

# IQ System Controller 2

## Quick Install Guide

MODEL NUMBERS-  
EP200G101-M240US01  
EP200G-SC2-RSD-KIT  
EP200G-SC2-RSD-BRK-KIT

VERSION 12.0  
DECEMBER 2023



140-00236-12



The IQ System Controller 2 connects the home to grid power, the IQ Battery storage 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 all 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 microgrid applications. It integrates an MID and a neutral-forming autotransformer (NFT) and supports lugs to connect solar PV, batteries, and third-party generators.

The IQ System Controller 2 supports IQ8, IQ6/7, or M Series Microinverters.

To install the IQ System Controller 2, read and follow all warnings and instructions in this guide and documents at <https://support.enphase.com>.

Enphase field engineering team can provide a digital copy of production line test results upon request with the equipment's serial number. Requests can be raised through <http://www.enphase.com/support>.

To access the latest technical brief and user guides for generator integration, see the Generator Support page at <https://enphase.com/installers/storage/generator>.

Safety warnings are listed at the end of this guide. These instructions are not meant to be a complete explanation of how to design and install an energy storage system. All installations must comply with national and local electrical codes and standards. Only qualified electricians shall install, troubleshoot, or replace the IQ System Controller 2.

The IQ System Controller 2 supports a 240 V L-L/120 V L-N split phase supply (i.e., two phases that have a phase angle of 180 degrees). For use with grid supplies other than split phase, an appropriate external transformer must be provided to convert the incoming supply from the utility to split phase supply. Sizing of the transformer must be done per system requirements and must be sufficient to cover the load and distributed energy resource (DER) requirements. Local and national electrical codes, as well as utility interconnection requirements, must be met by the installer when using an external transformer.



# Table of contents

## **Scenario 1**

### **Full Energy Independence configuration**

Whole home backup

## **Scenario 2**

### **Home Essentials Backup configuration**

Partial home backup

## **Scenario 3**

### **Home Essentials Backup configuration**

Sunlight Backup with generator

## **What's in the box**

## **Tools/additional items required**

## **Section A**

### **Mounting the product**

Plan a location for the IQ System Controller 2

Step 1: Minimum clearance

Step 2: Install the mounting bracket

Step 3: Open the dead front

## **Section B**

### **Mounting the breakers**

Internal view of IQ System Controller 2

Wiring for service entrance

Install main and backup breakers

Breakers for IQ8 Systems without generator

Breakers for IQ8 Systems with generator

Breakers for non-IQ8 Systems

## **Section C**

### **Wiring**

Drill conduits

DER wiring

Aux wiring: System Shutdown Switch

Aux wiring: IQ Load Controller

Aux wiring: Generator control

Main/supply side wiring

Backup loads wiring

CT wiring

## **Close and energize IQ System Controller 2**

## **Safety**

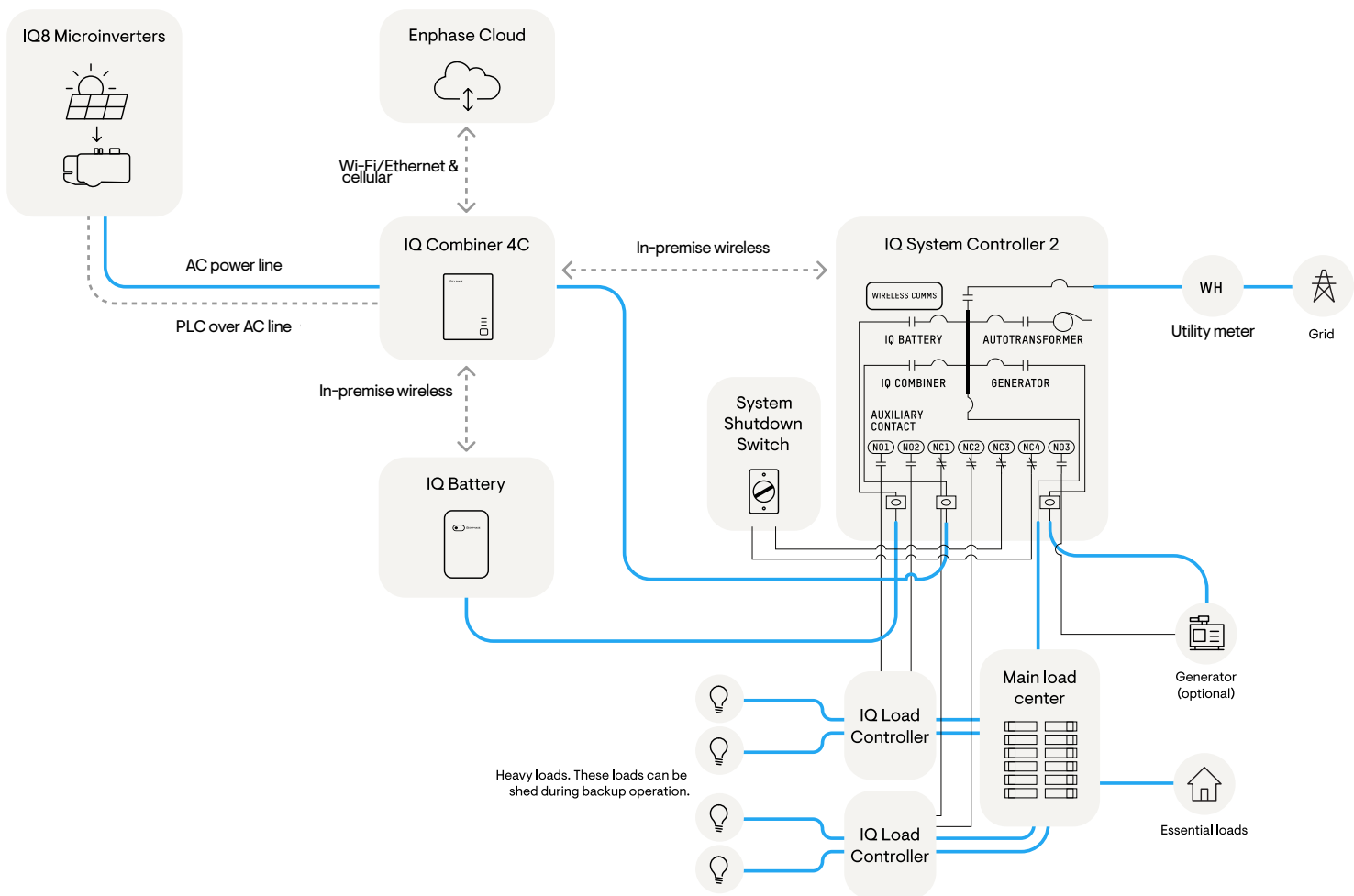
## **Revision history**

# Scenario 1

## Whole home backup with IQ System Controller 2

This is the preferred configuration for the backup of the entire main load panel. This configuration supports up to an 80 A breaker each for the PV and IQ Battery and the generator (optional).

The microinverter ranges supported in this configuration are IQ8, IQ7, IQ6, M215, and M250 Series.



**Note:** The System Shutdown Switch is not used for IQ6, IQ7, and M Series systems. Refer to the [System Shutdown wiring section](#) for details.

Additional wiring and components are required when integrating generators. Refer to the Generator integration page for technical briefs and guides: <https://enphase.com/installers/storage/generator>.

This figure shows the system configuration. For wiring details, see the "Wiring" section.

