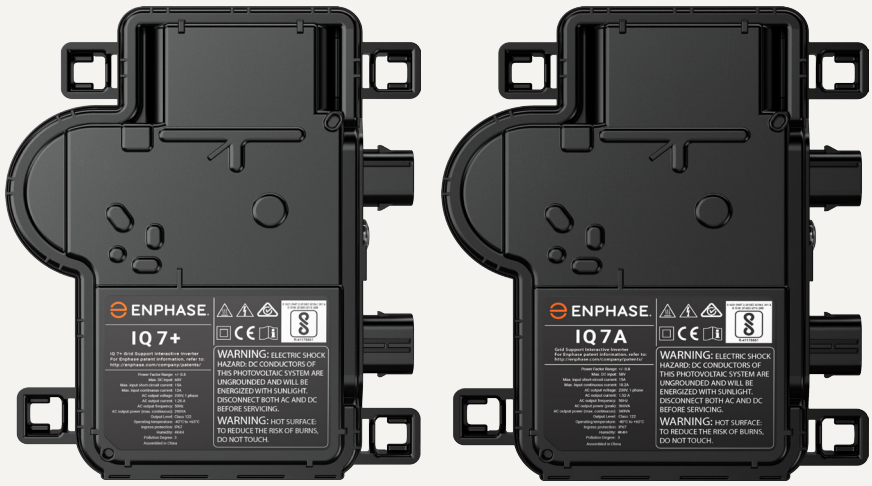
INDIA

DATA SHEET




# IQ7+ and IQ7A Microinverters

The high-powered smart grid-ready IQ7+ and IQ7A Microinverters dramatically simplify the installation process while achieving the highest system performance.


**IQ Gateway**

Part of the Enphase Energy System, IQ7 Microinverters integrate with the IQ Gateway and the Enphase App monitoring and analysis software.

**IQ Relay three-phase**

For production circuit in both single-phase and three-phase systems, integrated NS-protection device with PLC-Phase coupler (three-phase).

**Q-DCC-2 Adapter Cable**

Connect PV modules quickly and easily to IQ7 Series Microinverters using the included Q-DCC-2 adapter cable with plug-and-play MC4 connectors.

**IQ Cables**

The IQ Cables allow quick and safe connection of the microinverters.

Enphase 10 year limited warranty

IQ7 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 10 years**.

### Easy to install

- Lightweight and compact with plug-n-play connectors
- Power line communication (PLC) between components
- Familiar AC cabling architecture

### High productivity and reliability

- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Safer AC cabling methods

### Smart grid-ready

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles

*IQ Relay is required to protect the PV system from grid abnormalities.
**10 years warranty is valid, provided an internet-connected IQ Gateway is installed. Get in touch with the Enphase team for warranty extension options.

# IQ7+ and IQ7A Microinverters

| INPUT DATA (DC) | | UNITS | IQ7PLUS-72-2-INT | IQ7A-72-2-INT |
|---|---|---|---|---|
| Typical module compatibility | | | 60-cell/120 half-cell<br>66-cell/132 half-cell<br>72-cell/144 half-cell | 60-cell/120 half-cell<br>66-cell/132 half-cell<br>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 the maximum input current of the inverter at the lowest and highest temperatures is respected. See the compatibility calculator at https://www4.enphase.com/en-in/support-module-compatibility-en. | |
| Minimum/Maximum input voltage | $U_{dcmin}/U_{dcmax}$ | V | 16/60 | 18/58 |
| Start-up input voltage | $U_{dcstart}$ | V | 22 | 33 |
| Rated input voltage | $U_{dc,r}$ | V | 36 | 40.5 |
| Minimum/Maximum MPP voltage | $U_{mppmin}/U_{mppmax}$ | V | 27/45 | 38/43 |
| Minimum/Maximum operating voltage | $U_{opmin}/U_{opmax}$ | V | 16/60 | 18/58 |
| Maximum input current | $I_{dcmax}$ | A | 12 | 10.2 |
| Maximum short-circuit DC input current | $I_{scmax}$ | A | 25 | 25 |
| Maximum module Isc | | A | 20 | 20 |
| Maximum input power*** | $P_{dcmax}$ | W | 440 | 550 |

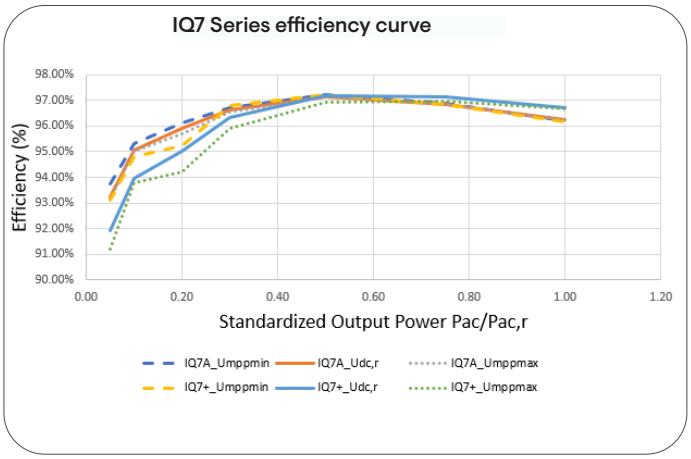
| OUTPUT DATA (AC) | | UNITS | IQ7PLUS-72-2-INT | IQ7A-72-2-INT |
|---|---|---|---|---|
| Maximum apparent power | $S_{ac,max}$ | VA | 295 | 366 |
| Rated power | $P_{ac,r}$ | W | 290 | 349 |
| Nominal grid voltage | $U_{acnom}$ | V | 230 | |
| Minimum/Maximum grid voltage | $U_{acmin}/U_{acmax}$ | V | 184/276 | |
| Maximum output current | $I_{acmax}$ | A | 1.28 | 1.59 |
| 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/$I_{acmax}$ | | 12 (L+N)/36 (3L+N) | 10 (L+N)/30 (3L+N) |
| | | | For IQ Cable with 2.5 $mm^2$ stranded conductors and using a 1.25 safety factor, 16 A per phase is calculated as maximum current according to IEC 60364. The Safety factors applied may vary based on local regulations or best practices, also upon the characteristic the OCPD selected. | |
| Protective class (all ports) | | | II | |
| Total harmonic distortion | | % | <5 | |
| Power factor setting | | | 1.0 | |
| Power factor range | cosphi | | 0.8 leading–0.8 lagging | |
| Inverter maximum efficiency | $\eta_{max}$ | % | 97.2 | |
| IS/IEC 61683 efficiency | $\eta_{IS}$ | % | 97 | 96.6 |
| Inverter topology | | | Isolated (HF Transformer) | |
| Night-time power loss | | mW | 50 | |

