



PV Microinverter BENY

BYM500/550/600



Type Approved
Safety
Regular Production
Surveillance

www.tuv.com
ID 1111261691

User Quick Installation Guide

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VERSION : 20230802

For the latest version of specification, please refer to www.beny.com or contact to benyi@zbeny.com
We reserve the right to explain the terms of specification.

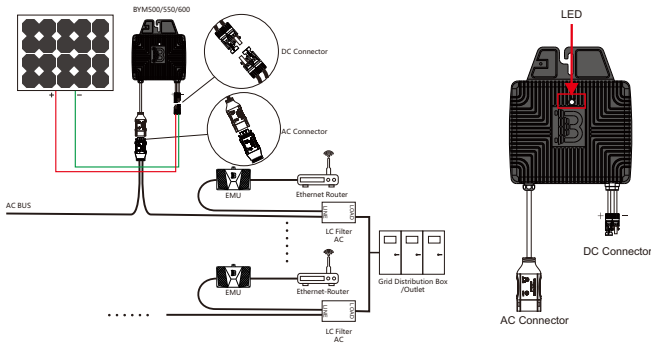
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Please Confirm Before Connecting the BENY Microinverter

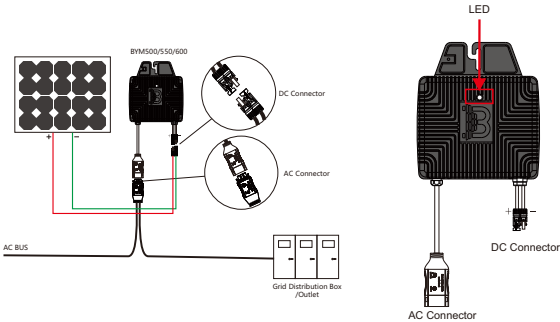
1. Whether the grid voltage at the common connection point conforms to the AC voltage level on the micro-inverter label.
2. Whether the electrical parameters of the PV modules meet the DC input range on the microinverter label.

When the communication method of BENY microinverter is PLCC, the system installation diagram is as follows:



BYM500/550/600 Schematic

When the communication method of BENY microinverter is Wi-Fi, the system installation diagram is as follows:



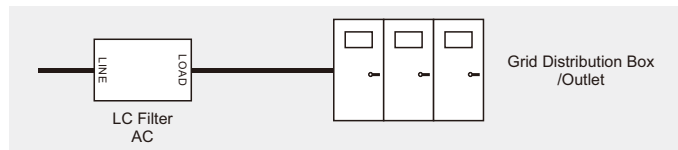
BYM500/550/600 Schematic

According to the different communication methods of BYM500/550/600 microinverters the system installation diagrams of PLCC and Wi-Fi modes are respectively as above and the installation steps are also different. When the communication mode of microinverter is PLCC, please start from step 1. When the communication mode of microinverter is Wi-Fi please skip to step 3 to start the operation.

Installation Steps

STEP 1: Install the LC filter used to eliminate PLCC communication interference (Skip when there is no monitoring device)

Select a suitable AC cable to connect the LC filter to the power distribution box or AC outlet, pay attention to the current carrying capacity of the AC cable, and must adapt to the total output current of all microinverters connected to the filter. For example, when there are 2 microinverters, the cable carrying capacity must be greater than 5A, and when there are 8 microinverters, the cable carrying capacity must be greater than 20A. A 12AWG cable is recommended.



NOTE: Pay attention to the connection direction when installing LC filter. The LOAD end is connected to the distribution box or the AC socket, and the LINE end is connected to the micro-inverter AC cable.



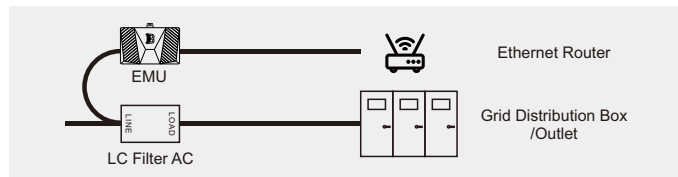
NOTE: If the number of connected micro-inverters is more than 8, you need to connect another AC bus, and then add LC filter, monitoring equipment EMU and other related accessories according to requirements.