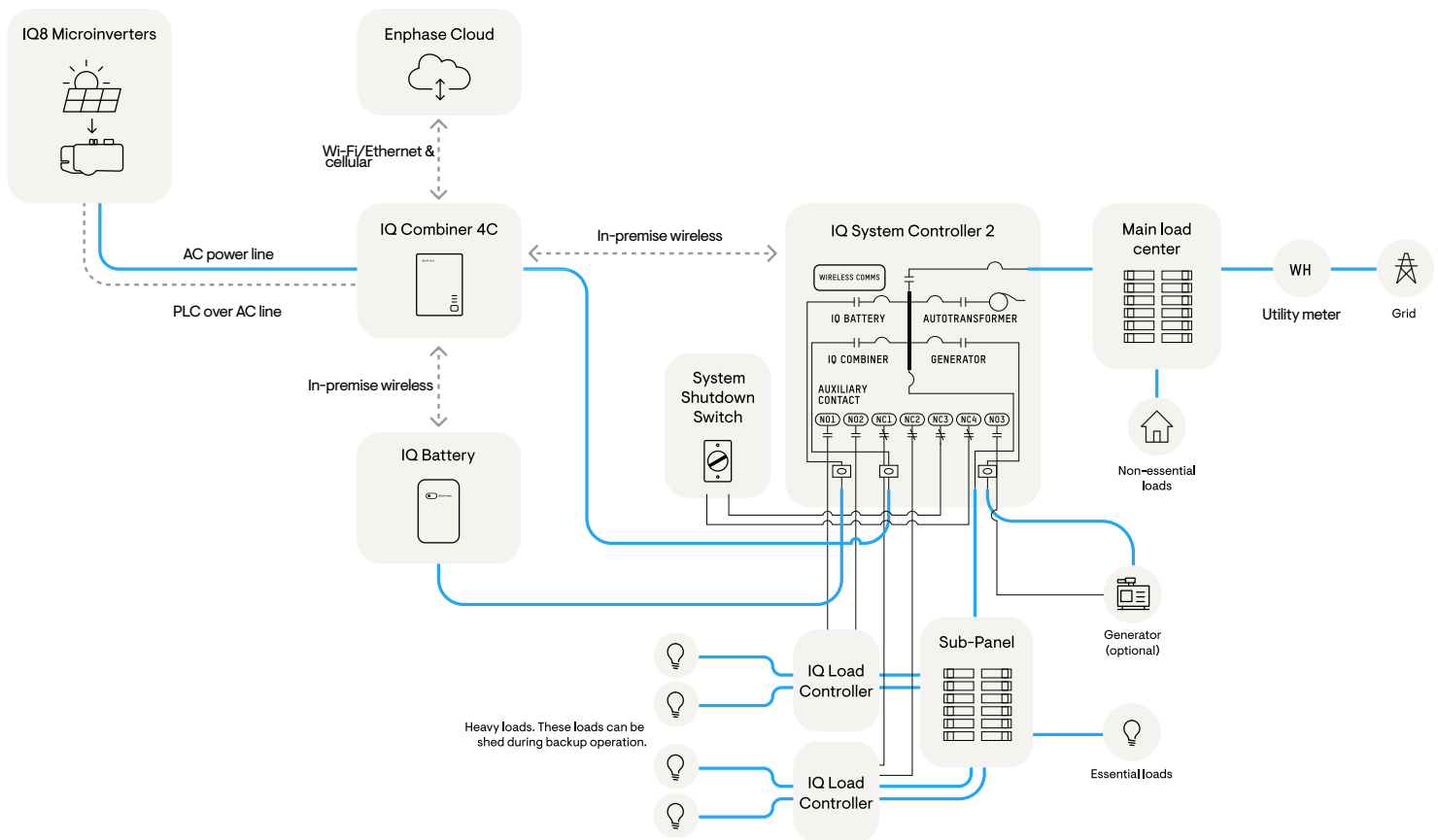


# Scenario 2

## Partial home backup with IQ System Controller 2

This is the preferred configuration for partial home backup with PV and IQ Batteries. The generator can be integrated with IQ System Controller 2 based on the homeowner's needs.

The microinverter ranges supported in this configuration are IQ8, IQ7, IQ6, M215, and M250 Series.



**Note:** The System Shutdown Switch is not used for IQ6, IQ7, and M Series systems. Refer to the [System Shutdown wiring section](#) for details.

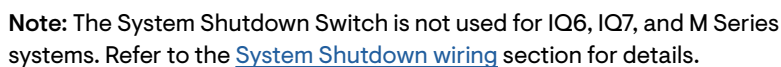
Additional wiring and components are required when integrating generators. Refer to the Generator integration page for technical briefs and guides: <https://enphase.com/installers/storage/generator>.

This figure shows the system configuration. For wiring details, see the “Wiring” section.

## Partial home backup with Sunlight Backup and generator

It is recommended that installers use two IQ Load Controllers for load shedding to ensure seamless backup of essential loads using IQ8 Microinverters. At least one IQ Load Controller is required to successfully commission a Sunlight Backup system.

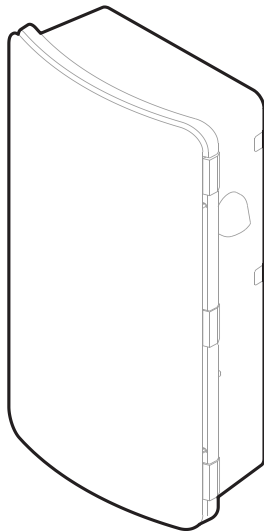
Do not install a Sunlight Backup system for a whole home backup scenario. This configuration can only be supported with IQ8 Microinverters.



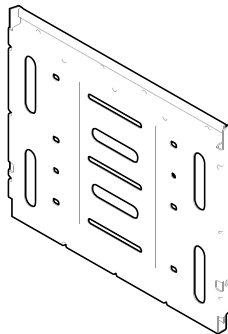
This figure shows the system configuration. For wiring details, see the “Wiring” section.

# What's in the box

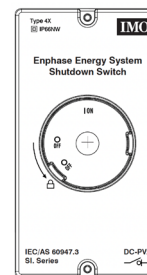
## IQ System Controller 2



## Wall-mounting bracket



## System Shutdown Switch



Comes pre-wired with 4 x 20 ft. color-coded wires.

MODEL NUMBER	DESCRIPTION
EP200G101-M240US01 NOTE: No longer sold separately.	IQ System Controller 2 with neutral-forming transformer (NFT) and microgrid interconnect device (MID). Streamlines grid-independent capabilities of PV and storage installations.
EP200G-SC2-RSD-KIT	Includes EP200G101-M240US01, System Shutdown Switch (EP200G-NA-O2-RSD) with red, black, orange, and purple 12 AWG wires, and breaker for powering IQ Gateway.
EP200G-SC2-RSD-BRK-KIT	Includes EP200G-SC2-RSD-KIT, three Eaton BR220B breakers for either IQ System Controller 2 or IQ Combiner, two BR240B breakers, and one BR260 breaker for IQ System Controller 2, two X-IQ-NA-HD-125A hold-down kits for IQ Combiner, and two EP200G-NA-HD-200A hold-down kits for IQ System Controller 2.

## Accessory kit

ITEM NAME	ITEM CATEGORY	DESCRIPTION	QUANTITY
Filler Cover Mounting BKT-L 200G Enpower	Plastic part	Filler Cover Mounting BKT-L 200G	2
Filler Cover Mounting BKT-R 200G Enpower	Plastic part	Filler Cover Mounting BKT-R 200G	2
Screw, Pan Hd, Phillips #3, M6 x 25 mm Lg (5 mm Shank - 20 mm Thread), Machine, 304 SS	Fastener	Screw, Pan Hd, Phillips #3, M6 x 25 mm Lg (5 mm Shank - 20 mm Thread), Machine, 304 SS	2
Screw, pan Hd, Torx X20, Machine, #8-32 UNC, 0.63" Lg, A2-70	Fastener	Screw, pan Hd, Torx X20, Machine, #8-32 UNC, 0.63" Lg, A2-70	1
Lit Kit Label, Enpower 200G	Label	Lit Kit Label, IQ System Controller 200G	1
Label, Enpower, CT Field	Label		6
Label, Enpower, PCS Field	Label		2
Feed-through header with Cable Assy Header Enpower 200G R2	Cable assembly	Cable Assy Header IQ System Controller 200G R2	4
NEC Labels for Rapid Shutdown	Label	Labels required as per NEC for rapid shutdown switch	2

# Tools/additional items required

S. NO	ITEM NAME	QUANTITY	SOURCE
1	CT-200-SPLIT	2	IQ Combiner/Enphase Store
2	EP200G-HNDL-R1 (lifting handle)	1	Enphase Store
3	Breakers, different ratings	4	Enphase Store/retail outlets*
4	Conduits (with fittings and fitting tools)	As required	Provided by installer
5	Drill	1	Provided by installer
6	5/32" pilot bit	1	Provided by installer
7	Screwdriver	1	Provided by installer
8	Wrench	1	Provided by installer
9	Adjustable wrench	1	Provided by installer
10	Torque wrench	1	Provided by installer
11	Level	1	Provided by installer
12	5/32" Allen key	1	Provided by installer
13	Conductor stripper	1	Provided by installer
14	Electrician's hole saw (2") or punch set	1	Provided by installer
15	Stud finder (if required)	1	Provided by installer
16	Conduit ground hub rings	1	Provided by installer
17	#10, 1/4" or 5/16" lag bolts or screw 3" long (depending on attaching wall) - for each wall-mount bracket	3	Provided by installer

\* Two Eaton BR240B, one Eaton BR260, and three Eaton BR220 breaker are included with EP200G-SC2-RSD-BRK-KIT.