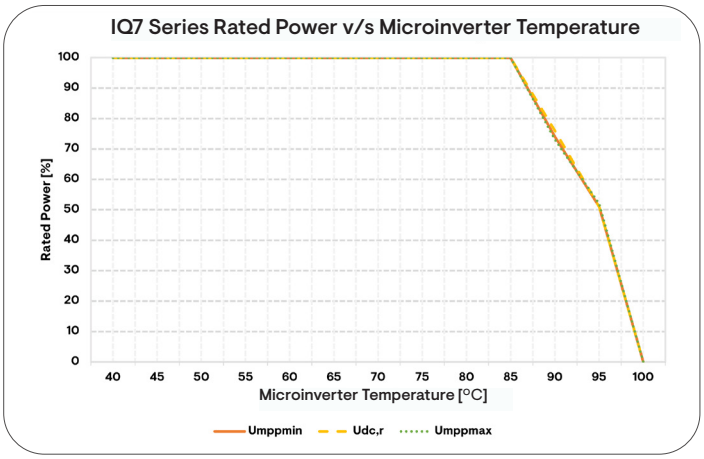
| MECHANICAL DATA | IQ7PLUS-72-2-INT | IQ7A-72-2-INT |
|---|---|---|
| Ambient air temperature range | -40°C to 65°C (-40°F to 149°F) | -40°C to 60°C (-40°F to 140°F) |
| Relative humidity range | 4% to 100% (condensing) | |
| Overvoltage class AC port | III | |
| Number of input DC connectors (pairs) per single MPP-tracker | 1 | |
| AC connector type | Enphase IQ Cabling (refer to separate datasheet for cable and accessories) | |
| DC connector type | Staubli MC4 (using Q-DCC-2 adapter) | |

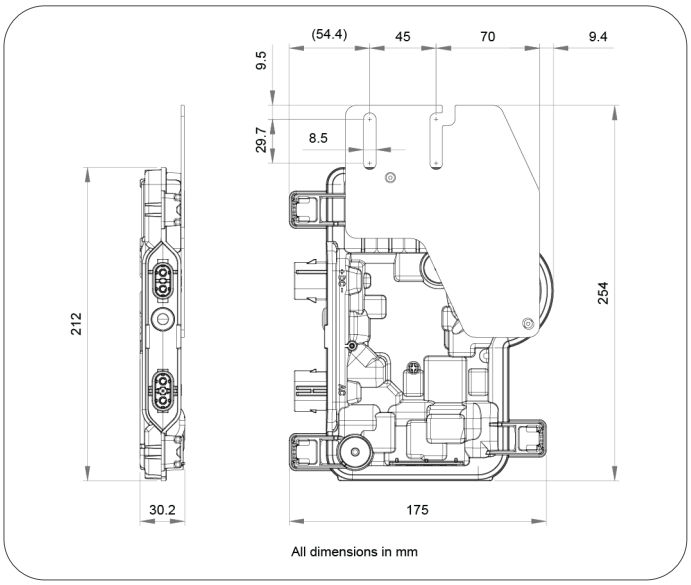
***The maximum input power values are recommended to address region-specific requirements.

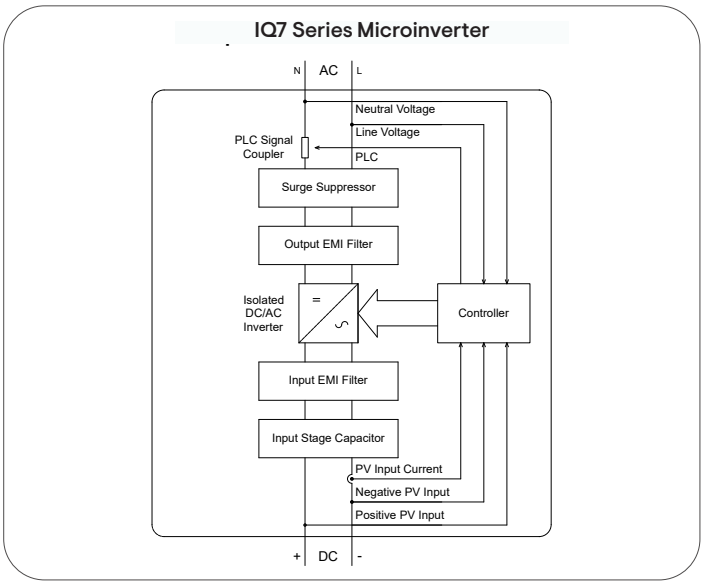
| MECHANICAL DATA | IQ7PLUS-72-2-INT | IQ7A-72-2-INT |
|---|---|---|
| Dimensions (H×W×D) | 212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2") (without mounting brackets) | |
| Weight (with mounting plate) | 1.08 kg (2.38 lbs) | |
| Cooling | Natural convection–no fans | |
| Enclosure | Class II double-insulated, corrosion-resistant polymeric enclosure | |
| IP Rating | Outdoor-IP67 | |
| Maximum altitude | 2,600 m | |
| Calorific value | 37.5 MJ/unit | |
| **COMPLIANCE** | **IQ7PLUS-72-2-INT** | **IQ7A-72-2-INT** |
| Grid compliance | IEC 62109-1, IEC 62109-2/IS 16221; IEC 61727 | |
| Safety | EN IEC 62109-1, EN IEC 62109-2 | |
| Anti-Islanding | IEC 62116/IS 16169 | |
| EMC | EN IEC 61000-3-2, 61000-3-3, 61000-6-2, 61000-6-3, EN IEC 50065-1, 50065-2-1 | |
| Product labelling | CE & BIS | |
| Advanced grid functions[1] | 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 | |

(1) Some of these functions require IQ Gateway Metered with current transformers and/or IQ Relay installed.




Assembled in China, India, and Mexico.
Enphase Solar Energy Pvt. Ltd. IndiQube Golf View Homes Ward No.73 Airport, NAL Wind Tunnel Main Road, Murugeshpalaya, Bangalore-560 017. Tel: +91-80-6117-2500

DATA SHEET


# IQ7 and IQ7+ Microinverters

The high-powered, smart grid-ready IQ7 and IQ7+ Microinverters dramatically simplify installation while achieving the highest system efficiency.

Part of the Enphase Energy System, the IQ7 Series Microinverters integrate with the IQ Gateway, IQ Battery, and the Enphase Installer App monitoring and analysis software.

Enphase 25 year limited warranty

IQ7 Series Microinverters extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty of up to 25 years.

Connect PV modules quickly and easily to IQ7 Series Microinverters using the included Q-DCC-2 adapter cable with plug-and-play MC4 connectors.

UL CERTIFIED SAFETY

IQ7 Series Microinverters are UL Listed as PV rapid shutdown equipment and conform to various regulations when installed according to the manufacturer's instructions.

