ENPHASE

ENGLISH

IQ9N Microinverter with integrated MC4 connectors

Quick install guide



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MODEL
IQ9N-A-US
IQ9N-A-DOM-US

VERSION 2.0
DECEMBER 2025

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1. Introduction

To install IQ9N Microinverters, read and follow all warnings and instructions in this guide and in the *IQ9N Microinverter installation and operation manual* at https://enphase.com/installers/resources/documentation. See section 8, Safety and installation on page 9, for safety warnings.

Scan the QR code or go to http://link.enphase.com/iq9n-mc4-connectors-en-us to access the *IQ9N Microinverter with integrated MC4 connectors quick install guide* in other languages. Contact https://enphase.com/contact/support if you have any questions or need the digital copy of this quick install guide.

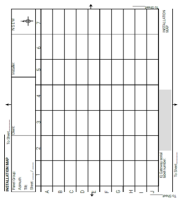
Manufacturer: Enphase Energy Inc., 47281 Bayside Pkwy. Fremont, CA, 94538, United States of America, PH: +1 (707) 763-4784.

2. What's in the box

IQ9N-A-US x 18 microinverters
IQ9N-A-DOM-US x 18 microinverters



Quick install guide × 1



Installation map × 1

NOTE: IQ9N-A-DOM-US has the PCBA, electrical parts, and enclosures manufactured domestically to meet the eligibility requirements for the ITC domestic content bonus adder and is applicable to be sold in USA.

3. Preparing for installation

1. Check the microinverter manufacturing date to ensure the installation date is within one year of the manufacturing date. The manufacturing date can be found using the serial number associated with the microinverter through the following format:

   Serial number format—LLYYWWNNNNNN
   LL—manufacturing location
   YY—year
   WW—work week
   NNNNNN—serial number

2. Check PV module compatibility[1] with our microinverter using our module compatibility calculator using the links or QR code.

US

Mexico

WARNING: You must match the DC operating voltage range of the PV module with the allowable input voltage range of the Enphase microinverter. Using an electrically incompatible PV module voids Enphase warranty.

3. IQ9N Microinverters require the IQ Cable and IQ accessories.

IMPORTANT: IQ9N Microinverters include AC and DC connectors integrated into the bulkhead. The AC port connects to the IQ Cable or the Enphase IQ Field Wireable Connector. UL has evaluated the DC port for intermateability with Stäubli MC4 connectors, whose cable coupler

[1] IQ9N Microinverter is compatible with bifacial PV modules if the temperature-adjusted electrical parameters (open circuit voltage (V_{OC}), short circuit current (I_{SC})) of the modules, considering the electrical parameters, including the bifacial gain, are within the allowable microinverter input parameters range. In evaluating the amount of bifacial gain, follow the recommendations of the module manufacturers.

models are **PV-KST4/...-UR, PV-KBT4/...-UR, PV-KBT4-EVO2/...-UR, and PV-KST4-EVO2/...-UR**. The DC port of the inverter must be mated with Stäubli MC4 connectors.

4. Enphase IQ9 Microinverters must be connected to an IQ Gateway or IQ Combiner to ensure functionality. The system software periodically verifies this connection, and if an IQ Gateway is not connected, the microinverters may stop functioning. Additionally, an IQ Gateway or IQ Combiner is required to manage, monitor, and control the system, and receive software updates.
5. The system's functionality may be impacted if the IQ Gateway or IQ Combiner is not installed on-site or remains disconnected from the internet or microinverters. A flashing orange LED on the microinverter may indicate a communication issue with the IQ Gateway.
6. The microinverter has a Class II double-insulated rating, which includes ground fault protection (GFP). To support GFP, use only PV modules equipped with DC cables labeled PV wire or PV cable. Refer to local electrical codes and standards for grounding requirements of the PV array and racking.
7. Check the compatibility when expanding an IQ7 or IQ8 system with IQ9N Microinverters:
   - IQ9N Microinverters can be added to the existing IQ8 or IQ7 systems on the same IQ Gateway/IQ Combiner only in the following configurations: (i) Solar Only or (ii) Solar Plus Battery (IQ Battery 3/10 or IQ Battery 3T/10T or IQ Battery 5P or IQ Battery 10C) grid-tied or with backup with IQ System Controller, IQ System Controller 2/3/3G/3M.
   - IQ7 Series Microinverters or IQ8 Series Microinverters cannot be added to a site with existing IQ9N Microinverters on the same gateway.
   - The Sunlight Jump Start feature is supported only in systems composed entirely of IQ8 Series Microinverters and IQ9N Microinverters. Systems that include IQ7 Series Microinverters—even if combined with IQ8 Series Microinverters or IQ9N Microinverters—do not support this function.
   - Refer to the Enphase Power Control web page to check the availability of power-control features across different system types with IQ9N Microinverters: https://enphase.com/installers/storage/power-control.
   - The combined maximum continuous power output of the IQ7 Series Microinverters, IQ8 Series Microinverters, and IQ9N Microinverters in the system must not exceed 150% of the IQ Battery array's rated power output. If the microinverter array exceeds this ratio, PV shedding must be implemented to shed excess PV when the system transitions to the off-grid mode. However, this ratio (PV/ESS) increases to a 200% limit for a mixed system of IQ8 Series Microinverters and IQ9N Microinverters.
8. Download the Enphase Installer App and log in to your Enphase Account. To download, go to https://enphase.com/installers/apps or scan the following QR code.

