

EQ3 Series PV Microinverter

Product Instruction Manual ATC/IEQ32430

1 Preface

Thank you for purchasing and using the EQ3 series PV microinverter independently developed and produced by HCFA Technology Co, Ltd.

EQ3 series PV microinverter includes the functions of traditional inverters and supports maximum power point tracking (MPPT) for individual PV modules so that when a PV module is faulty or blocked, its impact will be limited to a certain module, which improves the overall power generation efficiency. EQ3 series PV microinverter is equipped with real-time detection of the current, voltage, and power of each PV module and transmits these data to the cloud server via WiFi-2 4G wireless transmission to facilitate users and operators to understand the real-time system operation status.

This manual will give a brief description of the microinverters in the table:

Name	EQ3 series model	Power	Output	Version
EQ3 Series PV microinverter	EQ3-350-1S	350W	Single-channel AC output - T- bus connection	V3.0
	EQ3-350-1D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-400-1S	400W	Single-channel AC output - T- bus connection	
	EQ3-400-1D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-450-1S	450W	Single-channel AC output - T- bus connection	
	EQ3-450-1D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-500-1S	500W	Single-channel AC output - T- bus connection	
	EQ3-500-1D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-700-2S	700W	Single-channel AC output - T- bus connection	
	EQ3-700-2D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-800-2S	800W	Single-channel AC output - T- bus connection	
	EQ3-800-2D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-900-2S	900W	Single-channel AC output - T- bus connection	
	EQ3-900-2D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-1000-2S	1000W	Single-channel AC output - T- bus connection	
	EQ3-1000-2D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-1400-4S	1400W	Single-channel AC output - T- bus connection	
	EQ3-1400-4D		Dual-channel AC output - hand-in-hand bus connection	
	EQ3-1600-4S	1600W	Single-channel AC output - T- bus connection	
	EQ3-1600-4D		Dual-channel AC output - hand-in-hand bus connection	
EQ3-1800-4S	1800W	Single-channel AC output - T- bus connection		
EQ3-1800-4D		Dual-channel AC output - hand-in-hand bus connection		
EQ3-2000-4S	2000W	Single-channel AC output - T- bus connection		
EQ3-2000-4D		Dual-channel AC output - hand-in-hand bus connection		

Intended audience

Users of HCFA EQ3 series PV microinverters can use this manual for wiring, installation, diagnostics, and maintenance. This manual is intended for the following personnel who must have knowledge of electrical systems (an electrical engineer or equivalent).


This manual contains the necessary information for the use of the HCFA EQ3 series PV microinverters, please read it carefully before using or operating the product with full attention to safety.


1.1 Safety instructions


1.1.1 Safety Symbols

When using these products, please strictly follow the safety instructions.

In this manual, the following safety instructions must be observed.

DANGER 	Indicates a potentially hazardous situation including minor or moderate injury which, if not avoided, may result in death or serious injury. Additionally, there may be severe property damage.
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WARNING 	Indicates a potentially hazardous situation including minor or moderate injury which, if not avoided, may result in property damage.
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CAUTION 	Indicates a potentially hazardous situation which, if not avoided, may result in minor injury, or property damage.
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NOTE	Indicates a potentially hazardous situation which, if not avoided, may result in the environment/equipment damage or data loss.
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➤ **Note: Key points or descriptions for helping users to better operate or understand products.**

1.1.2 Safety precautions

STARTUP AND MAINTENANCE PRECAUTIONS	DANGER 
<ul style="list-style-type: none"> <input type="checkbox"/> Do not disconnect the PV module from the inverter without disconnecting the AC power supply first. <input type="checkbox"/> The inverter can only input/access one PV module per channel and does not connect batteries or other power sources. <input type="checkbox"/> Do not touch the AC cable, otherwise, it may cause injury or death. 	


STARTUP AND MAINTENANCE PRECAUTIONS	DANGER 
<ul style="list-style-type: none"> <input type="checkbox"/> Please do not disassemble or modify the equipment. Otherwise, it may cause, malfunction, misoperation, and fires. * For equipment maintenance, please consult Hechuan Technology Co., Ltd. <input type="checkbox"/> Please turn off the power supply before plugging out the cable from the expansion device. Otherwise, it may cause equipment malfunction or misoperation. <input type="checkbox"/> Only qualified personnel can be authorized to install/replace the equipment. Electrical installation and maintenance should comply with local wiring practices. <input type="checkbox"/> During use, this equipment may emit radio frequency energy and, if not handled properly, it may cause harmful interference to radio communications. 	


DISPOSAL PRECAUTIONS	CAUTION 
<p><input type="checkbox"/> The batteries, modules, and other components contained in the device may cause environmental pollution, please dispose of them according to the laws and regulations specified by each region.</p>	


TRANSPORT AND STORAGE PRECAUTIONS	CAUTION 
<p><input type="checkbox"/> As the equipment belongs to precision equipment, please avoid subjecting it to intense moisture, impact, and vibration during transportation. Otherwise, it may cause equipment malfunction. After transportation, please confirm the operation of the equipment.</p>	


1.1.3 Explanation of markings


	<p>CE marking Verify that the device complies with the EU low voltage directive.</p>
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	<p>Refer to the instruction manual or installation sheet before installation and use.</p>
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	<p>High voltage hazard The high voltage in the microinverter can pose a danger to people's lives.</p>
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	<p>Caution Keep away from any operating equipment for more than 8 ft. (20 cm).</p>
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	<p>High temperature on surfaces Do not touch surfaces as the inverter heats up during operation.</p>
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	<p>Waste disposal A marking symbol from the Waste Electrical and Electronic Equipment Directive (2002/96/EC). Indicates that the equipment, accessories, and packaging must not be disposed of as unsorted municipal waste and must be collected separately on completion of use.</p>
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2 Product overview

2.1 Function introduction

A PV microinverter is a solar inverter that can realize the function of MPPT (Maximum Power Point Tracking) for a single PV module with high reliability and stability in practical applications. When a PV module is faulty or blocked, its impact will only be limited to the scope of a single module and will not affect other modules.

The grid-connected PV inverter system consists of a PV module, a PV microinverter, an electric meter, and a grid. The PV microinverter converts the DC power generated by the PV module into AC power that meets the requirements of the grid, and the AC power is then transmitted to the grid through the electric meter. The PV microinverter itself has a wireless communication module, which can transmit the real-time data of current, voltage, and power from each PV module to the cloud server via WiFi-2.4G so that users can access the cloud platform to obtain the operation information of monitored equipment.

