

IQ8P Microinverter

The IQ8P Microinverter^{1,2,3} is the latest higher powered addition to the Enphase family of IQ8 Microinverters. The brain of the semiconductor-based microinverter is our proprietary, application-specific integrated circuit (ASIC), which enables the microinverter to operate in either a grid-tied or off-grid mode.⁴



| Key specifications | IQ8P-72-2-US |
|--------------------------------|---|
| Peak output power | 480 VA |
| Nominal grid voltage (L-L) | 240 V, split-phase (L-L), 180° 220 V, single-phase (L-L), 120° |
| Nominal frequency | 60 Hz |
| CEC weighted efficiency | 97% |
| Maximum input DC voltage | 65 V |
| MPPT voltage range | 36–55 V |
| Maximum module I _{sc} | 20 A |
| Ambient temperature range | –40°C to 65°C (–40°F to 149°F) |

Simple

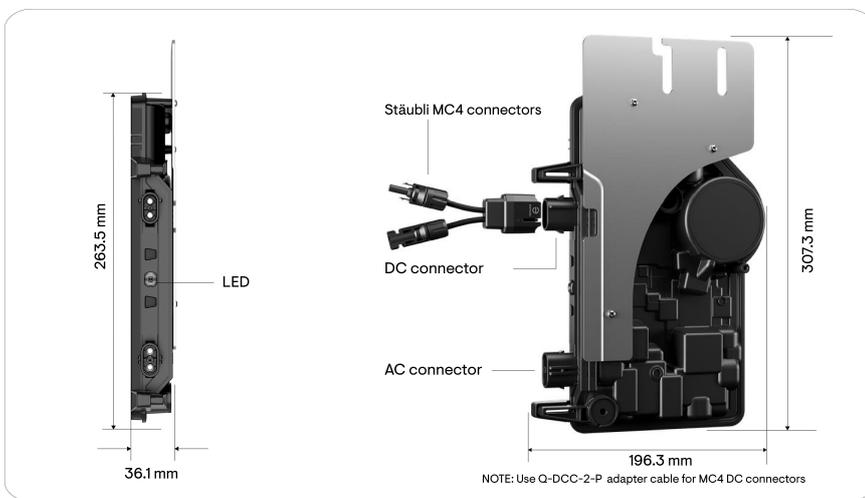
- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

Reliable

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

Microgrid forming

- Produces power even when the grid is down⁴
- Meets CA Rule 21 and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles



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 Grid-forming capability is only possible in combination with the IQ System Controller 2 or 3.

| Input data (DC) | Units | IQ8P-72-2-US | |
|--|------------------|---|-------------------------------|
| Commonly used module pairings ⁵ | W | 430–670 | |
| 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/en-lac/installers/microinverters/calculator . | |
| 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 input DC current | A | 14 | |
| Maximum input DC short-circuit current | A | 25 | |
| Maximum module I _{sc} | A | 20 | |
| Overvoltage class DC port | — | II | |
| DC port backfeed 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 voltage (L-L) | V | 240, split-phase (L-L), 180° | 220, single-phase (L-L), 120° |
| Minimum and maximum grid voltage ⁶ | V | 211–264 | 193–242 |
| Maximum continuous output current | A | 1.98 | 2.16 |
| 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 ⁷ | — | 8 (240 V L+L) | 7 (220 V L+L) |
| Total harmonic distortion | % | <5 | |
| Overvoltage class AC port | — | III | |
| AC port backfeed current | mA | 2 | |
| Power factor setting | — | 1.0 | |
| Grid-tied power factor (adjustable) | — | 0.85 leading ... 0.85 lagging | |
| Peak efficiency | % | 97.6 | |
| CEC weighted efficiency | % | 97.0 | |
| 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) | |

⁵ No enforced DC/AC ratio.

⁶ Nominal voltage range can be extended beyond nominal if required by the utility.

⁷ Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

| Mechanical data | IQ8P-72-2-US |
|--|--|
| DC connector type | Supplied with Stäubli MC4 adapter (Q-DCC-2-P) |
| Dimensions (H × W × D) | 263.5 mm (10.4 in) × 194.3 mm (7.7 in) × 36.1 mm (1.4 in) (without mounting brackets) |
| Weight | 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 |
| Environmental category/UV exposure rating | NEMA Type 6; outdoor - IPX6/IP67 |
| Compliance | IQ8P-72-2-US |
| Certifications | <p>CA Rule 21, UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3rd Ed.), CAN/CSA-C22.2 NO. 107.1-01.</p> <p>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.</p> |

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 Combiner/IQ Gateway

The IQ Combiner^{®8}, in conjunction with the IQ Gateway, combines interconnection equipment in a single box. It simplifies the installation of IQ Microinverters and storage systems, offering a coherent, pre-wired solution for the residential sector.



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.

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

Revision history

| Revision | Date | Description |
|---------------|----------------|--|
| DSH-00416-4.0 | May 2025 | Updated information on backward compatibility with IQ7 Series Microinverters. |
| 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. |