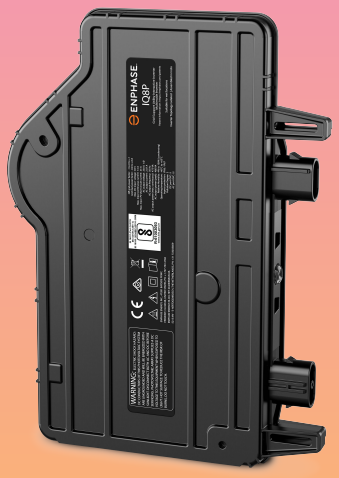
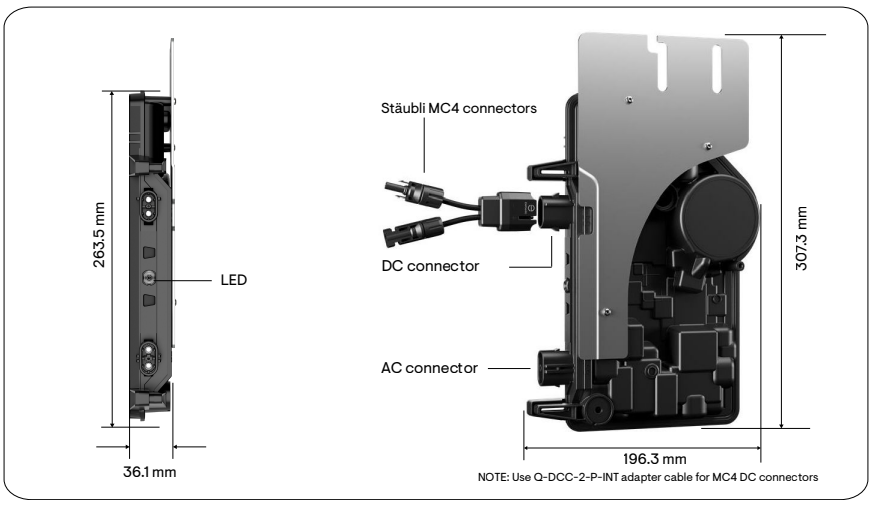
IQ8P Microinverter

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 an off-grid mode.



Enphase 25 year limited warranty

Key specifications	IQ8P-72-2-INT
Maximum apparent power	480 VA
Nominal grid voltage	230 V
Nominal frequency	50 Hz
European weighted efficiency	97.0%
Minimum/Maximum input voltage	16/65 V
Minimum/Maximum MPP voltage	36–55 V
Maximum short-circuit DC input current	25 A
Ambient temperature range	–40°C to 65°C (–40°F to 149°F)



Compatible

- Supports latest high-current PV modules up to 630 Wp
- Supports all common PV module powers and cell architectures

Simple

- Compatible with existing IQ7 systems. Seamlessly expand your solar capacity as your energy requirements increase[1, 2]
- Lightweight and compact
- Fast installation with simple AC cabling
- New integrated circuit technology enables faster firmware upgrades

Reliable

- More than one million power-on hours of reliability testing
- Patented Burst Mode technology provides increased energy production
- Low-voltage DC and rapid shutdown for the ultimate fire safety

[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 5P) without backup.
[2] IQ7 Series Microinverters cannot be added to a site with existing IQ8 Series Microinverters on the same gateway.
[3] 25-year warranty is valid, provided an internet-connected IQ Gateway is installed.

Input data (DC)	Parameters	Units	IQ8P-72-2-INT
Typical module compatibility	–	–	60-cell/120-half-cell, 66-cell/132-half-cell, 72-cell/144-half-cell, 78-cell/156-half-cell. No enforced DC/AC ratio and maximum input power. Modules can be paired as long as the maximum input voltage is not exceeded and the maximum input current of the inverter at the lowest and highest temperatures is respected. See the compatibility calculator at https://enphase.com/en-au/installers/microinverters/calculator.[4]
Minimum/Maximum input voltage	$U_{dc,min}$/ $U_{dc,max}$	V	16/65
Start-up input voltage	$U_{dc,start}$	V	22
Rated input voltage	$U_{dc,r}$	V	45.5
Minimum/Maximum MPP voltage	$U_{mpp,min}$/ Umpp,max	V	36/55
Minimum/Maximum operating voltage	$U_{op,min}$/ $U_{op,max}$	A	16/65
Maximum input current	$I_{dc,max}$	A	14
Maximum short-circuit DC input current	$I_{sc,max}$	A	25 Maximum short-circuit current for modules I_{sc} allowed to be paired with IQ8P Microinverters: 20 A (calculated with 1.25 safety factor according to IEC 62548).
Maximum input power[5]	$P_{dc,max}$	W	630