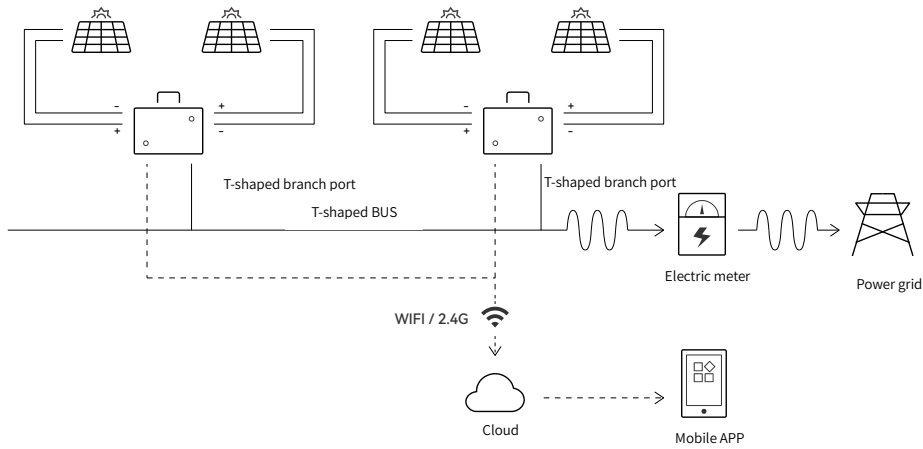


Figure 1 EQ3-□□□-2S Inverter system connection diagram

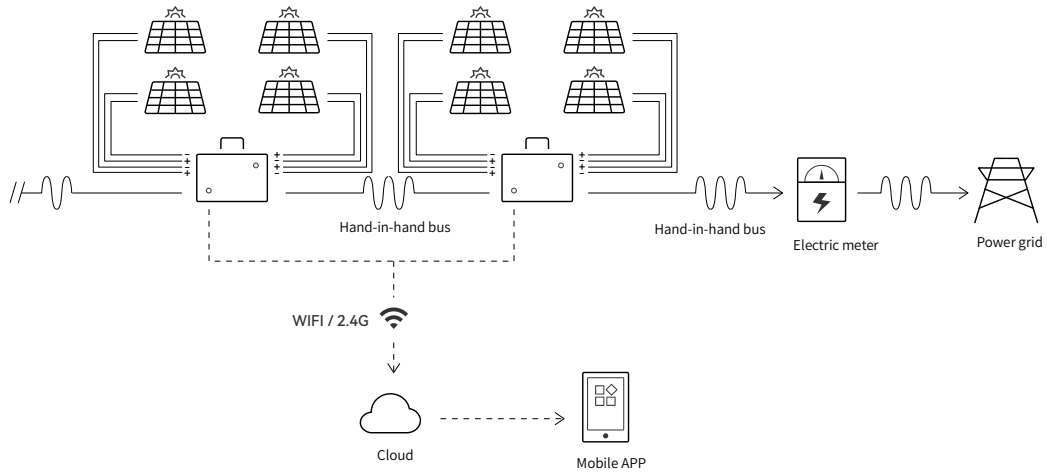


Figure 2 EQ3-□□□-4D Inverter system connection diagram

2.2 Model number notation

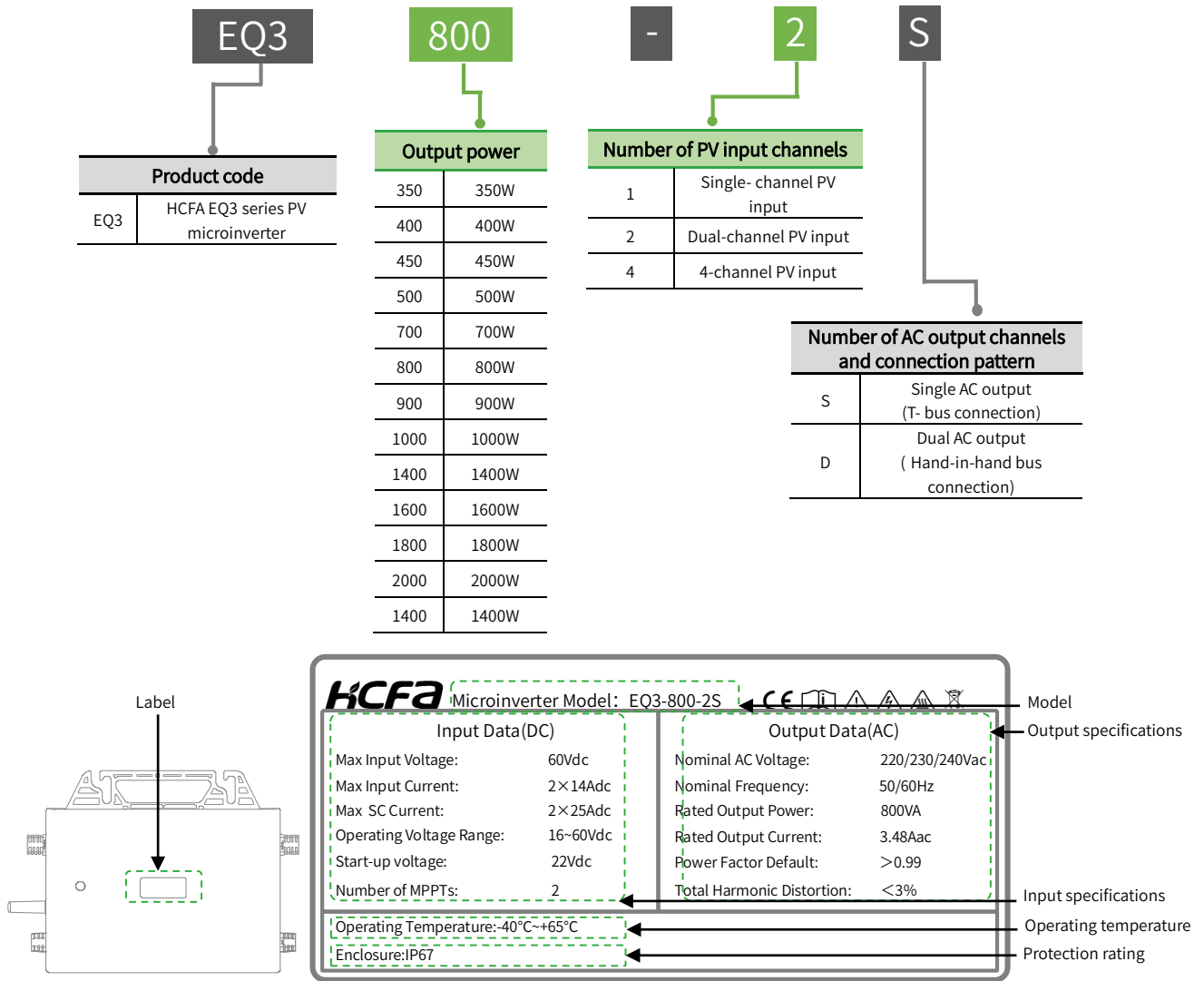


Figure 3 Model and label descriptions

Item	Description
Label	Describes model number, power, and other basic product information
Model	Indicates model number
Input specifications	Indicate input specifications
	Max Input Voltage Operating Voltage Range
	Max Input Current Start-up voltage
Output specifications	Indicate output specifications
	Nominal AC Voltage Rated Output Current
	Nominal Frequency Power Factor Default
Operating temperature	Indicates the operating temperature range
Enclosure	Indicates the protection rating of enclosure

