New product data sheet compendium

IQ Battery 5P

IQ System Controller 3 INT

IQ8 Series Microinverters

Be brighter than the sun

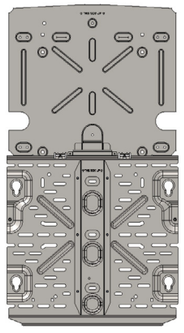
ENPHASE®

PRELIMINARY DATA SHEET AU NZ

Enphase IQ Battery 5P

The Enphase IQ Battery 5P all-in-one AC-coupled system is powerful, reliable, simple, and safe. It has a total usable energy capacity of 5.0 kWh and includes six embedded grid-forming microinverters with 3.84 kVA continuous power rating. It provides backup capability and installers can quickly design the right system size to meet customer needs.

Dimensions



Wall-mount brackets

Enphase 15 year limited warranty

15-year limited warranty

Powerful

- Provides 3.84 kVA continuous and 7.68 kVA peak power
- Includes six embedded IQ8D-BAT Microinverters

Reliable

- 15-year limited warranty
- Cools passively with no moving parts or fans
- Uses wired communication for fast and consistent connection
- Updates software and firmware remotely

Simple

- Fully integrated AC battery system
- Installs and commissions easily
- Supports backup, self-consumption, and time of use (TOU) modes
- Offers homeowners remote monitoring and control from the Enphase App
- Field replaceable components

Safe

- Tested to meet UL 9540A, the highest industry standard for battery safety
- Uses lithium iron phosphate (LFP) chemistry for maximum safety and longevity

Enphase IQ Battery 5P

MODEL NUMBER	
IQBATTERY-5P-1P-ROW	IQ Battery 5P system with integrated Enphase IQ Microinverters and battery management system (BMS) with Battery Controller, includes: • IQ Battery 5P unit (B05-T02-ROW00-1-2) • IQ Battery 5P cover and wall-mount bracket (B05-CX-0550-O; B05-WB-0543-O)
ACCESSORIES AND REPLACEMENT PARTS	
IQ8D-BAT-RMA	IQ8D-BAT Microinverter for IQ Battery 5P
B05-T02-ROW00-1-2-RMA	IQ Battery 5P Battery unit for field replacement
B05-CX-0550-O	IQ Battery 5P cover
B05-PM-0550-O	IQ Battery 5P pedestal mount
B05-CP-096-O	IQ Battery 5P conduit plates. Includes one left side and one right side conduit plate
B05-WB-0543-O	IQ Battery 5P wall bracket. Includes one wall-mount bracket and one top shield
IQBATTERY-HNDL-5	IQ Battery 5P lifting handles. Includes one left side and one right side lifting handle
B05-ACFB-080-O	IQ Battery 5P AC filter board
B05-BMSRA-0490-O	IQ Battery 5P BMS board
B05-CANB-063-O	IQ Battery 5P control communication board
B05-RICS-0524-O, B05-RUCS-0524-O	IQ Battery 5P control switch preinstalled on wiring cover
OUTPUT (AC)	**@230 VAC[1]**
Rated output apparent power	3.84 kVA
Peak output power	7.68 kVA (3 seconds), 6.14 kVA (10 seconds)
Nominal voltage/range	230/211–264 VAC
Nominal frequency/range	50/47–53 Hz
Rated output current (@230 VAC)	16.7 A
Peak output current (@230 VAC)	33.4 A (3 seconds), 26.7 A (10 seconds)
Power factor (adjustable)	0.8 leading ... 0.8 lagging
Maximum output overcurrent protection	20 A per unit
Inverter topology	Isolated (HF transformer)
Interconnection	Single phase
Protection class	I
Overvoltage category	III
AC round trip efficiency[2]	90%
BATTERY	
Usable capacity	5.0 kWh
DC round trip efficiency	96%
Nominal DC voltage	76.8 V
Maximum DC voltage	86.4 V
Ambient operating temperature (charging)	-20°C to 50°C non-condensing
Ambient operating temperature (discharging)	-20°C to 55°C non-condensing
Optimum operating temperature range	0°C to 30°C
Chemistry	Lithium iron phosphate (LFP)

[1] Supported in both grid-connected and backup/off-grid operation
[2] AC to battery to AC at 50% power rating

