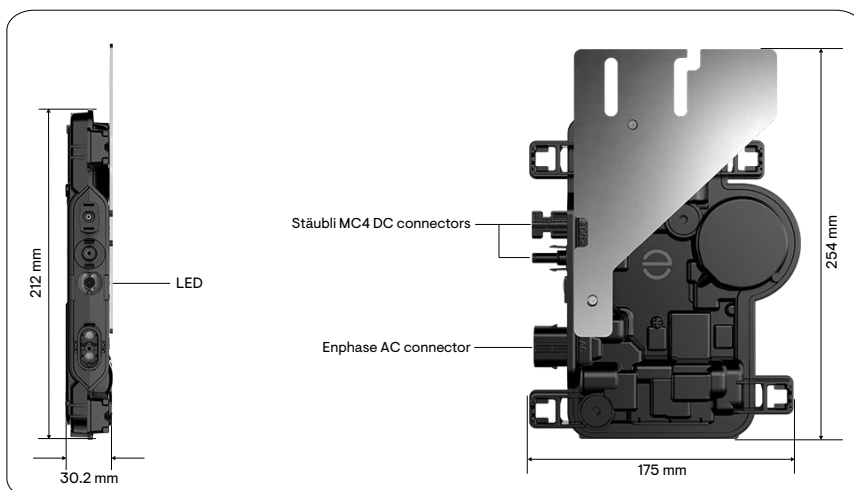


# IQ8X Microinverter

The high-powered, smart grid-ready IQ8X Microinverter<sup>1,2</sup> 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.



| Key specifications                     | IQ8X-80-M-INT                  |
|----------------------------------------|--------------------------------|
| Maximum AC output power                | 384 W                          |
| Nominal grid voltage                   | 230 V                          |
| Nominal frequency                      | 50 Hz                          |
| European weighted efficiency           | 96.7%                          |
| Minimum/Maximum input voltage          | 25/79.5 V                      |
| Minimum/Maximum MPP voltage            | 43/60 V                        |
| Maximum short-circuit DC input current | 16 A                           |
| Ambient air temperature range          | -40°C to 65°C (-40°F to 149°F) |



## Simple

- Compatible with existing IQ7 systems. Seamlessly expand your solar capacity as your energy requirements increase<sup>1,2</sup>
- Lightweight and compact with integrated Stäubli MC4 connectors for easy installation
- Faster installation with simple AC cabling
- Faster firmware upgrades enabled by the new integrated circuit technology

## Reliable

- More than one million cumulative hours of testing
- Patented Burst Mode technology provides increased energy production
- Low-voltage DC and rapid shutdown for the ultimate fire safety
- Industry-leading warranty of up to 25 years<sup>3</sup>

## Compatible

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

<sup>1</sup> IQ8 Series Microinverters can be added to the existing IQ7 systems on the same IQ Gateway in these grid-tied configurations: Solar Only or Solar + Battery (IQ Battery 3T/10T or IQ Battery 5P) without backup.

<sup>2</sup> IQ7 Series Microinverters cannot be added to a site with existing IQ8 Series Microinverters on the same gateway.

<sup>3</sup> A 25-year warranty is valid, provided an internet-connected IQ Gateway is installed.

| Input data (DC)                                       | Parameters              | Units | IQ8X-80-M-INT                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------|-------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Typical module compatibility                          | —                       | —     | 80-half-cell, 88-half-cell, 96-cell<br>No enforced DC/AC ratio and maximum input power.<br>Modules can be paired as long as the maximum input voltage is not exceeded and the maximum input current of the inverter is respected at the lowest and highest temperatures.<br>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                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Startup 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<br>Maximum short circuit current for modules ( $I_{sc}$ ) allowed to be paired with IQ8X Microinverters: 13 A (calculated with 1.25 safety factor as per IEC 62548).                                                                                                                                                                                                                                                                                       |
| Maximum input power <sup>4</sup>                      | $P_{dcmax}$             | W     | 560                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Output data (AC)                                      | Parameters              | Units | IQ8X-80-M-INT                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maximum AC output power                               | $P_{ac,max}$            | W     | 384                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Maximum apparent power                                | $S_{ac,max}$            | VA    | 380                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 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                                | $I_{ac,max}$            | 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/ $I_{acmax}$       | —     | $9(L+N)/27(3L+N)$<br>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. The safety factors applied may vary based on local regulations or best practices, as well as upon the characteristics of the OCPD selected.                                                                                                                        |
| Maximum units per single/Multi-phase IQ Cable section | —                       | —     | $8(L+N)/18(3L+N)$<br>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                                                                                                                                         |