2.3 EQ3-350/400/450/500-1D/1S Part names

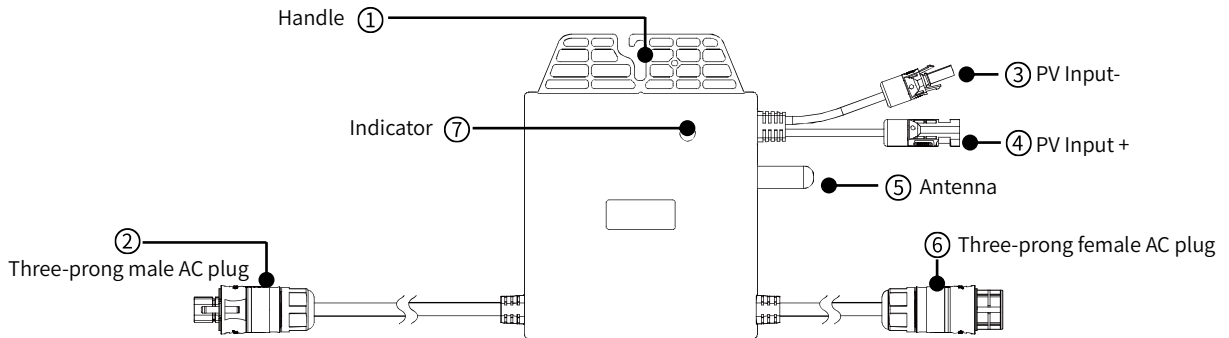


Figure 4 EQ3-□□□-1D Inverter front-view diagram

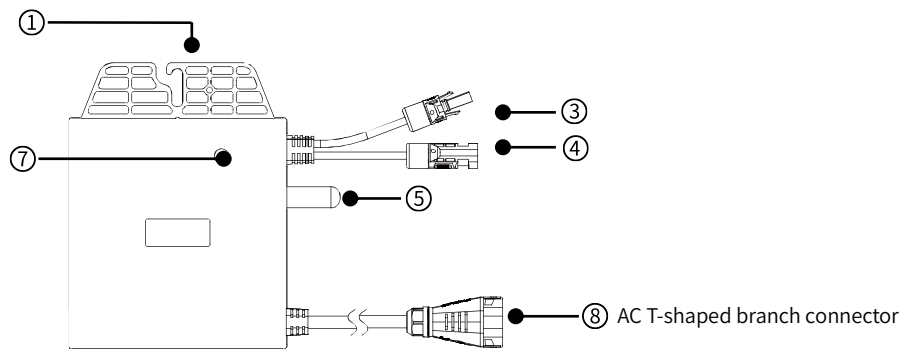


Figure 5 EQ3-□□□-1S Inverter front-view diagram

Table 1 Front view description

No.	Name		Function
(1)	Handle		Handle
(2)	Three-prong male AC plug		Connects to other female connectors of the PV microinverter or grid
(3)	+PV-	PV Input -	Inputs the negative polarity where the PV module generates DC power
(4)		PV Input +	Inputs the positive polarity where the PV module generates DC power
(5)	Antenna		2.4G antenna, connects with 2.4G routing for cloud platform data exchange
(6)	Three-prong female AC plug		Connects to other male connectors of the PV microinverter or grid
(7)	Indicator		Indicates microinverter operating status
(8)	AC T-shaped branch connector		Connects to the grid

2.4 EQ3-700/800/900/1000-2D/2S Part names

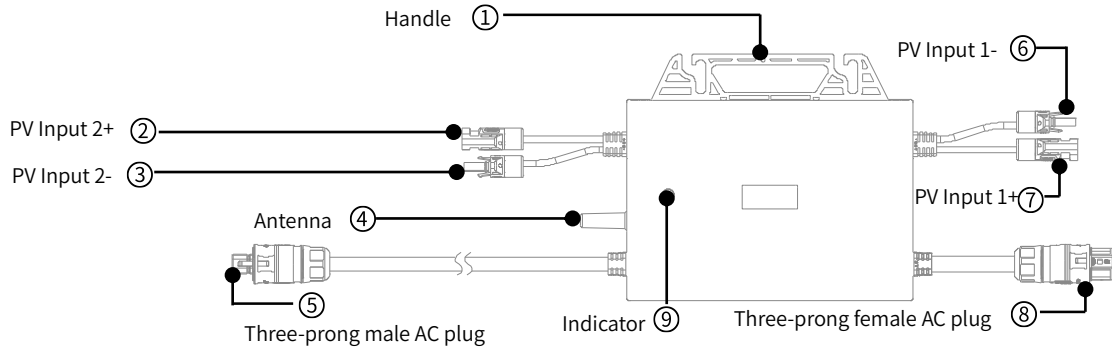


Figure 6 EQ3-□□□-2D Inverter front-view diagram

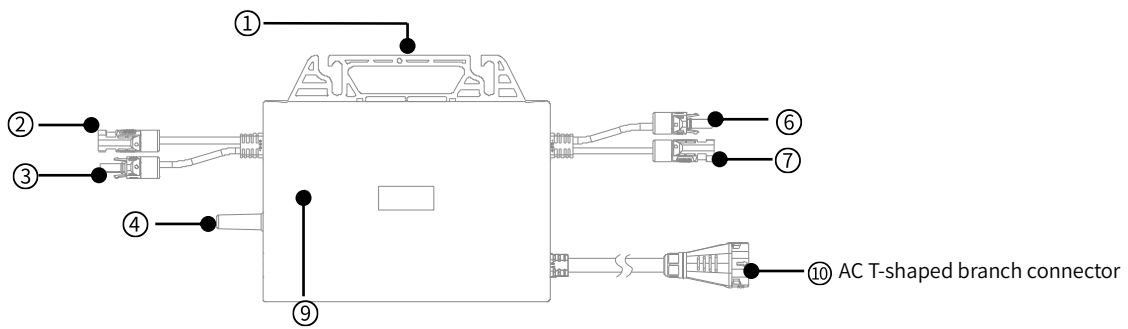


Figure 7 EQ3-□□□-2S Inverter front-view diagram

Table 2 Front view description

No.	Name		Function
(1)	Handle		Handle
(2)	+PV2-	PV Input 2+	Inputs the positive polarity where the PV module 2 generates DC power
(3)		PV Input 2-	Inputs the negative polarity where the PV module 2 generates DC power
(4)	Antenna		2.4G antenna, connects with 2.4G routing for cloud platform data exchange
(5)	Three-prong male AC plug		Connects to other female connectors of the PV microinverter or grid
(6)	+PV1-	PV Input 1-	Inputs the negative polarity where the PV module 1 generates DC power
(7)		PV Input 1+	Inputs the positive polarity where the PV module 1 generates DC power
(8)	Three-prong female AC plug		Connects to other male connectors of the PV microinverter or grid
(9)	Indicator		Indicates microinverter operating status
(10)	AC T-shaped branch connector		Connects to the grid

