



IQ8P Microinverter

The IQ8P Microinverter is the latest higher-powered addition to the Enphase family of IQ8 Microinverters. The smart grid-ready Enphase IQ8P Microinverter (240 V split-phase/ 220 V single-phase) is designed to match larger format residential and commercial PV modules. The IQ8P has the highest energy production and reliability standards in the industry, and with rapid shutdown functionality, it meets the highest safety standards. The brain of the semiconductor-based microinverter is our proprietary, application-specific integrated circuit (ASIC), which enables the microinverter to operate reliably in a grid-connected mode.



Connect PV modules quickly and easily to IQ8P Microinverters using the included Q-DCC-2 adapter cable with plug-and-play MC4 connectors.



High power modules
Install greater capacity with fewer components. IQ8P supports modules up to 670 Wp which means there is less balance of the system per kW.



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.*



IQ8P 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 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:

- (i) Commissioning of IQ8P Microinverter systems requires Enphase Installer App version 3.34.0 or higher.
- (ii) IQ8P Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 and IQ6 Series) on the same IQ Gateway.
- (iii) 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. An IQ Gateway is required to make these changes during installation.

*A 25-year warranty is valid, provided an internet-connected IQ Gateway is installed.

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INPUT DATA (DC)		UNITS	IQ8P-72-2-US
Commonly used module pairings ¹		W	430-670
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 https://enphase.com/en-lac/installers/microinverters/calculator .
MPPT voltage range		V	36-55
Operating range		V	16-65
Minimum/Maximum start voltage		V	22/65
Max. input DC voltage		V	65
Max. continuous operating DC current		A	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	2
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	IQ8P-72-2-US
Peak output power		VA	480
Max. continuous output power		VA	475
Nominal grid voltage (L-L)		V	240, split-phase (L-L), 180°/220, single-phase (L-L), 120°
Minimum and maximum grid voltage ²		V	211-264/193-242
Max. continuous output current		A	1.98 @ 240 V/2.16 @ 220 V
Nominal frequency		Hz	60
Extended frequency range		Hz	47-68
AC short-circuit fault current over three cycles		Arms	2.29
Max. units per 20 A (L-L) branch circuit ³		–	8 (240 V L+L)/7 (220 V L+L)
Total harmonic distortion		%	<5
Overvoltage class AC port		–	III
AC port back feed current		mA	2
Power factor setting		–	1.0
Grid-tied power factor (adjustable)		–	0.85 leading ... 0.85 lagging
Peak efficiency		%	97.57
CEC weighted efficiency		%	97.00
Nighttime power consumption		mW	100
MECHANICAL DATA			IQ8P-72-2-US
Ambient temperature range			-40°C to 65°C (-40°F to 149°F)
Relative humidity range			4% to 100% (condensing)
DC connector type			Supplied with Stäubli MC4 adapter
Dimensions (H × W × D); Weight (with mounting plate)			265 mm (10.4") × 200 mm (7.9") × 35 mm (1.4") (without mounting brackets); 1.6 kg (3.5 lb)

(1) No enforced DC/AC ratio.

(2) The 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		IQ8P-72-2-US
Cooling	Natural convection – no fans	
Approved for wet locations; Pollution degree	Yes; PD3	
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure	
Environment category; UV exposure rating	NEMA Type 6/outdoor - IPX6/IP67	
STANDARDS		IQ8P-72-2-US
Certifications	<p>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</p> <p>This product is UL Listed as PV rapid shutdown equipment (PVRSE) 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.</p>	

Revision history

REVISION	DATE	DESCRIPTION
DSH-00416-2.0	March 2024	Initial release.
DSH-00416-1.0	March 2024	Preliminary release.