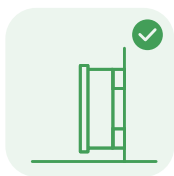
## Section A

# Mounting the product

## Plan a location for the IQ System Controller 2



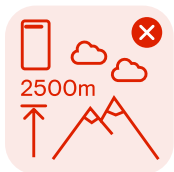
- IQ System Controller 2 is NEMA-type 3R rated and can be mounted indoors and outdoors. Install the unit where it is not exposed to direct rainfall.
- Install this product where cables from PV/IQ Combiner, grid, and IQ Battery are easily accessible and can be terminated at the IQ System Controller 2.



- This product is designed to be installed on a vertical wall only. Do not install this product flat on the ground.
- The mounting surface must support 87 lbs.
- Follow all local standards and regulations during installation.



- The product operates within an ambient temperature range from -40°C to 50°C.
- Do not install this product in a place directly exposed to sunlight.
- Do not install the product in a dusty environment.



- This product must not be installed at altitudes above 8,200 ft (2,500 m).



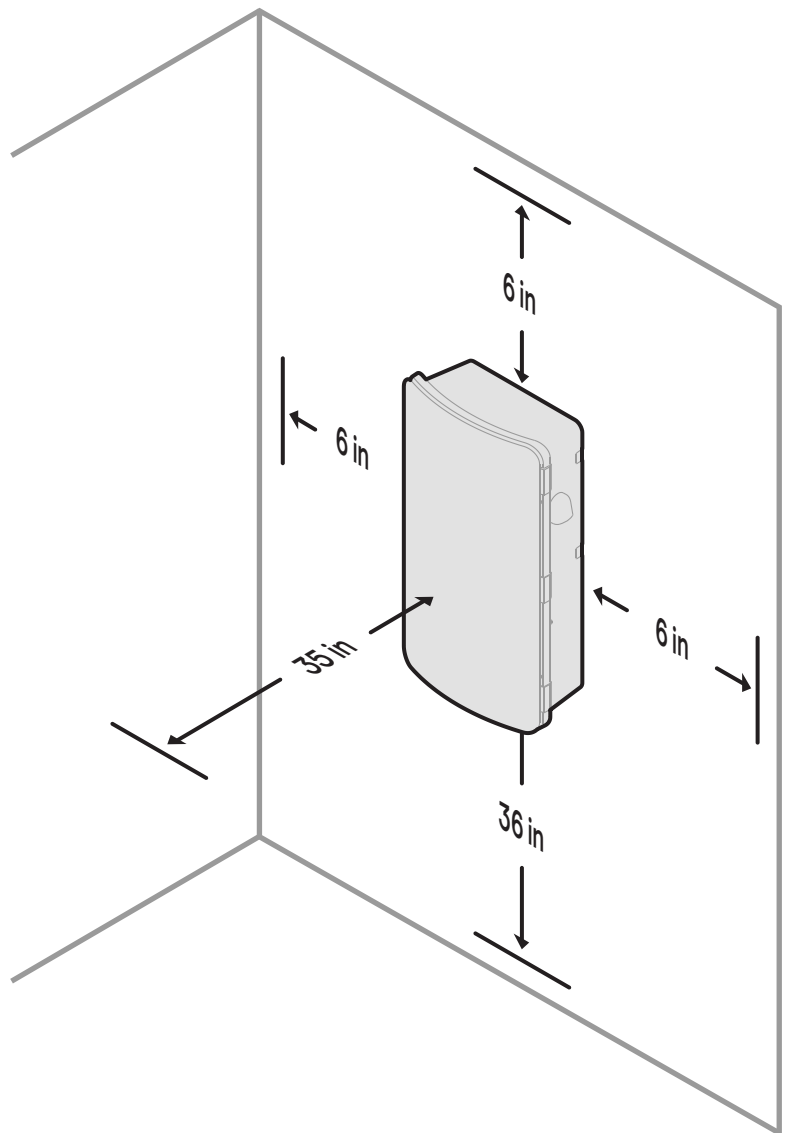
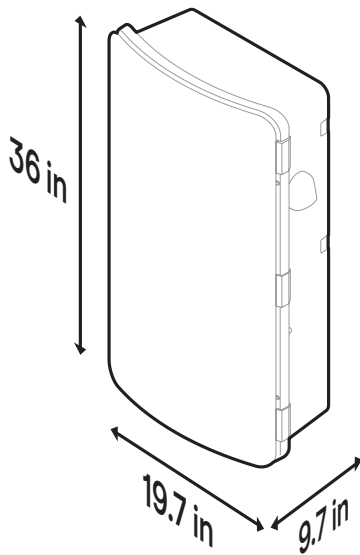
- In flood-prone areas, ensure that the clearance from the ground is sufficient to avoid water ingress.

## Section A - Mounting the product

### Step 1: Minimum clearance

This product must be installed with clearance at the left, right, top, bottom, and front of the product, as shown in the figure.

Follow all local standards and regulations related to the mounting of an IQ System Controller 2.



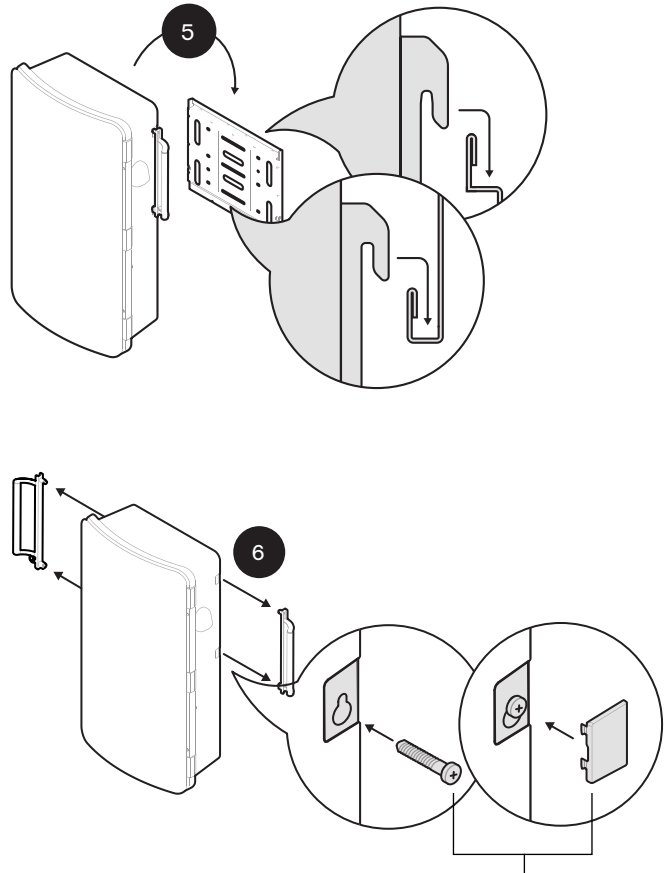
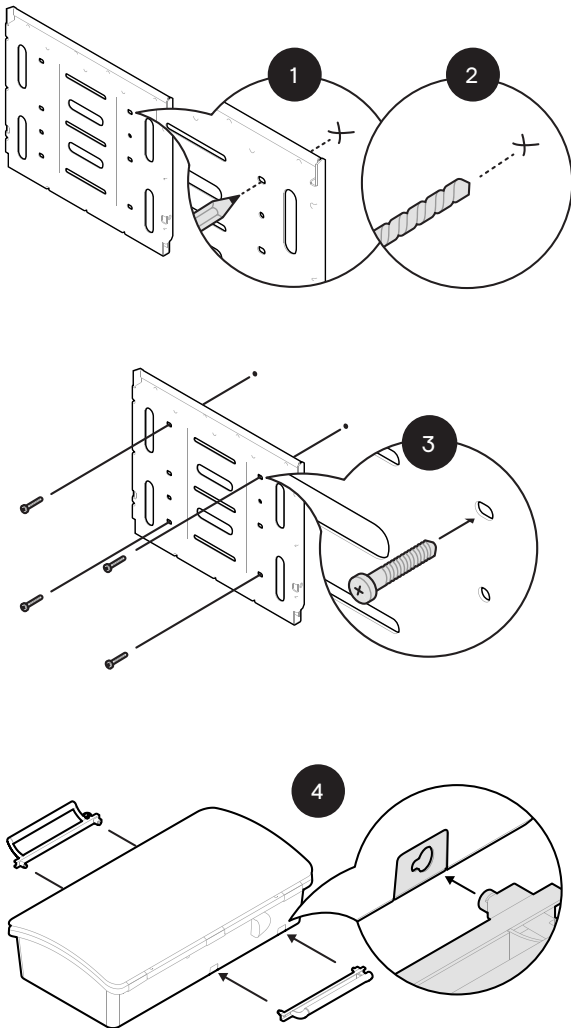
## Section A - Mounting the product

### Step 2: Install the mounting bracket

Install the mounting bracket and mount the IQ System Controller 2 as per the following instructions:

- The IQ System Controller 2 weighs 39.4 kg (87 lbs) and will require two people to lift the unit.
- Risk of injury and equipment damage. Avoid dropping the IQ System Controller 2. Doing so may create a hazard, cause serious injury, and/or damage the equipment.