Enphase IQ Battery 5P

MECHANICAL DATA	
Dimensions (HxWxD)	980 mm x 550 mm x 188 mm
Lifting weight	66.3 kg
Total installed weight	78.9 kg
Enclosure	Outdoor– IP55
IQ8D-BAT Microinverter enclosure	Outdoor–IP67
Cooling	Natural convection
Altitude	Up to 2,000 m
Mounting	Wall-mount or pedestal-mount (sold separately)
FEATURES AND COMPLIANCE	
Compatibility	Compatible with Enphase IQ Series and S Series Microinverters. Enphase IQ System Controller 3 INT is required for grid-tied and backup operation.
Communication	Wired control communication
Services	Backup, self-consumption, and TOU
Monitoring	Enphase Installer Platform and Enphase App monitoring options; API integration
Compliance	Performance: AS/NZS 4777.2 :2020 + A1 Safety: AS IEC 62040.1, EN IEC 62109-1, EN IEC 62109-2, AS IEC 62619, UN 38.3 EMC: EN 50065-2-2, IEC 61000-3-2, IEC 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-11, IEC 61000-6-2
LIMITED WARRANTY	
Limited warranty	>60% capacity, up to 15 years or 6,000 cycles[3]

[3] Whichever occurs first. Restrictions apply

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Enphase Energy Inc., 47281 Bayside Pkwy.,
Fremont, CA, 94538,
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Importer:
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South Melbourne VIC 3205.
PH: +61 3 86691679

Assembled in China

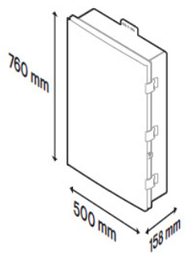
ENPHASE.

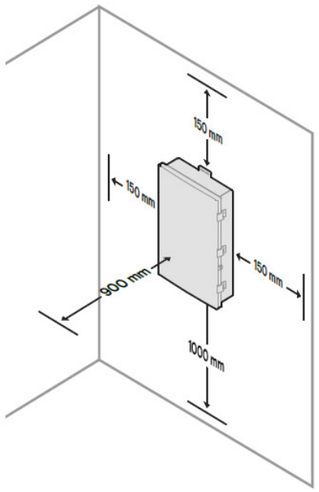
PRELIMINARY DATASHEET APAC

IQ System Controller 3 INT

The IQ System Controller 3 INT connects the home to grid power, the IQ Battery storage system, and solar PV. It provides microgrid interconnect device (MID) functionality by automatically detecting and seamlessly transitioning the home energy system from grid power to backup power in the event of a grid failure. It consolidates interconnection equipment and communication gateway into a single enclosure and streamlines grid independent capabilities of PV and storage installations by providing a consistent, pre-wired solution for residential applications.

Mounting IQ System Controller 3 INT
Must be installed with clearance at the left, right, top, bottom, and front of the product





Enphase 10 year limited warranty

10-year limited warranty

Reliable

- Durable IP55 enclosure
- Ten-year limited warranty

Smart

- Controls safe connectivity to the grid
- Automatically detects grid outages
- Provides seamless transition to backup
- Wired Controls

Simple

- Supports single phase and three phase configurations for solar and grid
- Supports conduit entry from the bottom, rear, left, and right
- Supports IQ7 and S Series Microinverters
- Supports main circuit breaker up to 80 A

IQ System Controller 3 INT

MODEL NUMBER	
SC100G-M230ROW	IQ System Controller 3 INT, microgrid interconnect device (MID), production and consumption CTs, IQ Gateway, and Communication Kit. Streamlines grid-independent capabilities of PV and storage installations.
ACCESSORIES AND REPLACEMENT PARTS[1]	
SC-IQG-PCBA-ROW	IQ Gateway printed circuit board for field replacement
SC-ECB-PCBA-ROW	IQ System Controller 3 INT printed circuit board for field replacement
SC-PRB-PCBA-ROW	Power relay board sub assembly for field replacement
SC-IOB-PCBA-ROW	Field Interface board with dry contacts for field replacement
SC-MRA-SUB-ROW	Mains relay sub assembly for field replacement
CTRL-040-HDR-INT	Enphase CTRL headers for connecting between CTRL devices
CT-100-SOLID-ROW	100 A solid core current transformer with 1% accuracy for production and consumption monitoring
CT-100-SPLIT-ROW	100 A split core current transformer with 1% accuracy and reduced form factor for consumption monitoring
Circuit breakers (as needed)	DIN rail mounted. Not included, must order separately. Refer to Quick Install Guide for recommended brands
SC-COV-SUB-ROW	Door sub assembly along with solar shield for field replacement
SC-LAT-SUB-ROW	Door latches for field replacement
ELECTRICAL SPECIFICATIONS	
Assembly rating	Continuous operation at 100% of its rating
AC voltage (nominal)	230 V (Line-to-Neutral) 400 V (Line-to-Line)
Feed-in type	Single-phase, three-phase
Voltage measurement accuracy	±1.8 VAC
Overvoltage category	Category III
Maximum input short circuit current	5 kA
Auxiliary contact for load control and excess PV control	230 VAC RMS/24V DC, 1 A
Nominal frequency/range	50 Hz
Maximum continuous current rating	80 A per phase
Maximum input overcurrent protection device	80 A per phase, neutral
Maximum output overcurrent protection device	80 A per phase
Maximum overcurrent protection device rating for PV	25 A per branch circuit for PV
Maximum overcurrent protection device rating for storage	80 A (20 A over current protection for each IQ Battery 5P, up to four IQ Battery 5P can be daisy chained)
Backup operation	Single-phase
Operation modes	Support for solar self-consumption, time-based control, and backup
COMPLIANCE	
Safety	IEC-62109-1, AS/NZS IEC 61439-1, IEC 61439-3,
EMC and radio equipment	RCM, IEC 61000-6-1, IEC 61000-6-3, EN 55024, EN 300 328, EN 300 440, EN 301 489-1, EN 301 489-17, EN 301 489-52, EN 301 511, EN 301 893, EN 301 908-1
Performance	IEC 62503-22, AS/NZS4777.2:2020 + A1
WIRE SIZES	
Connections (all lugs are rated to 90°C)	Main lugs and backup load lugs — Cu: 2.5 mm^2 to 35 mm^2

