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INSTALLATION GUIDE

AND USER MANUAL

MICROINVERSORES

SA-MP-1000 208/240

V2.0

Aug 13, 2024

RESIDENTIAL
NORTH AMERICA

Sol-Ark
Library

READ THE INSTRUCTIONS COMPLETELY BEFORE OPERATING THE EQUIPMENT

Check the utility voltage before turning ON the system.

Disregarding these instructions could result in permanent damages to the unit

DISCLAIMER

UNLESS SPECIFICALLY AGREED TO IN WRITING, SOL-ARK:

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Sol-Ark is not responsible for system failure, damage or injury resulting from improper installation of its products.

Information in this manual is subject to change without notice.

This manual is only focused on the microinverter labeled as: SA-MP-1000-208/240.

Contact

Phone: (USA) +1 (972) 575-8875 ext. (2)

Email: SUPPORT@SOL-ARK.COM

Website: WWW.SOL-ARK.COM

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IMPORTANT SAFETY INSTRUCTIONS

SYMBOLS THAT APPEAR IN THIS DOCUMENT

WARNING: This symbol indicates information that, if ignored, could cause serious injury, equipment damage, or death.

CAUTION: This symbol indicates information that, if ignored, could result in minor injury or equipment damage.

NOTE: This symbol indicates relevant information that is not related to hazardous situations.

This manual contains important instructions to follow during installation and maintenance of the Photovoltaic Grid-connected Inverter (Microinverter). To reduce the risk of electrical shock and ensure the safe installation and operation of the Microinverter the following symbols appear throughout this document to indicate dangerous conditions and important safety instructions.

Specifications subject to change without notice - please ensure you are using the latest manual found on the Sol-Ark.com website.

DO NOT disconnect the PV module from the Micro Inverter without disconnecting the AC power.

Only qualified professionals should install and/or replace the Microinverters. Perform all electrical installations in accordance with local electrical codes.

Local electrical codes and standards must be followed while protecting against voltage surges and lightning.

Verify that every piece of AC and DC wiring is installed correctly and that there are no broken, pinched, or shorted cables. Make certain that every AC junction box is securely closed.

Before installing or using the Microinverter, please read all instructions and cautionary markings in the technical documents and on the Microinverter system and the solar array.

Be aware that the body of the Microinverter is the heat sink and can reach a temperature of 80℃. To reduce the risk of burns, do not touch the body of the Microinverter.

When the Microinverter is working properly, please maintain a distance of at least 20 cm from it.

DO NOT attempt to repair the Microinverter. If it fails, contact technical support to obtain an RMA number and start the replacement process.

Damaging or opening the Microinverter will void the warranty.

The external protective earthing conductor is connected to the inverter protective earthing terminal through AC connector.

When connecting, connect the AC connector first to ensure the inverter earthing then do the DC connections.

When disconnecting, disconnect the AC by opening the branch circuit breaker first but maintain the protective earthing conductor in the branch circuit breaker connect to the inverter, then disconnect the DC inputs.

In any circumstance, do not connect DC input when AC connector is unplugged.

Please install isolation switching devices on the AC side of the inverter.

Verify that all AC and DC wiring is in its proper place and that no cables are pinched, shorted, or otherwise harmed. Make certain that every AC junction box is securely closed.

The manual's maximum number of microinverters in an AC branch circuit should never be exceeded. Every microinverter branch circuit needs to be protected with a 20A maximum breaker or fuse, if necessary.

The equipment must never be utilized in a manner not specified by Sol-Ark.

Please keep in mind that there exists the possibility that you might experience an electric shock while this equipment is being installed.

Prior to doing any servicing, always de-energize the AC branch circuit.

Never disconnect the DC or AC connectors under load.

Sol-Ark microinverters should not be connected to the grid or have their AC circuits turned on until all installation steps have been finished and the electrical network operator has given their approval.

Follow the instructions in this manual when installing the equipment to guarantee maximum reliability and compliance with warranty requirements.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC warning:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation, This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions,may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

The Meaning of Symbols

Can be OEM	Trademark.
	Caution, risk of electric shock.
	Caution, risk of burn - Do not touch.
	Caution, hot surface.
	Symbol for the marking of electrical and electronics devices according to Directive 2002/96/EC. Indicates that the device, accessories and the packaging must not be disposed as unsorted municipal waste and must be collected separately at the end of the usage. Please follow Local Ordinances or Regulations for disposal or contact an authorized representative of the manufacturer for information concerning the decommissioning of equipment.
	Refer to the operating instructions.
Qualified personnel	Person adequately advised or supervised by an electrically skilled person to enable him or her to perceive risks and to avoid hazards which electricity can create. For the purpose of the safety information of this manual, a "qualified person" is someone who is familiar with requirements for safety, refrigeration system and EMC and is authorized to energize, ground, and tag equipment, systems, and circuits in accordance with established safety procedures. The inverter and endued system may only be commissioned and operated by qualified personnel.

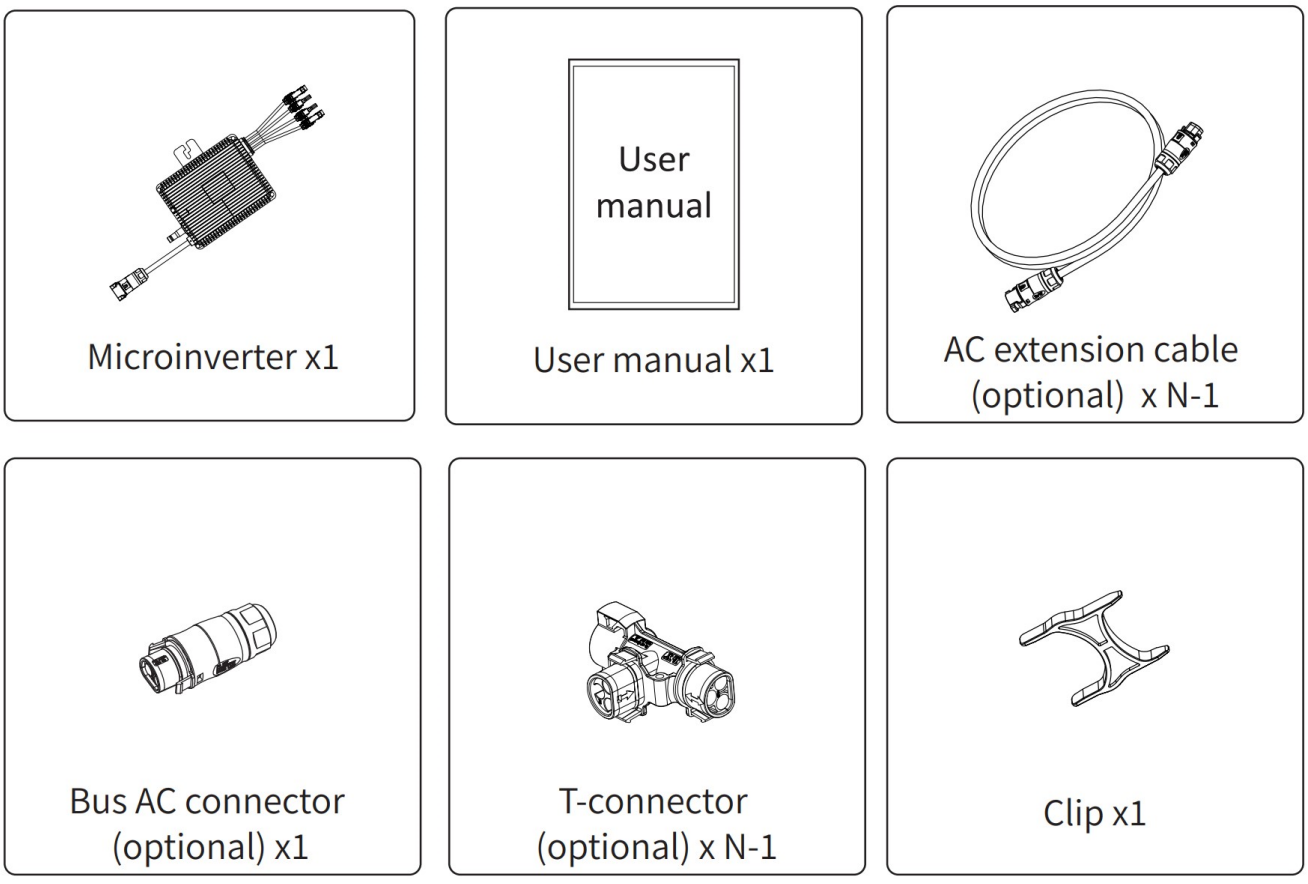
1. Sol-Ark: At a First Glance

INSPECT SHIPMENT

The package should include all items shown in the component guide. If there is damage or missing parts, immediately call the phone number (USA) +1 (972) 575-8875 Ext. 2