- Risk of injury and equipment damage. Do not release the IQ System Controller 2 until you ensure that the IQ System Controller 2 is fully seated on the wall-mount bracket shelf.
- Use 3" long wood screw #10, 1/4", or 5/16" (depending on the attachment wall) or masonry attachments if installed in masonry to attach the IQ System Controller 2 bracket. Use one screw and washer for each slot. The slot size of the IQ System Controller 2 wall-mount bracket is 8.5 mm.
- Check the local standards with a structural engineer for local requirements. Washers should be used between fastener heads and wall-mount brackets.



Provided in the accessory kit

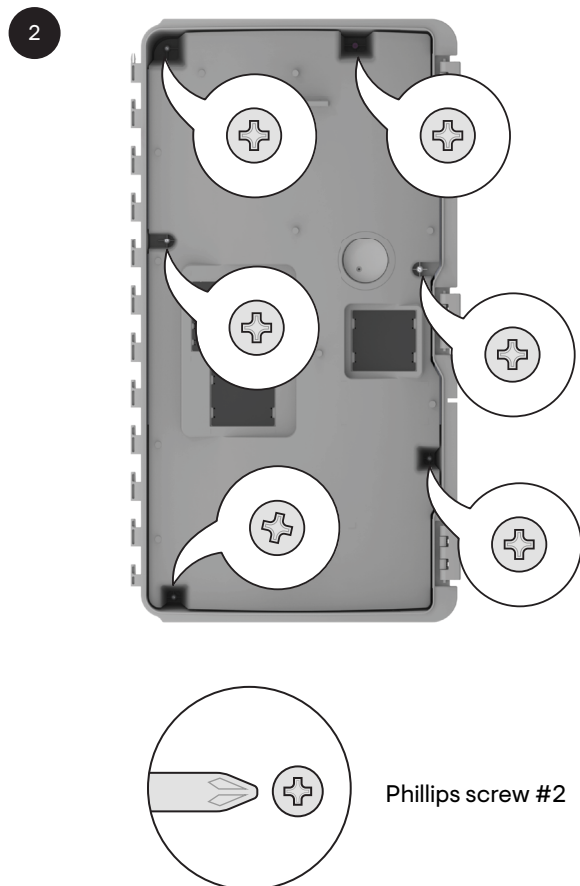
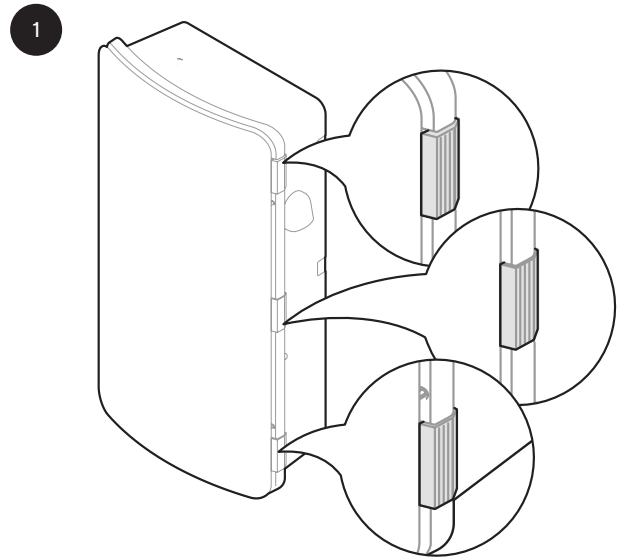
## Section A - Mounting the product

### Step 3: Open the dead front

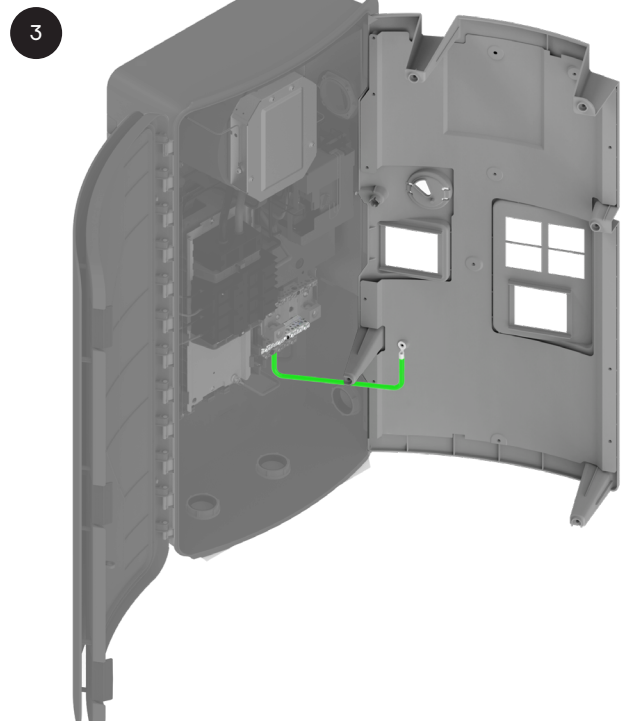
Before removing the dead front, ensure the IQ System Controller 2 is completely de-energized.

⚠ Risk of equipment damage. Do not wire the IQ System Controller 2 when it is energized.

- Risk of equipment damage. Do not remove the pre-installed solar shield attached to the enclosure door.
- Risk of electric shock. Do not modify the dead front other than to remove or replace filler plates, as needed. The product warranty can be affected in case of modification.



Phillips screw #2



The ground connection to the dead front needs to be carefully disconnected before the dead front can be dismantled from the IQ System Controller 2.

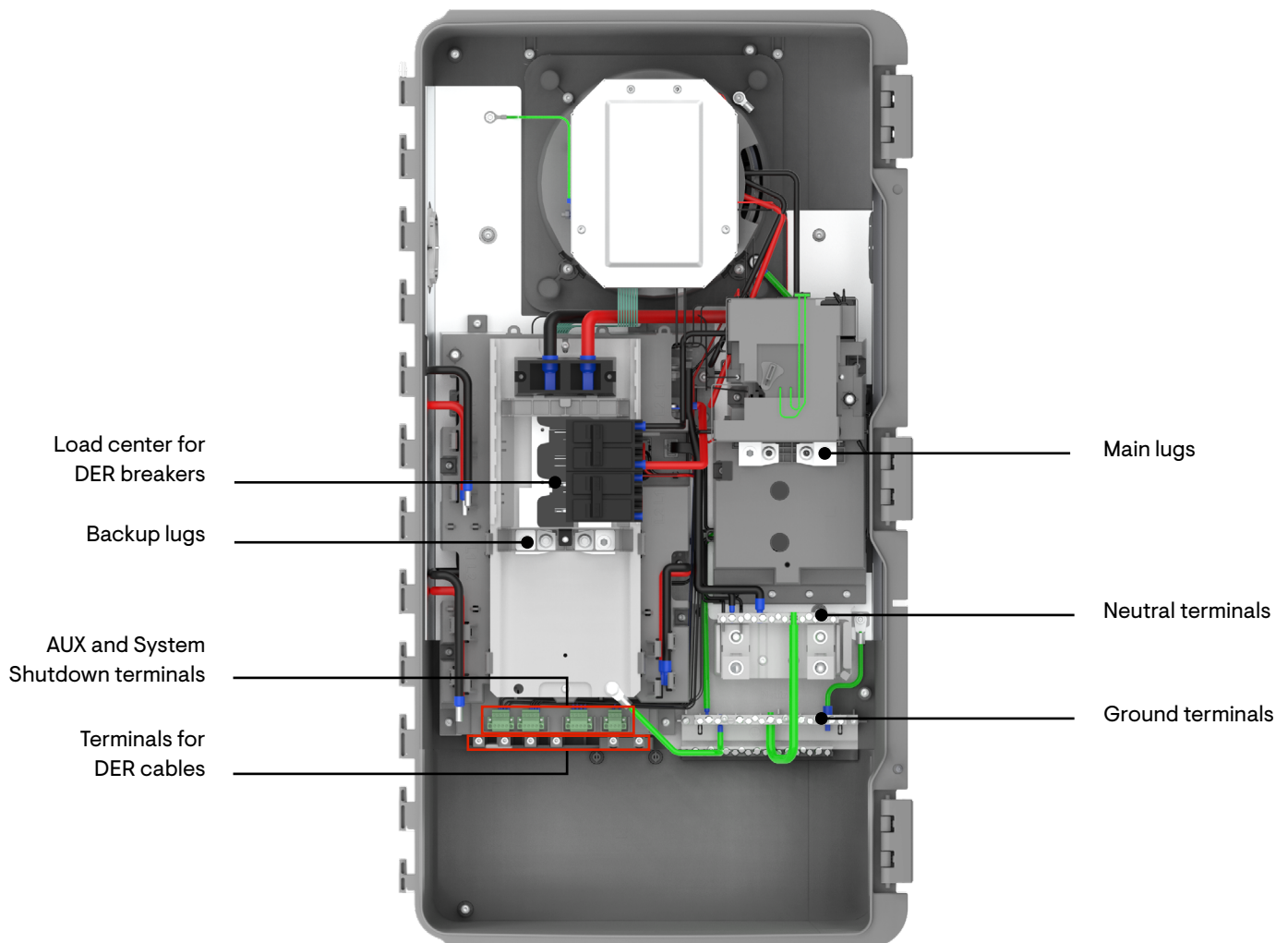


## Section B

# Mounting the breakers

## Internal view of IQ System Controller 2

The following figure shows the IQ System Controller 2 after removing the dead front. It comes with an inbuilt neutral-forming transformer, microgrid interconnect device, automatic transfer switch, and a panel board to mount plug-in type breakers.