2.5 EQ3-1400/1600/1800/2000-4D/4S Part name

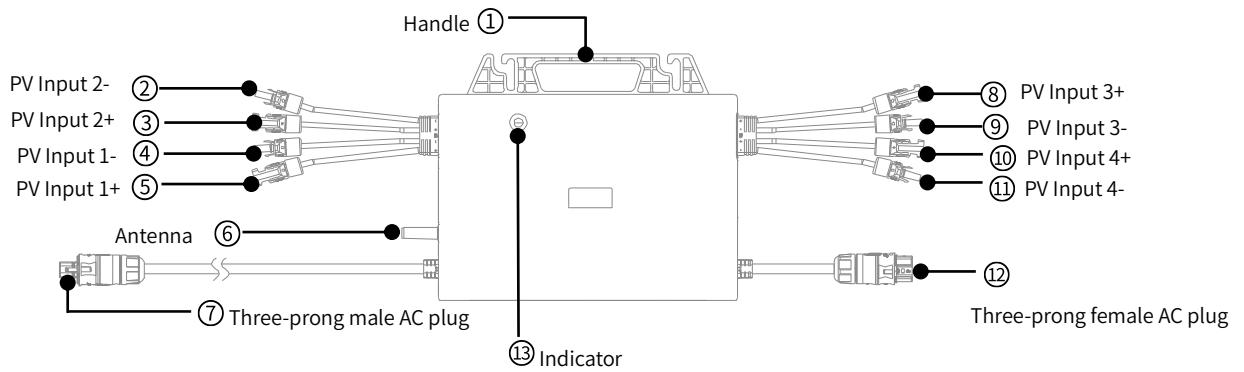


Figure 8 EQ3-□□□□-4D Inverter front-view diagram

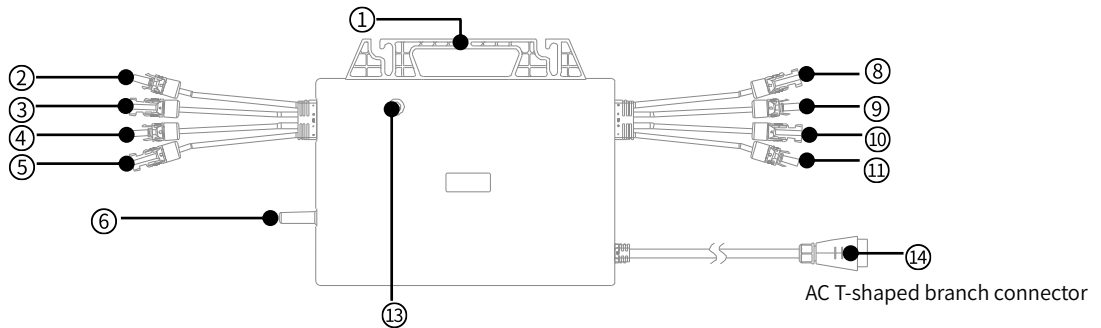


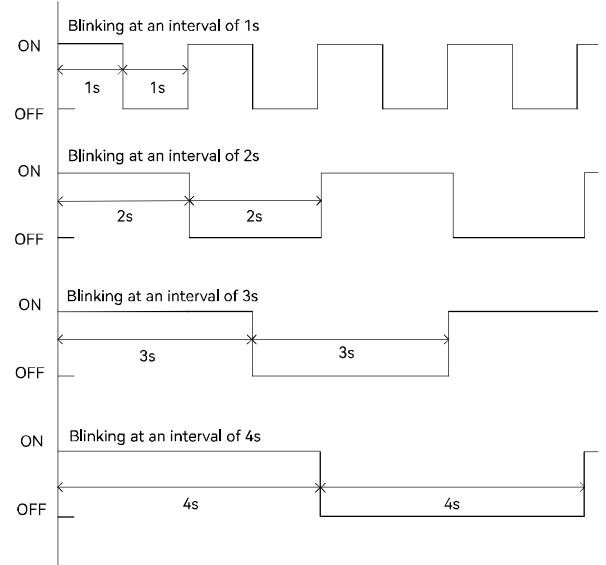
Figure 9 EQ3-□□□□-4S Inverter front-view diagram

Table 3 Front view description

No.	Name		Function
(1)	Handle		Provides a place for the user to pick up and mount on the rail
(2)	+PV2-	PV Input 2-	Inputs the negative polarity where the PV module 2 generates DC power
(3)		PV Input 2+	Inputs the positive polarity where the PV module 2 generates DC power
(4)	+PV1-	PV Input 1-	Inputs the negative polarity where the PV module 1 generates DC power
(5)		PV Input 1+	Inputs the positive polarity where the PV module 1 generates DC power
(6)	Antenna		2.4G antenna, connects with 2.4G routing for cloud platform data exchange
(7)	Three-prong male AC plug		Connects to other female connectors of the PV microinverter or grid
(8)	+PV3-	Input 3 positive polarity	Inputs the positive polarity where the PV module 3 generates DC power
(9)		Input 3 negative polarity	Inputs the negative polarity where the PV module 3 generates DC power
(10)	+PV4-	Input 4 positive polarity	Inputs the positive polarity where the PV module 4 generates DC power
(11)		Input 4 negative polarity	Inputs the negative polarity where the PV module 4 generates DC power
(12)	Three-prong female AC plug		Connects to other male connectors of the PV microinverter or grid
(13)	Indicator		Indicates microinverter operating status
(14)	AC T-shaped branch connector		Connects to the grid

2.6 Indicator description

Color	Status	Operating status
Green/Red	Red & green indicator blinks alternately 5 times in one second	Waits for grid connection
Green	Blinking at an interval of 1s	One input channel is connected to the grid and generates electricity normally. Three input channels are abnormal.
	Blinking at an interval of 2s	Two input channels are connected to the grid and generate electricity normally. Two input channels are abnormal.
	Blinking at an interval of 3s	Three input channels are connected to the grid and generate electricity normally. One input channel is abnormal
	Blinking at an interval of 4s	All PV channels are connected to the grid and generate electricity normally. All input channels are normal.
	Steady lit	Remote update is in progress
Red	Blinking at an interval of 1s	A PV-type error exists
	Blinking at an interval of 2s	A PV-type error exists
	Blinking at an interval of 3s	A ground impedance error exists
	Steady lit	A hardware error exists



- **※Note:** The microinverter is powered by the DC side of the PV module, if the indicator light goes out after the connection is completed, please check whether the DC side connection is normal. For details, please refer to [4.3 Troubleshooting and maintenance](#).