Android

iOS

NOTE: After you log in to your Enphase Account from the Enphase Installer App, scan the microinverter serial numbers (standard 1D bar code) and connect to the IQ Gateway to track the system installation progress. Ensure you are using the latest version of the Enphase Installer App.

9. Plan your AC branch circuits to meet the following limits for a maximum number of microinverters per circuit.

Maximum IQ9N Microinverters per AC branch circuit (single-phase)	
240 V	9
208 V	8

NOTE: Refer to local regulations for circuit breaker sizing and define the number of microinverters per branch in your area.

NOTE: For a system containing a mix of IQ7, IQ8, IQ9N or IQ8, IQ9N Microinverters on the same branch, ensure that the total output current of all microinverters on the branch does not exceed 16 A.

10. Size the AC conductor to account for the voltage rise. Select the correct conductor size based on the distance from the last microinverter in the circuit to the breaker in the electrical panel/AC switchboard. Center-feed the branch to minimize voltage rise.
11. Protect your system with lightning and/or surge suppression devices. It is also important to have insurance that protects against lightning and electrical surges.
12. Verify that the AC voltage[2] on-site is within range:

Single-phase service: L1 to L2	
240 V	211 to 264 VAC
208 V	183 to 229 VAC

13. The following are the IQ Cable coloring codes:

Black—L1
Red—L2

WARNING: Incorrect termination may irreparably damage any connected microinverters.

[2] Nominal voltage range can be extended beyond nominal if required by the utility.

4. Additional components and tools

S.No.	Component	SKU details			
1	IQ Gateway or IQ Combiner	To manage and monitor solar production ENV-IQ-AM1-240, ENV2-IQ-AM1-240, Combiner 6C/5/5C/4/4C/3/3C, ENV-S-AM1-230-60[3]. This is required to apply the grid profile to microinverters. An IQ Gateway or IQ Combiner can manage and monitor up to 300 IQ9N Microinverters.			
2	IQ System Controller	The Enphase IQ System Controller, IQ System Controller 2/3/3G/3M connect the home to grid power, the IQ Battery system, and solar PV. It provides microgrid interconnect device (MID) functionality by automatically detecting and seamlessly transitioning the home energy system from grid power to backup power in the event of a grid failure.			
3	IQ Meter Collar	IQ Meter Collar (MC-200-011-V01) is a meter socket adapter with an integrated microgrid interconnection device (MID) and energy meter. The IQ Meter Collar is compatible with third-generation Enphase Energy Systems, installed with IQ System Controller 3M and IQ Battery 5P. It is also compatible with fourth-generation Enphase Energy Systems installed with the IQ Combiner 6C and IQ Battery 10C.			
4	IQ Battery	All-in-one AC-coupled storage solution that integrates seamlessly with your solar energy for maximum performance and energy savings. IQ Battery 10C, IQ Battery 5P, or IQ Battery 3/3T/10/10T.			
5	Raw IQ Cable	Continuous 300 m cable. Q-12-RAW-300, single-phase.			
6	Tie wraps or cable clips	Stainless steel cable clips to fasten the IQ Cable. ET-CLIP-100.			
7	IQ Sealing Caps	For any unused connectors on the IQ Cable Q-SEAL-10.			
8	IQ Terminator	Cap for unused IQ Cable ends. A cap for unused ends Q-TERM-10 is needed at the end of each AC cable segment. Typically, one IQ Terminator (End-feeding branch circuit) or two IQ Terminators (Centre-feeding branch circuit) are required per branch circuit.			
9	IQ Disconnect Tool	To disconnect the IQ Cable Connectors Q-DISC-10.			
10	IQ Field Wireable Connectors (optional)	Connect IQ Cables without complex wiring. Male and female: Q-CONN-10M and Q-CONN-10F			
11	IQ Cable	**12 AWG cables with pre-installed connectors for IQ Microinverters**			
		Cable model	**Connector spacing**	**PV model orientation**	**Connectors per box**
		Single-phase			
		Q-12-10-240	1.3 m	Portrait (all)	240
		Q-12-17-240	2.0 m	Landscape (60-cell and 66-cell)	240
		Q-12-20-200	2.3 m	Landscape (72-cell)	200