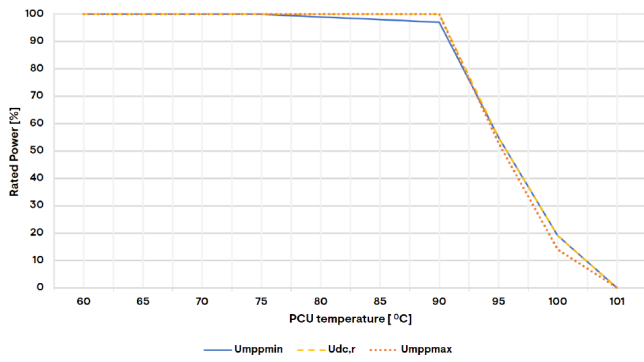
<sup>4</sup> Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://enphase.com/en-gb/installers/microinverters/calculator>.

| Output data (AC)                                             | Parameters         | Units   | IQ8X-80-M-INT                                                                                                                           |
|--------------------------------------------------------------|--------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------|
|                                                              |                    |         | 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                                 | $\eta_{\text{EU}}$ | %       | 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 IQ Cable and accessories data sheet)                                                                           |
| DC connector type                                            |                    | —       | Stäubli MC4                                                                                                                             |
| Dimensions (H × W × 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, 50065-2-2, EN 55011 <sup>5</sup>                                     |
| Product labelling                                            |                    |         | CE                                                                                                                                      |
| Advanced grid functions <sup>6</sup>                         |                    |         | 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), narrowband 200 Hz                                                                  |

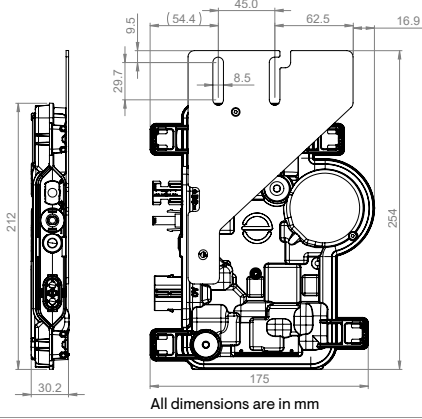
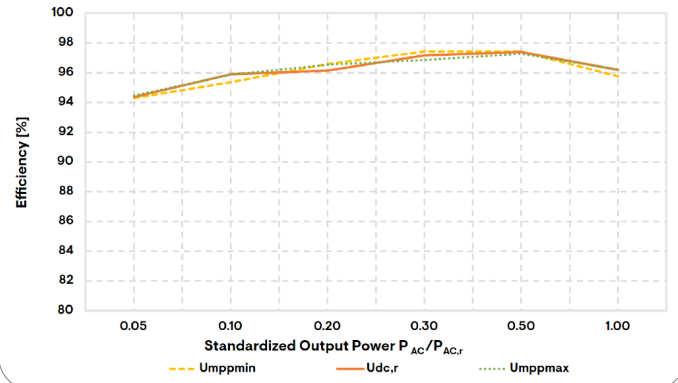
<sup>5</sup> At STC within the MPP range.

<sup>6</sup> Some of these functions require IQ Gateway Metered with current transformers and/or IQ Relay installed.

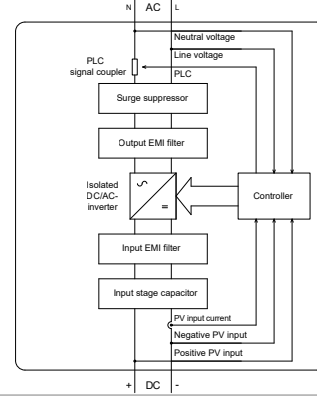
IQ8X Microinverter rated power vs PCU temperature



IQ8X Microinverter efficiency curve



IQ8X Microinverter



Assembled in India, U.S., or China

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

# 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.



## **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.

# Revision history

| Revision      | Date          | Description                                                                   |
|---------------|---------------|-------------------------------------------------------------------------------|
| DSH-00394-3.0 | June 2025     | Editorial updates.                                                            |
| DSH-00394-2.0 | February 2025 | Updated information on backward compatibility with IQ7 Series Microinverters. |
| DSH-00394-1.0 | March 2024    | Initial release.                                                              |