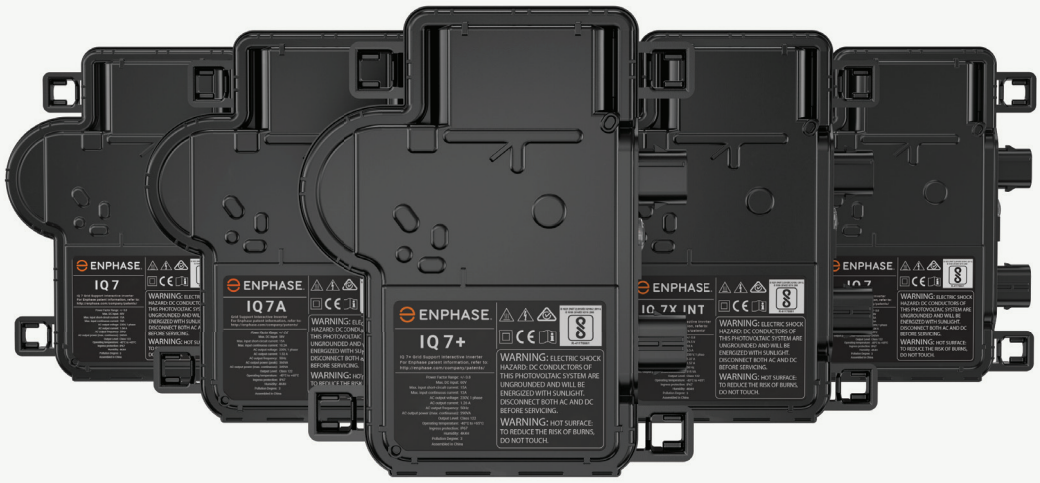
EUROPE

DATA SHEET



IQ7 Series Microinverters

The high-powered smart grid-ready Enphase IQ7 Series Microinverters - IQ7, IQ7+, IQ7X and IQ7A dramatically simplfy the installation process while achieving the highest system performance.

Enphase IQ Gateway

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

Q-Relay 1P and 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. With 3P variants, the installed capacity is automatically distributed evenly across all three phases.

Enphase 25 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 25 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 not required in all countries, check local grid connection requirements to confirm.

**25 years warranty is valid provided an internet connected IQ Gateway is installed.

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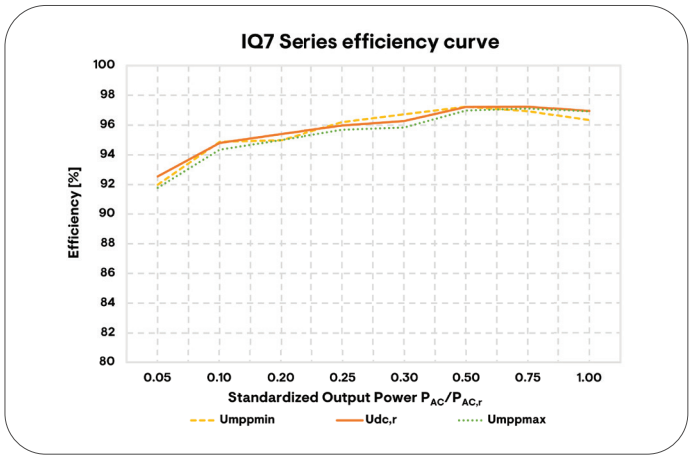
IQ7 Series Microinverters

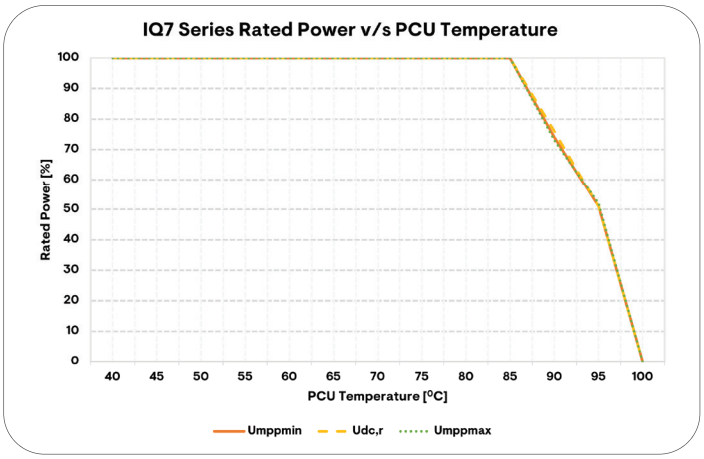
INPUT DATA (DC)		UNITS	IQ7-60-2-INT	IQ7PLUS-72-2-INT	IQ7X-96-2-INT	IQ7A-72-2-INT
Typical Module compatibility			60-cell / 120 half-cell	60-cell / 120 half-cell, 66-cell / 132 half-cell, 72-cell / 144 half-cell	96 cells only	60-cell / 120 half-cell, 66-cell / 132 half-cell, 72-cell / 144 half-cell
			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://enphase.com/installers/microinverters/calculator.			
Minimum / Maximum input voltage	U_{dcmin} / U_{dcmax}	V	16 / 48	16 / 60	25 / 79.5	18 / 58
Start-up input voltage	$U_{dcstart}$	V	22	22	33	33
Rated input voltage	$U_{dc,r}$	V	32	36	58.5	40.5
Minimum / Maximum MPP voltage	U_{mppmin} / U_{mppmax}	V	27 / 37	27 / 45	53 / 64	38 / 43
Minimum / Maximum operating voltage	U_{opmin} / U_{opmax}	V	16 / 48	16 / 60	25 / 79.5	18 / 58
Maximum input current	I_{dcmax}	A	10	12	6.5	10.2
Maximum short-circuit DC input current	I_{scmax}	A	15	15	10	15
Maximum input power	P_{dcmax}	W	350+	440+	460+	500+
OUTPUT DATA (AC)		**UNITS**	**IQ7-60-2-INT**	**IQ7PLUS-72-2-INT**	**IQ7X-96-2-INT**	**IQ7A-72-2-INT**
Maximum apparent power	$S_{ac,max}$	VA	245	295	320	366
Rated power	$P_{ac,r}$	W	240	290	315	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	1.07	1.28	1.39	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}		15 (L+N) / 45 (3L+N)	12 (L+N) / 36 (3L+N)	11 (L+N) / 33 (3L+N)	10 (L+N) / 30 (3L+N)
			For IQ Cable with 2.5mm² 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.			
Maximum units per single / multi-phase IQ cable section			15 (L+N) / 24 (3L+N)	12 (L+N) / 21 (3L+N)	11 (L+N) / 21 (3L+N)	10 (L+N) / 18 (3L+N)
			Centre feeding is 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 risk of high grid voltage at the point of connection, it may be necessary to decrease the maximum number of microinverters on the IQ Cable section by as much as 50%.			
Protective class (all ports)			II			
Total harmonic distortion		%	<5			
Power factor setting			1.0			
Power factor range	cosphi		0.8 leading – 0.8 lagging			
Inverter maximum efficiency	η_{max}	%	97.40	97.24	97.69	97.23
European weighted efficiency	η_{EU}	%	96.5			
Inverter topology			Isolated (HF Transformer)			
Night-time power loss		mW	50			