2.7 Product dimensions

■ Product dimensions

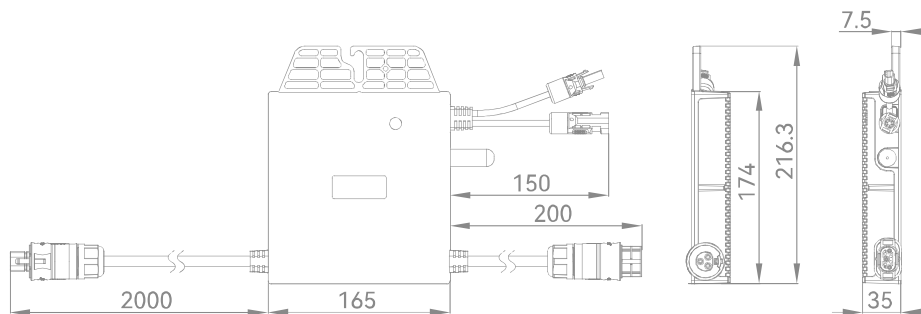


Figure 10 EQ3-□□□-1D Microinverter mounting dimensions (unit: mm)

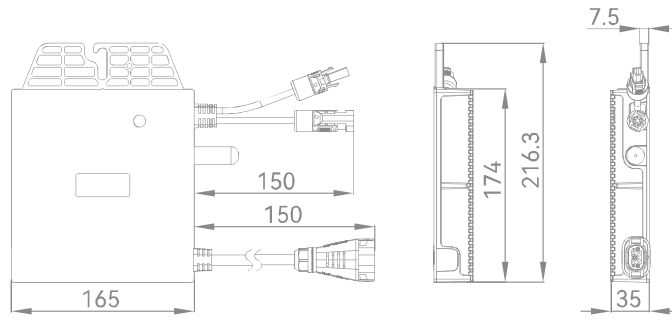


Figure 11 EQ3-□□□-1S Microinverter mounting dimensions (unit: mm)

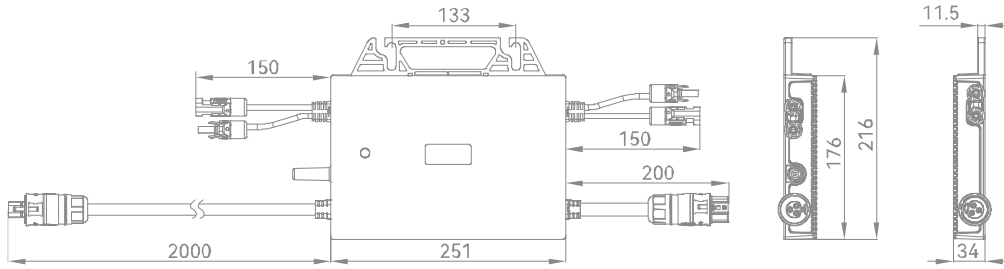


Figure 12 EQ3-□□□-2D Microinverter mounting dimensions (unit: mm)

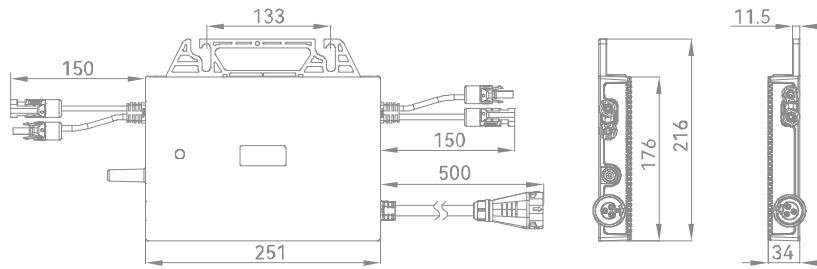


Figure 13 EQ3-□□□-2S Microinverter mounting dimensions (unit: mm)

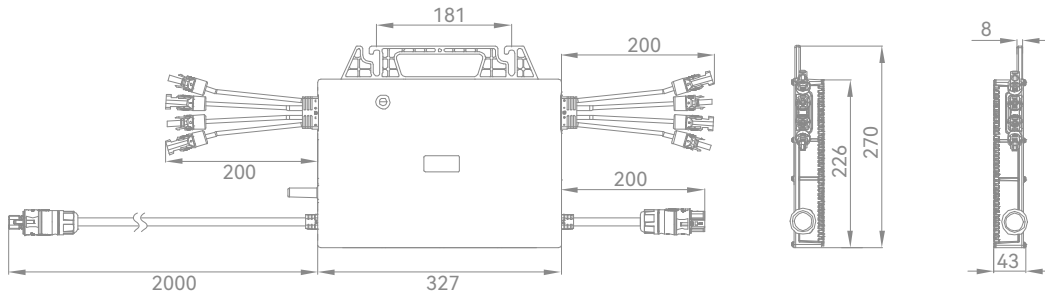


Figure 14 EQ3-□□□□-4D Microinverter mounting dimensions (unit: mm)

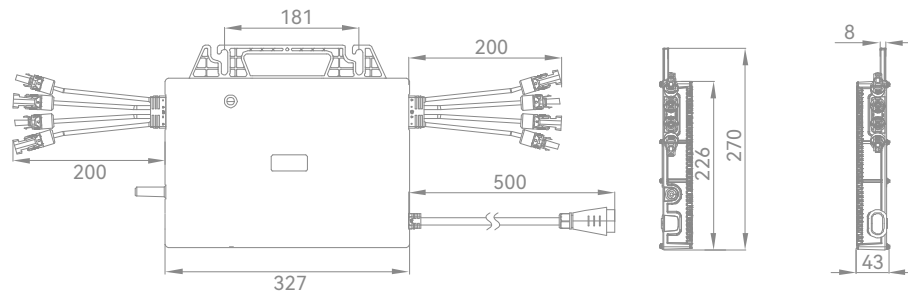


Figure 15 EQ3-□□□□-4S Microinverter mounting dimensions (unit: mm)

3 Parameter specifications

3.1 General specifications

Item	Specifications					
	EQ3-□□□-1S	EQ3-□□□-1D	EQ3-□□□-2S	EQ3-□□□-2D	EQ3-□□□□-4S	EQ3-□□□□-4D
Protection rating	IP67					
Heat dissipation	Natural cooling (no fan)					
Communication method	Built-in WIFI-2.4G					
Grid connection standards	EN50549 - 1:2019, VDE-AR-N 4105:2018, UTE C15-712-1_VFR 2019					
Monitoring platform	Solar of Things					
Isolation type	Inverter isolation					
Operating temperature range	-40°C ~ +65°C					
Storage temperature range	-40°C ~ +80°C					
Dimension (mm)	165 (W) *35 (D) *174 (H) (handle is not included)		251 (W) *34 (D) *176 (H) (handle is not included)		327 (W) *43 (D) *226 (H) (handle is not included)	
Weight (kg)	2	2.5	3	3.5	6	6.5
Warranty period (years)*	12					

※Note: Standard warranty is 12 years, with up to 25 years of extended warranty.