Additional materials and tools for installation:

- An AC junction box or AC isolator
- Screwdrivers, wire cutter, voltmeter, torque wrench, sockets, and wrenches for mounting hardware
- Crimp tool Multi-Contact PV-CZM-18100, -19100, or -22100 for single-phase IQ Field Wireable Connector

NOTE: The components listed in the preceding table may not be applicable in all countries. Check availability in your country before ordering.

[3] Suitable only for French Polynesia, Antigua and Barbuda, Montserrat, and Saint Kitts.

5. Installing IQ9N Microinverters

Install IQ9N Microinverters as follows. (See figure IQ9N Microinverter installation).

1. **Position the IQ Cable.**
   a. Count the required IQ Cable connectors for the branch circuit (considering voltage rise and branch circuit) and cut the cable accordingly, leaving at least 5.9 inches after the last connector for termination.
   b. Mark microinverter positions at fixed intervals along the PV racking, based on their connection sequence. The maximum spacing between two microinverters depends on the IQ Cable variant (as specified in its SKU), PV module DC cable lengths, and module dimensions.
   c. Align the IQ Cable along the rack, matching connector locations to the marked positions. Leave slack for individual IQ Cable drops, cable bends, and potential obstructions. Secure the cable using tie-wraps or IQ Cable Clips to avoid tension on the connector.

⚠ **WARNING:** When transitioning between rows, secure the cable to the rail to prevent cable or connector damage. Do not put any connectors on the microinverter under tension.

2. **Position the junction box/AC isolator.**
   a. Install the junction box at a suitable location and provide an AC connection from the junction box/AC isolator or IQ Field Wireable Connectors to the electricity network.
   b. Provide an AC connection from the junction box back to the electricity network connection using equipment and practices as required by local jurisdictions.

✓ **NOTE:** All installations require that you use the IQ Gateway to commission the microinverters to propagate correct grid profile settings. This also ensures the microinverter's firmware is upgraded whenever a newer version is available.

3. **Mount the microinverters.**

   Mount microinverters under the PV module, either horizontally (bracket facing towards the rear of the PV module is recommended) or vertically or in-plane with the vertical facade PV module, while maintaining the necessary clearances. Microinverters must be protected from direct exposure to rain or directed, pressurized liquid (water jets). It is recommended to avoid direct exposure to sunlight/UV.

   a. Mount the microinverter either vertically or horizontally while maintaining the necessary clearances.
      i. When mounted horizontally or in-plane with a vertical facade PV module, allow a minimum of 19 mm (¾") between the roof/wall (for facade) and the microinverter. Also, allow 13 mm (½") between the rear of the PV module and the top of the microinverter.
      ii. When mounted vertically to the roof, maintain at least 300 mm (12") clearance from the edges of the PV module to protect the microinverter from direct exposure to rain, UV, and other harmful weather events.
   b. Torque the mounting fasteners—6 mm mounting hardware: 5 N m or 8 mm mounting hardware: 9 N m.

⚠ **WARNING:** Do not mount the microinverter with connectors oriented upwards.

4. **Create an installation map.**
   a. Peel the removable serial number label from each microinverter and the IQ Gateway, and apply them to the respective locations on the paper Enphase installation map.
   b. Keep a copy of the map for your records.
5. **Manage the cabling.**
   a. Use cable clips or tie wraps to attach the cable to the racking. The cable must be supported at least every 1.8 m (6 feet).
   b. Dress any excess cable in loops so that it does not contact the roof. Do not form loops smaller than 12 cm (4.75 inches) in diameter.
6. **Connect the microinverters.**

i) Cover any unused connectors on the IQ Cable with the IQ Sealing Caps (Q-SEAL-10). Listen for a click as the IQ Sealing Caps engage.	