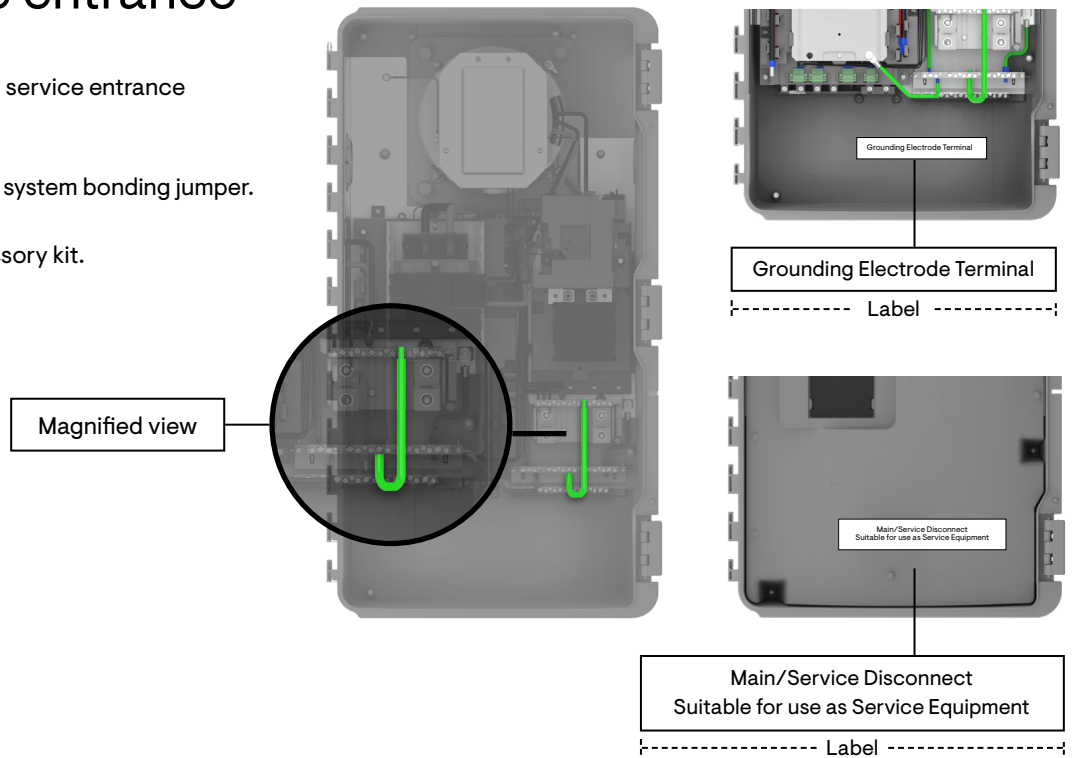


## Section B - Mounting the breakers

### Wiring for service entrance

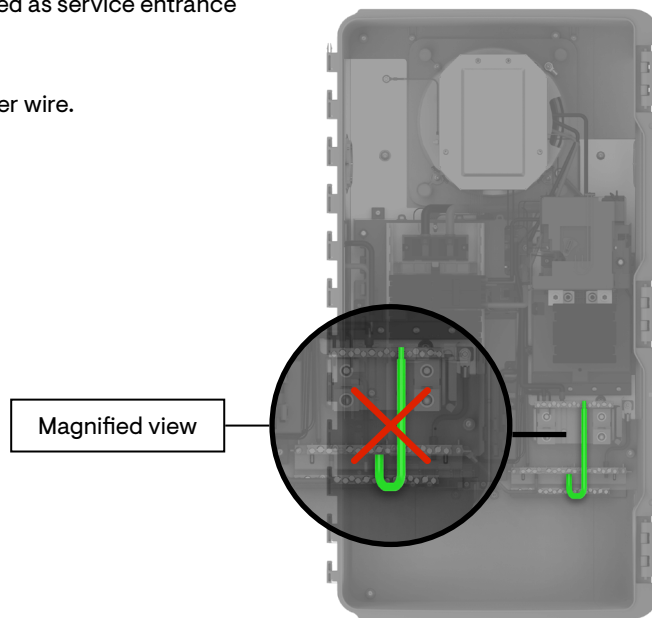
If the IQ System Controller 2 is used as service entrance equipment:

- Do not remove the green-colored system bonding jumper.
- Paste labels provided in the accessory kit.



If the IQ System Controller 2 is NOT used as service entrance equipment:

- Remove the system bonding jumper wire.




# Section B - Mounting the breakers

## Install main and backup breakers

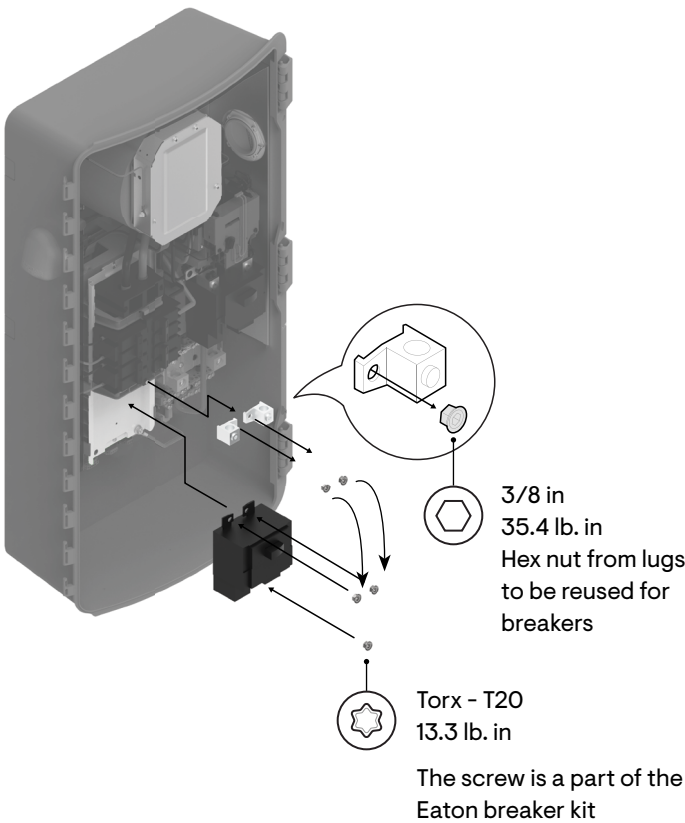
If breakers are being installed for main and backup connections, the lugs should be removed, and the breakers should be installed.

Only Eaton CSR range breakers with ratings between 100 A and 200 A can be used for a main and backup connection.

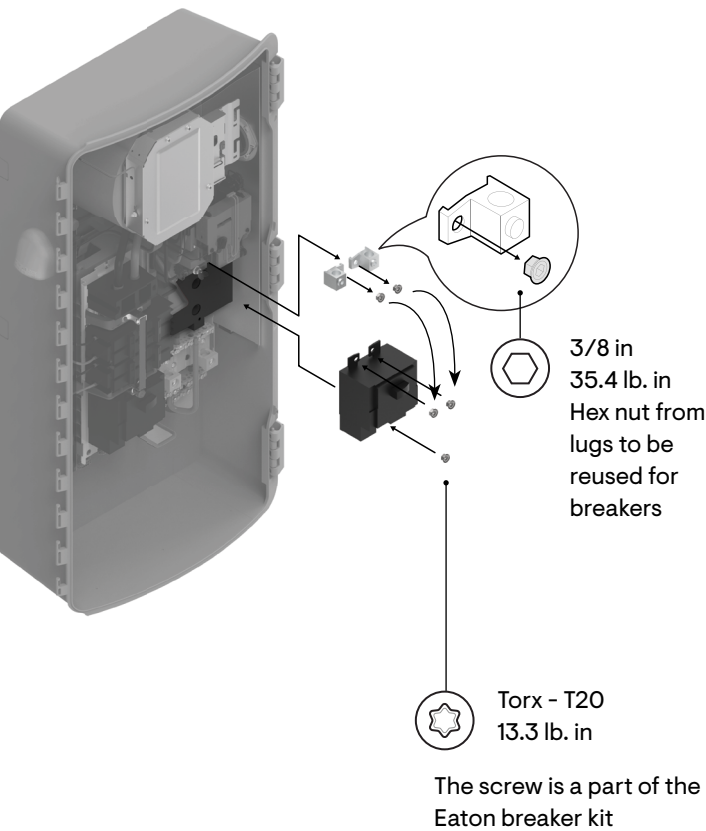
 Risk of equipment damage. Do not wire the IQ System Controller when it is energized.