WIRE SIZES		
Neutral and ground bars	Large holes	2.5 mm^2 to 35 mm^2
	Small holes	2.5 mm^2 to 16 mm^2
MECHANICAL DATA		
Dimensions (WxHxD)	500 mm x 760 mm x 158 mm	
Weight	15.2 kg	
Circuit breaker space (DIN rail)	DER side: Space for 10 single pole breakers Mains and backup side: Space for 9 single pole breakers	
Mounting options	Wall-mount	
Ambient temperature range	-40°C to 50°C	
Operating humidity (RH)	Up to 100%, condensing	
Cooling	Natural convection, solar shield	
Enclosure environmental rating	Outdoor, IP55, polycarbonate construction	
Altitude	Up to 2,000 m	
WARRANTY		
Limited warranty (Restrictions apply)	Up to 10 years	

1. Will be available in Q3'2023

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Assembled in China

IQSC-ROW-DS-0104-EN-AU-2023-04-06

PRELIMINARY ANZ DATA SHEET

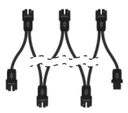
IQ8 Series Microinverters

The high-powered, smart grid ready IQ8 Series Microinverters are designed to match the latest generation high output PV modules. The IQ8 Series Microinverters 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 single-phase and multi-phase
Production and storage circuit, integrated Neutral Sensing-protection device with PLC-Phase coupler (multi-phase) 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 multi-phase IQ Cabling, the installed capacity is automatically distributed evenly across all three phases.

Enphase 15 year limited warranty

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 15 years, extendable to 20 and 25 years.*

*15-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
- IQ8 Series Microinverters support 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:
(i) Commissioning of IQ8 Series Microinverter systems requires Enphase Installer App version 3.28.0 or higher.
(ii) IQ8 Series Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc) on the same IQ Gateway.