**Easy to install**

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling
- Built-in rapid shutdown compliant (NEC 2014 , 2017, and 2020)

**Productive and reliable**

- Optimized for high powered 60-cell/120-half-cell and 72-cell/144-half-cell PV modules
- More than a million hours of testing
- Class II double-insulated enclosure
- UL Listed

**Smart grid-ready**

- Complies with advanced grid support, voltage, and frequency ride-through requirements
- Remotely updates to respond to changing grid requirements
- Configurable for varying grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB, 3rd Ed. - for single-phase systems)

# IQ7 and IQ7+ Microinverters

| INPUT DATA (DC) | UNITS | IQ7-60-2-US | IQ7PLUS-72-2-US |
|---|---|---|---|
| Commonly used module pairings[1] | W | 235–350 | 235–440 |
| Module compatibility | — | 60-cell/120-half-cut-cell and 54-cell/108-half-cut-cell PV modules | 60-cell/120-half-cut-cell, 66-cell/132-half-cut-cell, 54-cell/108-half-cut-cell, and 72-cell/144-half-cut-cell PV modules |
| MPPT voltage range | V | 27–37 | 27–45 |
| Operating range | V | 16–48 | 16–60 |
| Minimum/Maximum start voltage | V | 22/48 | 22/60 |
| Maximum input DC voltage | V | 50 | 60 |
| Maximum continuous input DC current | A | 10 | 12 |
| Maximum input DC short-circuit current | A | 25 | |
| Maximum module $I_{sc}$ | A | 20 | |
| Overvoltage class DC port | — | II | |
| DC port back-feed current | mA | 0 | |
| PV array configuration | — | 1 × 1 ungrounded array; no additional DC side protection required; AC side protection requires max. 20 A per branch circuit | |

| OUTPUT DATA (AC) | UNITS | IQ7-60-2-US | IQ7PLUS-72-2-US |
|---|---|---|---|
| Peak output power | VA | 250 | 295 |
| Maximum continuous output power | VA | 240 | 290 |
| Nominal (L-L) voltage/Range[2] | V | 240/211–264, 208/183-229 | |
| Maximum continuous output current | A | 1.0 (240 V)/1.15 (208 V) | 1.21 (240 V)/1.39 (208 V) |
| Nominal frequency | Hz | 60 | |
| Extended frequency range | Hz | 49–68 | |
| AC short-circuit fault current over three cycles | Arms | 5.8 | |
| Maximum units per 20 A (L-L) branch circuit[3] | — | 16 (240 V)/13 (208 V) | 13 (240 V)/11 (208 V) |
| Total harmonic distortion | % | <5 | |
| Overvoltage class AC port | — | III | |
| AC port back-feed current | mA | 18 | |
| Power factor setting | — | 1.0 | |
| Grid-tied power factor (adjustable) | — | 0.85 leading … 0.85 lagging | |
| Peak efficiency | % | 97.6 (240 V)/97.3 (208 V) | 97.5 (240 V)/97.3 (208 V) |
| CEC weighted efficiency | % | 97 | |
| Nighttime power consumption | mW | 60 | |

| MECHANICAL DATA | | |
|---|---|---|
| Ambient temperature range | °C (°F) | -40 to 65 (-40 to 149) |
| Relative humidity range | % | 4 to 100 (condensing) |
| DC connector type | — | MC4 (or Amphenol H4 UTX with additional Q-DCC-5 adapter) |
| Dimensions (H × W × D) | mm (in) | 212 (8.3) × 175 (6.9) × 30.2 (1.2) without bracket |
| Weight | kg (lb) | 1.1 (2.4) |
| Cooling | — | Natural convection–no fans |
| Approved for wet locations | — | Yes |
| Pollution degree | — | PD3 |
| Enclosure | — | Class II double-insulated, corrosion-resistant polymeric enclosure |
| Environmental category/UV exposure rating | — | NEMA type 6/Outdoor |

[1] Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at https://link.enphase.com/module-compatibility.
[2] Nominal voltage range can be extended beyond nominal if required by the utility.
[3] Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

| COMPLIANCE | |
|---|---|
| Certifications | CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3rd Ed.), HEI Rule 14H SRD 2.0, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01<br>This product is UL Listed as PV Rapid Shutdown Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2015 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions. |

# Revision history

| REVISION | DATE | DESCRIPTION |
|---|---|---|
| DSH-00174-2.0 | May 2024 | Updated the UL description. |
| DSH-00174-1.0 | July 2023 | Updated Module compatibility with 60-cell/120-half-cut-cell and 54-cell/108-half-cut-cell PV modules and 60-cell/120-half-cut-cell, 66-cell/132-half-cut-cell, 54-cell/108-half-cut-cell, and 72-cell/144-half-cut-cell PV modules. |
| Previous releases. | | |


# IQ7X Microinverter

The high-powered, smart grid-ready IQ7X Microinverter dramatically simplifies the installation process while achieving the highest system efficiency for systems with 96-cell modules.

Part of the Enphase Energy System, the IQ7X Microinverter integrates with the IQ Gateway, IQ Battery, and the Enphase Installer App monitoring and analysis software.

Enphase 25 year limited warranty

The IQ Series Microinverters extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty of up to 25 years.*

Connect PV modules quickly and easily to IQ7X Microinverters using the included Q-DCC-2 adapter cable with plug-and-play MC4 connectors.

UL CERTIFIED SAFETY

IQ7X Microinverters are UL Listed as PV rapid shutdown equipment and conform with various regulations when installed according to the manufacturer's instructions.

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

To learn more about Enphase offering, visit Enphase.com

**Easy to install**

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling
- Built-in rapid shutdown compliant (NEC 2014, 2017, 2020, and 2023)

**Efficient and reliable**

- Optimized for high powered 96-cell modules
- Highest CEC efficiency of 97.5%
- More than a million hours of testing
- Class II double-insulated enclosure
- UL Listed

**Smart grid-ready**

- Complies with advanced grid support, voltage, and frequency ride-through requirements
- Remotely updates to respond to changing grid requirements
- Configurable for varying grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE® 1547:2018 (UL 1741-SB, 3rd Ed.)

# IQ7X Microinverters

| INPUT DATA (DC) | UNITS | IQ7X-96-2-US |
|---|---|---|
| Commonly used module pairings[1] | W | 320–460 |
| Module compatibility | – | To meet compatibility, PV modules must be within the following maximum input DC voltage and maximum module $I_{sc}$. Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator. |
| MPPT voltage range | V | 53–64 |
| Operating range | V | 25–79.5 |
| Minimum/Maximum start voltage | V | 33/79.5 |
| Maximum input DC voltage | V | 79.5 |
| Maximum continuous input DC current | A | 6.5 |
| Maximum module $I_{sc}$ | A | 25 |
| Overvoltage class DC port | – | II |
| DC port backfeed current | mA | 0 |
| PV array configuration | – | 1 × 1 ungrounded array; no additional DC side protection required; AC side protection requires a maximum of 20 A per branch circuit. |

| OUTPUT DATA (AC) | UNITS | IQ7X-96-2-US@240 VAC | IQ7X-96-2-US@208 VAC |
|---|---|---|---|
| Peak output power | VA | 320 | |
| Maximum continuous output power | VA | 315 | |
| Nominal grid voltage (L-L) | V | 240, split-phase (L-L), 180° | 208, single-phase (L-L), 120° |
| Minimum and Maximum grid voltage[2] | V | 211–264 | 183–229 |
| Maximum continuous output current | A | 1.31 | 1.51 |
| Nominal frequency | Hz | 60 | |
| Extended frequency range | Hz | 49–68 | |
| AC short-circuit fault current over three cycles | $A_{rms}$ | 5.8 | |
| Maximum units per 20 A (L-L) branch circuit[3] | – | 12 | 10 |
| Overvoltage class AC port | – | III | |
| AC port backfeed current | mA | 18 | |
| Power factor setting | – | 1.0 | |
| Grid-tied power factor (adjustable) | – | 0.85 leading … 0.85 lagging | |
| CEC weighted efficiency | % | 97.5 | 97.0 |