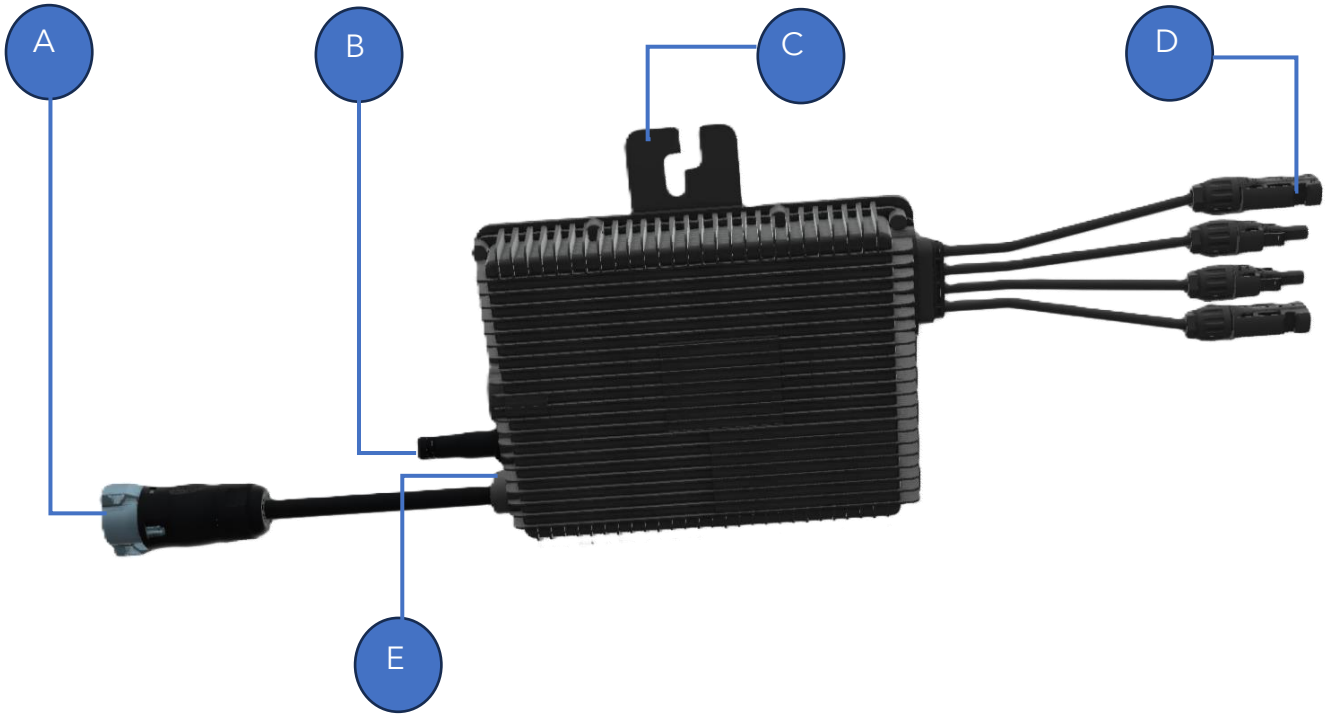
COMPONENT GUIDE

Please check the following table, to see whether all the parts are included in the package：



* Choose either Bus AC connector or Extension cable with European standard plug, can't use them in the same project.

1.1 General Description



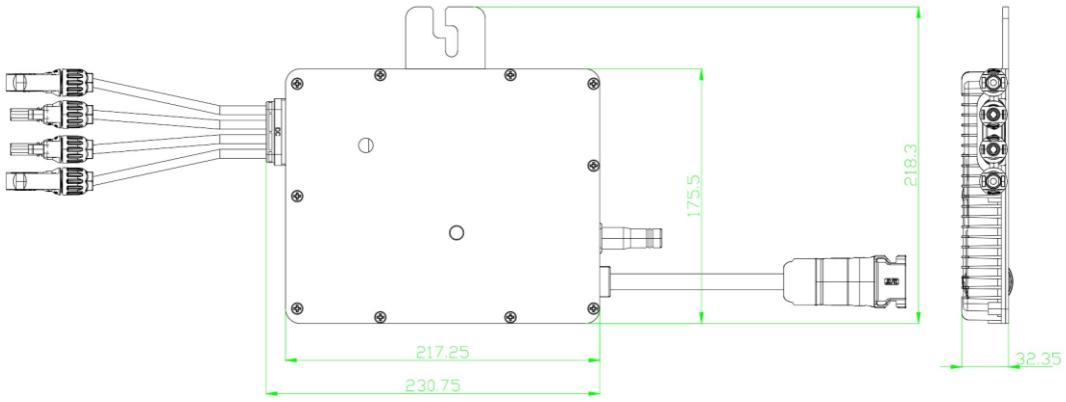
Component	Name
A	AC output/input
B	Wi-Fi antenna
C	Microinverter fixing hole
D	PV input
E	LED status light

The Microinverter is used in utility-interactive grid-tied applications, comprised of two key elements:

- Microinverter
- Router

This series Microinverter has a built-in Wi-Fi module so it can communicate with router directly.

1.2 Specifications



Inverter Model	SA-MP-1000-208/240
PV Input Voltage	42.5V(15V-60V)
PV Array MPPT Voltage Range	25V-55V
No. of MPP Trackers	1
No. of Strings per MPP Tracker	2

If the wireless signal in the area where the Microinverter is installed is weak, it is necessary to add a Wi-Fi signal booster at a suitable place between the router and the Microinverter

This integrated system improves safety, maximizes solar energy harvest; increases system reliability, and simplifies solar system design, installation, maintenance, and management.

Microinverters Maximize PV Energy Production

Each PV module has individual Maximum Peak Power Tracking (MPPT) controls, which ensures that the maximum power is exported to the utility grid regardless of the performance of the other PV modules in the array. When PV modules in the array are affected by shade, dust, orientation, or any situation in which one module underperforms compared with the other units, the Microinverter ensures top performance from the array by maximizing the performance of each module within the array.

More Reliable than Centralized or String Inverters

The distributed Microinverter system ensures that no single point of system failure exists across the PV system. Microinverters are designed to operate at full power at ambient outdoor temperatures of up to 113℉ (45℃). The inverter housing is designed for outdoor installation and complies with the IP67 environmental enclosure rating. Simple to Install

You can install individual PV modules in any combination of Module quantity, orientation, different type and power rate. The Ground wire (PE) of the AC cable is connected to the chassis inside of the Micro Inverter, potentially eliminating the installation of grounding wire (check local regulation).

Data collection adopts internal Wi-Fi wireless router is needed near the Microinverter. When completing the installation of Microinverter, configure wireless router with internal Wi-Fi (refer to the Wi-Fi user manual). The data will be uploaded automatically. Users can monitor and manage the Microinverter through corresponding website or APP.

The Microinverters connect with the single-phase grid.

For more information, please see the Technical Data page.

Model Number	AC grid	Max. # Per branch
SA-MP-1000-208/240	60Hz, 208/240V	6 for 40A breaker

1.3 Technical data

Be sure to verify the voltage and current specifications of your PV module match with those of the Microinverter. Please refer to the datasheet or user manual.

The maximum open circuit voltage of the PV module must not exceed the specified maximum input voltage of the inverter

DATASHEET

SA-MP-1000-208/240

Microinverter

Input Data (PV)	
Max. PV Input Power (V)	210-700 (2 modules)
MPPT Voltage Range (V)	25-55
Rated PV Input Voltage (V)	42.5
Max. PV Input Voltage (V)	60
Start-up Voltage (V)	15
Max. Input Short Circuit Current (A)	45
Max. Operating PV Input Current (A)	30
Output Data (AC)	
Rated AC Output Active Power (W)	1000
Max. AC Output Apparent Power (VA)	1100
Rated Output Voltage/Range (V)	208V /240V (0.85Un-1.1Un)
Grid Connection Form	L1/L2/GND
Rated Output Grid Frequency/Range (Hz)	60/55-65
Max. AC Output Current (A)	4.9/4.2
Rated AC Output Current (A)	5.3/4.6
Max. Unit per Branch	5
Power Factor Adjustment Range	0.8 leading-0.8 lagging
Total Current Harmonic Distortion THD	<3%
DC injection Current	<0.5%In
Efficiency	
Max. Efficiency	96.7%
CEC Efficiency	96.0%
MPPT Efficiency	>99%
Mechanical Data	
Ambient Temperature Range (°C)	-40t0 +65°C, >45°C Derating
Permissible Altitude (m)	2000
Relative Ambient Humidity Range	0-100%
Enclosure Environmental Rating	IP67
Noise (dB)	<25
Weight (kg)	2.7
Type of Cooling	Natural Cooling – No Fans
Cabinet Size (W x H x D mm)	217.3x175.5%32.4 (Excluding Connectors and Brackets)
Inverter Topology	Isolated
Warranty	25 Years
Over Voltage Category	OVCII(DC), OVC IV(AC)
Certifications	
UL 1741-2021 (incl UL1741SB)	
CSA C22.2 No. 107.1-16	
IEEE 1547-2018	
IEEE 1547a-2020	
IEEE 1547.1-2020 (SRD V2.0)	