⚠ **WARNING:** Install IQ Sealing Caps on all unused AC connectors as these connectors become live when the system is energised. IQ Sealing Caps are required for protection against moisture ingress.

⚠ **DANGER:** Risk of electric shock. Risk of fire. Only competent personnel may connect the Enphase microinverter to the utility grid.

7. **Terminate the unused end of the cable**: See section 7, Additional information for installation on page 8, on how to terminate the cable for single-phase.
8. **Complete the installation of the junction box/AC isolator/IQ Field Wireable Connectors**: Connect the IQ Cable to the junction box/AC isolator/IQ Field Wireable Connectors.

⚠ **WARNING:** To prevent irreversible damage to the system, confirm cable insulation colours at connections before energising the AC supply. Incorrect termination may irreparably damage any connected microinverters.

9. **Connect the PV modules.**
    a. Connect the DC leads of each PV module to the DC input connectors of the microinverter.
    b. Check the LED on the connector side of the microinverter. The LED flashes green six times when DC power is applied.
    c. Mount the PV modules above the microinverters.
10. **Energize the system.**
    a. Turn on the AC disconnect or circuit breaker for the branch circuit.
    b. Turn on the main utility grid AC circuit breaker.
    c. Check the LED on the connector side of the microinverter.

LED	Indicates
Flashing green	Normal operation. The AC grid function is normal, and there is communication with the IQ Gateway. IQ9N Microinverter's LED will flash green only after provisioning.
Flashing orange	The AC grid is normal, but there is no communication with the IQ Gateway.
Flashing red	The AC grid is either not present or not within specification.
Solid red	There is an active **DC Resistance Low, Power Off** condition. To reset, refer to the *IQ Gateway quick install guide*. If the problem persists, measure resistance between PV+ to EARTH and then PV- to EARTH on the PV module and then inverter. Anything less than ~7 kΩ will trigger the **DC Resistance Low, Power Off** condition. Usually, the value is in MΩ on the inverter or the PV module. Swap out the faulty PV module or microinverter.

⚠ **WARNING:** For shutting down the system, always de-energize the AC branch circuit breaker. Never disconnect the DC or AC connectors under load. For the Enphase Energy Systems that include the IQ System Controller and the IQ Battery, turn the System Shutdown Switch to the OFF position. Wait for at least a minute and use a multimeter to measure the AC voltage on all the following terminals—PV, IQ Battery, mains, and load. Ensure no voltage is detected on any of these terminals.

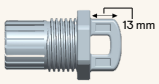
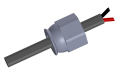
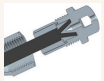
6. Commissioning the system

1. Open the Enphase Installer App and register a new system.
2. Scan the barcodes to add devices and set up the array.
3. Set the appropriate grid profile for the region.
4. Connect the IQ Gateway to the internet using the wizard in the Enphase Installer App.
5. Provision the devices and complete the commissioning flow.

Once provisioned, the system will ramp up to full producing power after grid profile propagation is completed. It may take 20–30 minutes for full power production based on the number of microinverters in the system.

7. Additional information for installation

Terminate the unused end of the IQ Cable as follows.

Single-phase IQ Cable	
Step 1: Remove 13 mm (0.5 inches) of the cable sheath from the conductors. Use the IQ Terminator body loop to measure.	
Step 2: Slide the hex nut onto the cable.	
Step 3: Insert the cable into the IQ Terminator body so the two wires land on opposite sides of the internal separator. The grommet inside the IQ Terminator body must remain in place.	
Step 4: Insert a screwdriver into the slot on the top of the IQ Terminator to hold it in place. Hold the IQ Terminator body stationary with the screwdriver and turn only the hex nut to prevent the conductors from twisting out of the separator. Torque the nut to 7 N m.	
Step 5: Attach the terminated cable end to the PV racking with a cable clip or tie wrap so that the cable and IQ Terminator cannot contact the roof.	

⚠ **WARNING:** Use the IQ Terminator only once. If you open the IQ Terminator following installation, the latching mechanism is destroyed. Do not reuse the IQ Terminator.

