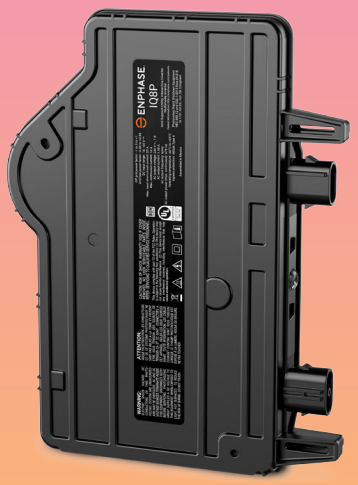
IQ8P Microinverter

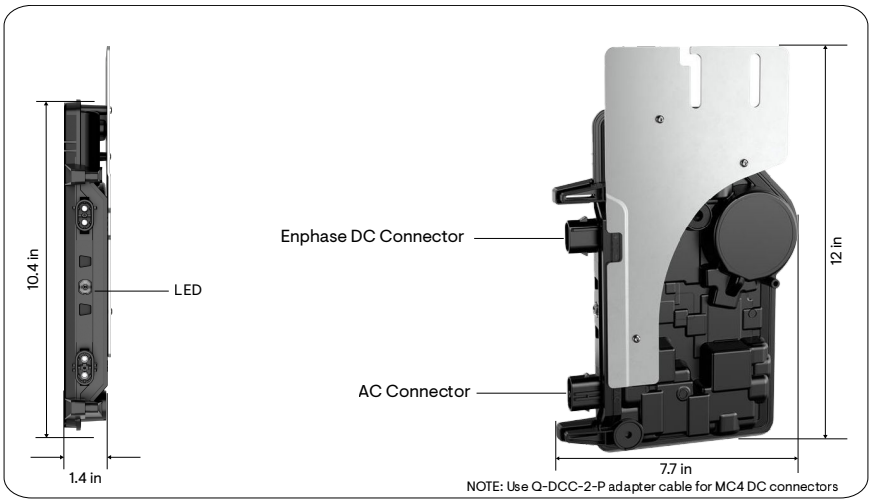
The IQ8P Microinverter[1,2] is the latest higher powered addition to the Enphase family of IQ8 Microinverters. The brain of the semiconductor-based microinverter is our proprietary, application-specific integrated circuit (ASIC), which enables the microinverter to operate in either a grid-tied or off-grid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



Enphase 25 year limited warranty

UL CERTIFIED

Key specifications	IQ8P-72-2-US
Peak output power	480 VA
Nominal grid voltage (L-L)	240 V, split-phase (L-L), 180°
Nominal frequency	60 Hz
CEC weighted efficiency	97.5%
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)



NOTE: Use Q-DCC-2-P adapter cable for MC4 DC connectors

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 down[3]
- Meets CA Rule 21 (UL 1741-SA), UL 62109-1, 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] For details, see the "Compatibility with IQ7 Series Microinverters" section.
[2] 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.
[3] 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[4]	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 .
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°
Minimum and maximum grid voltage[5]	V	211–264
Maximum continuous output current	A	1.98
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[6]	—	8 (240 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	%	97.5
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

[4] No enforced DC/AC ratio.
[5] Nominal voltage range can be extended beyond nominal if required by the utility.
[6] Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

Mechanical data	IQ8P-72-2-US
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	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3rd Ed.), 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.

Compatibility with IQ7 Series Microinverters

- IQ8 Series Microinverters can be added to existing IQ7 systems on the same IQ Gateway/IQ Combiner/IQ System Controller only in the following configurations: (i) Solar Only or (ii) Solar Plus Battery (IQ Battery 3/10 or IQ Battery 5P) grid-tied or with backup with IQ System Controller 3/3G/3M and IQ Meter Collar.
- IQ7 Series Microinverters cannot be added to a site with existing IQ8 Series Microinverters on the same gateway.
- A mixed system with both IQ7 and IQ8 Series Microinverters does not support IQ8-specific features such as PCS or the Sunlight Jump Start feature.
- The rated continuous power output of the IQ7 and IQ8 Microinverter arrays must not exceed 150% of the IQ Battery's rated power output. If this ratio is exceeded, PV shedding must be implemented to reduce excess PV generation during transitions to off-grid mode.

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 System Controller

The IQ System Controller connects the home to the grid power, IQ Batteries, generator and solar PV with microinverters.

IQ Combiner/IQ Gateway

The IQ Combiner/IQ Gateway is a device that performs energy management, provides internet connectivity, and integrates with the IQ Series Microinverters to provide complete control and insights into the Enphase Energy System.

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.

Revision history

Revision	Date	Description
DSH-00058-4.0	October 2025	Updated information on backward compatibility with IQ8/IQ7 Series Microinverters.
DSH-00058-3.0	March 2025	Updated the dimensions image to reflect Q-DCC connector.
DSH-00058-2.0	December 2024	Updated information on backward compatibility with IQ7 Series Microinverters.
DSH-00058-1.0	March 2024	Initial release.