STEP 2: Install the monitoring device EMU (Skip if there is no monitoring device)

a. Connect L and N of EMU to LC filter, and pay attention to the polarity of L and N.

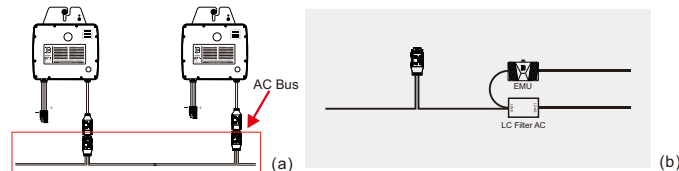
NOTE: The connection must be on the side away from the distribution box or outlet.

b. Connect the network cable (RJ45 cable) of the EMU to the LAN port of the router that can directly access the Internet.



STEP 3: Install the AC bus

a. Pre-arrange the AC bus at a suitable location to connect the microinverter.



b. When there is an LC filter, connect one end of the AC bus to the same side of the filter as the EMU connection; when there is no LC filter, the AC bus should be connected to the grid connection equipment such as a combiner box or outlet .

Pay attention to the wiring method of the AC bus, it should be one of the types 1/2/3/4.

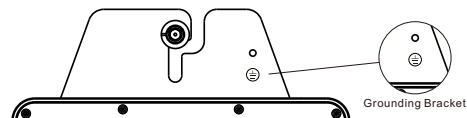
Type 1. Live (L) - Red; Neutral (N) - Black; Earth (PE) - Green.

Type 2. Live (L) - Red; Neutral (N) - Black; Earth (PE) - Blue.

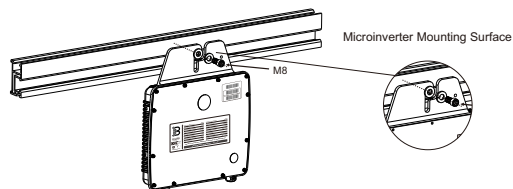
Type 3. Live (L) - Brown; Neutral (N) - Blue; Earth (PE) - Yellow Green.

Type 4. Live (L) - Black; Neutral (N) - Blue; Earth (PE) - Yellow Green.

NOTE: There is an earth wire in the AC cable, which can be directly ground. We offer optional grounding brackets for areas with special requirements that can be used to complete external grounding. The earth wire can be connected to an AC ground according to local regulations by the ground bracket of each microinverter.



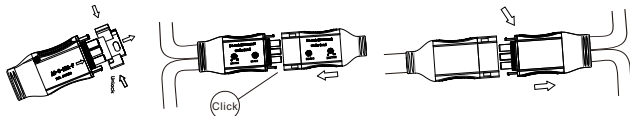
STEP 4: Install the BENY microinverter on the bracket



NOTE:

- During installation, ensure that the microinverter shell in normal use is not exposed to direct sunlight.
- During fixation, the surface of the metal support should be closely fitted to the installation surface of the microinverter and the contact area should be maximized to ensure the thermal conductivity effect.
- Always ensure that the air flow around the microinverter is not blocked, and maintain a height of as much as possible greater than 30mm from the obstacle plane (roof, ground, etc.).

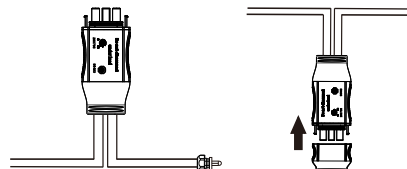
STEP 5: Tightly connect the AC port of the BENY microinverter with the AC bus connector



NOTE: When removing the AC link cable, use the bus removal tool.

