IQ9N Microinverters

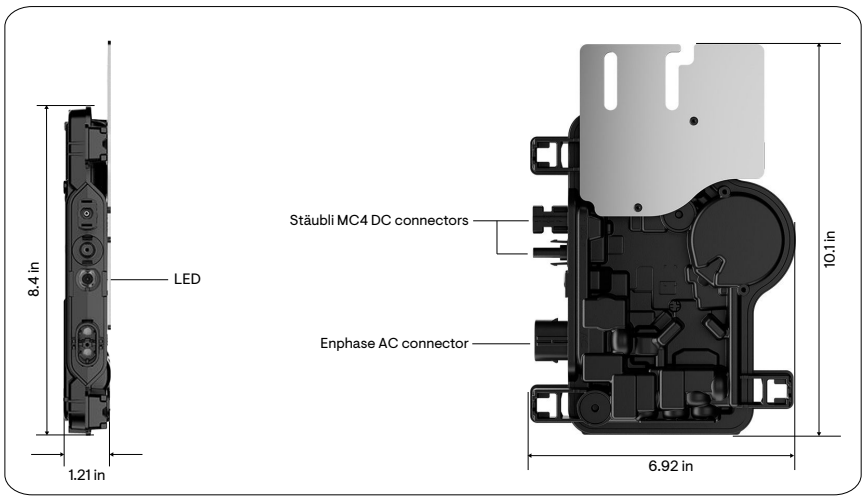
The high-powered, smart grid-ready IQ9N Microinverters are designed to match the latest generation of high-output PV modules. The IQ9N Microinverters have the highest energy production and reliability standards in the industry, and with rapid shutdown functionality, they meet the highest safety standards.[1]



Enphase 25 year warranty

Intertek 5034331

Key specifications	IQ9N-A-US/IQ9N-A-DOM-US @ 240 V	IQ9N-A-US/IQ9N-A-DOM-US @ 208 V
Maximum continuous output power	427 VA	405 VA
Nominal grid voltage (L-L)	240 V, split-phase (L-L), 180°	208 V, single-phase (L-L), 120°
Nominal frequency	60 Hz	
CEC weighted efficiency	97.5%	
Maximum input DC voltage	60 V	
MPPT voltage range	28–45 V	
Maximum module Isc	20 A	
Ambient temperature range	–40°C to 65°C (–40°F to 149°F)	



Simple

- Lightweight and compact with integrated Stäubli MC4 connectors for easy installation
- Fast installation with simple AC cabling
- Faster firmware upgrades enabled by the new integrated circuit technology

Reliable

- More than 1 million power-on hours of reliability testing
- Patented Burst Mode technology provides increased energy production
- Low-voltage DC and rapid shutdown for the ultimate fire safety
- Industry-leading warranty of up to 25 years[2]

Compatible

- Supports all common PV module powers and cell architecture
- Compatible with existing IQ7, IQ8 systems. Seamlessly expand your solar capacity as your energy requirements increase[3]

[1] IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative, according to the IEEE 1547 interconnection standard. Use an IQ Gateway to make these changes during installation.
[2] A 25-year warranty is valid, provided an internet-connected IQ Gateway is installed.
[3] See the "Backward compatibility" section for more details on supported configurations.

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Input data (DC)	Units	IQ9N-A-US/IQ9N-A-DOM-US
Commonly used module pairings	W	340-580
Module compatibility	—	To meet compatibility, the PV modules' open-circuit voltage (Voc) at the lowest temperature and short-circuit current (Isc) at the highest temperature must be within the microinverter's maximum input DC voltage and maximum module Isc. Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator.
MPPT voltage range	V	28–45
Operating range	V	18–58
Minimum/Maximum start voltage	V	21–58
Maximum input DC voltage	V	60
Maximum continuous input DC current	A	16
Maximum input DC short-circuit current	A	25
Maximum module Isc	A	20
Overvoltage class DC port	—	II
DC port backfeed current	mA	0
PV array configuration	—	Ungrounded array; no additional DC side protection required; AC side protection requires a maximum of 20 A per branch circuit

