



IQ8P Microinverter

The extra high-powered, smart grid-ready Enphase IQ8P Microinverters are designed to match larger format 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) that enables the microinverter to operate in a grid-connected mode.



IQ Gateway

The IQ Gateway is the platform for energy management and integrates with the IQ Microinverters to provide complete control and insights into the Enphase Energy System.



IQ Relay three-phase

For production circuits in both single-phase and three-phase systems. IQ Relay acts as a grid monitoring and disconnection device and includes a built-in PLC phase coupler (three-phase).*



Q-DCC-2-P adapter cable

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



IQ Cabling

Install microinverters quickly and safely with IQ Cabling.



IQ8 Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of 15-years.**

*IQ Relay is required to protect the PV system from grid abnormalities.

**15-year warranty is valid, provided an internet-connected IQ Gateway is installed. Get in touch with the Enphase team for warranty extension options.

Compatible with the latest generation high-output PV modules

- Supports the latest high-current PV modules
- IQ8P product range supports all common PV module powers and cell architectures

Easy to install and commission

- Lightweight and compact
- Fast installation with simple AC cabling
- New integrated circuit technology enables faster firmware upgrades

High energy production, reliability, and safety

- 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

Note:

Commissioning of IQ8P Microinverter systems requires Enphase Installer App version 3.34.x or higher. IQ8P Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series) on the same IQ Gateway.

