

IQ System Controller

The IQ System Controller connects the home to grid power, the IQ Battery 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 into a single enclosure and streamlines grid-independent capabilities of PV and storage installations by providing a consistent, pre-wired solution for residential applications.



Reliable

- Durable NEMA type 3R enclosure
- 10-year limited warranty

Smart

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

Simple

- Connects to the load or service equipment¹ side of the main load panel
- Mounts on single stud with centered brackets
- Supports conduit entry from the bottom, bottom left side, and bottom right side
- Supports whole home and partial home backup
- Supports main breaker up to 200 A
- Includes neutral-forming transformer for splitphase 120 V/240 V backup operation

1. IQ System Controller is not suitable for use as service equipment in Canada.

To learn more about Enphase offerings, visit <http://enphase.com>

IQ System Controller

MODEL NUMBER

EP200G101-M240US00

IQ System Controller with neutral-forming transformer (NFT), microgrid interconnect device (MID), breakers, and screws streamlines grid-independent capabilities of PV and storage installations.

ACCESSORIES and REPLACEMENT PARTS (ORDER SEPARATELY AS NEEDED)

XA-E3-PCBA-ENS	IQ System Controller replacement printed circuit board
EP200G-NA-HD-200 A	Eaton type BR circuit breaker hold-down screw kit, BRHDK125
EP200G-HNDL-R1	IQ System Controller installation handle kit
Circuit breakers (as needed) ^{2,3}	Not included, must order separately:
BRK-100A-2P-240 V	• Main breaker, 2-pole, 100 A, 25 kAIC, CSR2100N
BRK-125A-2P-240 V	• Main breaker, 2-pole, 125 A, 25 kAIC, CSR2125N
BRK-150A-2P-240 V	• Main breaker, 2-pole, 150 A, 25 kAIC, CSR2150N
BRK-175A-2P-240 V	• Main breaker, 2-pole, 175 A, 25 kAIC, CSR2175N
BRK-200A-2P-240 V	• Main breaker, 2-pole, 200 A, 25 kAIC, CSR2200N
BRK-20A-2P-240 V-B	• Circuit breaker, 2-pole, 20 A, 10 kAIC, BR220B
BRK-30A-2P-240 V	• Circuit breaker, 2-pole, 30 A, 10 kAIC, BR230B
BRK-40A-2P-240 V	• Circuit breaker, 2-pole, 40 A, 10 kAIC, BR240B
BRK-60A-2P-240 V	• Circuit breaker, 2-pole, 60 A, 10 kAIC, BR260
BRK-80A-2P-240 V	• Circuit breaker, 2-pole, 80 A, 10 kAIC, BR280

ELECTRICAL SPECIFICATIONS

Nominal voltage/Range (L-L)	240 VAC/100–310 VAC
Voltage measurement accuracy	±1% V (±1.2 V L-N and ±2.4 V L-L)
Auxiliary contact for load control and excess PV control	24 V, 1 A
Nominal frequency/Range	60 Hz/56–63 Hz
Frequency measurement accuracy	±0.1 Hz
Maximum continuous current rating	160 A
Maximum input overcurrent protection device ⁴	200 A
Maximum output overcurrent protection device ⁴	200 A
Maximum overcurrent protection device rating for storage circuit ⁴	80 A
Maximum overcurrent protection device rating for PV combiner circuit ⁴	80 A
Internal busbar rating	200 A
Neutral forming transformer (NFT)	
• Breaker rating (pre-installed): 40 A between L1 and neutral; 40 A between L2 and neutral	• Maximum continuous unbalance current: 30 A @ 120 V
• Continuous rated power: 3600 VA	• Peak rated power: 8800 VA for 30 seconds
	• Peak unbalanced current: 80 A @ 120 V for 30 seconds

MECHANICAL DATA

Dimensions (WxHxD)	50 cm x 91.6 cm x 24.6 cm (19.7 in x 36 in x 9.7 in)
Weight	38.5 kg (85 lb)
Ambient temperature range	-40°C to 50°C (-40°F to 122°F)
Cooling	Natural convection, solar shield
Enclosure environmental rating	Outdoor, NEMA type 3R, polycarbonate construction
Altitude	Up to 2500 meters (8200 feet)

WIRE SIZES

Connections (all lugs are rated to 90°C)	• Main lugs and backup load lugs • CSR breakers • BR breakers (wire provided) • AC combiner lugs, IQ Battery lugs, and generator lugs • Neutral lugs	Cu/Al: 1 AWG – 300 KCMIL Cu/Al: 2 AWG – 300 KCMIL 6 AWG 14 AWG – 2 AWG Cu/Al: 6 AWG – 300 KCMIL
Neutral and ground bars	Large holes (5/16–24 UNF) Small holes (10–32 UNF)	14 AWG – 1/0 AWG 14 AWG – 6 AWG

COMPLIANCE

Compliance	UL1741, UL1741 SA, UL 1741 SB, UL1741 PCS, UL1998, UL869A ⁵ , UL67 ⁵ , UL508 ⁵ , UL50E ⁵ CSA 22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003, AC156. IFETEL homologation number: RCPENEP22-2078
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2. Compatible with BRHDK125 hold-down kit to comply with 2017 NEC 710.15E for back-fed circuit breakers.

3. The IQ System Controller is rated at 22 kAIC.

4. Not included. The installer must provide correctly rated breakers as per the circuit breaker list above.

5. Sections from these standards were used during the safety evaluation and included in the UL1741 listing.

Revision history

REVISION	DATE	DESCRIPTION
DSH-00395-1.0	January 2024	Updated the Compliance section.
		Previous release.