DATASHEET

SA-MP-1000-208/240

Microinverter

Input Data (PV)		
Max. PV Input Power (W)	210 - 700 (2 modules)	
MPPT Voltage Range (V)	25 - 55	
Rated PV Input Voltage (V)	42.5	
Start-up Voltage (V) / Max. PV Input Voltage (V)	15 / 60	
Max. Operating PV Input Current (A)	2 x 15 or 30	
Max. Input Short Circuit Current (A)	45	
Number of inputs	2	
Output Data (AC)		
Max. Continuous AC Output Power (W)	1000	
Peak AC Output Power (VA)	1100	
Nominal Grid Voltage L-L (V)	208	240
Grid Voltage Range (V)[1]	177 - 228	204 - 264
Max. AC Output Current (A)	5.3	4.6
Max. Units per 12 AWG Branch[2]	4 (30A branch circuit)	5 (30A branch circuit)
Max. Units per 10 AWG Branch[2]	6 (40A branch circuit)	6 (40A branch circuit)
Nominal Grid Frequency (Hz)	50	60
Grid Frequency Range (Hz)	45 - 55	55 - 65
Power Factor Adjustment Range	0.8 leading … 0.8 lagging	
Total Current Harmonic Distortion THD (%)	< 3	
Overvoltage Class AC port	IV	
Efficiency		
Max. Efficiency (%)	96.5	
CEC Efficiency (%)	96	
MPPT Efficiency (%)	> 99	
Night Power Consumption (mW)	30	
Mechanical Data		
Ambient Temperature Range	-40°C to 65°C (-40°F to 149°F)	
Permissible Ambient Humidity (%)	0 - 100	
Dimensions (W x H x D)	217.3mm (8.6in) × 175.5mm (6.9in) × 32.4mm (1.3in)	
Weight	2.7kg (5.95lb)	
Noise (dB)	< 25	
Weight (kg)	2.7	
Cooling	Natural Cooling – No Fans	
Enclosure Rating	Outdoor-IP67	
Inverter Topology	Galvanically Isolated	
Features		
Communication Interface	Built-in WiFi Mesh	
Energy Monitoring[3]	MySol-Ark Cloud	
Warranty	25 Years Standard	
Safety and Compliance	UL 1741:2021, 3er edition (incl UL1741SB), CSA C22.2 No. 107.1-16, IEEE 1547-2018 & 1547 a -2020 & 1547.1-2020 (SRD V2.0). This product is designed in alignment with NEC 690.12 requirements for rapid shutdown of PV systems on buildings.	

1. If the utility demands, nominal voltage range can be expanded beyond its standard limits.
2. Local regulations dictate the maximum microinverters per branch; verify with area standards. Tested cable at
3. For stable communication, it's advised to limit the WIFI mesh network to no more than 50 microinverters.

2. Installation

A PV system using Microinverters is simple to install. Each Microinverter easily mounts on the PV racking, directly beneath the PV module(s). Low voltage DC wires connect from the PV module directly to the Microinverter, eliminating the risk of high DC voltage. Installation MUST comply with local regulations and technical rules.

Perform all electrical installations in accordance with local electrical codes. Be aware that only qualified professionals should install and/or replace Microinverters.

Before installing or using a Microinverter, please read all instructions and warnings in the technical documents and on the Microinverter system itself as well as on the PV array.

Be aware that installation of this equipment includes the risk of electric shock.

Strongly recommend to install Surge protection Devices in the dedicated meter box.

The product is suitable for residential, commercial and light industrial environments, not for industrial environments.

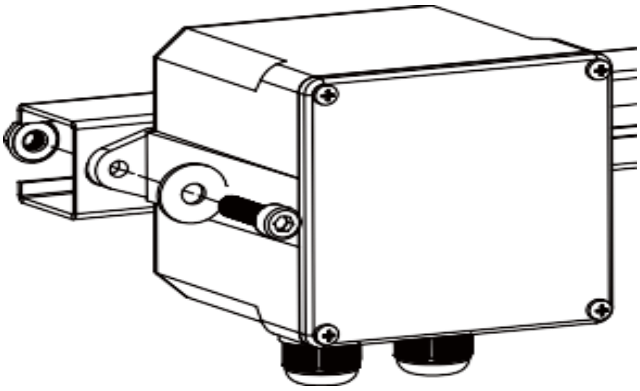
2.1 Required parts and tools from you

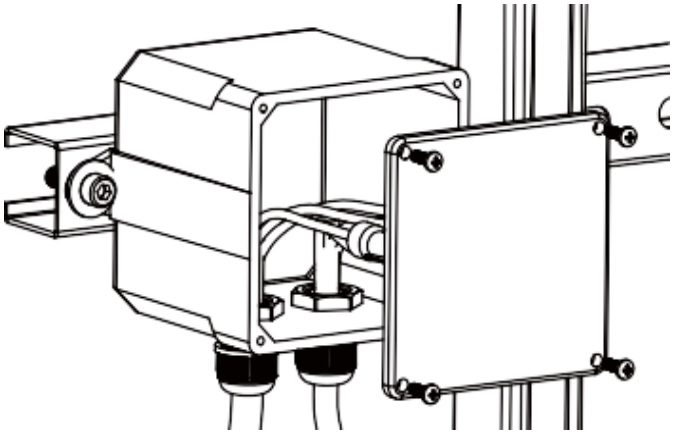
In addition to your PV array and its associated hardware, you will need the following items:

- One or several AC connection junction boxes
- Mounting hardware suitable for module racking
- Sockets and wrenches for mounting hardware
- Continuous grounding conductor and grounding washers
- A Phillips screwdriver
- A torque wrench

2.2 Installation procedures

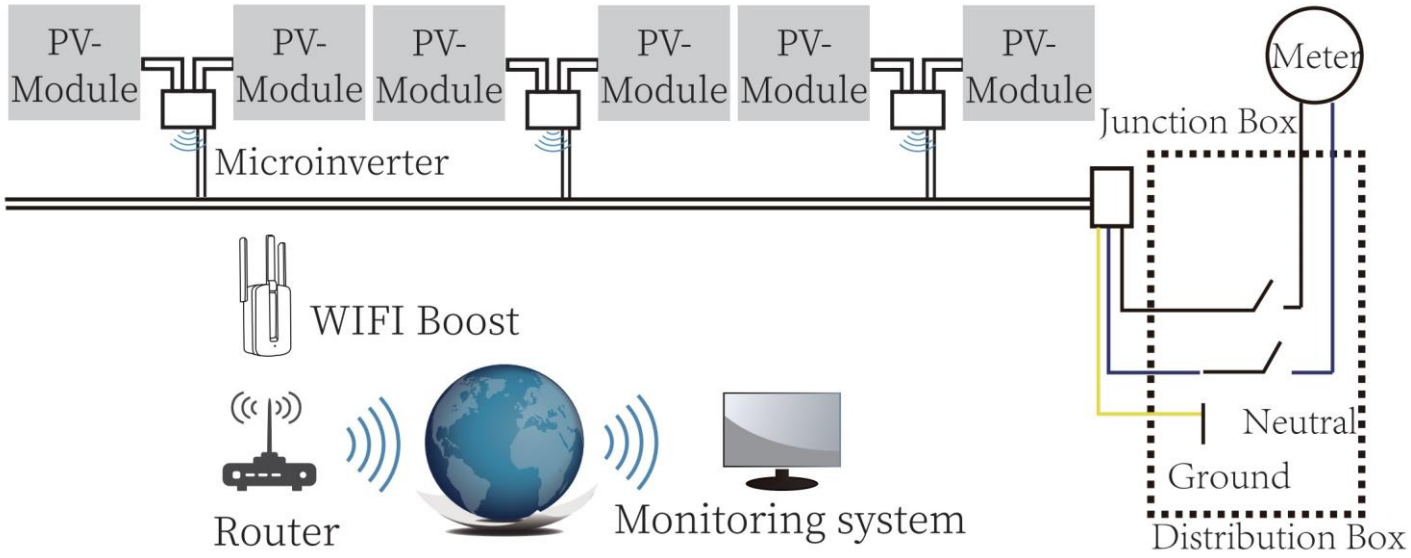
Step 1 - Install the AC branch circuit junction box





a. Install an appropriate junction box at a suitable location on the PV racking system (typically at the end of a branch of modules).
b. Connect the open wire end of the AC cable into the junction box using an appropriate gland or strain relief fitting.
c. Connect the AC branch circuit junction box to the point of utility Grid Interconnection

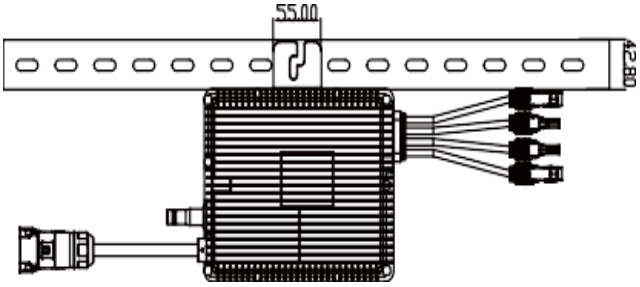
(Usually, it is inside a distribution box) .



The wiring color code can be different according local regulation, check all the wires of the installation before connecting to the AC cable to be sure they match. Wrong cabling can damage irreparably the Microinverters, such an issue is not covered by the warranty.

Step 2 - Attach the Microinverters to the racking or the PV module frame

a. Mark the location of the Microinverter on the rack, with respect to the PV module and junction box or any other obstructions.
b. Mount one Microinverter at each of these locations using hardware recommended by your module racking vendor.



(1MPPT) Mounting

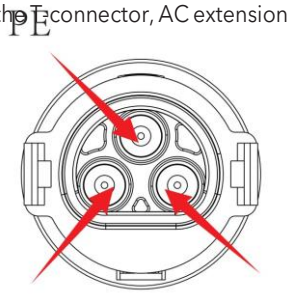
The AC wire on the Microinverter is a TC-ER wire with a wire cross-section area of 1mm²(18AWG).

Prior to installing any of the Microinverters, verify that the utility voltage at the point of common connection matches the voltage rating on Microinverter label.

