



Inverting to AC

How do we make it work?

1. We use microinverters to maximize production and minimize system loss (Enphase or AP Systems)
2. Longer warranty 25year compared to 10-12
3. No bulky equipment on the side of your home
4. Optional module level monitoring

Enphase IQ 7 and IQ 7+ Microinverters

The high-powered smart grid-ready **Enphase IQ 7 Micro™** and **Enphase IQ 7+ Micro™** dramatically simplify the installation process while achieving the highest system efficiency.

Part of the Enphase IQ System, the IQ 7 and IQ 7+ Microinverters integrate with the Enphase IQ Envoy™, Enphase IQ Battery™, and the Enphase Enlighten™ monitoring and analysis software.

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.

Easy to Install

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

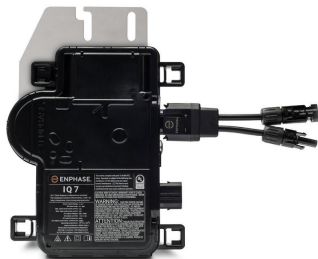
Productive and Reliable

- Optimized for high powered 60-cell/120 half-cell and 72-cell/144 half-cell 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)

* The IQ 7+ Micro is required to support 72-cell/144 half-cell modules.



To learn more about Enphase offerings, visit enphase.com



Enphase IQ 7 and IQ 7+ Microinverters

INPUT DATA (DC)	IQ7-60-2-US	IQ7PLUS-72-2-US
Commonly used module pairings ¹	235 W - 350 W +	235 W - 440 W +
Module compatibility	60-cell/120 half-cell PV modules only	60-cell/120 half-cell and 72-cell/144 half-cell PV modules
Maximum input DC voltage	48 V	60 V
Peak power tracking voltage	27 V - 37 V	27 V - 45 V
Operating range	16 V - 48 V	16 V - 60 V
Min/Max start voltage	22 V / 48 V	22 V / 60 V
Max DC short circuit current (module Isc)	15 A	15 A
Overvoltage class DC port	II	II
DC port backfeed current	0 A	0 A
PV array configuration	1 x 1 ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)	IQ 7 Microinverter	IQ 7+ Microinverter
Peak output power	250 VA	295 VA
Maximum continuous output power	240 VA	290 VA
Nominal (L-L) voltage/range ²	240 V / 211-264 V	240 V / 211-264 V
Maximum continuous output current	1.0 A (240 V)	1.21 A (240 V)
Nominal frequency	60 Hz	60 Hz
Extended frequency range	47 - 68 Hz	47 - 68 Hz
AC short circuit fault current over 3 cycles	5.8 Arms	5.8 Arms
Maximum units per 20 A (L-L) branch circuit ³	16 (240 VAC)	13 (240 VAC)
Overvoltage class AC port	III	III
AC port backfeed current	18 mA	18 mA
Power factor setting	1.0	1.0
Power factor (adjustable)	0.85 leading ... 0.85 lagging	0.85 leading ... 0.85 lagging
EFFICIENCY	@208 V	@240 V
Peak efficiency	97.6 %	97.3 %
CEC weighted efficiency	97.0 %	97.0 %
MECHANICAL DATA		
Ambient temperature range	-40°C to +65°C	
Relative humidity range	4% to 100% (condensing)	
Connector type	MC4 (or Amphenol H4 UTX with additional Q-DCC-5 adapter)	
Dimensions (HxWxD)	212 mm x 175 mm x 30.2 mm (without bracket)	
Weight	1.08 kg (2.38 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	
FEATURES		
Communication	Power Line Communication (PLC)	
Monitoring	Enlighten Manager and MyEnlighten monitoring options. Both options require installation of an Enphase IQ Envoy.	
Disconnecting means	The AC and DC connectors have been evaluated and approved by UL for use as the load-break disconnect required by NEC 690.	
Compliance	CA Rule 21 (UL 1741-SA) UL 62109-1, UL1741/IEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 1071-01 This product is UL Listed as PV Rapid Shut Down 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 manufacturer's instructions.	

1. No enforced DC/AC ratio. See the compatibility calculator at <https://enphase.com/en-us/support/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.

To learn more about Enphase offerings, visit enphase.com



Enphase IQ 7A Microinverter

The high-powered smart grid-ready **Enphase IQ 7A Micro™** dramatically simplifies the installation process while achieving the highest system efficiency for systems with 60-cell and 72-cell modules.

Part of the Enphase IQ System, the IQ 7A Micro integrates with the Enphase IQ Envoy™, Enphase IQ Battery™, and the Enphase Enlighten™ monitoring and analysis software.

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.



High Power

- Peak output power 366 VA @ 240 VAC and 295 VA @ 208 VAC

Easy to Install

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

Efficient and Reliable

- Optimized for high powered 60-cell and 72-cell modules
- Highest CEC efficiency of 97%
- 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
- Envoy and Internet connection required
- Configurable for varying grid profiles
- Meets CA Rule 21 (UL 1741-SA)

