



# IQ8 Series Microinverters

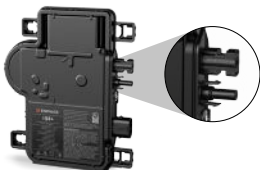
Our newest IQ8 Microinverters are software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC), which enables the microinverter to operate in grid-tied mode. 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.



Part of the Enphase Energy System, IQ8 Series Microinverters integrates with the Enphase 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 the IQ8 Series Microinverters that have integrated MC4 connectors.



IQ8 Series Microinverters are UL Listed as PV rapid shutdown 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

- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

## Smart grid-ready\*

- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB)
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles

### NOTE:

IQ8 Microinverters cannot be mixed with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, and so on) in the same system.

\* IQ8 Series Microinverters support split-phase, 240 V. In addition, IQ8HC supports single-phase 208 V and 220 V.

# IQ8 Series Microinverters

INPUT DATA (DC)	UNITS	IQ8PLUS-72-M-US IQ8PLUS-72-2-US	IQ8M-72-M-US IQ8M-72-2-US	IQ8A-72-M-US IQ8A-72-2-US	IQ8HC-72-M-US		
Commonly used module pairings <sup>1</sup>	W	235-440	260-460	295-500	320-540		
Module compatibility	—	PV modules must be within the maximum input DC voltage and maximum module $I_{sc}$ listed below. Module compatibility can be checked at <a href="https://enphase.com/en-lac/installers/microinverters/calculator">https://enphase.com/en-lac/installers/microinverters/calculator</a> .					
MPPT voltage range	V	27-45	30-45	32-45	29.5-45		
Operating range	V	16-58			18-58		
Min./Max. start voltage	V	22/58					
Max. input DC voltage	V	60					
Max. continuous input DC current	A	12			14		
Max. input DC short-circuit current	A	25					
Max. module $I_{sc}$	A	20					
Overvoltage class DC port	—	II					
DC port back feed current	mA	0					
PV array configuration	—	Ungrounded array; no additional DC side protection required; AC side protection requires max. 20 A per branch circuit					
OUTPUT DATA (AC)	UNITS	IQ8PLUS-72-M-US IQ8PLUS-72-2-US	IQ8M-72-M-US IQ8M-72-2-US	IQ8A-72-M-US IQ8A-72-2-US	IQ8HC-72-M-US @240 VAC	IQ8HC-72-M-US @220 VAC	IQ8HC-72-M-US @208 VAC
Peak output power	VA	300	330	366	384	384	366
Max. continuous output power	VA	290	325	349	380	380	360
Nominal (L-L) grid voltage <sup>2</sup>	V	240, split-phase (L-L), 180°				220, single-phase (L-L), 120°	208, single-phase (L-L), 120°
Max. continuous output current	A	1.21	1.35	1.45	1.58	1.73	1.73
Min./Max. grid voltage <sup>3</sup>	V	211-264				198-264	183-229
Nominal frequency	Hz	60					
Extended frequency range	Hz	47-68					
AC short-circuit fault current over 3 cycles	$A_{rms}$	2			2.7		
Max. units per 20 A (L-L) branch circuit <sup>4</sup>	—	13	11	11	10	9	9
Total harmonic distortion	%	<5					
Overvoltage class AC port	—	III					
AC port back feed current	mA	30			18		
Power factor setting	—	1.0					
Grid-tied power factor (adjustable)	—	0.85 leading ... 0.85 lagging					
Peak efficiency	%	97.7	97.8	97.7	97.3	97.2	97.2
CEC weighted efficiency	%	97	97.5	97	97.0	96.5	96.5
Nighttime power consumption	mW	25	21	22	22	23	26
MECHANICAL DATA	UNITS						
Ambient temperature range	°C(°F)	-40 to 60 (-40 to 140)			-40 to 65 (-40 to 149)		
Relative humidity range	%	4 to 100 (condensing)					
DC connector type	—	Stäubli MC4					
Dimensions (H × W × D)	mm(in)	212 (8.3) × 175 (6.9) × 30.2 (1.2)					
Weight	kg(lb)	1.1 (2.3)					

<sup>1</sup> No enforced DC/AC ratio.

<sup>2</sup> IQ8HC can work in 230 V, single-phase (L-L), 120° grid voltage. Use ENV-S-AM1-230-60 gateway for 230 V (L-L) grid voltage.

<sup>3</sup> The nominal voltage range can be extended beyond nominal if required by the utility.

<sup>4</sup> Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

MECHANICAL DATA		UNITS
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		
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB), 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.	

# Revision history

REVISION	DATE	DESCRIPTION
DSH-00412-3.0	July 2024	Updated the nominal (L-L) grid voltage value for 220 VAC and added a footnote.
DSH-00412-2.0	March 2024	Initial release.
DSH-00412-1.0	February 2024	Preliminary release.