3.2 Input (DC) parameters

Item	EQ3-350-1S	EQ3-400-1S	EQ3-450-1S	EQ3-500-1S
	EQ3-350-1D	EQ3-400-1D	EQ3-450-1D	EQ3-500-1D
Commonly used PV module power (W)	280~470	320~540	360~600	400~670
MPPT voltage range (V)	16~60			
Start-up voltage (V)	22			
Maximum input voltage (V)	60			
Maximum input short-circuit current (A)	25			
Maximum input current (A)	1×13	1×14	1×15	1×16
Number of MPPT	1			
Item	EQ3-700-2S	EQ3-800-2S	EQ3-900-2S	EQ3-1000-2S
	EQ3-700-2D	EQ3-800-2D	EQ3-900-2D	EQ3-1000-2D
Commonly used PV module power (W)	280~470+	320~540+	360~600+	400~670+
MPPT voltage range (V)	16~60			
Start-up voltage (V)	22			
Maximum input voltage (V)	60			
Maximum input short-circuit current (A)	2×25			
Maximum input current (A)	2×13	2×14	2×15	2×16
Number of MPPT	2			
Item	EQ3-1400-4S	EQ3-1600-4S	EQ3-1800-4S	EQ3-2000-4S
	EQ3-1400-4D	EQ3-1600-4D	EQ3-1800-4D	EQ3-2000-4D

Commonly used PV module power (W)	280~470+	320~540+	360~600+	400~670+
MPPT voltage range (V)	16~60			
Start-up voltage (V)	22			
Maximum input voltage (V)	60			
Maximum input short-circuit current (A)	4×25			
Maximum input current (A)	4×13	4×13	4×13	4×13
Number of MPPT	4			

3.3 Output (AC) parameters

Item	EQ3-350-1S EQ3-350-1D	EQ3-400-1S EQ3-400-1D	EQ3-450-1S EQ3-450-1D	EQ3-500-1S EQ3-500-1D
Rated output power (VA)	350	400	450	500
Rated output current (A)	1.59/1.52/1.46	1.82/1.74/1.67	2.05/1.96/1.88	2.27/2.17/2.08
Nominal AC voltage/range (V) ^{1*}	L+N+PE, 220/230/240, 180~275			
Nominal AC frequency/range (Hz) ^{1*}	50/45~55, 60/55~65			
Power factor	>0.99 (default) 0.8 leading······ 0.8 lagging			
Total harmonic distortion	<3%			
The maximum number of microinverters that can be connected to the 10AWG bus ^{2*}	26	22	20	18
The maximum number of microinverters that can be connected to the 12AWG bus ^{2*}	18	16	14	12
Item	EQ3-700-2S EQ3-700-2D	EQ3-800-2S EQ3-800-2D	EQ3-900-2S EQ3-900-2D	EQ3-1000-2S EQ3-1000-2D
Rated output power (VA)	700	800	900	1000
Rated output current (A)	3.18/3.04/2.92	3.64/3.48/3.33	4.09/3.91/3.75	4.55/4.35/4.17
Nominal AC voltage/range (V) ^{1*}	L+N+PE, 220/230/240, 180~275			
Nominal AC frequency/range (Hz) ^{1*}	50/45~55, 60/55~65			
Power factor	>0.99 (default) 0.8 leading······ 0.8 lagging			
Total harmonic distortion	<3%			
The maximum number of microinverters that can be connected to the 10AWG bus ^{2*}	13	11	10	9
The maximum number of microinverters that can be connected to the 12AWG bus ^{2*}	9	8	7	6
Item	EQ3-1400-4S EQ3-1400-4D	EQ3-1600-4S EQ3-1600-4D	EQ3-1800-4S EQ3-1800-4D	EQ3-2000-4S EQ3-2000-4D
Rated output power (VA)	1400	1600	1800	2000
Rated output current (A)	6.36/6.08/5.83	7.27/6.96/6.67	8.18/7.83/7.5	9.09/8.70/8.33
Nominal AC voltage/range (V) ^{1*}	LN-PE, 220/230/240 V, 180~275			
Nominal AC frequency/range (Hz) ^{1*}	50/45~55, 60/55~65			
Power factor	>0.99 (default) 0.8 leading······ 0.8 lagging			
Total harmonic distortion	<3%			
The maximum number of microinverters that can be connected to the 10AWG bus ^{2*}	4	4	4	3
The maximum number of microinverters that can be connected to the 12AWG bus ^{2*}	2	2	2	2

- ※Note: 1. Nominal voltage/frequency range can vary according to local requirements.
2. AC dual-ended hand-in-hand output cable is 12AWG by default; AC single-ended output T- bus can choose 10AWG or 12AWG.

3.4 Efficiency

Item	EQ3-350-1S EQ3-350-1D	EQ3-400-1S EQ3-400-1D	EQ3-450-1S EQ3-450-1D	EQ3-500-1S EQ3-500-1D
Maximum Efficiency	96.5%			
Nominal MPPT efficiency	99.8%			
Night power consumption (mW)	≤50			
Item	EQ3-700-2S EQ3-700-2D	EQ3-800-2S EQ3-800-2D	EQ3-900-2S EQ3-900-2D	EQ3-1000-2S EQ3-1000-2D
Maximum Efficiency	96.5%			
Nominal MPPT efficiency	99.8%			
Night power consumption (mW)	≤50			
Item	EQ3-1400-4S EQ3-1400-4D	EQ3-1600-4S EQ3-1600-4D	EQ3-1800-4S EQ3-1800-4D	EQ3-2000-4S EQ3-2000-4D
Maximum Efficiency	96.5%			
Nominal MPPT efficiency	99.8%			
Night power consumption (mW)	≤50			

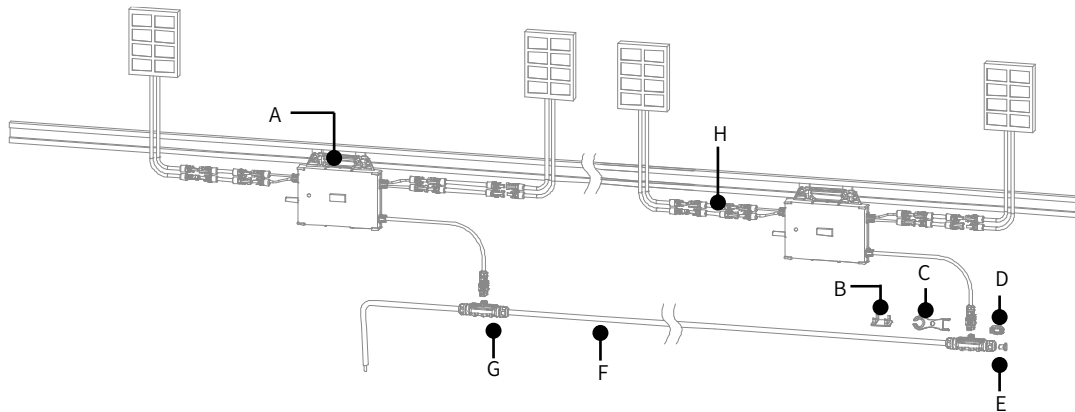
4 Installation instructions

4.1 Installation instructions

4.1.1 Microinverter installation and accessories

Please install the microinverter and all DC connections under the PV module to avoid direct sunlight, rain, snow, and UV. Allow at least 2 cm of clearance around the microinverter housing to ensure effective ventilation and heat dissipation. The PV microinverter module should be connected to the DC input port of the microinverter. Use a DC extension cable when the length of the original cable is not long enough. The typical wiring method is shown in the figure below.