Enphase IQ 7A Microinverter

INPUT (DC)	IQ7A-72-2-US	
Commonly used module pairings ¹	295 W–460 W +	
Module compatibility	60-cell, 66-cell, and 72-cell PV modules	
Maximum input DC voltage	58 V	
Power point tracking voltage range ²	18 V–58 V	
Min/Max start voltage	33 V / 58 V	
Max DC short circuit current (module Isc) ³	15 A	
Overvoltage class DC port	II	
DC port backfeed current	0 A	
PV array configuration	1 x 1 ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT (AC)	@ 240 VAC	@ 208 VAC
Peak output power	366 VA	295 VA
Maximum continuous output power	349 VA	290 VA
Nominal (L-L) voltage/range ⁴	240 V / 211–264 V	208 V / 183–229 V
Maximum continuous output current	1.45 A (240 VAC)	1.39 A (208 VAC)
Nominal frequency	60 Hz	
Extended frequency range	47–68 Hz	
AC short circuit fault current over 3 cycles	5.8 Arms	
Maximum units per 20 A (L-L) branch circuit ⁵	11 (240 VAC)	11 (208 VAC)
Overvoltage class AC port	III	
AC port backfeed current	18 mA	
Power factor setting	1.0	
Power factor (adjustable)	0.85 leading ... 0.85 lagging	
EFFICIENCY	@240 VAC	@208 VAC
CEC weighted efficiency	97.0 %	96.5 %
MECHANICAL		
Ambient temperature range	-40°C to +60°C	
Relative humidity range	4% to 100% (condensing)	
Connector type: DC (IQ7A-72-2-US)	MC4	
Dimensions (HxWxD)	212 mm x 175 mm x 30.2 mm (without bracket)	
Weight	1.08 kg (2.38 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	
FEATURES		
Communication	Power Line Communication (PLC)	
Monitoring	Enlighten Manager and MyEnlighten monitoring options Compatible with Enphase IQ Envoy	
Disconnecting means	The AC and DC connectors have been evaluated and approved by UL for use as the load-break disconnect required by NEC 690.	
Compliance	CA Rule 21 (UL 1741-SA) UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 1071-01 This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC-2014 and NEC-2017 section 690.12 and C22.1-2015 Rule 64-219 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according manufacturer's instructions.	

1. No enforced DC/AC ratio. See the compatibility calculator at <https://enphase.com/en-us/support/module-compatibility>.
 2. CEC peak power tracking voltage range is 38 V to 43 V.
 3. Maximum continuous input DC current is 10.2A.
 4. Voltage range can be extended beyond nominal if required by the utility.
 5. Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

To learn more about Enphase offerings, visit enphase.com

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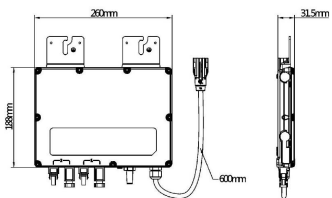




YC600 Microinverter

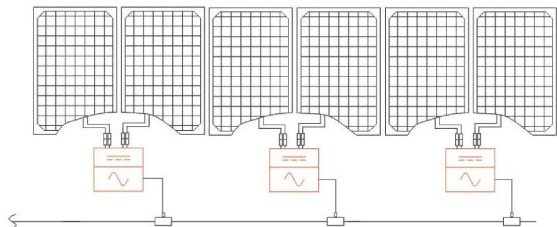
- Single unit connects two modules
- 2 input channels with independent MPPT and monitoring function
- Maximum AC output power 548VA
- Anti-islanding protection relay integrated
- Adjustable output power factor

DIMENSIONS



Our flagship new range of Grid-tied microinverters with Reactive Power Control (RPC) features includes the new YC600. The APsystems YC600 is a grid-tied microinverter with intelligent networking and advanced monitoring systems to ensure maximum efficiency. High efficiency, high reliability of the YC600 with 2 independent MPPT inputs, Maximum AC output power reaching 548VA. Half the inverters and half the installation means real cost savings for residential and commercial customers.

WIRING SCHEMATIC



YC600 Microinverter Datasheet

Region	Canada
Model	YC600
Input Data (DC)	
Recommended PV Module Power (STC)	250Wp-375Wp
MPPT Voltage Range	22V-45V
Operation Voltage Range	16V-55V
Maximum Input Voltage	55V
Maximum Input Current	12A x 2
Maximum Input Short Circuit Current	13.2A
Output Data (AC)	
Maximum Continuous Output Power	548VA
Peak Output Power	600VA
Nominal Output Voltage	240V
Nominal Output Current	2.28A
Maximum Units Per Branch	8 (16PV modules)
Nominal Output Frequency	60Hz
Adjustable Output Voltage Range	160-278V
Adjustable Output Frequency Range	55.1-64.9Hz
Power Factor(Adjustable)	0.8 leading...0.8 lagging
Total Harmonic Distortion	<3%
Maximum Output Overcurrent Protection	6.3A
Efficiency	
Peak Efficiency	96.5%
CEC Efficiency	96.5%
Nominal MPPT Efficiency	99.5%
Night Power Consumption	60mW
Mechanical Data	
Operating Ambient Temperature Range	-40° F to +149° F (-40 °C to +65 °C)
Storage Temperature Range	-40° F to +185° F (-40 °C to +85 °C)
Dimensions (W x H x D)	10.3" x 7.4" x 1.2" (260mm X 188mm X 31.5mm)
Weight	2.6kg
AC Bus Maximum Current	20A
Connector Type	MC4 Type or Customize
Cooling	Natural Convection - No Fans
Enclosure Environmental Rating	NEMA6
Overvoltage Category	OVC II For PV Input Circuit, OVC III For Mains Circuit
Features	
Communication (Inverter To ECU)	Wireless
Transformer Design	High Frequency Transformers, Galvanically Isolated
Monitoring	Via EMA Software
Warranty	10 Years Standard ; 20 Years Optional
Certificate&Compliance	
Safety And EMC Compliance	UL1741 FCC Part15; ANSI C63.4;ICES-003
Grid Connection Compliance	IEEE1547
NEC Compliance	NEC2014&NEC2017 Section 690.12 DC Arc-Fault circuit Protection NEC2014&NEC2017 Section 690.12 Rapid Shutdown of PV systems on Buildings

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Specifications subject to change without notice - please ensure you are using the most recent update found at www.APsystems.com