Output data (AC)	Parameters	Units	IQ8P-72-2-INT
Maximum apparent power	$S_{ac,max}$	VA	480
Rated apparent power	$P_{ac,r}$	VA	475
Nominal grid voltage	$U_{ac,nom}$	V	230
Minimum/Maximum grid voltage	$U_{ac,min}$/ $U_{ac,max}$	V	184/276
Rated/Maximum output current	$I_{ac,max}$	A	2.07/2.09
Nominal frequency	f_{nom}	Hz	50
Minimum/Maximum frequency	f_{min}/f_{max}	Hz	47/55
Maximum units per single-phase 20 A circuit Maximum units per multi-phase 25 A circuit	–	–	8 (L+N)/30 (3L+N) For IQ Cable with 2.5 mm^2 stranded conductors and using a 1.20 safety factor. The safety factor applied may vary based on the local regulations or best practices, as well as on the characteristics the OCPD selected.
Recommended maximum units per single/multi-phase IQ Cable section to reduce voltage rise in IQ Cable	–	–	7 (L+N)/15 (3L+N) Centre feeding is the best practice. These design limits should ensure voltage rise and line conductor resistance on the IQ Cables are maintained within acceptable limits. In locations with a risk of high grid voltage at the point of connection, it may be necessary to decrease the maximum number of microinverters on the IQ Cable section by as much as 50%.
Protective class (all ports)	–	–	II

[4] Installers should not exceed the small-scale technology certificate (STC) limit in PV module wattage for claiming the STC.
[5] Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at https://enphase.com/en-au/installers/microinverters/calculator.

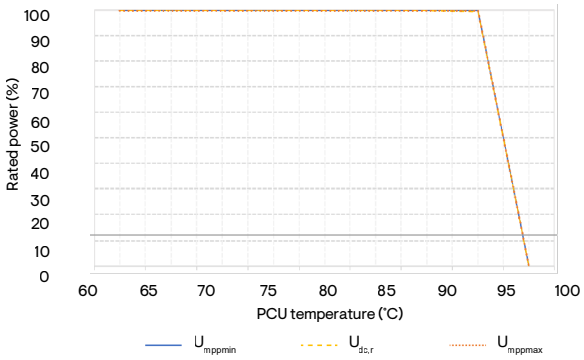
Output data (AC)	Parameters	Units	IQ8P-72-2-INT
Total harmonic distortion	—	%	<5
Power factor setting	—	—	1.0
Power factor range	cos phi	—	0.80 leading … 0.80 lagging
Inverter maximum efficiency	η_{max}	%	97.3
European weighted efficiency	η_{EU}	%	97.0
Inverter topology	—	—	Isolated (HF Transformer)
Nighttime power loss	—	mW	100

Mechanical data	Units	IQ8P-72-2-INT
Ambient temperature range	°C (°F)	–40 to 65 (–40 to 149)
Relative humidity range	%	4 to 100 (condensing)
Overvoltage class AC port	—	III
Number of input DC connectors (pairs) per single MPP-tracker	—	1
AC connector type	—	IQ Cabling (refer to the IQ Cabling and accessories data sheet)
DC connector type	—	Supplied with Stäubli MC4 adapter
Dimensions (H × W × D)	mm (in)	263.5 mm (10.4 in) × 196.3 mm (7.7 in) × 36.1 mm (1.4 in) (without mounting brackets)
Weight (with mounting plate)	kg (lb)	1.6 kg (3.5 lb)
Cooling	—	Natural convection—no fans
Enclosure	—	Class II double-insulated, corrosion-resistant polymeric enclosure
IP rating	—	Outdoor - IPX6/IP67
Altitude	m	<2600 (8530)
Calorific value	MJ/unit	59.25