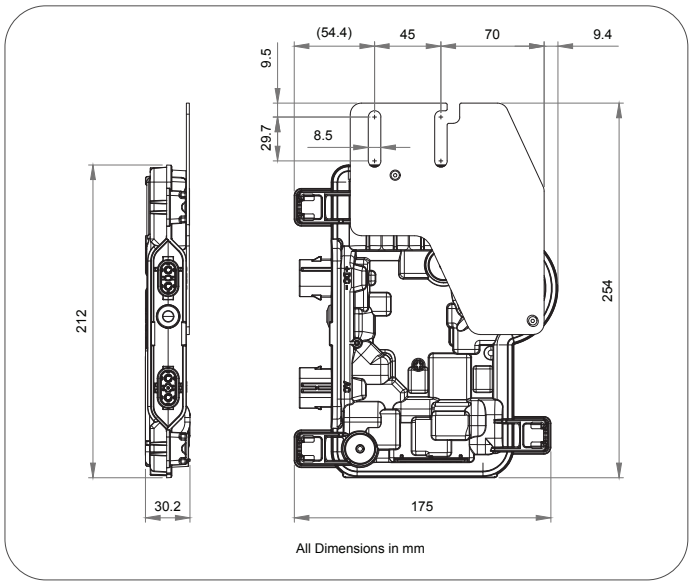
MECHANICAL DATA	IQ7-60-2-INT	IQ7PLUS-72-2-INT	IQ7X-96-2-INT	IQ7A-72-2-INT
Ambient air temperature range	-40 °C to +65 °C (-40 F to +149 F)		-40 °C to +60 °C (-40 F to +140 F)	
Relative humidity range	4 % to 100 % (condensing)			
Overvoltage class AC port	III			
Number of input DC connectors (pairs) per single MPP-tracker	1			

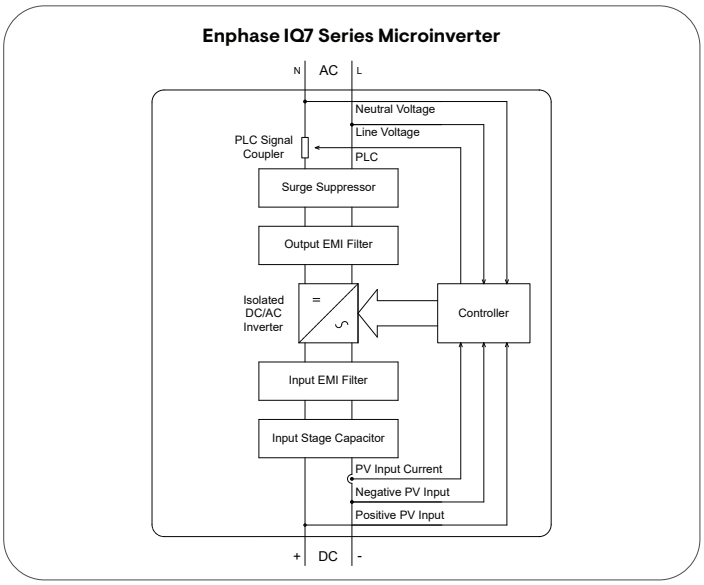
MECHANICAL DATA	IQ7-60-2-INT	IQ7PLUS-72-2-INT	IQ7X-96-2-INT	IQ7A-72-2-INT
AC Connector type	Enphase IQ Cabling (refer to separate datasheet for cable and accessories)			
DC Connector type	Staubli MC4 (using Q-DCC-2 adapter)			
Dimensions (HxWxD)	212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2") (without 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	2,000 metres			
Calorific value	37.5 MJ / unit			
STANDARDS	**IQ7-60-2-INT**	**IQ7PLUS-72-2-INT**	**IQ7X-96-2-INT**	**IQ7A-72-2-INT**
Grid Compliance (with Q 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 Q 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			
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 Envoy-S Metered with current transformers and/or Q Relay installed.









Assembled in China, India, and Mexico.