8. PV Rapid Shutdown Equipment (PVRSE)

This product is UL Listed as a PV rapid shutdown equipment and conforms with NEC-2014, NEC-2017, and NEC-2020 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors when installed according to the following requirements:

- Microinverters and all DC connections must be installed inside the array boundary. Enphase further requires installing the microinverters and DC connections under the PV module to avoid direct exposure to rain, UV, and other harmful weather events.
- The array boundary is defined as 305 mm (1 ft.) from the array in all directions or 1 m (3 ft.) from the point of entry inside a building. This rapid shutdown system must be provided with an initiating device and (or with) a status indicator, which must be installed in a location accessible to first responders or connected to an automatic system that initiates rapid shutdown upon the activation of a system disconnect or activation of another type of emergency system. The initiator shall be listed and identified as a disconnecting means that indicates whether it is in the OFF or ON position. Examples are:
  - Service disconnecting means
  - PV system disconnecting means
  - Readily accessible switch or circuit breaker

The handle position of a switch or circuit breaker is suitable for use as an indicator. Refer to NEC or CSA C22.1-2015 for more information. Additionally, in a prominent location near the initiator device, a placard or label must be provided with a permanent marking including the following wording: **PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN**. The term **PHOTOVOLTAIC** may be replaced with **PV**. The placard, label, or directory shall be reflective, with all letters capitalized and having a minimum height of 9.5 mm (0.37 inches) in white on a red background.

9. Safety and installation

IMPORTANT SAFETY INSTRUCTIONS. SAVE THIS INFORMATION.
This guide contains important instructions to follow during the installation of IQ9N Microinverters.

Safety symbols

DANGER: Indicates a hazardous situation, which, if not avoided, will result in death or serious injury.

WARNING: Indicates a situation where failure to follow instructions may be a safety hazard or cause equipment malfunction. Use extreme caution and follow instructions carefully.

WARNING: Indicates a situation where failure to follow instructions may result in burn injury.

NOTE: Indicates information important for optimal system operation.

General safety

DANGER: Risk of electric shock. Do not use Enphase equipment in a manner not specified by the manufacturer. Doing so may cause death or injury to persons or damage to equipment.

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

DANGER: Risk of electric shock. The DC conductors of this photovoltaic system are ungrounded and may be energized.

DANGER: Risk of electric shock. Always de-energize the AC branch circuit before servicing. Never disconnect the AC/DC connectors under load.

DANGER: Risk of electric shock. Risk of fire. Only use electrical system components approved for wet locations.

DANGER: Risk of electric shock. Risk of fire. Only competent personnel should troubleshoot, install, or replace Enphase microinverters or the IQ Cable and accessories.

DANGER: Risk of electric shock. Risk of fire. Ensure all AC and DC wiring is correct and that none of the AC or DC wires are pinched or damaged. Ensure all AC junction boxes are properly closed.

DANGER: Risk of electric shock. Risk of fire. Do not exceed the maximum number of microinverters in an AC branch circuit as listed in this guide. You must protect each microinverter AC branch circuit with a 20 A maximum breaker or fuse, as appropriate.

DANGER: Risk of electric shock when the solid red light is flashing from the microinverter's LED.

WARNING: Risk of equipment damage. Enphase male and female connectors must only be mated with the matching male/female connector.

WARNING: Before installing or using the Enphase microinverter, read all instructions and cautionary markings in the technical description, on the Enphase microinverter System, and on the photovoltaic (PV) equipment.

WARNING: Do not connect Enphase microinverters to the grid or energize the AC circuit(s) until you have completed all of the installation procedures and have received prior approval from the electrical utility company/grid operator.

WARNING: When the PV array is exposed to light, DC voltage is supplied to the microinverter.

NOTE: To ensure optimal reliability and to meet warranty requirements, install the Enphase microinverters and IQ Cable according to the instructions in this guide.

NOTE: Provide support for the IQ Cable at least every 1.8 m (6 ft.).

NOTE: Perform all electrical installations per all applicable local electrical codes, such as the Canadian Electrical Code, Part 1, and NFPA 70 (NEC).

NOTE: Protection against lightning and resulting voltage surge must be in accordance with local standards.

DC cable safety

NOTE: Ensure the following precautions:

- Ensure proper routing of the PV module DC cable using the clips to prevent the leads from resting on the roof. Do not wrap an excess DC cable around the microinverter.
- Avoid direct exposure to sunlight.
- Avoid sharp edges on racking.
- Avoid cable contacting rough surfaces or moving parts within the racking system.
- Avoid overly tight bending radii. The minimum bend radius for the DC cable is eight times the cable's outer diameter.
- Avoid overly tightly sized cable clips for routing.