Output data (AC)	Units	IQ9N-A-US/IQ9N-A-DOM-US @ 240 V	IQ9N-A-US/IQ9N-A-DOM-US @ 208 V
Maximum continuous output power	VA	427	405
Nominal grid voltage (L-L)	—	240 V, split-phase (L-L), 180°	208 V, single-phase (L-L), 120°
Minimum and maximum grid voltage[4]	V	211–264	183-229
Maximum continuous output current	A	1.78	1.95
Nominal frequency	Hz	60	
Extended frequency range	Hz	47–68	
AC short-circuit fault current over three cycles	Arms	2.3	
Maximum units per 20 A (L-L) branch circuit[5]	—	9	8
Total harmonic distortion	%	<3	
Overvoltage class AC port	—	III	
AC port backfeed current	mA	30	
Power factor setting	—	1.0	
Grid-tied power factor (adjustable)	—	0.85 leading … 0.85 lagging	
Peak efficiency	%	97.8	

[4] The grid voltage range can be adjusted from the specified range if required to meet utility grid requirements.
[5] Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

Output data (AC)	Units	IQ9N-A-US/IQ9N-A-DOM-US @ 240 V	IQ9N-A-US/IQ9N-A-DOM-US @ 208 V
CEC weighted efficiency	%	97.5	
Nighttime power consumption	mW	54	63

Mechanical data	IQ9N-A-US/IQ9N-A-DOM-US
Ambient temperature range	–40°C to 65°C (–40°F to 149°F)
Relative humidity range	4% to 100% (condensing)
DC connector type	Stäubli MC4
Dimensions (H × W × D)	214 mm (8.4") × 176 mm (6.9") × 30.8 mm (1.2")
Weight	1.1 kg (2.4 lb)
Cooling	Natural convection – no fans
Approved for wet locations	Yes
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure
Environmental category	NEMA Type 6
UV exposure rating	Outdoor
Altitude	<3000 m (9843 ft)

Compliance	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3rd Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01. This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020 and NEC 2023 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 manufacturer's instructions.

Backward compatibility

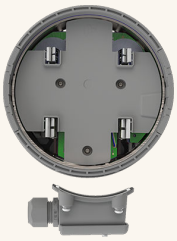
- IQ9N Microinverters can be added to existing IQ8 or IQ7 systems on the same IQ Gateway/IQ Combiner only in the following configurations: (i) Solar Only or (ii) Solar Plus Battery (IQ Battery 3/10 or IQ Battery 3T/10T or IQ Battery 5P or IQ Battery 10C) grid-tied or with backup with IQ System Controller, IQ System Controller 2/3/3G/3M, or IQ Meter Collar.
- IQ7 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 and IQ9N Microinverters. Systems that include IQ7 Microinverters—even if combined with IQ8 or IQ9N—do not support this functionality.
- 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, IQ8, 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 limit excess PV when the system transitions to off-grid mode. For a mixed system of IQ8 and IQ9N Microinverters, this ratio (PV/ESS) increases to a maximum limit of 200%.

Components of the Enphase Energy System



IQ Battery 10C

Fully integrated 10 kWh AC battery system with neutral forming capability. Works with IQ Combiner 6C.



IQ Meter Collar

IQ Meter Collar enables full home backup with IQ Battery 10C, Enphase PV, and IQ Combiner 6C.



IQ System Controller

It connects the home to grid power, IQ Battery 5P, IQ Combiner 5/5C, and PV. In the event of a grid failure, it works seamlessly with the IQ Meter Collar to transition the system from grid power to backup power.



IQ Battery

All-in-one AC-coupled storage solution that integrates seamlessly with your solar energy system, providing reliable backup power and intelligent energy management for maximum performance and energy savings.



IQ Combiner/IQ Gateway

The IQ Combiner/IQ Gateway is a device that performs energy management, provides internet connectivity, and integrates with the IQ Series Microinverters to provide complete control and insights into the Enphase Energy System.



IQ Cable

The IQ Cable is a continuous length 12 AWG cable with pre-installed connectors for IQ Microinverters that support faster, simpler, and more reliable installations. The cable is handled like standard outdoorrated electrical wire, allowing it to be cut, spliced, and extended as needed.

Revision history

Revision	Date	Description
DSH-00799-1.0	December 2025	Initial release.