Do not place the inverters (including DC and AC connectors) where exposed to the sun, rain or snow, even gap between modules, allow a minimum of 3/4(1.5cm.) between the roof and the bottom of the Microinverter to allow proper air flow

Step 3 - Connect the Microinverters in parallel

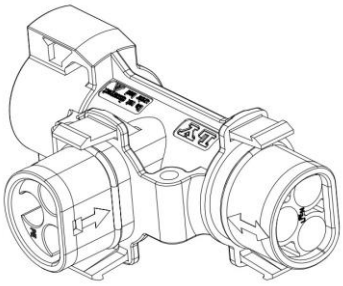
a. Check the Microinverter technical data page 6 for the maximum allowable number of Microinverters on each AC branch circuit.
b. As to parallel connection, please refer to page (P20), use the T-connector, AC extension cable, Bus AC connector to connect the Microinverter in each branch.



Male connector

Model	Wire Size	Cable (mm^2)	Torque value (max)	Max cable length
SA-MP-1000-208/240	10AWG	5.3	1Nm	Outside cable (L1+L2+PE)20m

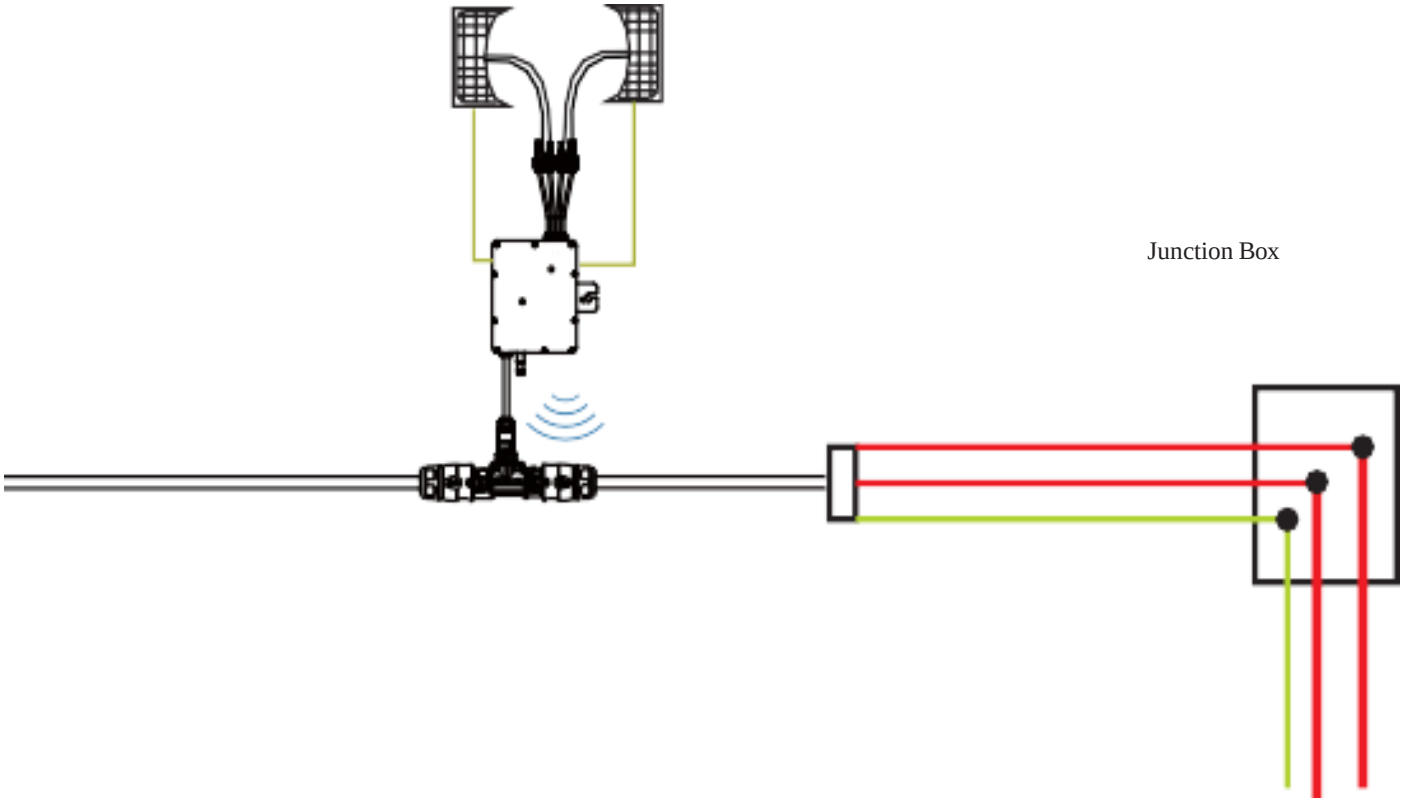
DO NOT exceed maximum number of Microinverters in an AC branch circuit, as displayed on the page 6 of this manual.



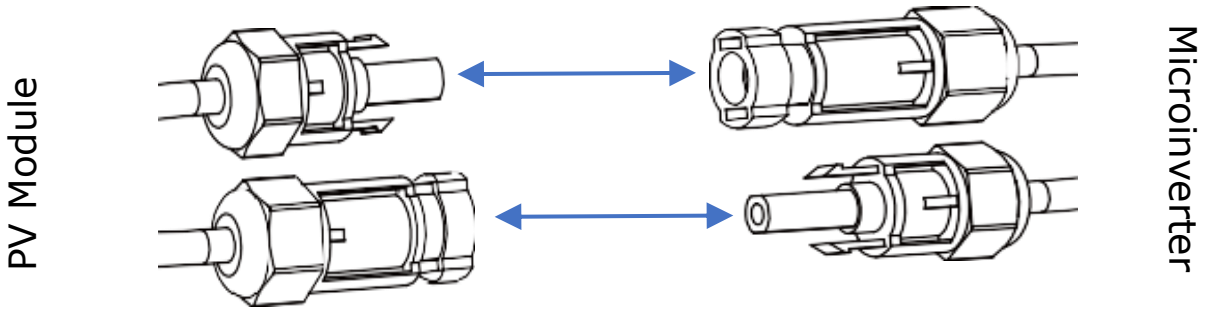
T-connector

Port marked with two-way arrow on T-type plug can only connect with extended cable and Port marked with one-way arrow on T-type plug can only connect with Microinverter.

Step 4 - Connect the wire open of branch end to the junction box.



Step 5 - Connect Microinverter to the PV Modules



2.3 General Guidelines

a. PV modules should be connected to DC input ports of a Microinverter.

b. In order to meet the relevant regulatory requirements, the cable length must be <3M. Please consult the local power operator to make sure that the DC cable complies with local regulations.

When plugging in the DC cables, if AC already available, the Microinverter should immediately blink red light and will start work within the setting time (default 60 seconds).If AC is not available, the red light will blink 3 times quickly and repeat after one second until AC is connected.

The entire installation process shall adopt the wiring method in accordance with the national electrical code, ANSI/NFPA 70.

3. Microinverter System Operating Instructions

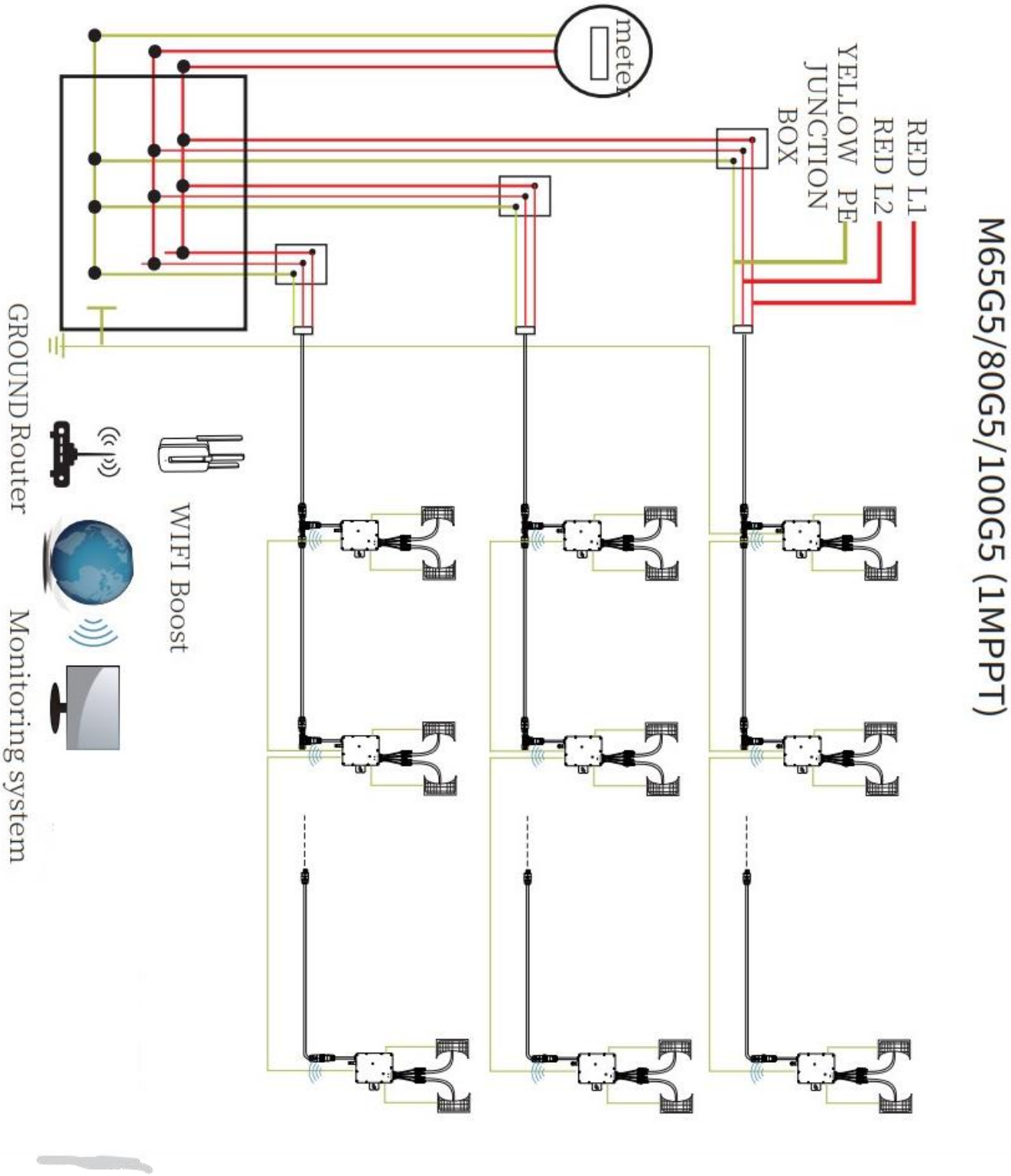
To operate the Microinverter PV system:

1. Turn ON the AC circuit breaker on each Microinverter AC branch circuit.
2. Turn ON the main utility-grid AC circuit breaker. Your system will start producing power after a one-minute waiting time.
3. The units should start blinking red one minute after turning on the AC circuit breaker. Then blue LED blinking. This means they are producing power normally; the faster blinking of the blue LED means more power generated.
4. Configure the internal Wi-Fi module according to its user manual.
5. The Microinverters will start to send performance data over Wi-Fi module to the network every 5 minutes. It enables customers to monitor performance data of each Microinverter through website and APP.

When AC power is applied but the Microinverter has not started up, about 0.1A current and 25VA power for each Microinverter may be measured by a power meter. This power is reactive power, not consumed from utility grid.

4. Wiring Diagram

Sample wiring diagram single phase



5. Commissioning

5.1 New Plant creation with microinverters

In this scenario, a new plant with only microinverters is created. This could be one of the most common cases in customers with only microinverters.

a) The first step is to create a plant and select the “Microinverter” option (there is a misprint on the App). See the images below for reference.

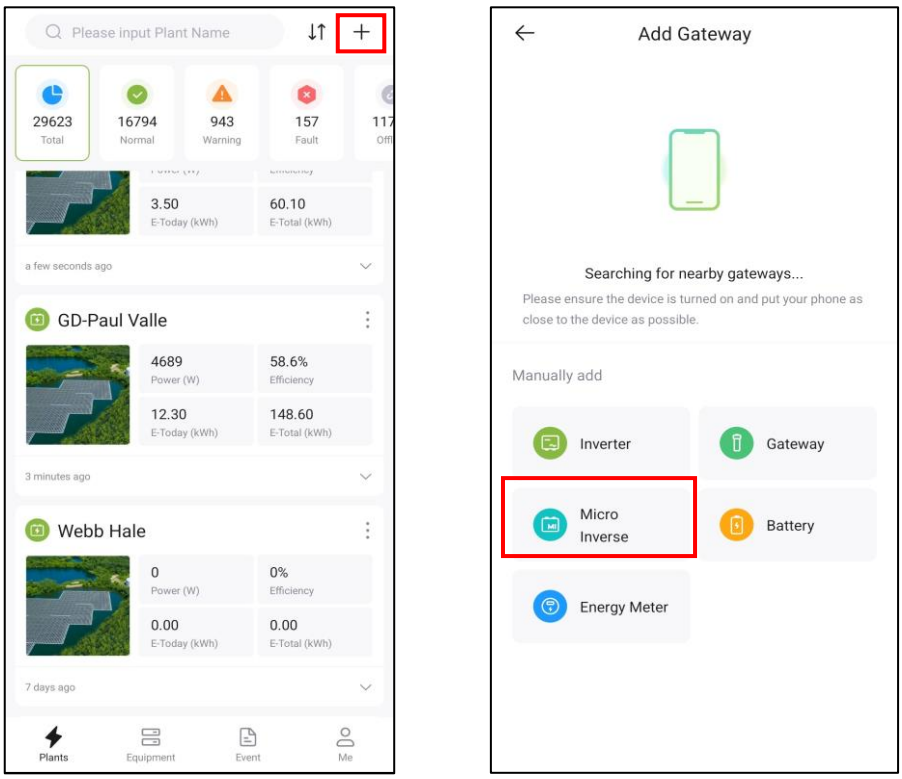


Image 1 – PV Pro App - Creating a plant

b) Once the “Microinverter” option is selected, the App will open the camera to scan the QR code on the back of the microinverter. Upon completion of the plant information, two options become available. The first one, "Distribution network", opens the "Tools" option, while “Done” finishes the plant creation process and returns to the main screen.

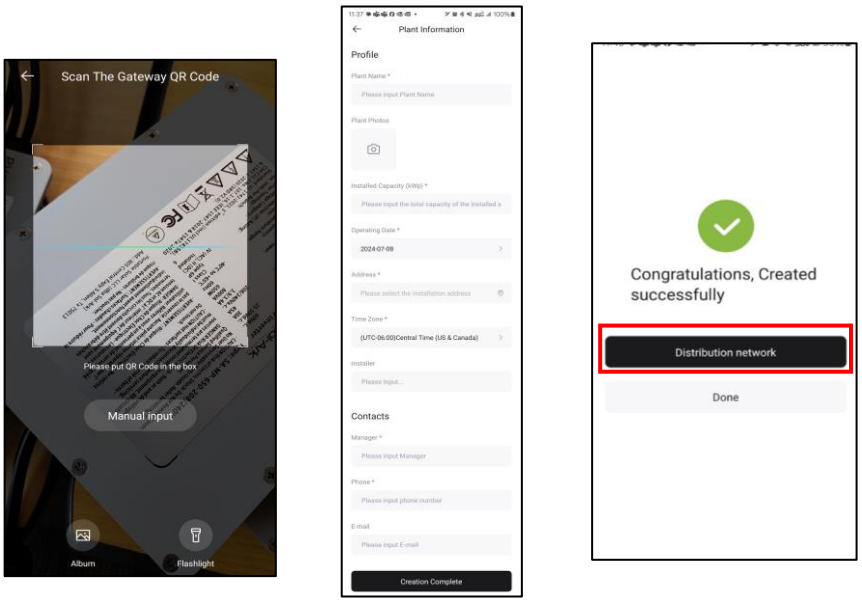


Image 2 – PV Pro App – Scanning the QR code and Plant information.

c) After selecting the "Distribution network", it is necessary to select "Mesh network configuration" to proceed with the device scanning. Then, the "Start Configuring" option should be chosen.

The App will initiate the scanning process, and the microinverters within a range of approximately 10 meters will subsequently populate on the screen. The microinverters use Bluetooth technology for the initial configuration. See the images below for reference.

If the site has more than 20 microinverters, in some cases, it may take up to 30 seconds for all the microinverters to appear on the list.

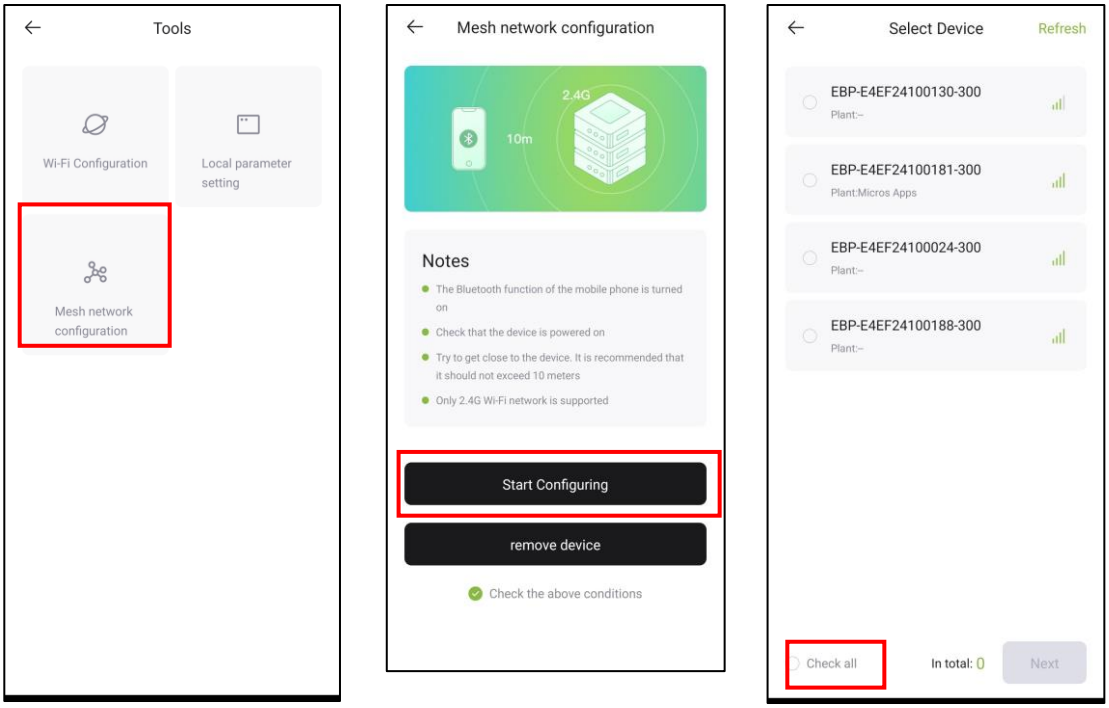


Image 3 – PV Pro App – Connecting the microinverters to the Internet

As depicted in the above images, one of the microinverters already has a plant assigned to it because it was used in the previous process when creating a plant. If the microinverter QR code is scanned during the plant creation process, it becomes bound or associated with that specific plant. In contrast, the other microinverters shown are not currently bound to any plant. They will automatically be bound to the plant once the network setup is completed.