Microinverter safety

DANGER: Risk of electric shock. Risk of fire. Do not attempt to repair the Enphase microinverter; it contains no user-serviceable parts. If it fails, contact Enphase customer service to obtain a return merchandise authorization (RMA) number and start the replacement process. Tampering with or opening the Enphase microinverter will void the warranty.

DANGER: Risk of fire. The DC conductors of the PV module must be labeled **PV Wire** or **PV Cable** when paired with the Enphase microinverter.

WARNING: The maximum open circuit voltage of the PV module must not exceed the specified maximum input DC voltage of the Enphase microinverter. Refer to the Enphase Compatibility Calculator to verify PV module electrical compatibility with the microinverter. Use IQ9N Microinverters only with compatible PV modules as per the Enphase Compatibility Calculator. Using an electrically incompatible PV module voids Enphase warranty.

WARNING: Risk of equipment damage. The Enphase microinverter is not protected from damage due to moisture trapped in cabling systems. Never mate microinverters to cables that have been left disconnected and exposed to wet conditions. This voids the Enphase warranty.

WARNING: Risk of equipment damage. The Enphase microinverter functions only with a standard, compatible PV module with appropriate fill factor, voltage, and current ratings. Unsupported devices include smart PV modules, fuel cells, wind or water turbines, DC generators, non-Enphase batteries, etc. These devices do not behave like standard PV modules, so operation and compliance are not guaranteed. These devices may also damage the Enphase microinverter by exceeding its electrical rating, making the system potentially unsafe.

WARNING: Risk of skin burn. The chassis of the Enphase microinverter is the heat sink. Under normal operating conditions, the temperature could be 20°C above ambient, but under extreme conditions, the microinverter can reach a temperature of 100°C. To reduce the risk of burns, use caution when working with microinverters.

NOTE: The Enphase microinverter has field-adjustable voltage and frequency trip points that may need to be set, depending upon local requirements. Depending on the electricity network operator, a grid profile other than the profile set on the microinverter might be needed to set up. Only an authorized installer with permission and following the requirements of the local electrical authorities should make adjustments.

IQ Cable safety

DANGER: Risk of electric shock. Do not install the IQ Terminator while the power is connected.

DANGER: Risk of electric shock. Risk of fire. When stripping the sheath from the IQ Cable, make sure the conductors are not damaged. If the exposed wires are damaged, the system may not function properly.

DANGER: Risk of electric shock. Risk of fire. Do not leave AC connectors on the IQ Cable uncovered for an extended period. You must cover any unused connector with a sealing cap.

DANGER: Risk of electric shock. Risk of fire. Ensure protective sealing caps have been installed on all unused AC connectors. Unused AC connectors are live when the system is energized.

WARNING: Use the terminator only once. If you open the terminator following installation, the latching mechanism is destroyed. Do not reuse the terminator. If the latching mechanism is defective, do not use the terminator. Do not circumvent or manipulate the latching mechanism.

WARNING: When installing the IQ Cable, secure any loose cables to minimize tripping hazards.

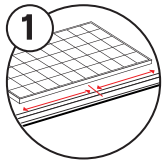
NOTE: When looping the IQ Cable, do not form loops smaller than 12 cm (4.75 inches) in diameter.

NOTE: If you need to remove a sealing cap, you must use the Enphase IQ Disconnect Tool.

NOTE: When installing the IQ Cable and accessories, adhere to the following:

- Do not expose the terminator or cable connections to directed, pressurized liquid (water jets, and so on).
- Do not expose the terminator or cable connections to continuous immersion.
- Do not expose the terminator or cable connections to continuous tension (for example, tension due to pulling or bending the cable near the connection).
- Use only the connectors and cables provided.
- Do not allow contamination, debris, or moisture in the connectors.
- Use the terminator and cable connections only when all parts are present and intact.
- Do not install or use in potentially explosive environments.
- Do not allow the terminator to come into contact with an open flame.
- Fit the terminator using only the prescribed tools and in the prescribed manner.
- Use the terminator to seal the conductor end of the IQ Cable; no other method is allowed.

