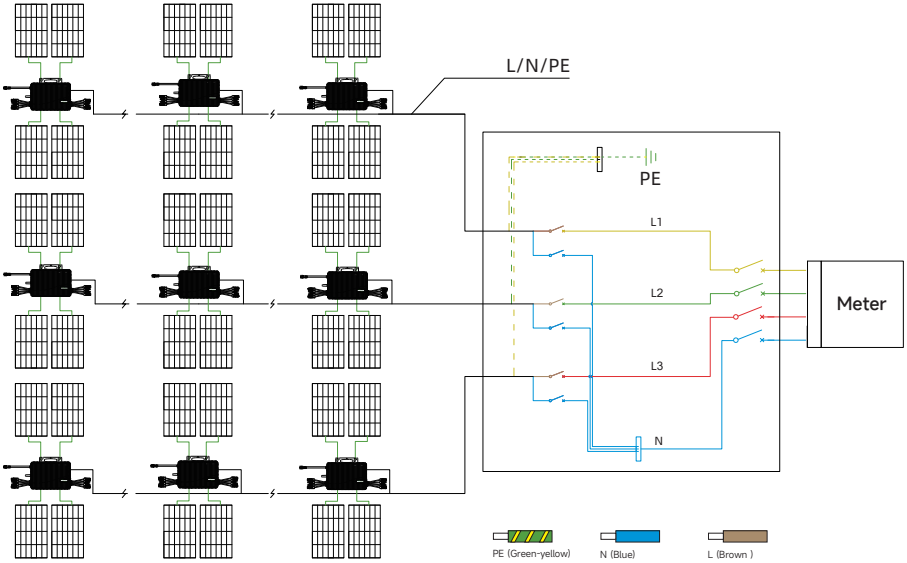
Altitude [m]	3000
Features	
Communication	Built-in WiFi
Monitoring	Hyxi Cloud
Type of Isolation	Galvanically Isolated HF Transformer

* 1: Nominal voltage/frequency range can vary depending on local requirements.

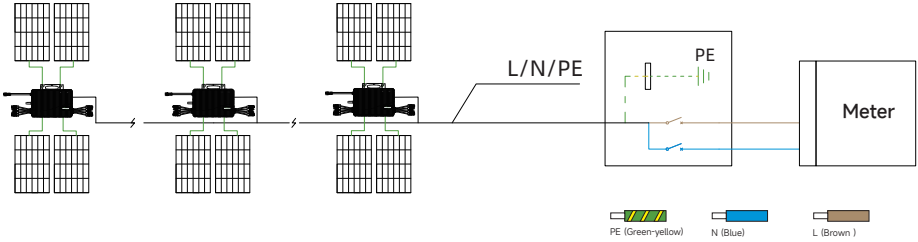
2: Refer to local requirements for exact number of microinverters per branch.

9.2 Wiring Diagram

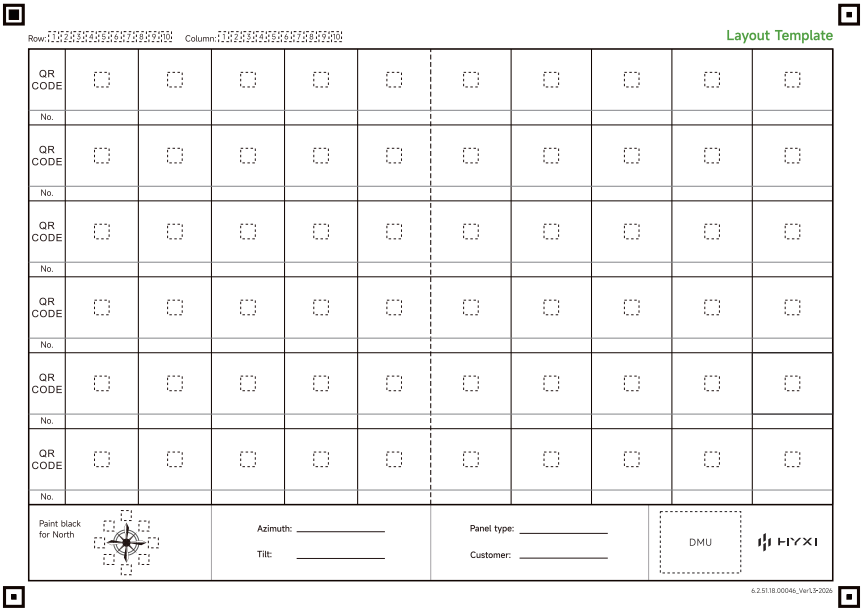
9.2.1 230V / 400 V Three-phase Grounding Map



9.2.2 230V Single Phase Grounding Map



9.3 Installation Map



9.4 Contact Information

If you have any questions about this product, please contact us.

In order to provide you with faster and better after-sales service, we need your assistance in providing the following information.

- Equipment model : _____
- Serial number of the equipment: _____
- Fault code / name: _____
- A brief description of the fault phenomenon: _____

_____

_____

_____

Version: UM_HYX-M2500D-SW_V1.3-202605_EN
The manual is subject to change without notice while the product is being improved.

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