After this, the "Check all" option is selected to continue with the process.

d) There are two options to give internet access to the microinverters. The first option is when they are connected to the router, which is the best option when the microinverter is within range of the Wi-Fi signal.

On the other hand, the mesh network option can be used when a microinverter is out of range of the router, this option can be used only when at least one microinverter was previously configured to be connected directly to the router. Therefore, the "Select router" option should be used in this case.

If the "Mesh network" option is desired, at least one unit must first be connected to the internet using the "Select router" option. Subsequently, the "Mesh network" option can be utilized in this scenario.

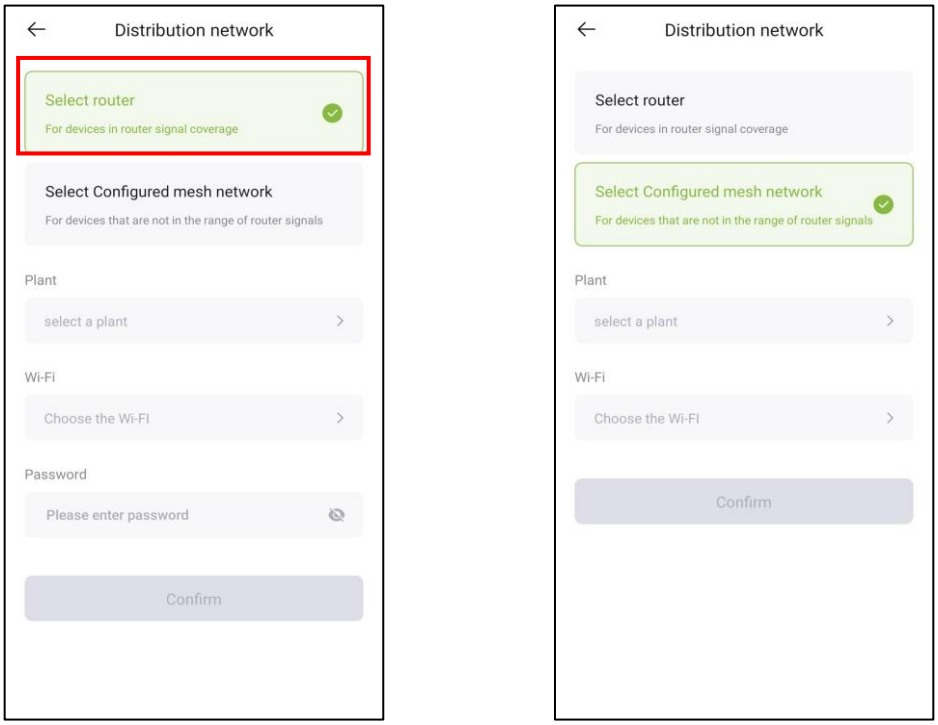


Image 4 – PV Pro App – Configuring the internet connection and mesh network.

e) Once the plant and network information boxes are filled out, the process can be continued by selecting the "Confirm" button. Then, the network configuring process will be initiated. The duration of this process depends on the number of microinverters that are being configured and the distance between the mobile phone. It can take from 15 seconds up to approximately 5 minutes.

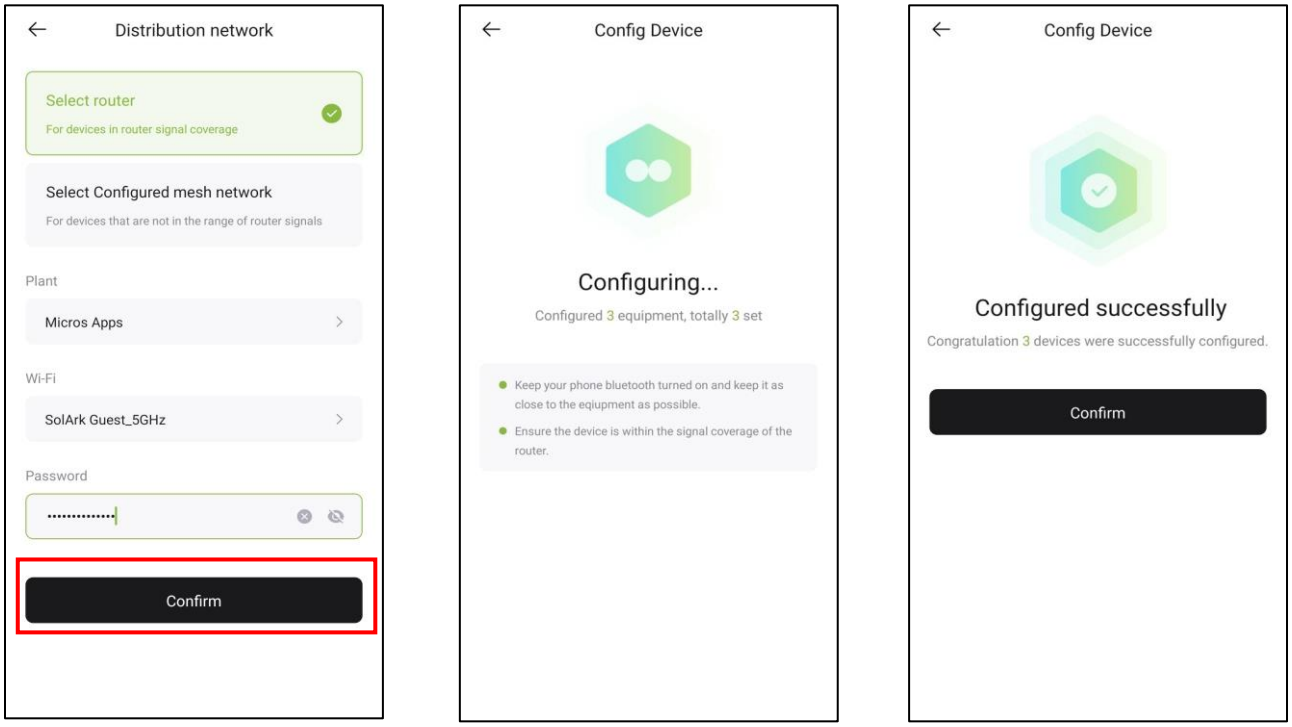


Image 5 – PV Pro App – Network configuring process.

f) It is possible to get a notification that some of the microinverters fail to be configured. When this was the case, it could be solved by pressing the "Retry" option.

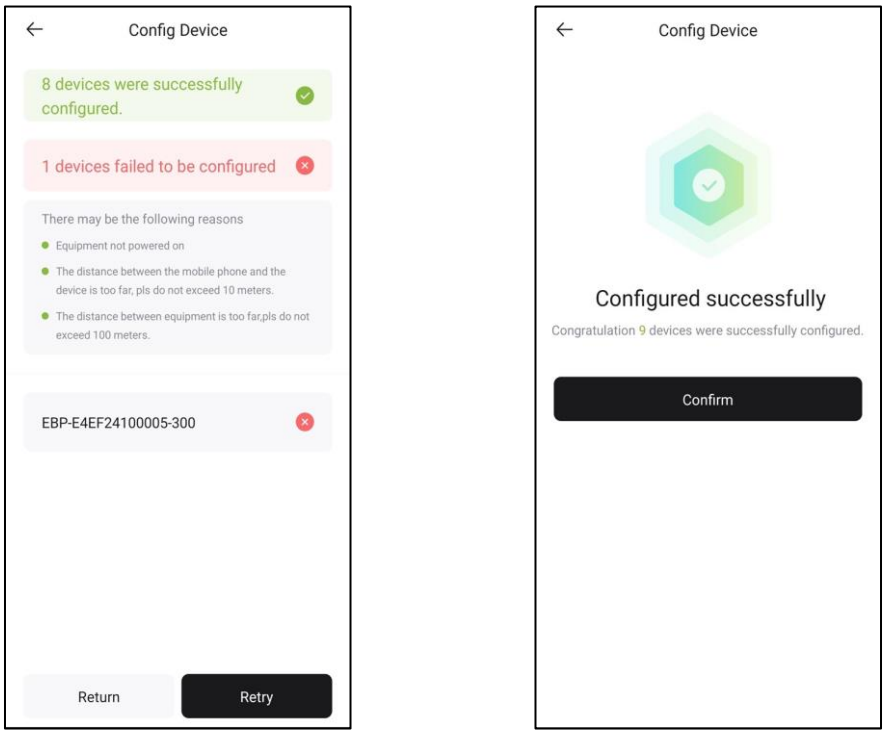


Image 6 – PV Pro App – Fail to be configured message.

Once the "Confirm" button is pressed, it goes back to the main screen, and the microinverter will start to report data. It usually takes around 5 to 10 minutes to start reporting information. During this process, the microinverters may disconnect and reconnect several times as they are building the mesh network.