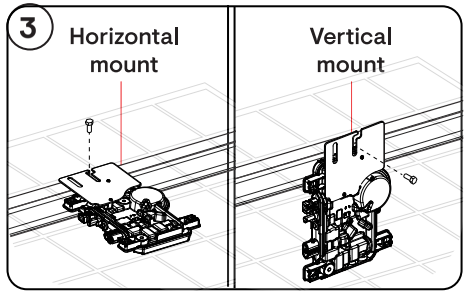
IQ9N Microinverter installation



1 Count connectors for the branch circuit (based on V-rise and branch limits).
2 Cut the IQ Cable leaving at least 15 cm after last connector.
3 Mark the microinverter positions at fixed intervals along PV racking.
4 Align IQ Cable to marks, allow slack for drops/bends. Secure the cable using cable ties/clips.

2

1 Install junction box/AC isolator at a suitable location and connect to the electricity network using best practices.
2 Verify IQ Cable wiring color codes.

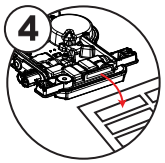


1 Mount microinverters under the PV module, either horizontally (bracket facing towards the rear of the PV module is recommended) or vertically or in plane with vertical facade PV modules while maintaining the necessary clearances. Microinverters must be protected from direct exposure to rain or directed, pressurized liquid (water jets). It is recommended to avoid direct exposure to sunlight/UV.

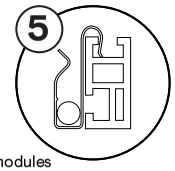
2 Torque the mounting fasteners (1/4 in or 5/16 in) as follows. Do not over-torque.
a. 6 mm (1/4 in) mounting hardware: 5 N m (45 to 50 in-lb).
b. 8 mm (5/16 in) mounting hardware: 9 N m (80 to 85 in-lb).

When using UL 2703 mounting hardware, use the manufacturer's recommended torque value.

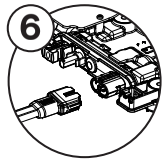
⚠ **WARNING:** Do not mount the microinverter with connectors oriented upwards.



1 Peel serial numbers from microinverters and gateway to create a map.
2 Keep a copy of the map for records.



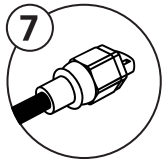
1 Manage the cabling by using cable clips or tie wraps to attach cable to racking.
2 Support cable every 1.8 m (6 feet).
3 Do not form loops less than 12 cm (4.75 inches) in diameter.



1 Connect the microinverters and listen for a click.
2 Seal any unused connectors on the IQ Cable.
3 Cover any unused connectors on the AC cable with IQ Sealing Caps. Listen for a click as the sealing caps engage.

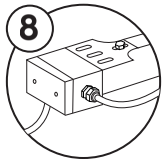
4 To remove a sealing cap or AC connector, use the IQ Disconnect Tool.

⚠ **WARNING:** Install sealing caps on all unused AC connectors as these connectors become live when the system is energised. Sealing caps are required for protection against moisture ingress.

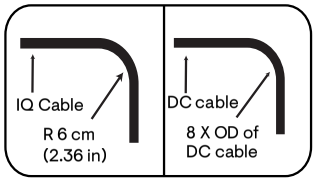


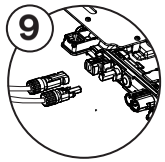
1 Terminate the unused end of the IQ Cable using the IQ Terminator. See section 7 for details.

⚠ **WARNING:** The IQ Terminator cannot be re-used. If you unscrew the nut, you must discard the terminator.



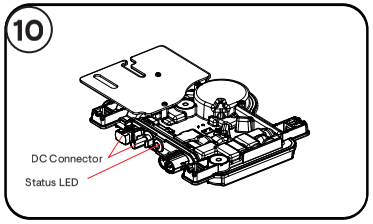
1 Connect the IQ Cable to the junction box/ AC isolator.





1 Mount the PV modules and connect the DC leads of PV modules to the DC input connectors* of the microinverters.
2 Check the LED on the connector side of the connector. The LED flashes green six times when DC power is applied.