| MECHANICAL DATA | UNITS | |
|---|---|---|
| Ambient temperature range | °C (°F) | -40 to 60 (-40 to 140) |
| Relative humidity range | % | 4 to 100 (condensing) |
| DC connector type | – | MC4 (or Amphenol H4 UTX with additional Q-DCC-5 adapter) |
| Dimensions (H × W × D) | mm (in) | 212 (8.3) × 175 (6.9) × 30.2 (1.2) |
| Weight | kg (lb) | 1.1 (2.4) |
| Cooling | – | Natural convection–no fans |
| Approved for wet locations | – | Yes |
| Pollution degree | – | PD3 |
| Enclosure | – | Class II double-insulated, corrosion-resistant polymeric enclosure |
| Environmental category/UV exposure rating | – | NEMA Type 6/Outdoor |

| COMPLIANCE | |
|---|---|
| Compliance | CA Rule 21 (UL 1741-SA), IEEE® 1547:2018 (UL 1741-SB 3rd Ed.), HEI Rule 14H SRD 2.0<br>UL 62109-1, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01<br>This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020, and NEC 2023 section 690.12 and C22.1-2015. Rule 64-218 rapid shutdown of PV Systems for AC and DC conductors when installed according to the manufacturer's instructions. |

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses.
(2) Nominal voltage range can be extended beyond nominal if required by the utility.
(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

# Revision history

| REVISION | DATE | DESCRIPTION |
|---|---|---|
| DSH-00208-3.0 | March 2024 | Updated maximum module $I_{sc}$ value to 25 A. |
| DSH-00208-2.0 | November 2023 | Included NEC 2023 specification in the "Compliance" section. |
| DSH-00208-1.0 | September 2023 | Updated module compatibility specification. |
| Previous releases. | | |

DATA SHEET

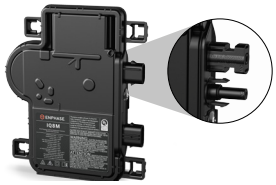

# IQ8M and IQ8A Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC), which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built using advanced 55-nm technology with high-speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

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

Enphase 25 year limited warranty

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



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

UL CERTIFIED SAFETY

IQ8 Series Microinverters are UL Listed as PV rapid shutdown equipment and conform with various regulations when installed according to the manufacturer's instructions.

**Easy to install**

- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

**High productivity and reliability**

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

**Microgrid-forming**

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB)

**NOTE:**

- IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, and so on) in the same system.
- IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative according to the IEEE 1547 interconnection standard. An IQ Gateway is required to make these changes during installation.

* Meets UL 1741 only when installed with IQ System Controller 2 or 3.
** IQ8M and IQ8A support split-phase, 240 V installations only.

# IQ8M and IQ8A Microinverters

| INPUT DATA (DC) | UNITS | IQ8M-72-M-US | IQ8A-72-M-US |
|---|---|---|---|
| Commonly used module pairings[1] | W | 260–460 | 295–500 |
| Module compatibility | | To meet compatibility, PV modules must be within the following maximum input DC voltage and maximum module $I_{sc}$. Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator. | |
| MPPT voltage range | V | 30–45 | 32–45 |
| Operating range | V | 16–58 | |
| Minimum/Maximum start voltage | V | 22/58 | |
| Maximum input DC voltage | V | 60 | |
| Maximum continuous input DC current | A | 12 | |
| Maximum input DC short-circuit current | A | 25 | |
| Maximum module ($I_{sc}$) | A | 20 | |
| Overvoltage class DC port | | II | |
| DC port backfeed current | mA | 0 | |
| PV array configuration | | Ungrounded array; no additional DC side protection required; AC side protection requires max 20 A per branch circuit | |
| **OUTPUT DATA (AC)** | **UNITS** | **IQ8M-72-M-US** | **IQ8A-72-M-US** |
| Peak output power | VA | 330 | 366 |
| Maximum continuous output power | VA | 325 | 349 |
| Nominal grid voltage (L-L) | V | 240, split-phase (L-L), 180° | |
| Minimum and Maximum grid voltage[2] | V | 211-264 | |
| Maximum continuous output current | A | 1.35 | 1.45 |
| Nominal frequency | Hz | 60 | |
| Extended frequency range | Hz | 47–68 | |
| AC short-circuit fault current over three cycles | Arms | 2 | |
| Maximum units per 20 A (L-L) branch circuit[3] | | 11 | |
| Total harmonic distortion | % | <5 | |
| Overvoltage class AC port | | III | |
| AC port backfeed current | mA | 30 | |
| Power factor setting | | 1.0 | |
| Grid-tied power factor (adjustable) | | 0.85 leading ... 0.85 lagging | |
| Peak efficiency | % | 97.8 | 97.7 |
| CEC weighted efficiency | % | 97.5 | 97 |
| Nighttime power consumption | mW | 21 | 22 |
| **MECHANICAL DATA** | | | |
| Ambient temperature range | | -40°C to 60°C (-40°F to 140°F) | |
| Relative humidity range | | 4% to 100% (condensing) | |
| DC connector type | | Stäubli MC4 | |
| Dimensions (H × W × D) | | 212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2") | |
| Weight | | 1.1 kg (2.43 lbs) | |
| Cooling | | Natural convection–no fans | |
| Approved for wet locations | | Yes | |
| Pollution degree | | PD3 | |
| Enclosure | | Class II double-insulated, corrosion-resistant polymeric enclosure | |
| Environmental category/UV exposure rating | | NEMA Type 6/outdoor | |

(1) No enforced DC/AC ratio.
(2) Nominal voltage range can be extended beyond nominal if required by the utility.
(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

| COMPLIANCE | |
|---|---|
| Certifications | CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01.<br>This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020, and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV Systems, for AC and DC conductors, when installed according to the manufacturer's instructions. |

# Revision history

| REVISION | DATE | DESCRIPTION |
|---|---|---|
| DSH-00205-3.0 | February 2024 | Updated the information about IEEE 1547 interconnection standard requirements. |
| DSH-00205-2.0 | November 2023 | Updated the nighttime power consumption values.<br>Included NEC 2023 specification in the "Compliance" section. |
| DSH-00205-1.0 | September 2023 | Updated the module compatibility specification. |
| Previous releases. | | |

ENPHASE

DATA SHEET

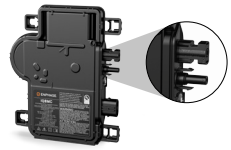

# IQ8MC Microinverter

Our newest IQ8 Series Microinverters are the industry's first microgrid-forming*, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC), which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55-nm technology with high-speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

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

Enphase 25 year limited warranty

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



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

UL CERTIFIED SAFETY

IQ8 Series Microinverters are UL Listed as PV rapid shutdown equipment and conforms with various regulations when installed according to the manufacturer's instructions.