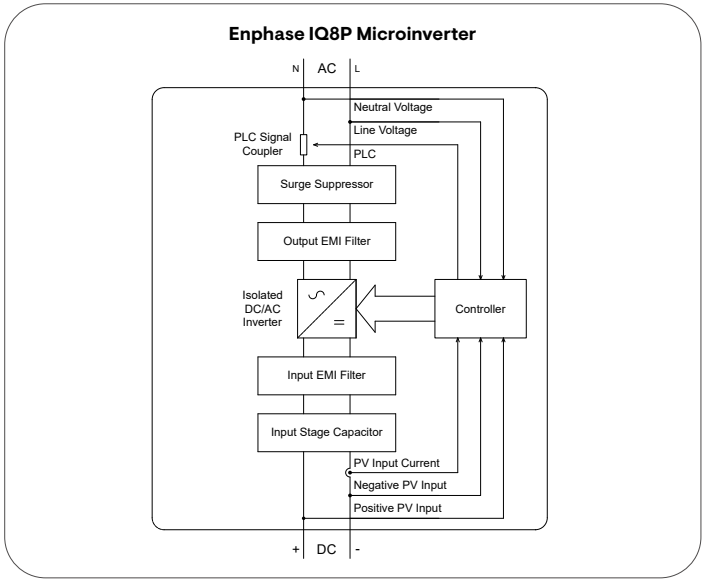
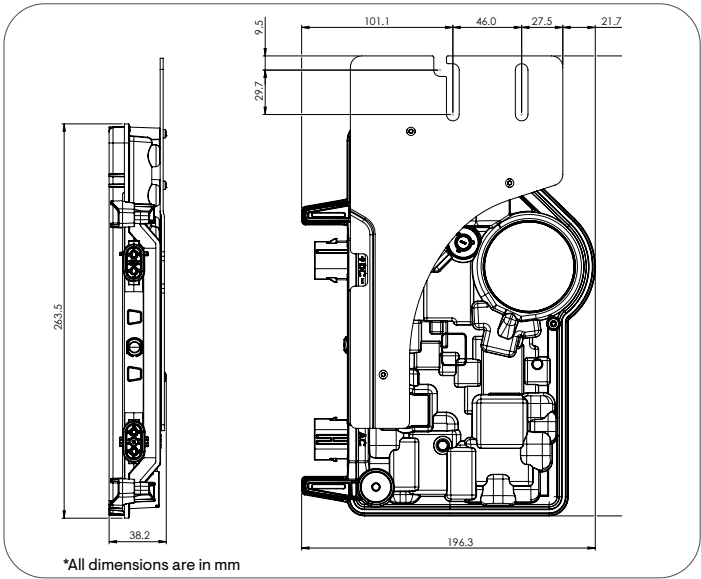
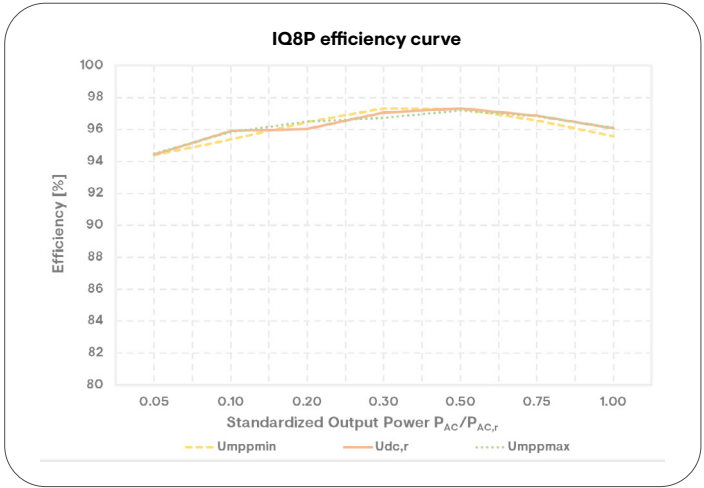
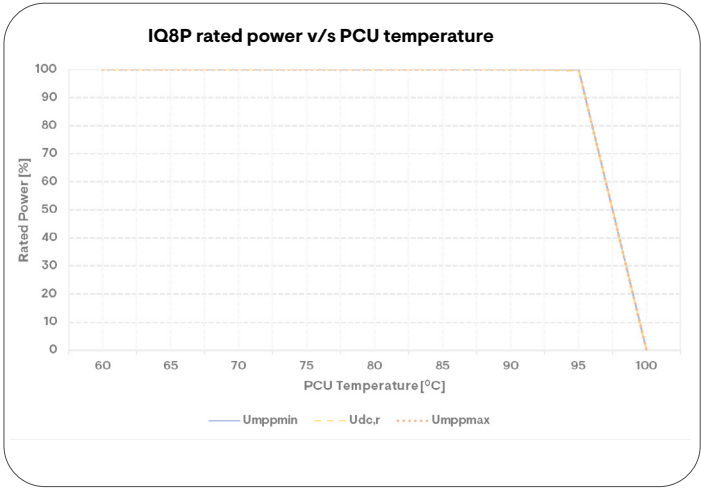
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INPUT DATA (DC)		UNITS	IQ8P-72-2-INT
Typical module compatibility			60-cell/120-half-cell, 66-cell/132-half-cell, 72-cell/144-half-cell, 78-cell/156-half-cell No enforced DC/AC ratio and maximum input power. Modules can be paired as long as the maximum 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-in/installers/microwinverters/calculator .
Minimum/Maximum input voltage	U_{dcmin}/U_{dcmax}	V	16/65
Start-up input voltage	$U_{dcstart}$	V	22
Rated input voltage	$U_{dc,r}$	V	45.5
Minimum/Maximum MPP voltage	U_{mppmin}/U_{mppmax}	V	36/55
Minimum/Maximum operating voltage	U_{opmin}/U_{opmax}	V	16/65
Maximum input current	I_{dcmax}	A	14
Maximum short-circuit DC input current	I_{scmax}	A	25 Maximum short-circuit current allowed for modules paired with IQ8P Microinverters: 20 A
Maximum input power ¹	P_{dcmax}	W	670
OUTPUT DATA (AC)		UNITS	IQ8P-72-2-INT
Maximum apparent power	$S_{ac,max}$	VA	480
Rated power	$P_{ac,r}$	W	475
Nominal grid voltage	U_{acnom}	V	230
Minimum/Maximum grid voltage	U_{acmin}/U_{acmax}	V	184/276
Maximum output current	I_{acmax}	A	2.07
Nominal frequency	f_{nom}	Hz	50
Minimum/Maximum frequency	f_{min}/f_{max}	Hz	47/55
Maximum units per single/ Three-phase 20 A circuit	16 A/ I_{acmax}	—	7 (L+N)/21 (3L+N) For IQ Cable with 12 AWG stranded conductors designed with NEC standard and using a 1.25 safety factor, 16 A per phase is calculated as the maximum current according to NEC requirements. Breaker selection should be decided based on "Circuit current < Breaker rated current < Cable current capacity".
Protective class (all ports)			II
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}	%	97.34
IS/IEC 61683 efficiency	η_{EU}	%	97.00
Inverter topology	—	—	Isolated (HF Transformer)
Nighttime power loss	—	mW	100
MECHANICAL DATA			IQ8P-72-2-INT
Ambient air temperature range			-40°C to 65°C (-40°F to 149°F)
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 individual datasheet for cable and accessories)
DC connector type			Supplied with Stäubli MC4 adapter
Dimensions (H x W x D)			265 mm (10.4") x 200 mm (7.9") x 35 mm (1.4") (without mounting brackets)
Weight (with mounting plate)			1.6 kg (3.5 lbs)
Cooling			Natural convection – no fans

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://www4.enphase.com/en-in/support-module-compatibility-en>.

MECHANICAL DATA		IQ8P-72-2-INT	
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure		
IP rating	Outdoor - IPX6/IP67		
Altitude	< 2,600 m		
Calorific value	59.25 MJ/unit		
STANDARDS		IQ8P-72-2-INT	
Grid compliance	IEC 61727		
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, 50065-2-1, EN55011 ²		
Product labelling	CE, RCM, and BIS		
Advanced grid functions ³	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		

(2) At STC within MPP range.
(3) Some of these functions require IQ Gateway Metered with current transformers and/or IQ Relay installed.



Revision history

REVISION	DATE	DESCRIPTION
DSH-00055-3.0	March 2024	Removed the preliminary tag and updated the Enphase App version to 3.34.x on page 1.
DSH-00055-2.0	September 2023	Updated Maximum short-circuit DC input current parameter to correctly reference to IQ8P
DSH-00055-1.0	August 2023	Preliminary release