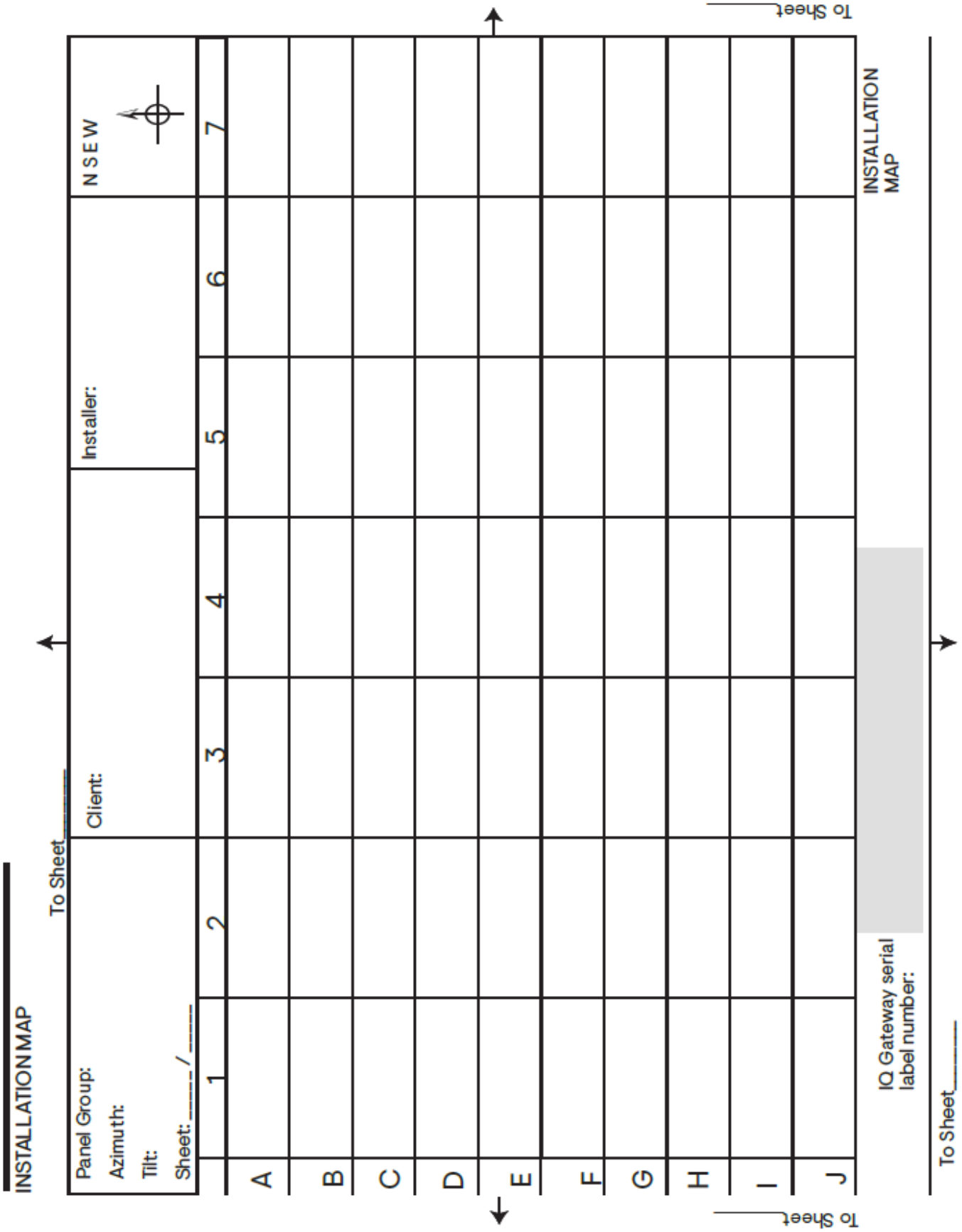
NOTE: After you have installed the microinverters, follow the instructions in Section 6 to commission the system to activate system monitoring, set up grid management functions, and complete the installation.



1 Turn ON AC disconnect or circuit breaker for branch circuit and main utility.
2 Check the LED on the connector side of the microinverter to be flashing green for normal operation. Refer to section C for additional details on LED indicators.

* IQ9N Microinverters include both AC and DC connectors. The DC port has been evaluated by UL for intermateability with Stäubli MC4 connectors. Cable coupler models are "PV-KST4/...-UR, PV-KBT4/...-UR, PV-KBT4-EVO2/...-UR, and PV-KST4-EVO2/...-UR". Mate the DC port of the inverter with the Stäubli MC4 connectors.

10. Enphase installation map



11. Revision history

Revision	Date	Description
140-00572-02	December 2025	Editorial updates.
140-00572-01	August 2025	Initial release.

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140-00572-02-EN-2025-12-16

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