



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 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



IQ Relay 3P

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



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-n-play MC4 connectors.



IQ Cables

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



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**.

* 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 Enphase team for warranty extension options.

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

IQ7+ and IQ7A Microinverters

INPUT DATA (DC)		UNITS	IQ7PLUS-72-2-INT	IQ7A-72-2-INT
Typical Module compatibility			60-cell/120 half-cell 66-cell/132 half-cell 72-cell/144 half-cell	60-cell/120 half-cell 66-cell/132 half-cell 72-cell/144 half-cell
No enforced DC/AC ratio and maximum input power. Modules can be paired as long as the maximum input voltage is not exceeded and maximum input current of the inverter at the lowest and highest temperatures are respected. See the compatibility calculator at https://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 2.5mm ² stranded conductors and using a 1.25 safety factor, 16 A per phase is calculated as maximum current according to IEC 60364. Safety factor applied may vary based on local regulation or best practice, also upon the characteristic the OCPD selected.				
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}	%	97.24	97.23
European weighted efficiency	η_{EU}	%	96.5	
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 (HxWxD)	212 mm (8.3") x 175 mm (6.9") x 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 metres	
Calorific value	37.5 MJ/unit	
STANDARDS	IQ7PLUS-72-2-INT	IQ7A-72-2-INT
Grid compliance (with IQ Relay)	TOR Erzeuger Typ A, C10/11, PPDS Annex 4, VFR 2019, VDE-AR-N 4105:2018, CEI 0-21, NEN1010, EN 50549-1, UNE206007-1/2	
Grid compliance (without IQ Relay)	G98, G98 NI, G99, G99 NI, G100	
Safety	EN IEC 62109-1, EN IEC 62109-2	
EMC	EN IEC 61000-3-2, 61000-3-3, 61000-6-2, 61000-6-3, EN IEC 50065-1, 50065-2-1	
Product labelling	CE, UKCA, RCM & 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.