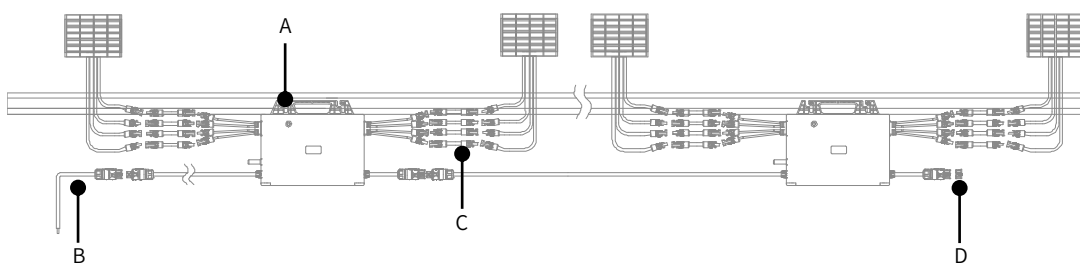
Single-ended output-T-bus installation and accessories:



Item	Accessory	Detailed name	Description
A	M8 screws	M8 screws	Provided by installers
B	T bus tool	T-bus main trunk connector unlock tool	Removes the top cover of an AC T-bus connector to facilitate cable assembly, removal, or replacement
C	T40M spanner	T-bus connector spanner	Cuts the connection between the microinverter and the AC T-bus connector
D	T40M cap	T-bus main trunk connector cap	Protects the unused branch connection interface of the AC T-bus connector
E	T40M plug	T-bus main trunk connector choke plug	Protects the unused bus connection interface of the AC bus connector at the end of the AC branch circuit.
F	T bus cable	T-bus cable	12/10 AWG wire gauge cable is optional.
G	T40M	T-bus main trunk connector	Connects the AC output of the microinverter with the AC T-bus.
H	PV cable	1m DC extension cable	Extends the PV cable of the PV module to connect to the microinverter

➤ **※Note: All the above accessories are not included in the product package and need to be purchased separately.**

Dual-ended output-Hand-in-hand bus installation and accessories:



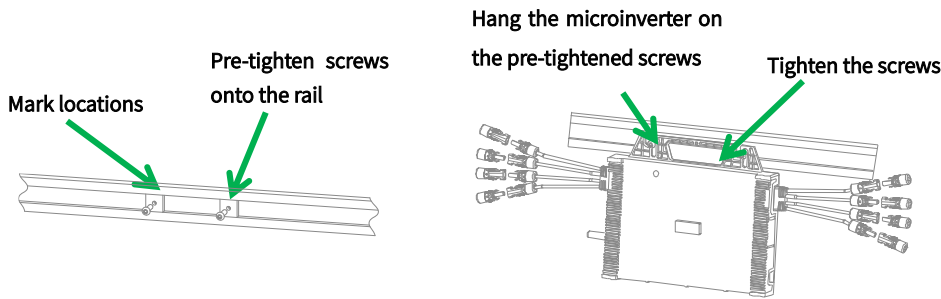
Item	Accessory	Detailed name	Description
A	M8 screws	M8 screws	Provided by the installer
B	H25F cable	AC hand-in-hand bus female connector and 2m cable	Connects the AC hand-in-hand bus male connector to the power grid 2m extension cable
C	PV cable	1m DC extension cable	Extends the PV cable of the PV module to connect to the microinverter.
D	H25F cap	AC hand-in-hand bus female connector cap	Protects the unused hand-in-hand bus female connector port at the AC end.

➤ **※Note: All the above accessories are not included in the product package and need to be purchased separately.**

4.1.2 Rail mounting and dismounting

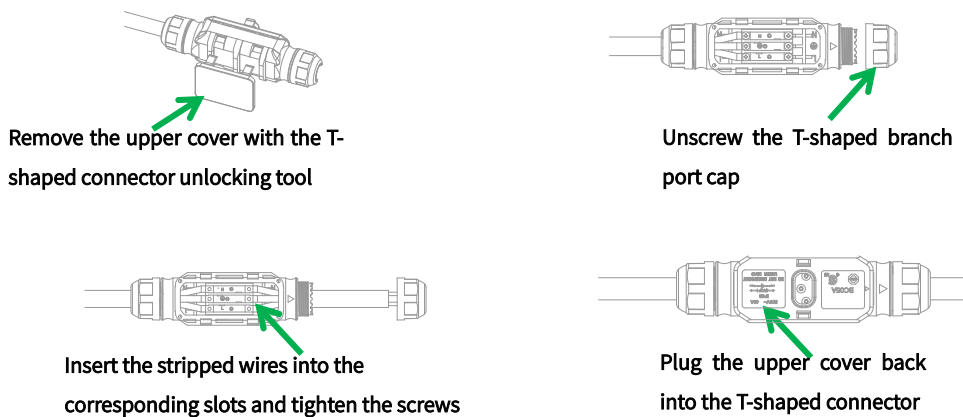
Mounting: Mark the locations of each microinverter on the rails according to the layout of the PV modules. First pre-tighten screws so that they are secured onto the rail. Next, hang the microinverter on the screws with its silver cover side facing the panel. Finally, tighten the screws to complete the mounting (the torque for M8 screws should be 9 N-m).

Dismounting: The microinverter can be removed from the rail by unscrewing the screws.

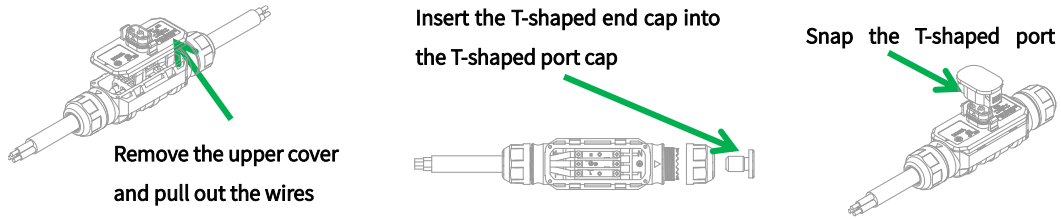


4.1.3 Cable connecting and disconnecting

Connecting: Remove the upper cover with the T-shaped connector unlocking tool first, then unscrew the T-shaped branch port cap. Insert the live wire (L), naught wire (N), and ground wire (G) into the corresponding slots, tighten the screws, and then screw the T-shaped branch port cap. Finally, plug the upper cover back into the T-shaped connector.

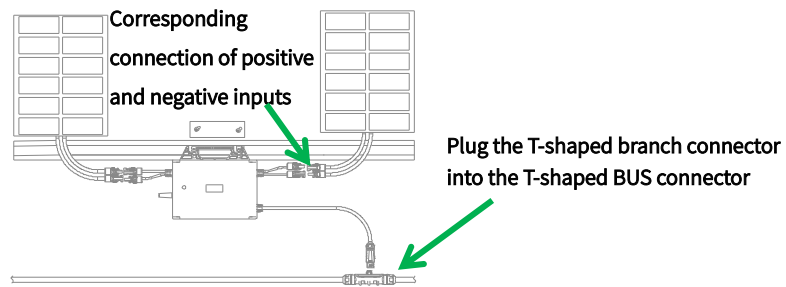


Disconnecting: Remove the upper cover with the T-shaped connector unlocking tool first, then loosen the three screws with a screwdriver. Unscrew the T-shaped port cap to pull out the wires. Insert the T-shaped end cap into the T-shaped port cap and then screw the T-shaped port cap back into the port. Finally, plug the upper cover back into the T-shaped connector and snap the T-shaped port cap.

