



IQ8 Series Microinverters

The high-powered, smart grid ready Enphase IQ8 Microinverters are designed to match the latest generation high output PV modules. The IQ8 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 in a grid-connected mode.



IQ Gateway

Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



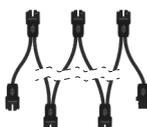
IQ Relay 1P and 3P

Production and storage circuit, integrated NS-protection device with PLC-Phase coupler (3P) and DC current injection monitoring.*



IQ8 Series with Integrated MC4 connectors

Connect PV modules quickly and easily to the IQ8 Series Microinverters that has integrated MC4 connectors.



IQ Cabling

Install microinverters quickly and safely with IQ Cabling. With 3P IQ Cabling, the installed capacity is automatically distributed evenly across all three phases.



IQ8 Series Microinverters redefine reliability standards with more than 1 million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.**

*IQ Relay is not required in all countries, check local grid connection requirements to confirm.
**25-year warranty is valid provided an internet connected IQ Gateway is installed.

Compatible with latest generation high output PV modules

- Supports latest high-current PV modules using M10 wafers
- IQ8 product range supports all common PV module powers and cell architectures

Easy to install and commission

- Lightweight and compact with integrated Stäubli MC4 connectors for easy installation
- Fast installation with simple AC cabling
- New integrated circuit technology enables faster firmware upgrades

High energy production, reliability, and safety

- More than 1 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 IQ8 Microinverter systems requires Installer app version 3.27.1 or higher.
- IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc) on the same IQ Gateway.

IQ8 Series Microinverters

INPUT DATA (DC)		UNITS	IQ8MC-72-M-INT	IQ8AC-72-M-INT	IQ8HC-72-M-INT
Typical Module compatibility			54-cell / 108 half-cell, 60-cell / 120 half-cell, 66-cell / 132 half-cell, 72-cell / 144 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 maximum input current of the inverter at the lowest and highest temperatures are respected. See the compatibility calculator at https://enphase.com/en-gb/installers/microinverters/calculator .		
Minimum / Maximum input voltage	U_{dcmin} / U_{dcmax}	V	18 / 58		
Start-up input voltage	$U_{dcstart}$	V	22		
Rated input voltage	$U_{dc,r}$	V	35.0	36.5	37.0
Minimum / Maximum MPP voltage	U_{mppmin} / U_{mppmax}	V	25 / 45	28 / 45	29.5 / 45
Minimum / Maximum operating voltage	U_{opmin} / U_{opmax}	V	18 / 49		
Maximum input current	I_{dcmax}	A	14		
Maximum short-circuit DC input current	I_{scmax}	A	25		
Maximum module I_{sc}	I_{scmax}	A	20		
Maximum input power ¹	P_{dcmax}	W	480	530	560
OUTPUT DATA (AC)		UNITS	IQ8MC-72-M-INT	IQ8AC-72-M-INT	IQ8HC-72-M-INT
Maximum apparent power	$S_{ac,max}$	VA	330	366	384
Rated power	$P_{ac,r}$	W	325	360	380
Nominal grid voltage	U_{acnom}	V	230		
Minimum / Maximum grid voltage	U_{acmin} / U_{acmax}	V	184 / 276		
Maximum output current	I_{acmax}	A	1.43	1.59	1.67
Nominal frequency	f_{nom}	Hz	50		
Minimum / Maximum frequency	f_{min} / f_{max}	Hz	45 / 55		
Maximum units per single / multi-phase 20 A circuit	$16 A / I_{acmax}$		11 (L+N) / 33 (3L+N)	10 (L+N) / 30 (3L+N)	9 (L+N) / 27 (3L+N)
Maximum units per single / multi-phase IQ Cable section			8 (L+N) / 18 (3L+N)	8 (L+N) / 18 (3L+N)	8 (L+N) / 18 (3L+N)
			For IQ Cable with 2.5mm ² stranded conductors and using a 1.25 safety factor, 16 A per phase is calculated as maximum current according to IEC 60364. Safety factor applied may vary based on local regulation or best practice, also upon the characteristic the OCPD selected.		
			Centre feeding is best practice. These design limits should ensure voltage rise and line conductor resistance on the IQ Cable are maintained within acceptable limits. In locations with 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		
Total harmonic distortion		%	<5		
Power factor setting			1.0		
Power factor range	$\cos\phi$		0.8 leading – 0.8 lagging		
Inverter maximum efficiency	η_{max}	%	97.45	97.40	97.33
European weighted efficiency	η_{EU}	%	96.70		
Inverter topology			Isolated (HF Transformer)		
Night-time power loss		mW	50		
MECHANICAL DATA			IQ8MC-72-M-INT	IQ8AC-72-M-INT	IQ8HC-72-M-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			Enphase IQ Cabling (refer to separate datasheet for cable and accessories)		

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

MECHANICAL DATA	IQ8MC-72-M-INT	IQ8AC-72-M-INT	IQ8HC-72-M-INT
DC Connector type	Stäubli MC4		
Dimensions (H x W x D)	212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2") (without mounting brackets)		
Weight (with mounting plate)	1.1 kg (2.4 lbs)		
Cooling	Natural convection – no fans		
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure		
IP Rating	Outdoor - IP67		
Maximum altitude	< 2000 m		
Calorific value	37.5 MJ / unit		
STANDARDS	IQ8MC-72-M-INT	IQ8AC-72-M-INT	IQ8HC-72-M-INT
Grid Compliance (with IQ Relay) [Pending]	EN 50549-1		
Safety (Pending)	EN IEC 62109-1, EN IEC 62109-2		
EMC (Pending)	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		
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	Powerline communication (PLC) 110 – 120 kHz (Class B), Narrow band 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.

