



# 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-P adapter cable with plug-and-play MC4 connectors.



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.\*



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



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 <sup>1</sup>	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 <a href="https://enphase.com/en-lac/installers/microinverters/calculator">https://enphase.com/en-lac/installers/microinverters/calculator</a> .			
MPPT voltage range	V	36–55			
Operating range	V	16–65			
Minimum/Maximum start voltage	V	22/65			
Maximum input DC voltage	V	65			
Maximum continuous operating DC current	A	14			
Maximum input DC short-circuit current	A	25			
Maximum module $I_{sc}$	A	20			
Overtoltage 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 a maximum of 20 A per branch circuit			
OUTPUT DATA (AC)		UNITS		IQ8P-72-2-US	
Peak output power	VA	480			
Maximum continuous output power	VA	475			
Nominal grid voltage (L-L) <sup>2</sup>	V	240, split-phase (L-L), 180°		220, single-phase (L-L), 120°	
Minimum and maximum grid voltage <sup>3</sup>	V	211–264		193–242	
Maximum 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	$A_{rms}$	2.29			
Maximum units per 20 A (L-L) branch circuit <sup>4</sup>	–	8 (240 V L+L)		7 (220 V L+L)	
Total harmonic distortion	%	<5			
Overtoltage 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)				
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				

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

<sup>2</sup> IQ8P can work in 230 V, single-phase (L-L), 120° grid voltage. Use the 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.

CA Rule 21 (UL 1741-SB), UL 62109-1, UL1741/IEEE1547, CAN/CSA-C22.2 NO. 107.1-01

## Certifications

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.

# Revision history

REVISION	DATE	DESCRIPTION
DSH-00416-3.0	September 2024	Replaced the solar panel image, added a footnote for the nominal grid voltage, and made editorial updates.
DSH-00416-2.0	March 2024	Initial release.
DSH-00416-1.0	March 2024	Preliminary release.