ENPHASE BREAKER SKU	EATON BREAKER PART
BRK-100A-2P-240V	CSR2100N
BRK-125A-2P-240V	CSR2125N
BRK-150A-2P-240V	CSR2150N
BRK-175A-2P-240V	CSR2175N
BRK-200A-2P-240V	CSR2200N

### Backup connection



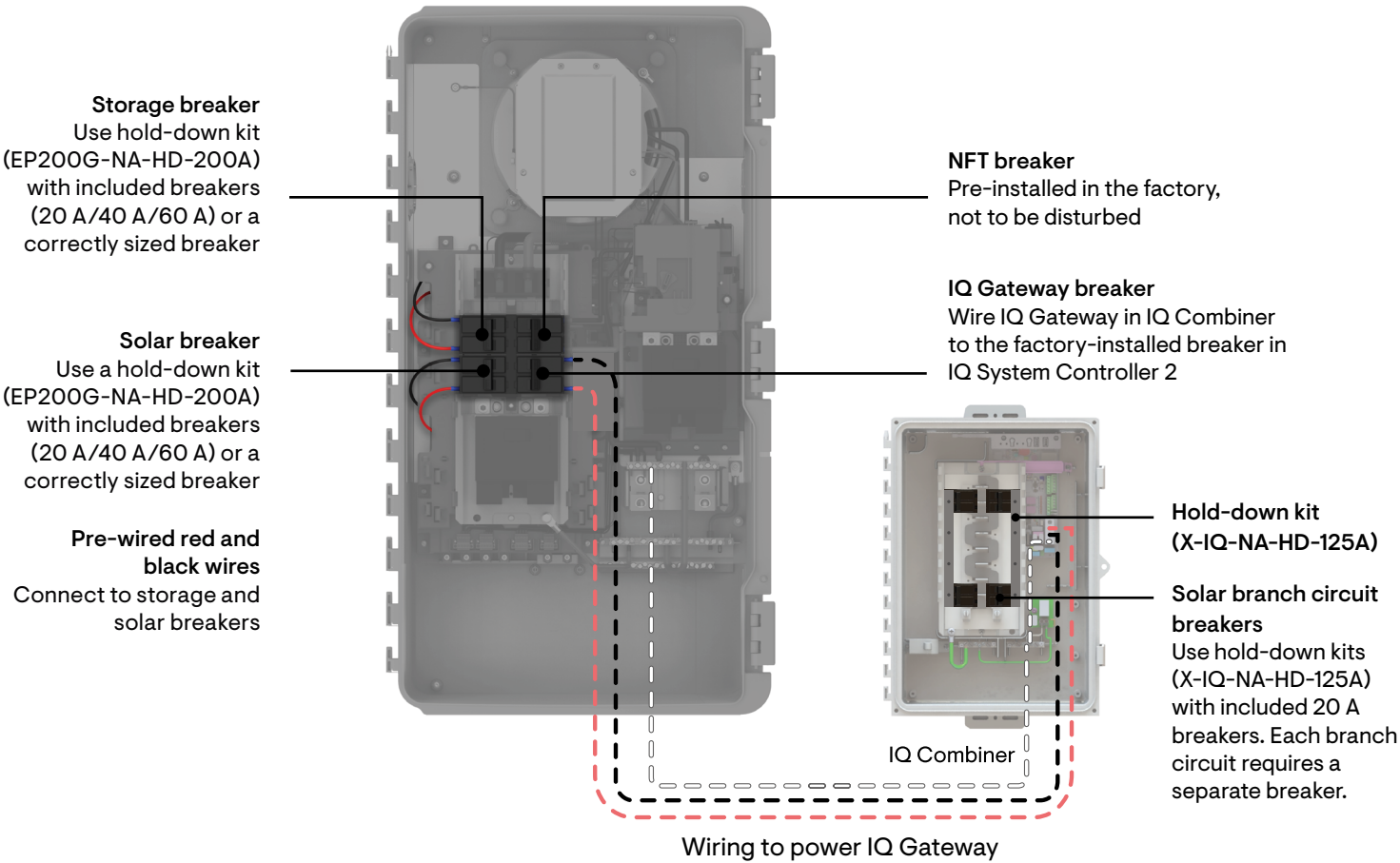
### Main connection



Section B - Mounting the breakers

Breakers for IQ8 Systems  
without generator

The IQ System Controller 2 comes pre-installed with a 40 A breaker for the neutral forming transformer (NFT). When a generator is not installed, the NFT breaker should not be removed.



ENPHASE BREAKER PART	WEATON BREAKER PART	TORQUE
BRK-20A-2P-240V-B	BR220B	27 lb.in
BRK-40A-2P-240V-B	BR240B	
BRK-60A-2P-240V	BR260	
BRK-80A-2P-240V	BR280	

The following alternate breakers are approved for use in the Eaton load center:

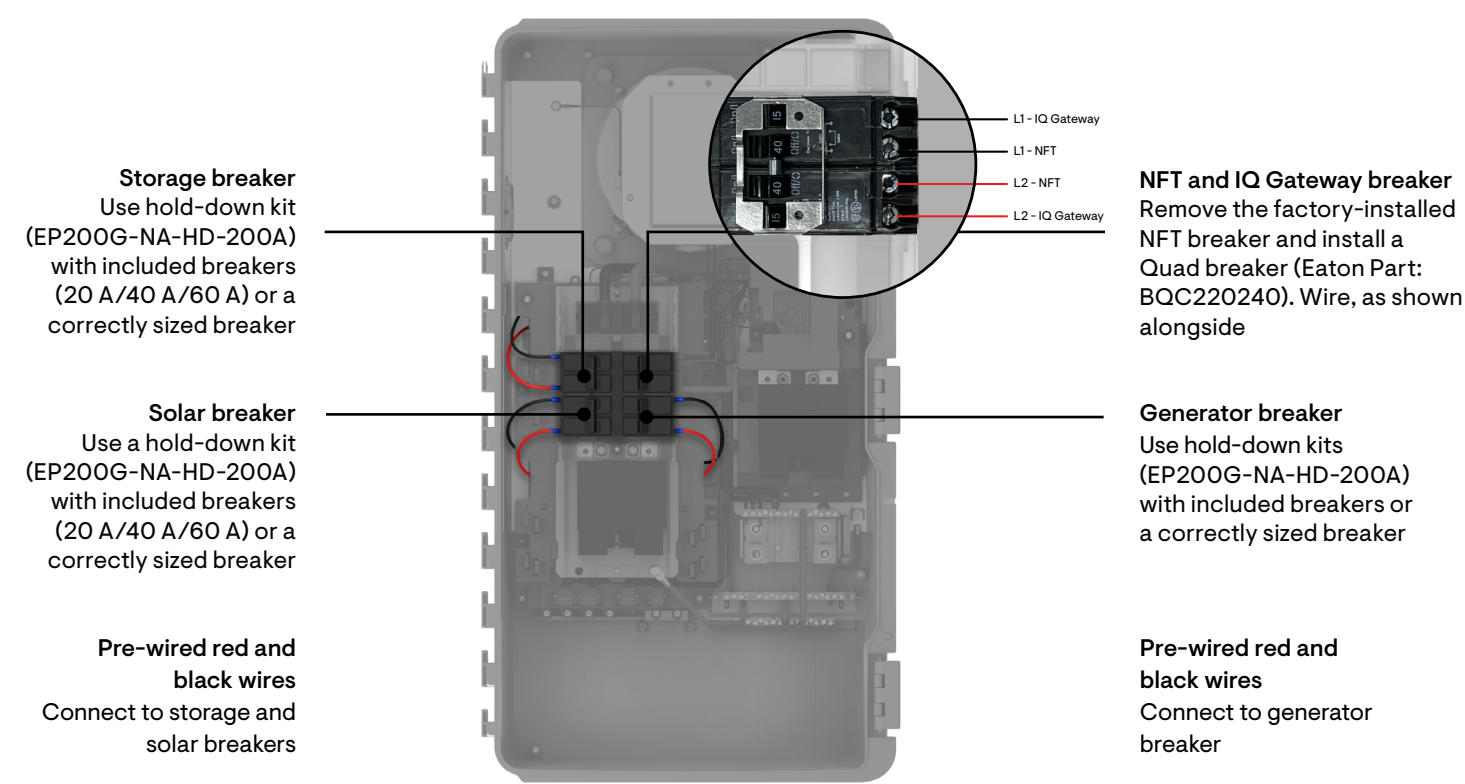
MANUFACTURER	MODEL SERIES	CURRENT RATING
GE/ABB	THQL21xx	20/40/60/80 A
Siemens	Q2xx	20/40/60/80 A
Siemens (quad breaker)	Q24020CT2	20/40 A

Refer to the breaker manufacturer’s manual for torque values.