*Meets UL 1741 only when installed with IQ System Controller 2 or 3.

### Easy to install

- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

### High productivity and reliability

- Produces power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

### Microgrid-forming

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB)

**NOTE:**

- IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, and so on) in the same system.
- IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative. An IQ Gateway is required to make these changes during installation.

# IQ8MC Microinverter

| INPUT DATA (DC) | UNITS | IQ8MC-72-M-US |
|---|---|---|
| Commonly used module pairings [1] | W | 260–460 |
| Module compatibility | — | To meet compatibility, PV modules must be within the following max. input DC voltage and max. module $I_{sc}$. Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator. |
| MPPT voltage range | V | 25–45 |
| Operating range | V | 18–58 |
| Min./Max. start voltage | V | 22/58 |
| Max. input DC voltage | V | 60 |
| Max. continuous operating DC current | A | 14 |
| Max. input DC short-circuit current | A | 25 |
| Max. module $I_{sc}$ | A | 20 |
| Overvoltage class DC port | — | II |
| DC port backfeed current | mA | 0 |
| PV array configuration | — | Ungrounded array; no additional DC side protection required; AC side protection requires max 20 A per branch circuit |

| OUTPUT DATA (AC) | UNITS | IQ8MC-72-M-US @240 VAC | IQ8MC-72-M-US @208 VAC |
|---|---|---|---|
| Peak output power | VA | 330 | 315 |
| Max. continuous output power | VA | 320 | 310 |
| Nominal grid voltage (L-L) | V | 240, split-phase (L-L), 180° | 208, single-phase (L-L), 120° |
| Min./Max. grid voltage [2] | V | 211–264 | 183–229 |
| Max. continuous output current | A | 1.33 | 1.49 |
| Nominal frequency | Hz | 60 | |
| Extended frequency range | Hz | 47–68 | |
| AC short circuit fault current over three cycles | Arms | 2.70 | |
| Max. units per 20 A (L-L) branch circuit [3] | — | 12 | 10 |
| Total harmonic distortion | % | <5 | |
| Overvoltage class AC port | — | III | |
| AC port backfeed current | mA | 18 | |
| Power factor setting | — | 1.0 | |
| Grid-tied power factor (adjustable) | — | 0.85 leading ... 0.85 lagging | |
| Peak efficiency | % | 97.4 | 97.2 |
| CEC weighted efficiency | % | 97.0 | 96.5 |
| Nighttime power consumption | mW | 33 | 25 |

| MECHANICAL DATA | UNITS |
|---|---|
| Ambient temperature range | -40°C to 65°C (-40°F to 149°F) |
| Relative humidity range | 4% to 100% (condensing) |
| DC connector type | Stäubli MC4 |
| Dimensions (H × W × D); Weight | 212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2"); 1.1 kg (2.43 lbs) |
| Cooling | Natural convection – no fans |
| Approved for wet locations; Pollution degree | Yes; PD3 |
| Enclosure | Class II double-insulated, corrosion-resistant polymeric enclosure |
| Environ. category; UV exposure rating | NEMA Type 6; outdoor |

| COMPLIANCE | |
|---|---|
| Certifications | CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01. This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020, and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors when installed according to the manufacturer's instructions. |

(1) No enforced DC/AC ratio.
(2) Nominal voltage range can be extended beyond nominal if required by the utility.
(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

# Revision history

| REVISION | DATE | DESCRIPTION |
|---|---|---|
| DSH-00049-4.0 | February 2024 | Added information about IEEE 1547 interconnection standard requirements. |
| DSH-00049-3.0 | October 2023 | Included NEC 2023 specification in the “Compliance” section. |
| DSH-00049-2.0 | September 2023 | Updated module compatibility information. |
| DSH-00049-1.0 | May 2023 | Preliminary release. |

# 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.

Enphase 15 year limited warranty

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.**

**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.

*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.

# IQ8P Microinverter

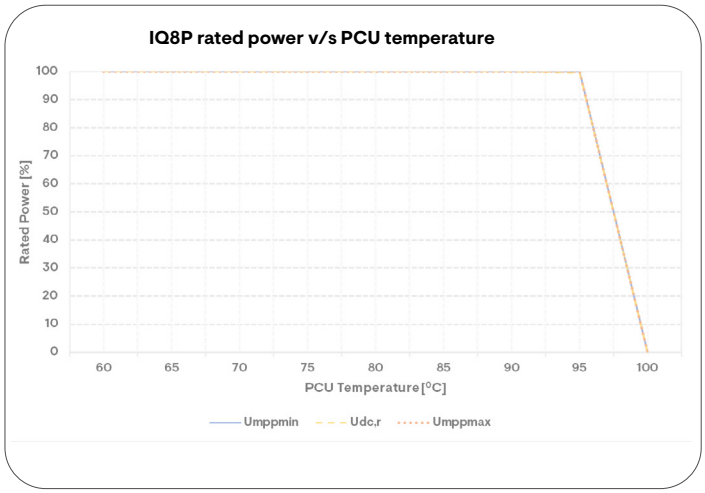
| INPUT DATA (DC) | | UNITS | IQ8P-72-2-INT |
|---|---|---|---|
| Typical module compatibility | | | 60-cell/120-half-cell, 66-cell/132-half-cell, 72-cell/144-half-cell, 78-cell/156-half-cell<br><br>No enforced DC/AC ratio and maximum input power. Modules can be paired as long as the maximum input voltage 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/microinverters/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<br>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)<br><br>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 | $\eta_{max}$ | % | 97.34 |
| IS/IEC 61683 efficiency | $\eta_{EU}$ | % | 97.00 |
| Inverter topology | — | — | Isolated (HF Transformer) |
| Nighttime power loss | — | mW | 100 |

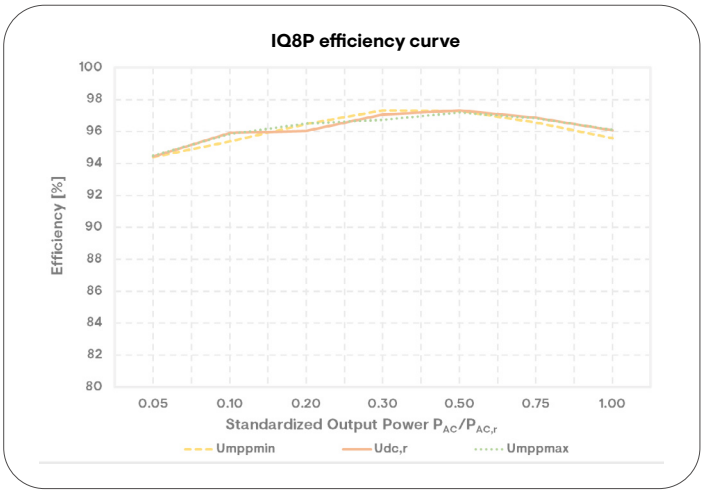
| MECHANICAL DATA | IQ8P-72-2-INT |
|---|---|
| Ambient air temperature range | -40°C to 65°C (-40°F to 149°F) |
| Relative humidity range | 4% to 100% (condensing) |
| Overvoltage class AC port | III |
| Number of input DC connectors (pairs) per single MPP-tracker | 1 |
| AC connector type | IQ Cabling (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 |