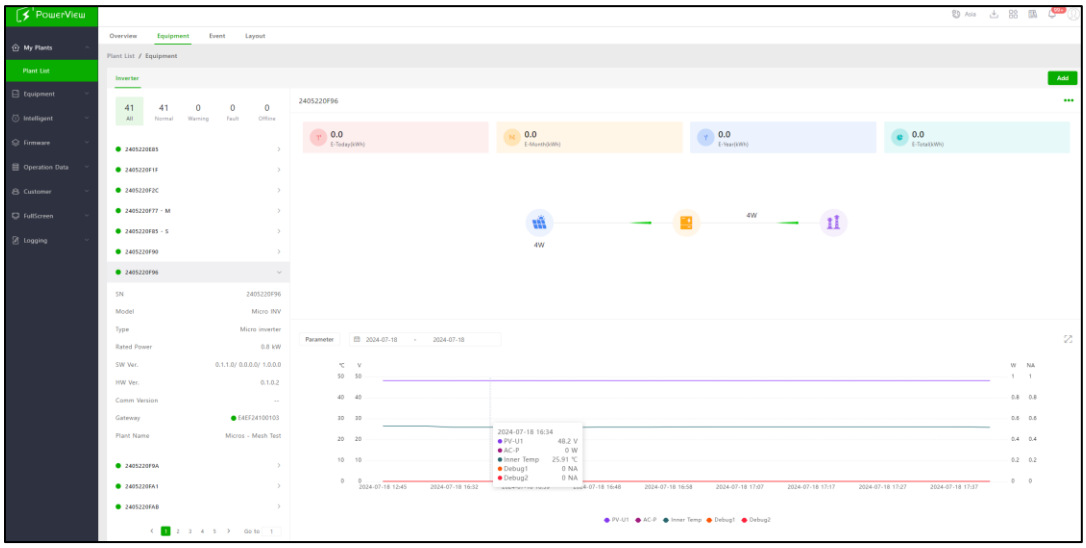


Image 7 – PV Pro App – Microinverters data on PV.

5.2 Changing the Wi-Fi network on an existing plant

In this case, we simulated a situation where the customer intends to change the WiFi network used to give internet access to the microinverters. In this scenario, the microinverters were previously configured to an existing plant.

a) The first step is to open the "Tools" menu in the App and select the "Mesh network configuration" to use the remove tool. If the previous WiFi network is no longer available, the microinverter will appear on the removal list. However, if the network is still present, it will be necessary to turn it off during this process so the microinverters can disconnect from the network and appear in the list (paring mode).

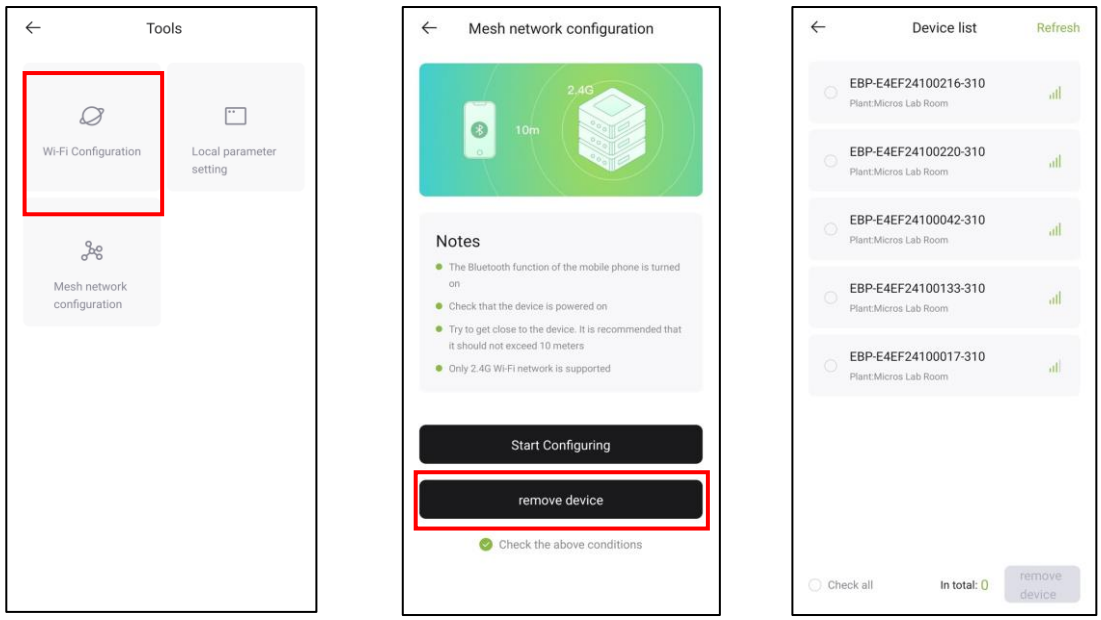


Image 8 – PV Pro App – Removal scanning

b) Once the microinverters appear on the list, they can be selected to proceed with the removal process. Depending on the number of microinverters to remove, it could be a process that takes seconds or up to 5 minutes in systems with more than 40 microinverters.

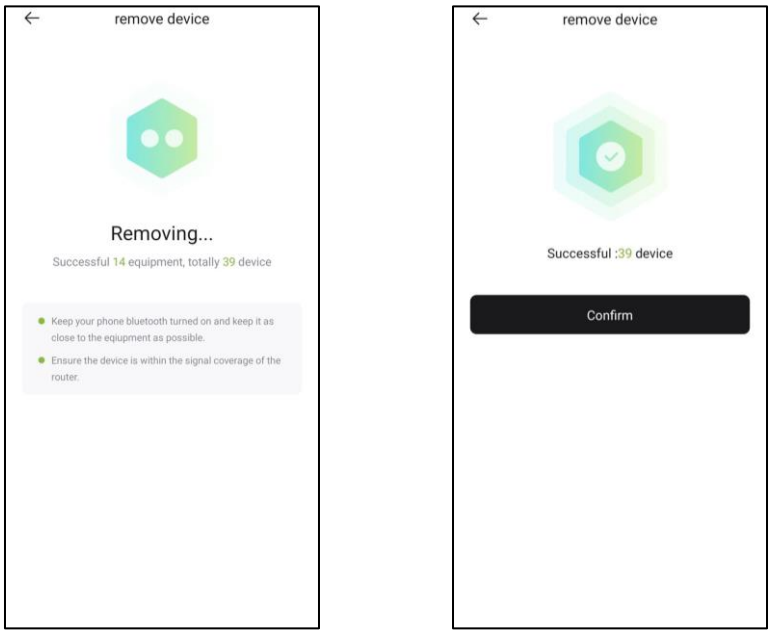


Image 9 – PV Pro App – Removing process initiated.

c) Once the removal process is done, the microinverters are ready to be connected to a new network as described in the **5.1 c)** steps. During the network setup, the same plant should be selected if data conservation is required, otherwise, a different plant can be used.

5.3 Replacement microinverter to an existing

In this scenario, we simulated a situation where the customer wants to remove an existing microinverter and replace it with a new unit.

a) The microinverter needs to be removed from the current network. The router must be turned off for the duration of this process, as this is the only way to scan the microinverter once it has been previously connected to a network. If the microinverter is still connected to the network, it will not appear on the removal list.

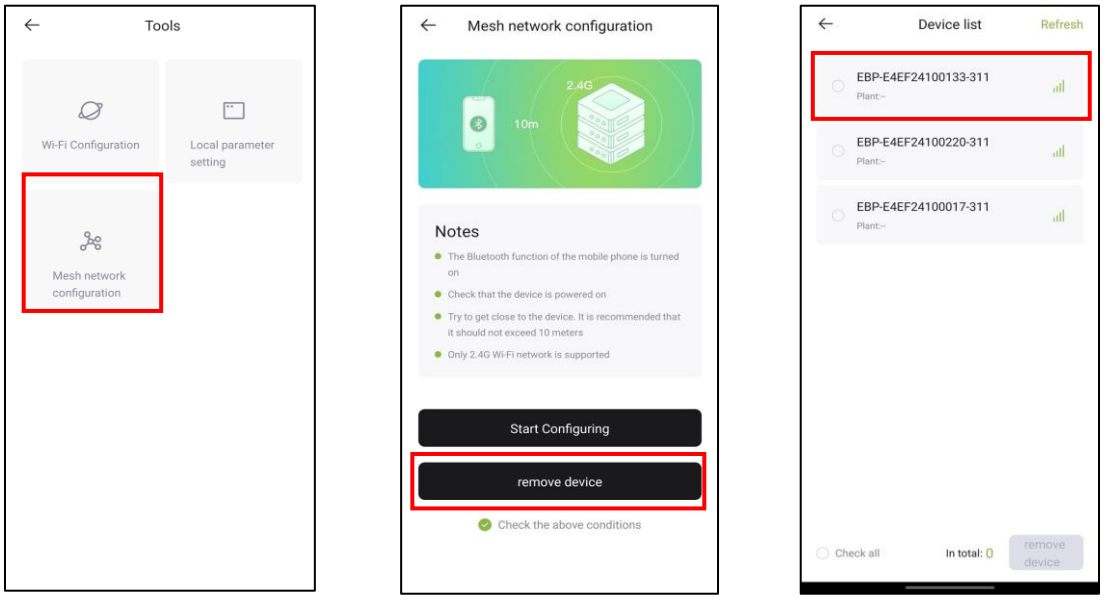


Image 10 – PV Pro App – Removing microinverter for replacement.

b) The microinverter to replace must be selected to initiate the removal process. Once it is removed from the mesh network, it must be unbound from the plant on Powerview as well.