Section B - Mounting the breakers

Breakers for IQ8 Systems with generator

IQ System Controller 2 allows for generator integration with the Enphase Energy Systems. The breaker on the bottom right slot of the panel board can be sized and used to integrate the generator. For generator control and power line schematics, refer to the [generator control section](#).



ENPHASE BREAKER PART	EATON BREAKER PART	TORQUE ON WIRE
BRK-20A-2P-240V-B	BR220B	27 lb.in
BRK-40A-2P-240V-B	BR240B	
BRK-60A-2P-240V	BR260	
BRK-80A-2P-240V	BR280	
BRK-20A40A-4P-240V	BQC220240	

**NOTE:**  
A cable used to connect IQ Gateway power terminals to the quad breaker must adhere to local electrical codes.

The following alternate breakers are approved for use in the Eaton load center:

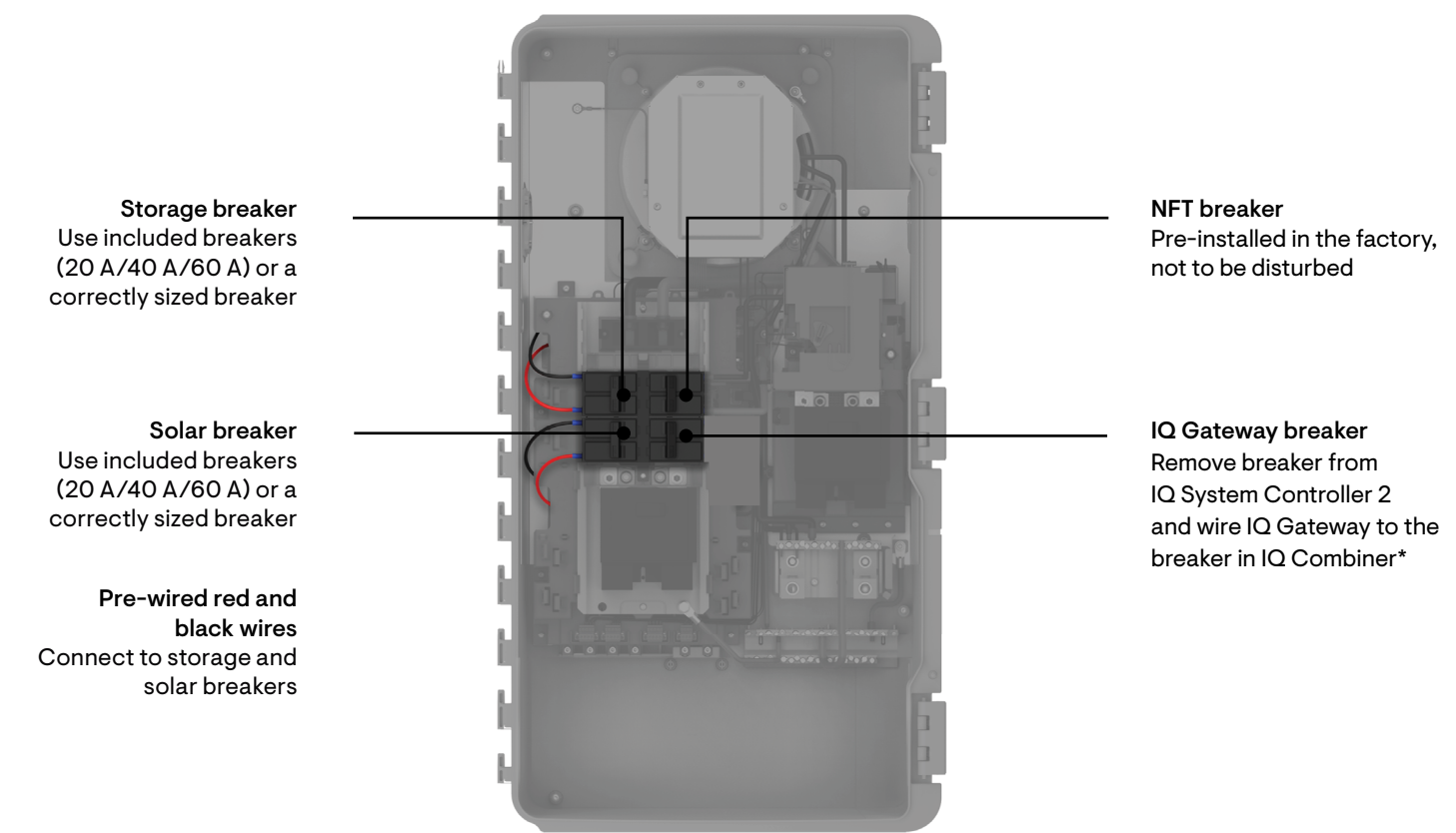
MANUFACTURER	MODEL SERIES	CURRENT RATING
GE/ABB	THQL21xx	20/40/60/80 A
Siemens	Q2xx	20/40/60/80 A
Siemens (quad breaker)	Q24020CT2	20/40 A

Refer to the breaker manufacturer’s manual for torque values.

Section B - Mounting the breakers

Breakers for non-IQ8 Systems

The IQ System Controller 2 comes pre-installed with a 40 A breaker for the neutral-forming transformer (NFT). When a generator is not installed, the NFT breaker should not be removed.



\*For generator integration, follow the same instructions applicable to [IQ8 Systems](#).

ENPHASE BREAKER PART	EATON BREAKER PART	TORQUE ON WIRE
BRK-20A-2P-240V-B	BR220B	27 lb.in
BRK-40A-2P-240V-B	BR240B	
BRK-60A-2P-240V	BR260	
BRK-80A-2P-240V	BR280	
BRK-20A40A-4P-240V	BQC220240	

The following alternate breakers are approved for use in the Eaton load center:

MANUFACTURER	MODEL SERIES	CURRENT RATING
GE/ABB	THQL21xx	20/40/60/80 A
Siemens	Q2xx	20/40/60/80 A
Siemens (quad breaker)	Q24020CT2	20/40 A

Refer to the breaker manufacturer’s manual for torque values.

Section C

# Wiring

## Drill conduits

Drill the conduit entry holes as needed and install conduit grounding lugs for each opening. Be sure to reseal unused conduit entry holes with sealing plugs.

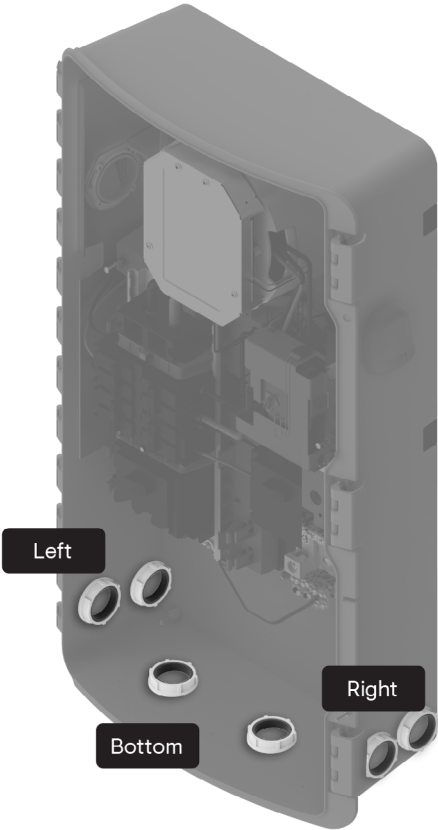
Main supply conductors may enter the IQ System Controller 2 from the bottom or bottom-left side.

Backup load conductors may enter the IQ System Controller 2 from the bottom or bottom-right side.

IQ Battery, IQ Combiner, and generator conductors may enter from the bottom, bottom-left, or bottom-right sides.

