

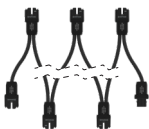
# IQ8X Microinverter

The high-powered, smart grid-ready IQ8X Microinverter is designed to match the latest generation high-output PV modules. The IQ8X Microinverter 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 Cabling

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



### IQ8X with integrated MC4 connectors

Connect PV modules quickly and easily to the IQ8X Microinverter that has integrated MC4 connectors.



IQ8X Microinverter redefines reliability standards with more than 1 million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.\*

### Compatible with latest generation high-output PV modules

- Supports higher-voltage, typically 80-half-cell, 88-half-cell, 96-cell, PV modules

### Easy to install and commission

- Lightweight and compact with integrated Stäubli MC4 connectors for easy installation
- Fast installation with simple AC cabling
- Faster firmware upgrades enabled by the new integrated circuit technology

### 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:**

- (i) Commissioning of IQ8X Microinverter systems requires Enphase Installer App version 3.34.2 or higher.
- (ii) IQ8X Microinverter cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series and so on) on the same IQ Gateway.

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

# IQ8X Microinverter

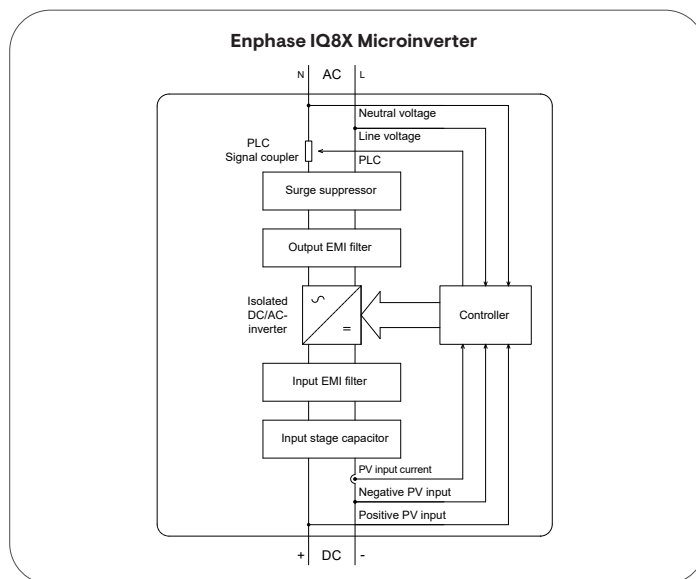
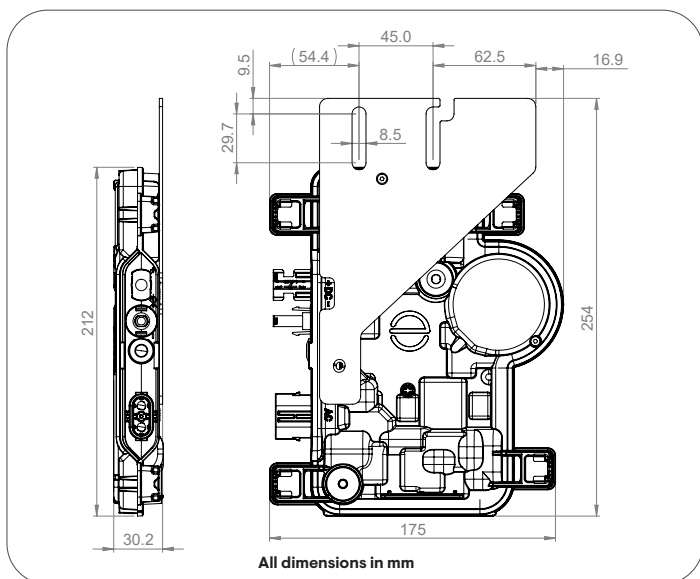
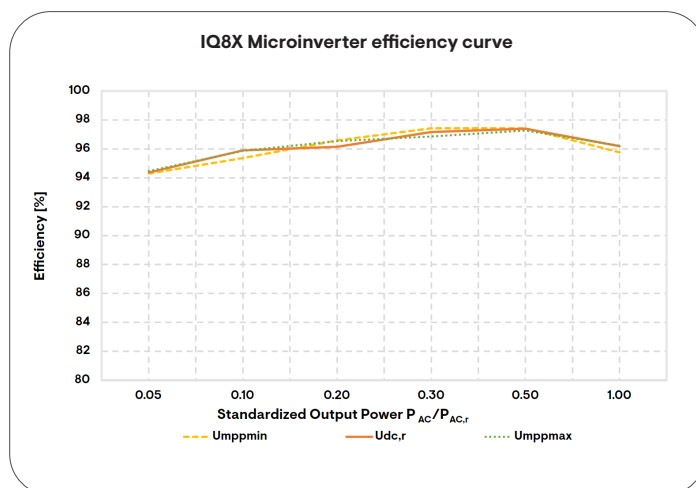
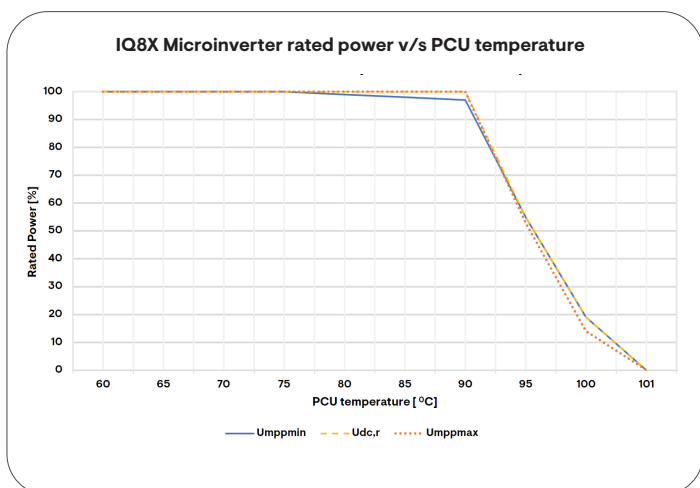
INPUT DATA (DC)		UNITS	IQ8X-80-M-INT
Typical module compatibility	—	—	80-half-cell, 88-half-cell, 96-cell No enforced DC/AC ratio and maximum input power. Modules can be paired as long as the maximum input voltage is not exceeded and the maximum input current of the inverter at the lowest and highest temperature is respected. See the compatibility calculator at <a href="https://enphase.com/en-gb/installers/microinverters/calculator">https://enphase.com/en-gb/installers/microinverters/calculator</a> .
Minimum/Maximum input voltage	$U_{dcmin}/U_{dcmax}$	V	25/79.5
Start-up input voltage	$U_{dcstart}$	V	30
Rated input voltage	$U_{dc,r}$	V	51.5
Minimum/Maximum MPP voltage	$U_{mppmin}/U_{mppmax}$	V	43/60
Minimum/Maximum operating voltage	$U_{opmin}/U_{opmax}$	V	25/79.5
Maximum input current	$I_{dcmax}$	A	10
Maximum short-circuit DC input current	$I_{scmax}$	A	16 Maximum short-circuit current for modules ( $I_{sc}$ ) allowed to be paired with IQ8X Microinverter: 13 A (calculated with 1.25 safety factor as per IEC 62548).
Maximum input power <sup>1</sup>	$P_{dcmax}$	W	560
OUTPUT DATA (AC)		UNITS	IQ8X-80-M-INT
Maximum apparent power	$S_{ac,max}$	VA	384
Rated power	$P_{ac,r}$	W	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	1.67
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	$16 A/I_{acmax}$	—	9 (L+N)/27 (3L+N) For IQ Cable with 2.5 mm <sup>2</sup> stranded conductors and using a 1.25 safety factor, 16 A per phase is calculated as the maximum current according to IEC 60364. Safety factors applied may vary based on local regulations or best practices, also upon the characteristics the OCPD selected.
Maximum units per single/ multi-phase IQ Cable section	—	—	8 (L+N)/18 (3L+N) Centre feeding is the 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 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
Total harmonic distortion	—	%	<5
Power factor setting	—	—	1.0
Power factor range	cos phi	—	0.8 leading ... 0.8 lagging
Inverter maximum efficiency	$\eta_{max}$	%	97.5
European weighted efficiency	$\eta_{EU}$	%	96.7
Inverter topology	—	—	Isolated (HF transformer)
Night-time power loss	—	mW	50
MECHANICAL DATA		UNITS	IQ8X-80-M-INT
Ambient air 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 cable accessories datasheet)