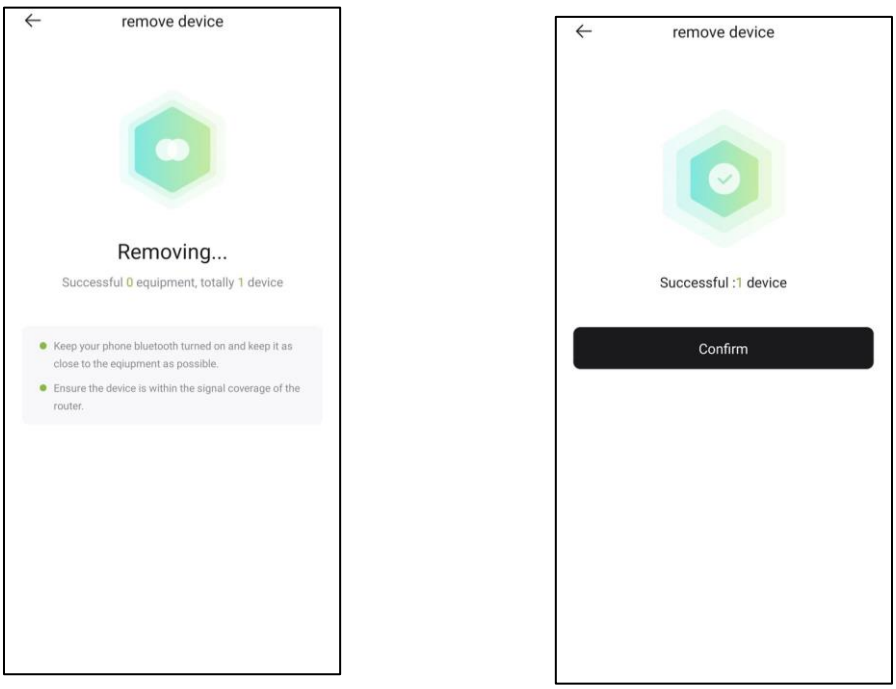


Image 11 – PV Pro App – Removing process for microinverter replacement.

Image 12 – PV Pro App – Unbinding microinverter from the plant.

c) Once the microinverter is removed, the replacement unit can be added to the network by using the steps described in **5.1 c)**. The same plant must be selected to add the unit to the same network.

6. Troubleshooting Guide

Qualified personnel can use the following troubleshooting steps if the PV system does not operate correctly:

6.1 Status Indications an Error Reporting

Start-up LED

One minute after DC power is first applied to the Microinverter, one short red blink indicates a successful Microinverter startup sequence, equal or greater than two short red blinks after DC power is first applied to the Microinverter indicate a failure during Microinverter setup.

Operation LED

Flashing Slow Blue	- Producing small power
Flashing Fast Blue	- Producing big power
Flashing Red	- Not producing power
Red blinking two times	- AC low-voltage or high-voltage
Red blinking three times	- Grid failure

GFDI Error

A four-time red LED indicates the Microinverter has detected a Ground Fault Detector Interrupter (GFDI) error in the PV system. Unless the GFDI error has been cleared, the LED will remain four times blinking.

Other Faults

All other faults can be reported to the website and APP.

⚠ Never disconnect the DC wire connectors under load. Ensure that no current is flowing in the DC wires prior to disconnecting. An opaque covering may be used to cover the module prior to disconnecting the module.

6.2 Troubleshooting a microinverter

There are two possible overall areas of trouble:

a. The Microinverter itself may be having problems.
b. The Microinverter itself is working fine but the communication between Microinverter and network has a problem. Refer to communication issues, not microinverter issues.

One quick way to tell whether the issue is the Microinverter or the communication problem:

Diagnosing from the network:

a. No-Data-Display: The website and APP don't display any data. Check the network configuration.
b. Only display Microinverter is online but no data. This may be because server is updating.

6.3 To troubleshoot a normal microinverter, folow the steps below

1. Verify the utility voltage and frequency are within ranges shown in the Technical Data section of this manual.
2. Check the connection to the utility grid. Disconnect AC first, then disconnect DC and make sure the utility grid voltage can be measured at AC connector. Never disconnect the DC wires while the Microinverter is producing power. Re-connect the DC module connectors and watch for three short LED flashes.
3. Check the AC branch circuit interconnection between all the Microinverters. Verify each inverter is energized by the utility grid as described in the previous step.
4. Make sure that any AC breakers are functioning properly and are closed.
5. Check the DC connections between the Microinverter and the PV module.
6. Verify the PV module DC voltage is within the allowable range shown in the Technical Data of this manual.
7. If the problem persists, please contact technical support.

⚠ Do not attempt to repair the Microinverter. If troubleshooting methods fail, please call for Technical Support.

6.4 Replacement

Follow the procedure to replace a failed microinverter

A. Disconnect the Microinverter from the PV Module, in the order shown below:

1. Disconnect the AC by turning off the branch circuit breaker.
2. Disconnect the AC connector of the Microinverter.
3. Cover the module with an opaque cover.
4. Disconnect the PV module DC wire connectors from the Microinverter.
5. Remove the Microinverter from the PV array racking.

B. Install a replaced Microinverter to the bracket then remove the opaque cover. Remember to observe the flashing LED light as soon as the new Microinverter is plugged into the DC cables.

C. Connect the AC cable of the replacement Microinverter.

7. Limited Warranty: SA-MP-1000 208/

25-Year Limited Warranty for SOL-ARK Products. Sol-Ark provides a twenty-five-year (25) limited Warranty ("Warranty") against defects in materials and workmanship for its Sol-Ark products ("Product"). The term of this warranty begins on the Product(s) initial purchase date, or the date of receipt of the Product(s) by the end user, whichever is later. This must be indicated on the invoice, bill of sale from your installer. This warranty applies to the original Sol-Ark Product purchaser and is transferable only if the Product remains installed in the original use location. Please call Sol-Ark to let us know if you are selling your Home and give us name and contact of the new owner.

Contact: (USA) 1-972-575-8875

For Info/Purchasing:

sales@sol-ark.com | ext.1

For Tech Support/Warranty Claim:

support@sol-ark.com | ext.2

The warranty does not apply to any Product or Product part that has been modified or damaged by the following:

- Installation or Removal (examples: wrong voltage batteries, connecting batteries backward, damage due to water/rain to electronics, preventable damage to solar wires.)
- Alteration or Disassembly.
- Normal Wear and Tear.
- Accident or Abuse.
- Unauthorized Firmware updates/software updates or alterations to the software code.
- Corrosion.
- Lightning: unless using EMP hardened system, then Sol-Ark, LLC will repair the product.
- Repair or service provided by an unauthorized repair facility.
- Operation or installation contrary to manufacturer product instructions.
- Fire, Floods, or Acts of Nature.
- Shipping or Transportation.
- Incidental or consequential damage caused by other components of the power system.
- Any product whose serial number has been altered, defaced, or removed.
- Any other event not foreseeable by Sol-Ark, LLC

Sol-Ark, LLC liability for any defective Product, or any Product part, shall be limited to the repair or replacement of the Product, at Sol-Ark, LLC discretion. Sol-Ark does not warrant or guarantee workmanship performed by any person or firm installing its Products. This warranty does not cover the costs of installation, removal, shipping (except as described below), or reinstallation of Products or parts of Products. LCD screen and fans are covered for 5 years from date of purchase.

THIS LIMITED WARRANTY IS THE EXCLUSIVE WARRANTY APPLICABLE TO SOL-ARK PRODUCTS. SOL-ARK EXPRESSLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTIES OF ITS PRODUCTS. SOL-ARK ALSO EXPRESSLY LIMITS ITS LIABILITY IN THE EVENT OF A PRODUCT DEFECT TO REPAIR OR REPLACEMENT IN ACCORDANCE WITH THE TERMS OF THIS LIMITED WARRANTY AND EXCLUDES ALL LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION ANY LIABILITY FOR PRODUCTS NOT BEING AVAILABLE FOR USE OR LOST REVENUES OR PROFITS, EVEN IF IT IS MADE AWARE OF SUCH POTENTIAL DAMAGES.

Return Policy - No returns will be accepted without prior authorization and must include the Return Material Authorization (RMA) number. Please call and talk to one of our engineers to obtain this number at 972-575-8875.

Return Material Authorization (RMA) A request for an RMA number requires all the following information: 1. Product model and serial number; 2. Proof-of-purchase in the form of a copy of the original Product purchase invoice or receipt confirming the Product model number and serial number; 3. Description of the problem; 4. Validation of problem by Technical Support, and 5. Shipping address for the repaired or replacement equipment. Upon receiving this information, the Sol-Ark representative can issue an RMA number. Any product that is returned must be brand new, in excellent condition and packaged in the original manufacturer's carton with all corresponding hardware and documentation. Returns must be shipped with prepaid freight and insured via the carrier of your choice to arrive back at Portable Solar within 30 days of your initial delivery or pick-up. **Shipping charges will not be refunded.** All returns are subject to a 35% restocking fee. **No returns will be accepted beyond 30 days of original delivery.** The value and cost of replacing any items missing (parts, manuals, etc.) will be deducted from the refund. If you have any questions regarding our return policy, please email us at sales@sol-ark.com or call us at the number above during regular (M-F) business hours.

SA-MP-1000-208/240 Install Operational Verification Checklist Questionnaire must be filled out, signed, and dated to secure full warranty coverage.