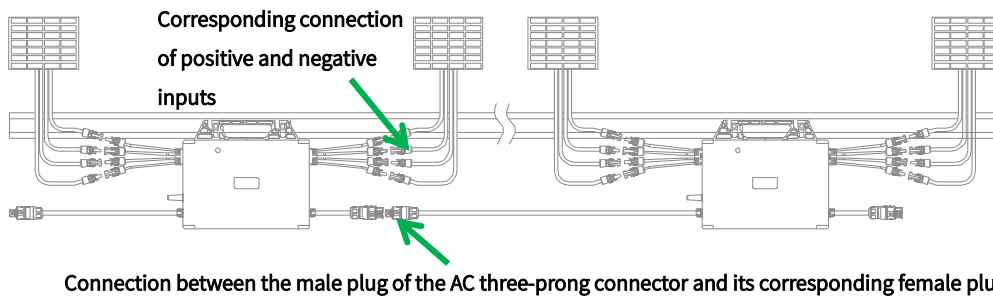


4.1.4 Microinverter connecting and disconnecting

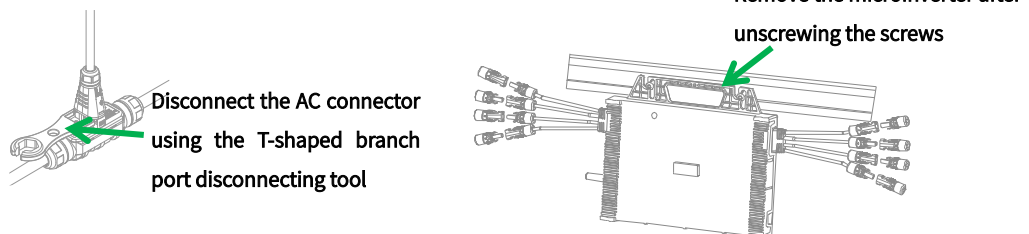
Connecting: Connect the positive output connection of the PV module to the positive input port of the microinverter and the negative output connection of the module to the negative input port of the microinverter. Plug the T-shaped branch connector into the T-shaped BUS connector until it clicks.



The three-prong male/female AC plug of the dual-channel AC output microinverters can be connected to other dual-channel AC output microinverters or connected to a grid by installing the T-shaped branch connector.



Disconnecting: Disconnect the power of the AC side circuit breaker and use a clamp meter to ensure that there is no residual current in the DC cable between the PV modules and the microinverter. Remove the DC positive and negative inputs after disconnect the AC connector using the T-shaped branch port disconnecting tool. Unscrew the screws with the PV microinverter on them and remove the microinverter from the rail of the PV rackmount.



4.2 Wiring instructions

4.2.1 Bus cable option

Item		Specifications
Installation method		Installation with screws
Cable type		Copper wires only (no aluminum cables)
Cable length		Based on the layout of the PV module
Wire diameter range	Multi-strand wires	2.59-3.3 mm ² /12-10 AWG

4.2.2 Port description

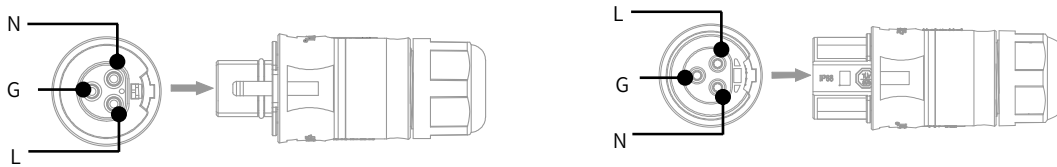


Figure12 EQ3-□□□-□D AC three-core (hand-in-hand connector) male (left)/female

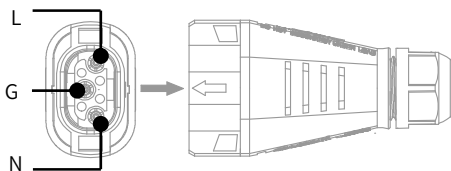


Figure 16 EQ3-□□□-□S AC T-shaped branch connector diagram


Name	Description
L	Red-Live wire
G	Yellow and green- Ground wire
N	Black-Naught wire

4.3 Troubleshooting and maintenance

4.3.1 Indicator abnormalities handling

If the indicator light is off, it may be because there is an abnormality in the connection of the DC side. If there is no abnormality in the connection and the input voltage, please contact the dealer or the technical personnel of HCFA Technology Co, Ltd. All faults of the equipment during startup will be uploaded to the cloud platform in a timely manner, and users can check the user manual of the communication monitoring platform for detailed information.

4.3.2 On-site inspection


	<p>Do not repair the microinverter without authorization. If the problem cannot be solved, please return it to the factory for repair or replacement.</p> <p>This section is only for qualified installation personnel to troubleshoot a malfunctioning microinverter according to the following steps.</p>
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Troubleshoot a malfunctioning microinverter according to the following steps:

- (1) Check whether the voltage and frequency of the power grid are within the specified range.
- (2) Check the connections of the microinverter, connect input to the PV module and output to the grid. If a disconnection is required when the device is running, disconnect the grid AC first and then disconnect the PV modules.

- (3) Check the interconnection between the microinverters of the output bus to ensure that the output of each microinverter is connected to the public grid.
- (4) Ensure that the PV module DC voltage is within the range specified in this manual.
- (5) Check the DC connection between the microinverter and the PV module.
- (6) Ensure that all AC circuit breakers are functional and properly closed.
- (7) After the PV module is reconnected to the microinverter, check the status of the indicator. If the indicator is red and blinking, it means that the wiring on the PV side is normal, otherwise the input is abnormal. Then connect the output to the grid, and observe the indicator. If the indicator alternately blinks red and green and then gradually changes to green, then it means that the output connection and the grid connection are normal.
- (8) If the problem still exists, contact technical support.

4.3.3 Routine maintenance

	<p>If the microinverter malfunctions, do not attempt to disassemble or repair it without authorization. Please consult a professional to diagnose the issue. If the problem cannot be resolved, please contact the after-sales personnel to arrange for a return to the factory for replacement.</p>
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	<p>If any abnormalities occur while using the product, please disconnect the microinverter from the PV module and the power grid immediately to prevent damage. After consulting professional personnel to troubleshoot the issue, power up and use the product again.</p>
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➤ **※Note: This section is only for qualified installation personnel to troubleshoot a malfunctioning microinverter according to the following steps.○**

Troubleshoot a malfunctioning microinverter according to the following steps:

- (1) Clean the surface of the PV module to ensure that there is no dust, leaves and other debris.
- (2) Check cable connections to ensure they are firmly connected.
- (3) Check the grounding system to ensure it is well grounded.
- (4) Check the operation status of the indicator and refer to [4.3.1 Indicator abnormalities handling](#) if any abnormality is found.
- (5) Check the network configuration to ensure that the operation data is properly displayed by the monitoring platform.