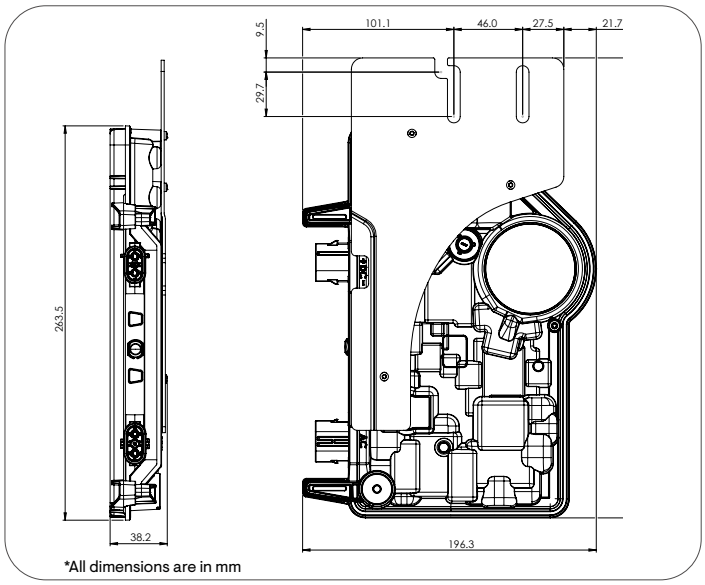
(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at https://www4.enphase.com/en-in/support-module-compatibility-en.

| 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 |

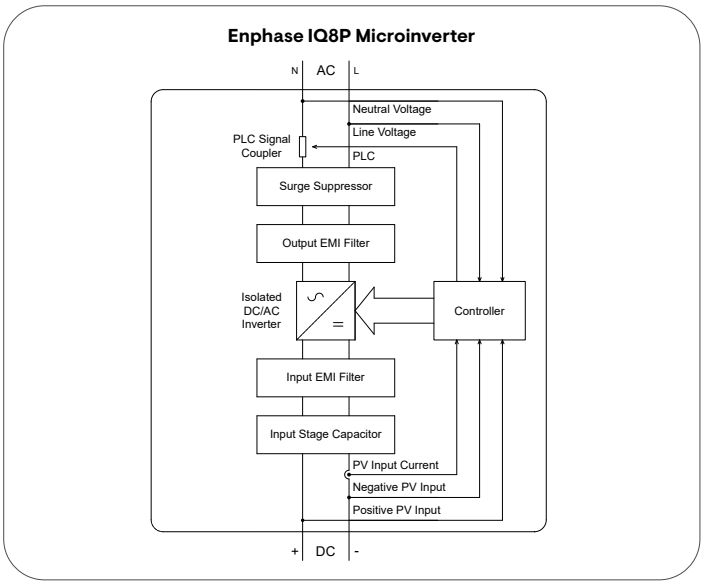
(2) At STC within MPP range.
(3) Some of these functions require IQ Gateway Metered with current transformers and/or IQ Relay installed.




*All dimensions are in mm




Assembled in India.

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

Importer: Enphase Solar Energy Pvt. Ltd., IndiQube Golf View Homes, Ward No: 73 Airport, NAL Wind Tunnel Main Road, Bangalore-560017. Tel: +91-8061172500

# 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 |

ENPHASE.

DATA SHEET


# IQ8X Microinverter

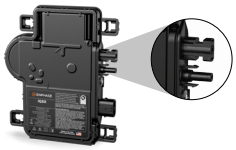
Our newest IQ8 Series Microinverters are the industry's first microgrid-forming*, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC), which enables the microinverter to operate in grid-tied or off-grid mode. This chip is built using advanced 55-nm technology with high-speed digital logic and superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

IQ8X Microinverter is the latest addition to this family, designed to support PV modules with high output DC voltage and cell counts, such as 80-half-cut cells, 88-half-cut cells and 96-cells.

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

Enphase 25 year limited warranty

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



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

UL CERTIFIED SAFETY

IQ8 Series Microinverters are UL Listed as PV rapid shutdown equipment and conform with regulations when installed according to the manufacturer's instructions.

*Meets UL 1741 only when installed with IQ System Controller 2 or 3.

**Easy to install**

- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

**High productivity and reliability**

- Produces power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

**Microgrid-forming**

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB)

**NOTE:**

- IQ8 Series Microinverters cannot be mixed with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, and so on) in the same system.
- IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative, according to the IEEE 1547 interconnection standard. An IQ Gateway is required to make these changes during installation.

# IQ8X Microinverter

| INPUT DATA (DC) | UNIT | IQ8X-80-M-US |
|---|---|---|
| Commonly used module pairings [1] | W | 320–540 |
| Module compatibility | — | To meet compatibility, PV modules must be within the following maximum input DC voltage and maximum module $I_{sc}$ Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator |
| MPPT voltage range | V | 43–60 |
| Operating range | V | 25–79.5 |
| Minimum and maximum start voltage | V | 30–79.5 |
| Maximum input DC voltage | V | 79.5 |
| Maximum continuous operating DC current | A | 10 |
| Maximum input DC short-circuit current | A | 16 |
| Maximum module $I_{sc}$ | A | 13 |
| Overvoltage class DC port | — | II |
| DC port backfeed current | mA | 0 |
| PV array configuration | — | Ungrounded array; no additional DC side protection required; AC side protection requires a maximum of 20 A per branch circuit |

| OUTPUT DATA (AC) | UNIT | IQ8X-80-M-US @240 VAC | IQ8X-80-M-US @208 VAC |
|---|---|---|---|
| Peak output power | VA | 384 | 366 |
| Maximum continuous output power | VA | 380 | 360 |
| Nominal grid voltage (L-L) | V | 240, split-phase (L-L), 180° | 208, single-phase (L-L), 120° [4] |
| Minimum and maximum grid voltage [2] | V | 211–264 | 183–229 |
| Max. continuous output current | A | 1.58 | 1.73 |
| Nominal frequency | Hz | 60 | |
| Extended frequency range | Hz | 47–68 | |
| AC short circuit fault current over three cycles | Arms | 2.70 | |
| Maximum units per 20 A (L-L) branch circuit [3] | — | 10 | 9 |
| Total harmonic distortion | % | <5 | |
| Overvoltage class AC port | — | III | |
| AC port backfeed current | mA | 18 | |
| Power factor setting | — | 1.0 | |
| Grid-tied power factor (adjustable) | — | 0.85 leading ... 0.85 lagging | |
| Peak efficiency | % | 97.3 | 97.0 |
| CEC weighted efficiency | % | 96.5 | 96.5 |
| Nighttime power consumption | mW | 26 | 12 |

| MECHANICAL DATA | |
|---|---|
| Ambient temperature range | -40°C to 65°C (-40°F to 149°F) |
| Relative humidity range | 4% to 100% (condensing) |
| DC connector type | Stäubli MC4 |
| Dimensions (H × W × D); Weight | 212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2"); 1.1 kg (2.43 lb) |
| Cooling | Natural convection – no fans |
| Approved for wet locations; Pollution degree | Yes; PD3 |
| Enclosure | Class II double-insulated, corrosion-resistant polymeric enclosure |
| Environmental category; UV exposure rating | NEMA Type 6; outdoor |

| COMPLIANCE | |
|---|---|
| Certifications | CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01. This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020, and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors when installed according to the manufacturer's instructions. |