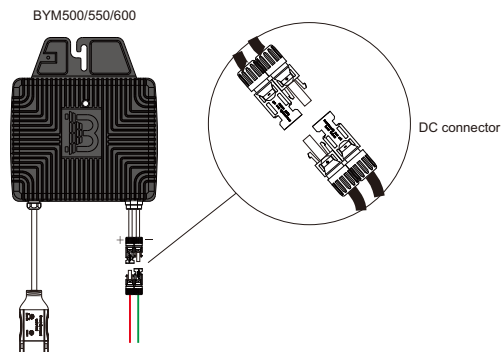
Wiring colors vary by region, and the microinverter checks all wires installed before connecting to the AC bus to make sure they match. Wrong wiring can damage the microinverter, issues like this are not covered under warranty.

STEP 6: Install the waterproof protective cover on the end of the AC bus and the unused female connector (skip if not)



STEP 7: Connect the solar modules

Connect each BYM500/550/600 to the PV modules.

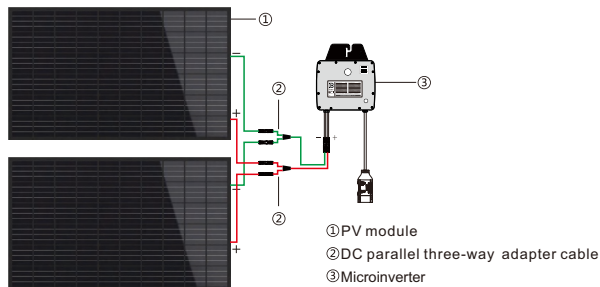


NOTE : If two photovoltaic modules need to be connected in parallel, the specifications of the parallel modules must be met :

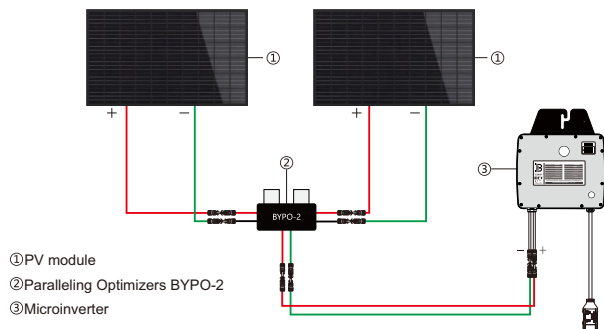
1. (STC) (300~450 Wp) x 2 ,72~75-cell/144~150-sub-cell
2. (NMOT) $V_{mp} \geq 34V$ and $I_{mp} \leq 12A$

And connection method is as following:

a.Applications for parallel adapter cable :



b.Application of Paralleling Optimizer :



STEP 8: Complete the installation diagram of BENY microinverter system

The installation diagram of micro inverter system refers to the schematic diagram of the physical location of each microinverter in the solar system. Customers can use the blank diagram in the appendix of this manual to record the installation position of the microinverter in their own system, or they can draw the system installation diagram yourself.

- Each Beny microinverter has two removable serial number labels located on the case.
- Tear off one of the serial number labels and stick it to the corresponding position on the beny system installation diagram, and peel off the other serial number label and stick it on the frame of the solar module for easy viewing.
- You can scan the label with your mobile phone to complete the addition and configuration of the microinverter in the BENY microinverter APP.



STEP 9: Get Started

To operate the BENY microinverter PV system:

1. Close the AC main circuit breaker connecting the microinverter system.
2. Close the on-grid main circuit breaker, and the system will generate electricity in about 1 minute.

STEP 10: Download BENY Microinverter monitoring APP to check the working status of the microinverters.

1. Please search for "BYM Cloud" in the Apple App Store (IOS) or Google Store (Android), or scan the following QR code to download Beny Microinverter monitoring APP.



2. Log in your account, and add the microinverter and EMU devices. Then you can view working status of the microinverters. If you are a new Beny customer, please apply for an account with your distributor. If the communication mode of microinverter is Wi-Fi, you need to complete the network configuration operation of microinverter through APP. For details on how to use APP , to add devices , and to configure Wi-Fi , please refer to the BYM Cloud Software Operation Instructions file.



WARNING

Pay attention to the AC cable length on the Microinverter, if the distance between the two Microinverter is longer than the AC cable, use an AC extension cable.