

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 200A
- Includes neutral-forming transformer for split phase 120V/240V backup operation

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

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. |
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ACCESSORIES and REPLACEMENT PARTS (ORDER SEPARATELY AS NEEDED)

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| XA-E3-PCBA-ENS | IQ System Controller replacement printed circuit board |
| EP200G-NA-HD-200A | 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-240V | • Main breaker, 2 pole, 100A, 25kAIC, CSR2100N |
| BRK-125A-2P-240V | • Main breaker, 2 pole, 125A, 25kAIC, CSR2125N |
| BRK-150A-2P-240V | • Main breaker, 2 pole, 150A, 25kAIC, CSR2150N |
| BRK-175A-2P-240V | • Main breaker, 2 pole, 175A, 25kAIC, CSR2175N |
| BRK-200A-2P-240V | • Main breaker, 2 pole, 200A, 25kAIC, CSR2200N |
| BRK-20A-2P-240V-B | • Circuit breaker, 2 pole, 20A, 10kAIC, BR220B |
| BRK-30A-2P-240V | • Circuit breaker, 2 pole, 30A, 10kAIC, BR230B |
| BRK-40A-2P-240V | • Circuit breaker, 2 pole, 40A, 10kAIC, BR240B |
| BRK-60A-2P-240V | • Circuit breaker, 2 pole, 60A, 10kAIC, BR260 |
| BRK-80A-2P-240V | • Circuit breaker, 2 pole, 80A, 10kAIC, BR280 |

ELECTRICAL SPECIFICATIONS

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

MECHANICAL DATA

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| 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 lbs) |
| Ambient temperature range | -40°C to +50°C (-40°F to 122°F) |
| Cooling | Natural convection, solarshield |
| Enclosure environmental rating | Outdoor, NEMA type 3R, polycarbonate construction |
| Altitude | 2500 meters (8200 feet) |

WIRE SIZES

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| 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

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| Compliance | UL1741, UL1741 SA, 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 22kAIC.

4. Not included. Installer must provide correctly rated breaker as per circuit breaker list above.

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

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