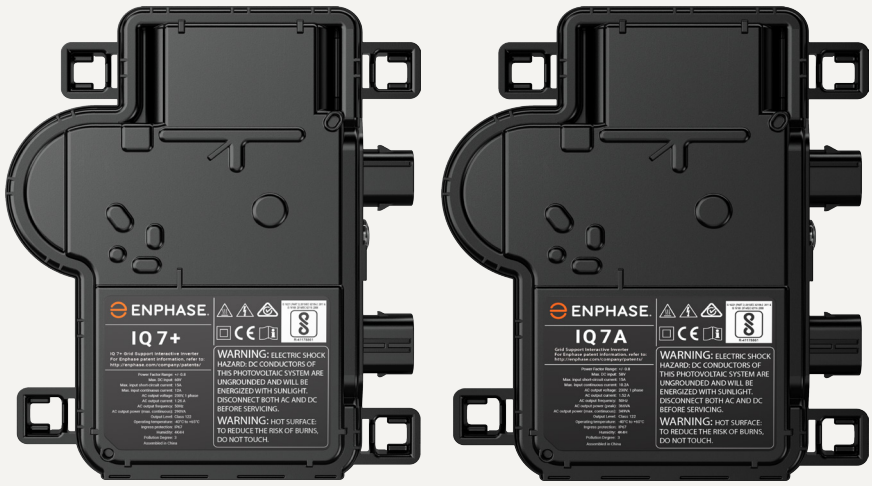
(1) No enforced DC/AC ratio.
(2) Nominal voltage range can be extended beyond nominal if required by the utility.
(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.
(4) IQ8X is not certified for use with Enphase Three Phase Network Protection Relay (NPR-3P-208-NA) and is, therefore, designed for single-phase operation only. Check with the local utility requirements if you wish to install single-phase inverters across three phases.

# Revision history

| REVISION | DATE | DESCRIPTION |
|---|---|---|
| DSH-00185-3.0 | February 2024 | Updated the information about IEEE 1547 interconnection standard requirements. |
| DSH-00185-2.0 | November 2023 | Preliminary release - public. |
| DSH-00185-1.0 | October 2023 | Preliminary release. |

INDIA

DATA SHEET




# IQ7+ and IQ7A Microinverters

The high-powered smart grid-ready IQ7+ and IQ7A Microinverters dramatically simplify the installation process while achieving the highest system performance.


**IQ Gateway**

Part of the Enphase Energy System, IQ7 Microinverters integrate with the IQ Gateway and the Enphase App monitoring and analysis software.

**IQ Relay three-phase**

For production circuit in both single-phase and three-phase systems, integrated NS-protection device with PLC-Phase coupler (three-phase).

**Q-DCC-2 Adapter Cable**

Connect PV modules quickly and easily to IQ7 Series Microinverters using the included Q-DCC-2 adapter cable with plug-and-play MC4 connectors.

**IQ Cables**

The IQ Cables allow quick and safe connection of the microinverters.

Enphase 10 year limited warranty

IQ7 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 10 years**.

### Easy to install

- Lightweight and compact with plug-n-play connectors
- Power line communication (PLC) between components
- Familiar AC cabling architecture

### High productivity and reliability

- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Safer AC cabling methods

### Smart grid-ready

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles

*IQ Relay is required to protect the PV system from grid abnormalities.
**10 years warranty is valid, provided an internet-connected IQ Gateway is installed. Get in touch with the Enphase team for warranty extension options.

# IQ7+ and IQ7A Microinverters

| INPUT DATA (DC) | | UNITS | IQ7PLUS-72-2-INT | IQ7A-72-2-INT |
|---|---|---|---|---|
| Typical module compatibility | | | 60-cell/120 half-cell<br>66-cell/132 half-cell<br>72-cell/144 half-cell | 60-cell/120 half-cell<br>66-cell/132 half-cell<br>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 the maximum input current of the inverter at the lowest and highest temperatures is respected. See the compatibility calculator at https://www4.enphase.com/en-in/support-module-compatibility-en. | |
| Minimum/Maximum input voltage | $U_{dcmin}/U_{dcmax}$ | V | 16/60 | 18/58 |
| Start-up input voltage | $U_{dcstart}$ | V | 22 | 33 |
| Rated input voltage | $U_{dc,r}$ | V | 36 | 40.5 |
| Minimum/Maximum MPP voltage | $U_{mppmin}/U_{mppmax}$ | V | 27/45 | 38/43 |
| Minimum/Maximum operating voltage | $U_{opmin}/U_{opmax}$ | V | 16/60 | 18/58 |
| Maximum input current | $I_{dcmax}$ | A | 12 | 10.2 |
| Maximum short-circuit DC input current | $I_{scmax}$ | A | 25 | 25 |
| Maximum module Isc | | A | 20 | 20 |
| Maximum input power*** | $P_{dcmax}$ | W | 440 | 550 |

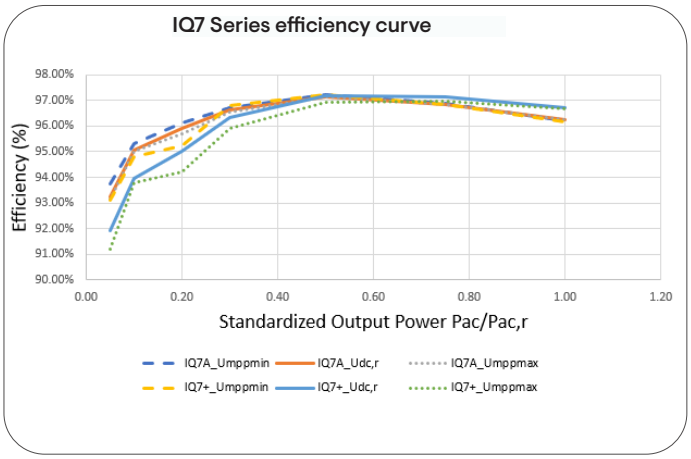
| OUTPUT DATA (AC) | | UNITS | IQ7PLUS-72-2-INT | IQ7A-72-2-INT |
|---|---|---|---|---|
| Maximum apparent power | $S_{ac,max}$ | VA | 295 | 366 |
| Rated power | $P_{ac,r}$ | W | 290 | 349 |
| Nominal grid voltage | $U_{acnom}$ | V | 230 | |
| Minimum/Maximum grid voltage | $U_{acmin}/U_{acmax}$ | V | 184/276 | |
| Maximum output current | $I_{acmax}$ | A | 1.28 | 1.59 |
| 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/$I_{acmax}$ | | 12 (L+N)/36 (3L+N) | 10 (L+N)/30 (3L+N) |
| | | | For IQ Cable with 2.5 $mm^2$ stranded conductors and using a 1.25 safety factor, 16 A per phase is calculated as maximum current according to IEC 60364. The Safety factors applied may vary based on local regulations or best practices, also upon the characteristic the OCPD selected. | |
| Protective class (all ports) | | | II | |
| Total harmonic distortion | | % | <5 | |
| Power factor setting | | | 1.0 | |
| Power factor range | cosphi | | 0.8 leading–0.8 lagging | |
| Inverter maximum efficiency | $\eta_{max}$ | % | 97.2 | |
| IS/IEC 61683 efficiency | $\eta_{IS}$ | % | 97 | 96.6 |
| Inverter topology | | | Isolated (HF Transformer) | |
| Night-time power loss | | mW | 50 | |