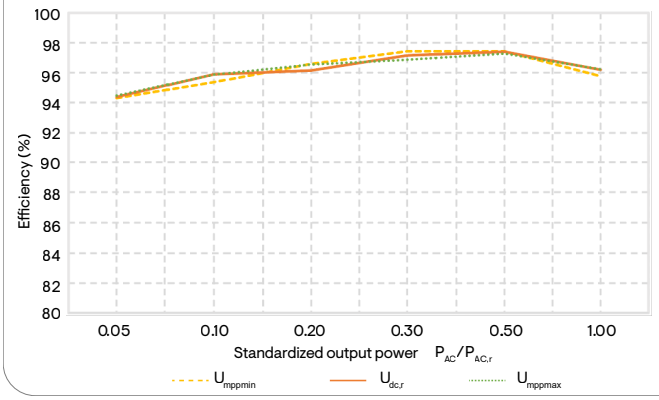
Standards	IQ8P-72-2-INT
Grid compliance (with IQ Relay)	AS/NZS 4777-2:2020 +A2
Safety	EN IEC 62109-1, EN IEC 62109-2
EMC	EN IEC 61000-3-2, 61000-3-3, 61000-6-2, 61000-6-3, EN IEC 50065-1, 50065-2-2, EN55011[6]
Product labelling	CE, RCM
Advanced grid functions[7]	Power export limiting (PEL), Phase imbalance management (PIM), Loss of phase detection (LOP), Power factor control Q (U), cos (phi) (P)
Microinverter communication	Power line communication (PLC) 110–120 kHz (Class B), narrowband 200 Hz

[6] At STC within MPP range.
[7] Some of these functions require IQ Gateway Metered with current transformers and/or IQ Relay installed.

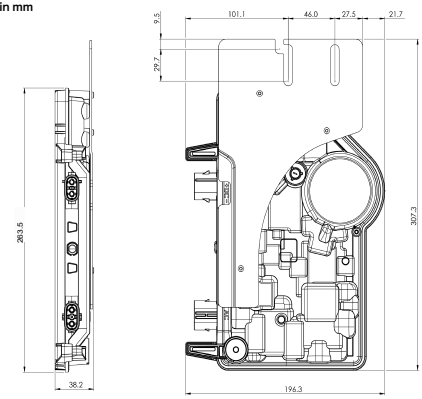
IQ8P Microinverter rated power v/s PCU temperature



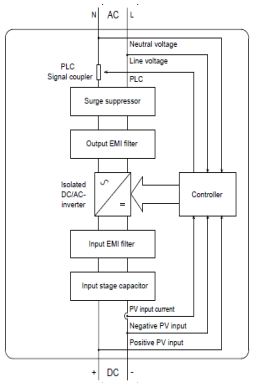
IQ8P Microinverter efficiency curve



All dimensions in mm



Enphase IQ8P Microinverter



Assembled in India and U.S.
Manufacturer: Enphase Energy Inc. 47281 Bayside Pkwy, Fremont, CA 94538, United States of America, Tel: +1 (707) 763-4784
Importer: Enphase Energy Aust. Pty/Ltd., 88 Market St., South Melbourne, VIC 3205. PH: +61 386691679

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 Gateway

The 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.[8]

IQ Cable

Available in both single-phase and multi-phase versions, IQ Cable enables IQ Series Microinverters to be installed quickly and safely. With multi-phase IQ Cabling, installed capacity is automatically distributed evenly across all three phases.

IQ Relay single-phase and multi-phase

A grid monitoring and disconnection relay for the microinverter and storage circuits. It provides DC current injection monitoring and PLC-phase coupling in multi-phase installations.[9]

[8] 25-year warranty is valid, provided an internet-connected IQ Gateway is installed.
[9] IQ Relay is not required in all countries. Check local grid connection requirements to confirm.

Revision history

Revision	Date	Description
DSH-00633-2.0	June 2025	Updated information on backward compatibility with IQ7 Series Microinverters.
DSH-00633-1.0	December 2024	Preliminary release.