IQ8M and IQ8A Microinverters

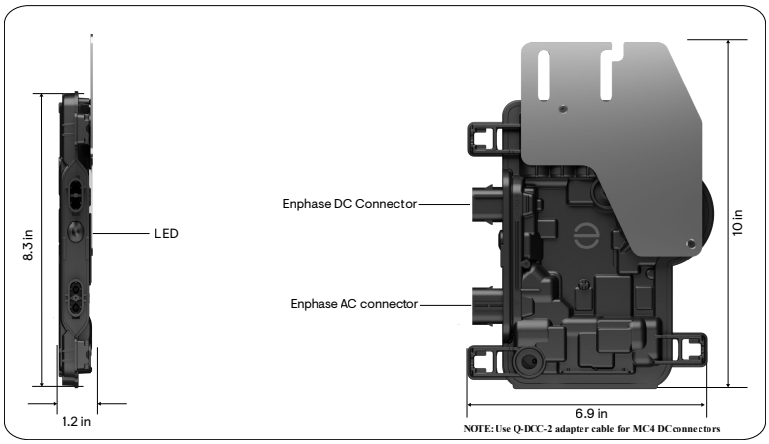
Our newest IQ8 Microinverters[1, 2, 3] are the industry's first microgrid-forming[4], software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently.



Enphase 25 year limited warranty

UL CERTIFIED

Key specifications	IQ8M-72-2-US	IQ8A-72-2-US
Peak output power	330 VA	366 VA
Nominal grid voltage (L-L)	240 V, split-phase (L-L), 180°	
Nominal frequency	60 Hz	60 Hz
CEC weighted efficiency	97.5%	97%
Maximum input DC voltage	60 V	60 V
MPPT voltage range	30–45 V	32–45 V
Maximum module I_{sc}	20 A	20 A
Ambient temperature range	–40°C to 60°C (–40°F to 140°F)	



Simple

- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

Reliable

- Produce power even when the grid is down[4]
- More than one million cumulative hours of testing
- Industry-leading limited warranty of up to 25 years
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support[5]
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)

[1] IQ8 Series Microinverters can be added to existing IQ7 systems on the same IQ Gateway only in the following grid-tied configurations: Solar Only or Solar + Battery (IQ Battery 3T/10T and IQ Battery 5P) without backup.
[2] IQ7 Series Microinverters cannot be added to a site with existing IQ8 Series Microinverters on the same gateway. Mixed system of IQ7 and IQ8 will not support IQ8-specific PCS features and grid-forming capabilities.
[3] 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.
[4] Only when installed with IQ System Controller 2, meets UL 1741.
[5] IQ8M and IQ8A support split-phase, 240 V installations only.

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Input data (DC)	Unit	IQ8M-72-2-US	IQ8A-72-2-US
Commonly used module pairings[6]	W	260– 460	295–500
Module compatibility	—	To meet compatibility, PV modules must be within maximum input DC voltage and maximum module I_{sc} listed in this table. Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator.	
MPPT voltage range	V	30 – 45	32 – 45
Operating range	V	16–58	
Minimum/Maximum start voltage	V	22/58	
Maximum input DC voltage	V	60	
Maximum continuous input DC current	A	12	
Maximum input DC short-circuit current	A	25	
Maximum module I_{sc}	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)	Unit	IQ8M-72-2-US	IQ8A-72-2-US
Peak output power	VA	330	366
Maximum continuous output power	VA	325	349
Nominal grid voltage (L-L)	V	240, split-phase (L-L), 180°	
Minimum and maximum grid voltage[7]	V	211–264	
Maximum continuous output current	A	1.35	1.45
Nominal frequency	Hz	60	
Extended frequency range	Hz	47–68	
AC short-circuit fault current over three cycles	A_{rms}	2	
Maximum units per 20 A (L-L) branch circuit [8]	—	11	
Total harmonic distortion	%	<5	
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	97.7
CEC weighted efficiency	%	97.5	97
Nighttime power consumption	mW	21	22

Mechanical data	IQ8M-72-2-US	IQ8A-72-2-US
Ambient temperature range	–40°C to 60°C (–40°F to 140°F)	
Relative humidity range	4% to 100% (condensing)	

[6] Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at https://link.enphase.com/module-compatibility.
[7] Nominal voltage range can be extended beyond nominal if required by the utility.
[8] Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

Mechanical data	IQ8M-72-2-US	IQ8A-72-2-US
DC Connector type	MC4	
Dimensions (H × W × D)	212 mm (8.3 in) × 175 mm (6.9 in) × 30.2 mm (1.2 in)	
Weight	1.08 kg (2.38 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/UV exposure rating	NEMA Type 6/Outdoor	

Compliance	IQ8M-72-2-US	IQ8A-72-2-US
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.	

Components of the Enphase Energy System



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 System Controller

The IQ System Controller connects the home to the grid power, IQ Batteries, generator and solar PV with microinverters.



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 outdoor-rated electrical wire, allowing it to be cut, spliced, and extended as needed.

Revision history

Revision	Date	Description
DSH-00243-3.0	December 2024	Updated information on backward compatibility with IQ7 Series Microinverters.
DSH-00243-2.0	February 2024	Updated the information about IEEE 1547 interconnection standard requirements.
DSH-00243-1.0	November 2023	Updated module compatibility specification and NEC 2023 specification in the “Compliance” section.

Previous releases.