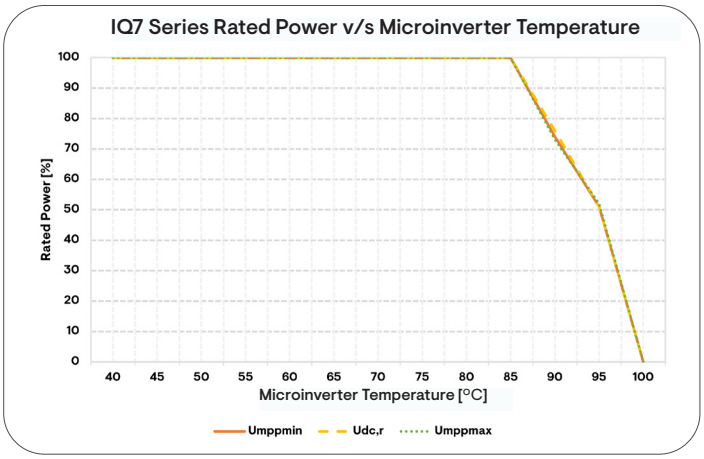
| MECHANICAL DATA | IQ7PLUS-72-2-INT | IQ7A-72-2-INT |
|---|---|---|
| Ambient air temperature range | -40°C to 65°C (-40°F to 149°F) | -40°C to 60°C (-40°F to 140°F) |
| Relative humidity range | 4% to 100% (condensing) | |
| Overvoltage class AC port | III | |
| Number of input DC connectors (pairs) per single MPP-tracker | 1 | |
| AC connector type | Enphase IQ Cabling (refer to separate datasheet for cable and accessories) | |
| DC connector type | Staubli MC4 (using Q-DCC-2 adapter) | |

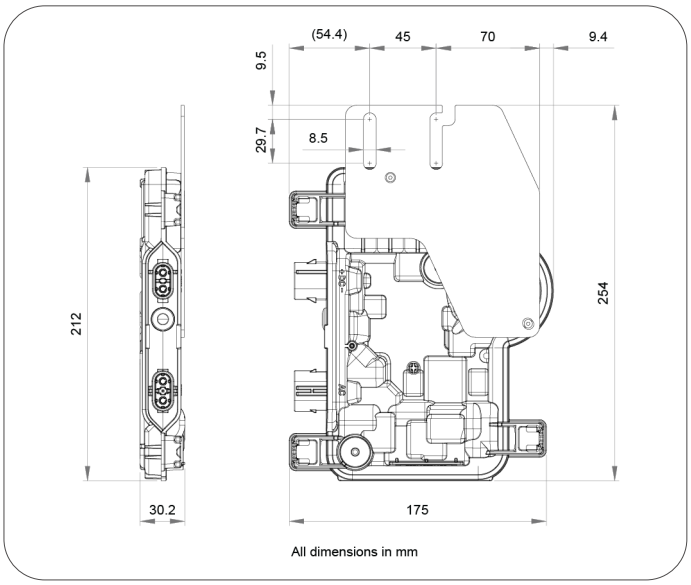
***The maximum input power values are recommended to address region-specific requirements.

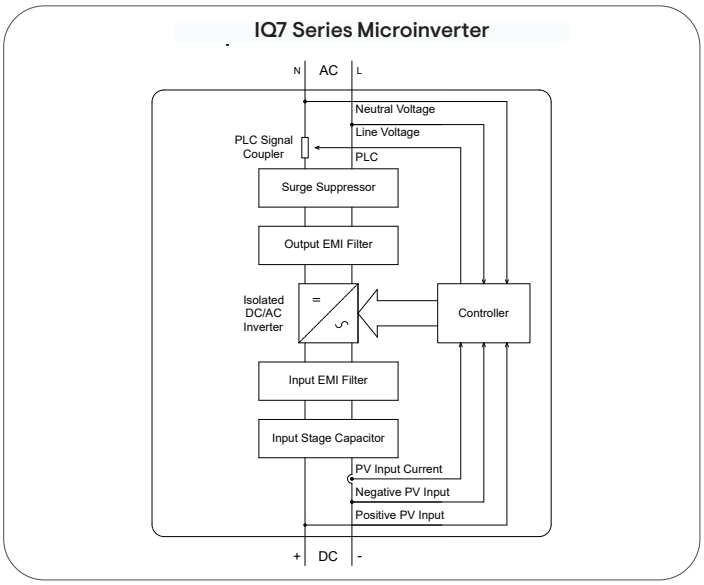
| MECHANICAL DATA | IQ7PLUS-72-2-INT | IQ7A-72-2-INT |
|---|---|---|
| Dimensions (H×W×D) | 212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2") (without mounting brackets) | |
| Weight (with mounting plate) | 1.08 kg (2.38 lbs) | |
| Cooling | Natural convection–no fans | |
| Enclosure | Class II double-insulated, corrosion-resistant polymeric enclosure | |
| IP Rating | Outdoor-IP67 | |
| Maximum altitude | 2,600 m | |
| Calorific value | 37.5 MJ/unit | |
| **COMPLIANCE** | **IQ7PLUS-72-2-INT** | **IQ7A-72-2-INT** |
| Grid compliance | IEC 62109-1, IEC 62109-2/IS 16221; IEC 61727 | |
| Safety | EN IEC 62109-1, EN IEC 62109-2 | |
| Anti-Islanding | IEC 62116/IS 16169 | |
| EMC | EN IEC 61000-3-2, 61000-3-3, 61000-6-2, 61000-6-3, EN IEC 50065-1, 50065-2-1 | |
| Product labelling | CE & BIS | |
| Advanced grid functions[1] | 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 | |

(1) Some of these functions require IQ Gateway Metered with current transformers and/or IQ Relay installed.




Assembled in China, India, and Mexico.
Enphase Solar Energy Pvt. Ltd. IndiQube Golf View Homes Ward No.73 Airport, NAL Wind Tunnel Main Road, Murugeshpalaya, Bangalore-560 017. Tel: +91-80-6117-2500