



IQ8H-240 Microinverter

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC), which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55-nm technology with high-speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-and-play MC4 connectors.



IQ8 Series Microinverters are UL Listed as PV rapid shut down equipment and conform with various regulations when installed according to the manufacturer's instructions.

Easy to install

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

High productivity and reliability

- Produces power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SB) requirements

NOTE:

- IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc) in the same system.
- IQ Gateway is required to change the default grid profile at the time of installation to meet local authority having jurisdiction (AHJ) requirements.

* Meets UL 1741 only when installed with IQ System Controller 2.

** IQ8H-240 supports split-phase, 240 V.

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INPUT DATA (DC)		UNITS	IQ8H-240-72-2-US
Commonly used module pairings ¹	W		320–540
Module compatibility		To meet compatibility, PV modules must be within the following maximum input DC voltage and maximum module I_{sc} . Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator	
MPPT voltage range	V		36–45
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		1 × 1 ungrounded array; no additional DC side protection required; AC side protection requires max 20 A per branch circuit	
OUTPUT DATA (AC)		UNITS	IQ8H-240-72-2-US
Peak output power	VA		384
Maximum continuous output power	VA		380
Nominal (L-L) voltage	V		240, split-phase (L-L), 180°
Minimum and maximum grid voltage ²	V		211–264
Maximum continuous output current	A		1.58
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 ³			10
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	%		97.6
CEC weighted efficiency	%		97
Nighttime power consumption	mW		22
MECHANICAL DATA			
Ambient temperature range			-40°C to 60°C (-40°F to 140°F)
Relative humidity range			4% to 100% (condensing)
DC connector type			MC4
Dimensions (H × W × D)			212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2")
Weight			1.08 kg (2.38 lbs)
Cooling			Natural convection – no fans
Approved for wet locations			Yes

(1) No enforced DC/AC ratio.

(2) Nominal voltage range can be extended beyond nominal if required by the utility.

(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

MECHANICAL DATA

Pollution degree

PD3

Enclosure

Class II double-insulated, corrosion-resistant polymeric enclosure

Environmental category/UV exposure rating

NEMA Type 6/outdoor

Altitude

<2600 m (8530 ft)

COMPLIANCE

Certifications

CA Rule 21 (UL 1741-SB), UL 62109-1, UL1741 / IEEE1547, 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 shut down 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 manufacturer's instructions.

Revision history

REVISION	DATE	DESCRIPTION
DSH-00241-1.0	November 2023	Initial release.