(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	UNITS	IQ8X-80-M-INT
DC connector type	–	Stäubli MC4
Dimensions (H x W x D)	mm (in)	212 (8.3) × 175 (6.9) × 30.2 (1.2) (without mounting brackets)
Weight (with mounting plate)	kg (lb)	1.1 (2.4)
Cooling	–	Natural convection – no fans
Enclosure	–	Class II double-insulated, corrosion-resistant polymeric enclosure
IP rating	–	Outdoor - IP67
Altitude	m	<2600
Calorific value	MJ/unit	37.5
STANDARDS		IQ8X-80-M-INT
Grid compliance		G98, G99, G100
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 <sup>2</sup>
Product labelling		CE
Advanced grid functions <sup>3</sup>		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), 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.



Assembled in China, India, or USA.

Manufacturer: Enphase Energy Inc. 47281 Bayside Pkwy, Fremont, CA 94538, United States of America, Tel: +1 (707) 763-4784

Importer: Enphase Energy NL B.V., Het Zuiderkruis 65, 5215MV, 's-Hertogenbosch, The Netherlands, Tel: +31 73 3035859

IQ8X-DSH-00394-1.0-EN-UK-2024-03-26

# Revision history

REVISION	DATE	DESCRIPTION
DSH-00394-1.0	March 2024	Initial release.