IQ8 Series Microinverters

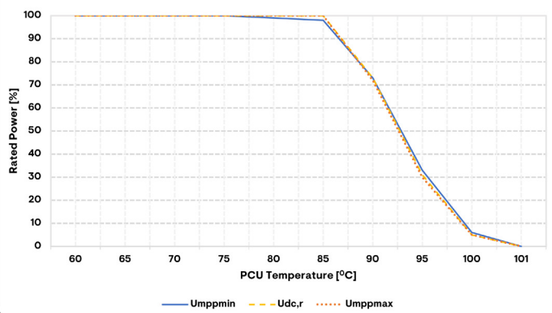
INPUT DATA (DC)		UNITS	IQ8AC-72-M-INT	IQ8HC-72-M-INT
Typical module compatibility			54-cell/108 half-cell, 60-cell/120 half-cell, 66-cell/132 half-cell, 72-cell/144 half-cell No enforced DC/AC ratio and maximum input power. Modules can be paired as long as the maximum input voltage is not exceeded and maximum input current of the inverter at the lowest and highest temperatures are respected. See the module compatibility calculator at: https://enphase.com/en-au/installers/microinverters/calculator. [1]	
Minimum/maximum input voltage	U_{dcmin}/U_{dcmax}	V	18/60	
Start-up input voltage	$U_{dcstart}$	V	22	
Rated input voltage	$U_{dc,r}$	V	36.5	37.0
Minimum/maximum MPP voltage	U_{mppmin}/U_{mppmax}	V	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 short circuit current for modules (I_{sc}) allowed to be paired with IQ8 Series Microinverters: 20 A (calculated with 1.25 safety factor as per IEC 62548).	
Maximum input power [1,2]	P_{dcmax}	W	480	505
OUTPUT DATA (AC)		**UNITS**	**IQ8AC-72-M-INT**	**IQ8HC-72-M-INT**
Maximum apparent power	$S_{ac,max}$	VA	366	384
Rated power	$P_{ac,r}$	W	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	1.59	1.67
Nominal frequency	f_{nom}	Hz	50	
Minimum/maximum frequency	f_{min}/f_{max}	Hz	45/55	
Maximum units per single-phase 20 A circuit Maximum units per multi-phase 25 A circuit			11 (L+N) Single-phase / 39 (3L+N) Multi-phase For IQ Cable with 2.5 mm² stranded conductors and using a 1.20 safety factor. Safety factor applied may vary based on local regulation or best practice, also upon the characteristic the OCPD selected.	10 (L+N) Single-phase / 36 (3L+N) Multi-phase
Recommended maximum units per single/multi-phase IQ Cable section to reduce voltage rise in IQ Cable			8 (L+N) Single-phase / 18 (3L+N) Multi-phase It is recommended to Centre feed IQ Cable within microinverter branch circuits to minimize the voltage rise. 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%.	8 (L+N) Single-phase / 18 (3L+N) Multi-phase
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	η_{max}	%	97.3	97.4
European weighted efficiency	η_{EU}	%	96.6	96.8
Inverter topology			Isolated (HF Transformer)	
Night-time power loss		mW	50	
MECHANICAL DATA			**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	

(1) Installer should not exceed small-scale technology certificate (STC) limit on PV module wattage for claiming the STC.
(2) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at https://enphase.com/en-au/installers/microinverters/calculator.

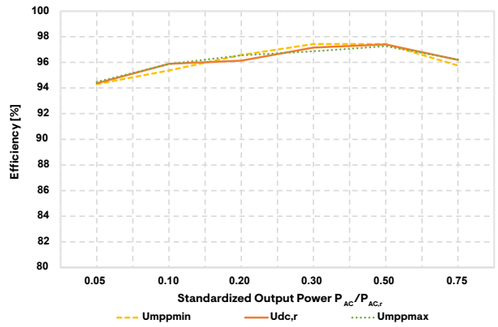
MECHANICAL DATA	IQ8AC-72-M-INT	IQ8HC-72-M-INT
Number of input DC connectors (pairs) per single MPP-tracker	1	
AC connector type	IQ Cabling (refer to separate datasheet for cable and accessories)	
DC connector type	Stäubli MC4	
Dimensions (H x W x D)	212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2") (without 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	< 2,600 m	
Calorific value	37.5 MJ/unit	
STANDARDS	**IQ8AC-72-M-INT**	**IQ8HC-72-M-INT**
Grid Compliance (with IQ Relay) (Pending)	AS/NZS 4777-2:2020	
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 [3]	
Product labelling	CE, RCM, BIS	
Advanced grid functions [4]	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	

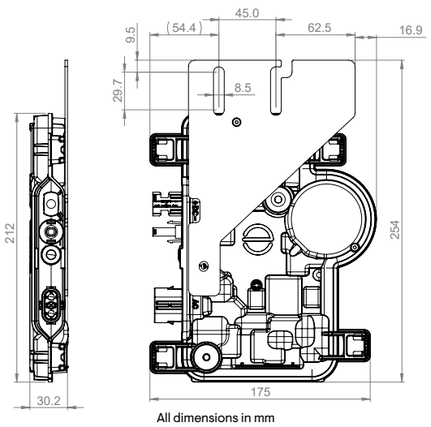
(2) At STC within MPP range.
(3) Some of these functions require IQ Gateway Metered with current transformers and/or IQ Relay installed.

IQ8 Series Microinverters rated power v/s PCU temperature



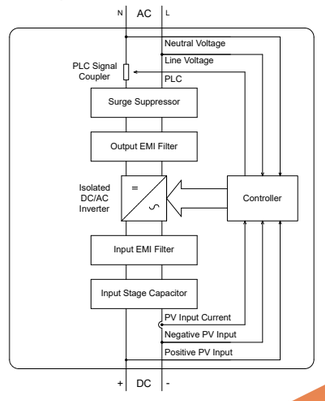
IQ8 Series Microinverters efficiency curve





All dimensions in mm

Enphase IQ8 Series Microinverters



Assembled in China, India, and Romania

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Importer: Enphase Energy Aust. Pty/Ltd., 88 Market St., South Melbourne VIC 3205. PH: +61 3 86691679

Installer documentation centre.

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