Size the conductors (line, neutral, and ground) depending on the service or breaker rating and voltage rise requirements according to local codes.

Refer to the conductor rating table on the door of the IQ System Controller 2.



CONDUIT LOCATION	MAIN	BACKUP LOADS	DER
Bottom	✓	✓	✓
Left wall	✓	✗	✓
Right wall	✗	✓	✓



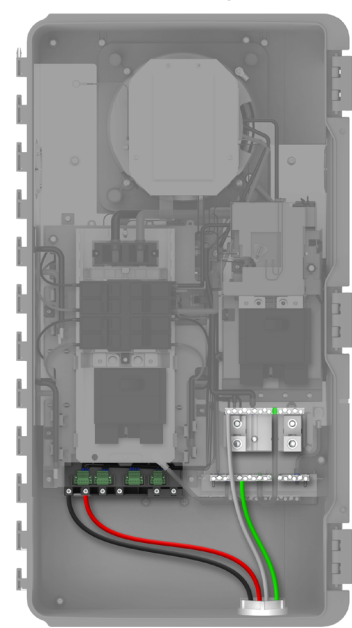
Section C - Wiring

DER wiring

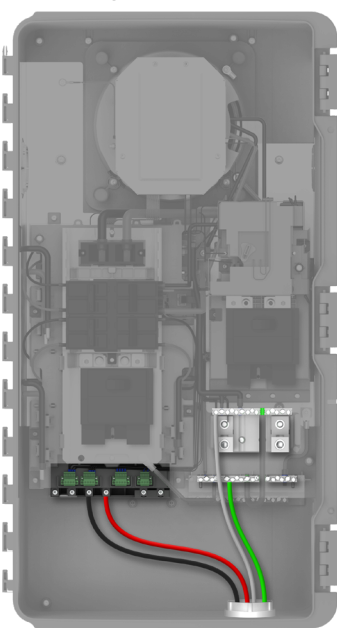
Connect the DER (IQ Battery, IQ Combiner/Solar, and generator) wires to the lugs at the bottom, as indicated in the following images.

Refer to the wiring table and torque recommendation before connecting the wires. Refer to the local codes for any specific local requirements.

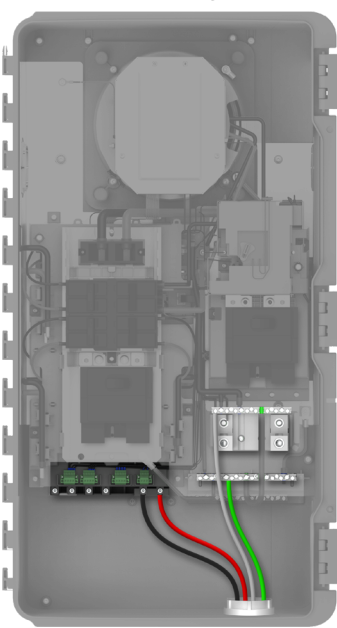
IQ Battery wiring



PV wiring



Generator wiring



PV/IQ Battery/generator connections

AWG	TORQUE (LB.IN)
14-10	25
8	30
4-6	35
2-3	40

NEUTRAL AND GROUND CONNECTIONS	AWG	TORQUE (LB.IN)	
Neutral and ground bar – large holes	1/0-3	50	
	4-6	45	⊘
	8	40	5/16"-24 UNF
	10-14	35	
Neutral and ground bar – small holes	6-8	25	⊘
	10-14	15	#10-32 UNF
Neutral lugs	300 kcmil-6	275	⊘ 3/8"

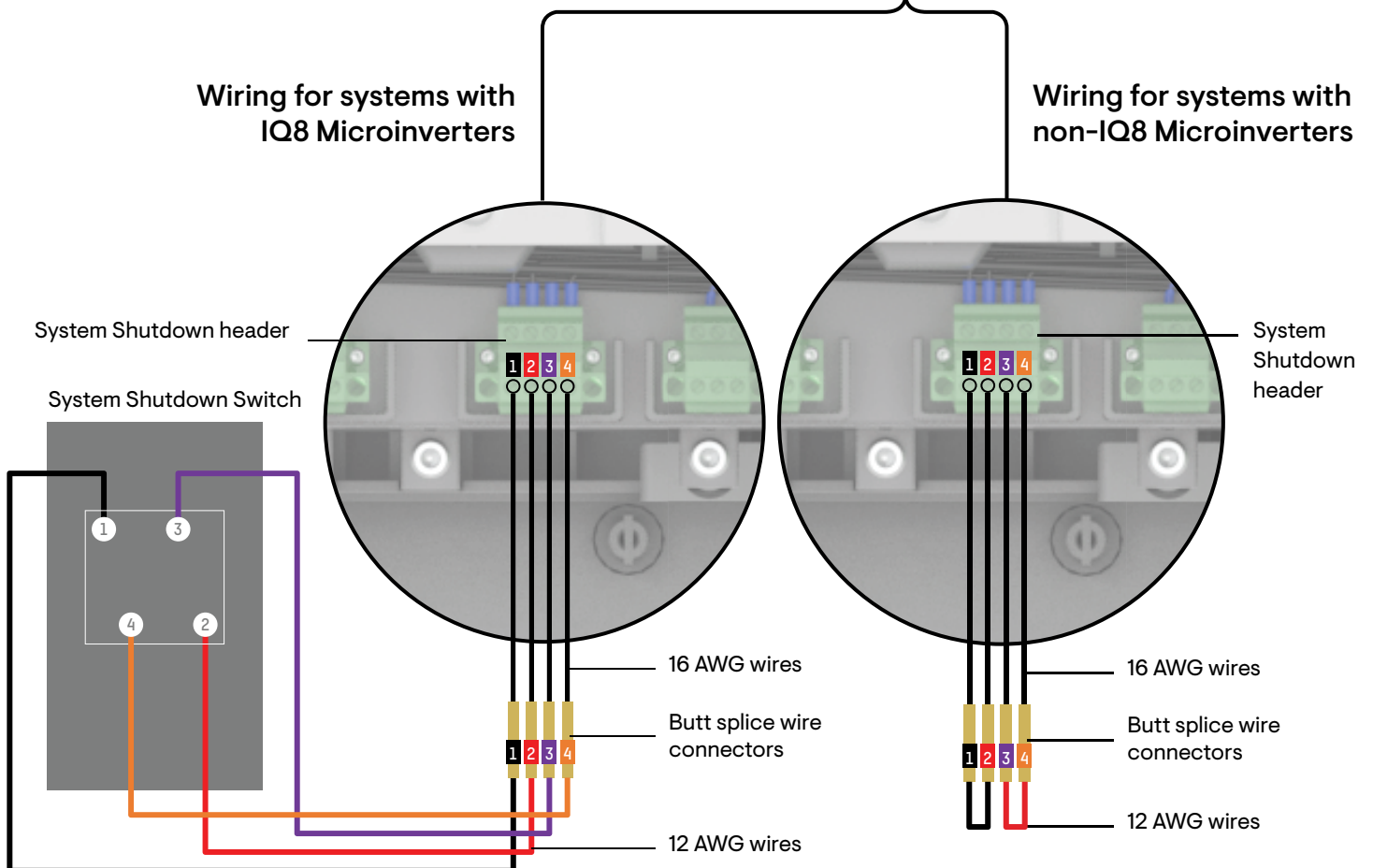
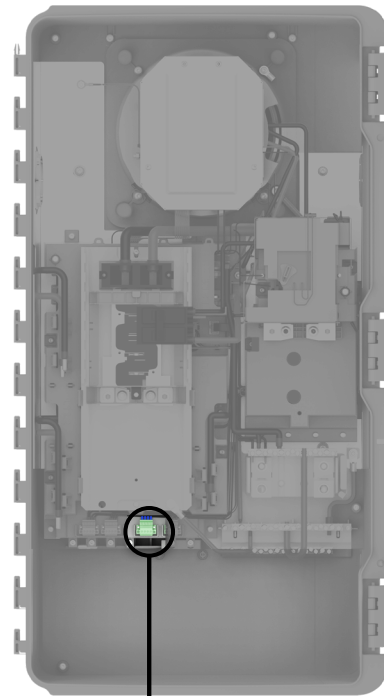


## Section C - Wiring

### Aux wiring: System Shutdown Switch

Aux wiring 1: System Shutdown Switch wiring  
(compliance requirement)

The IQ System Controller 2 meets UL1741 PV RSE and NEC rapid shutdown requirements for IQ8 Microinverters. The System Shutdown Switch is the rapid shutdown initiator. The System Shutdown Switch ensures a single point of initiation per NEC 2020. When turned off, the System Shutdown Switch will also disconnect the battery from the system.



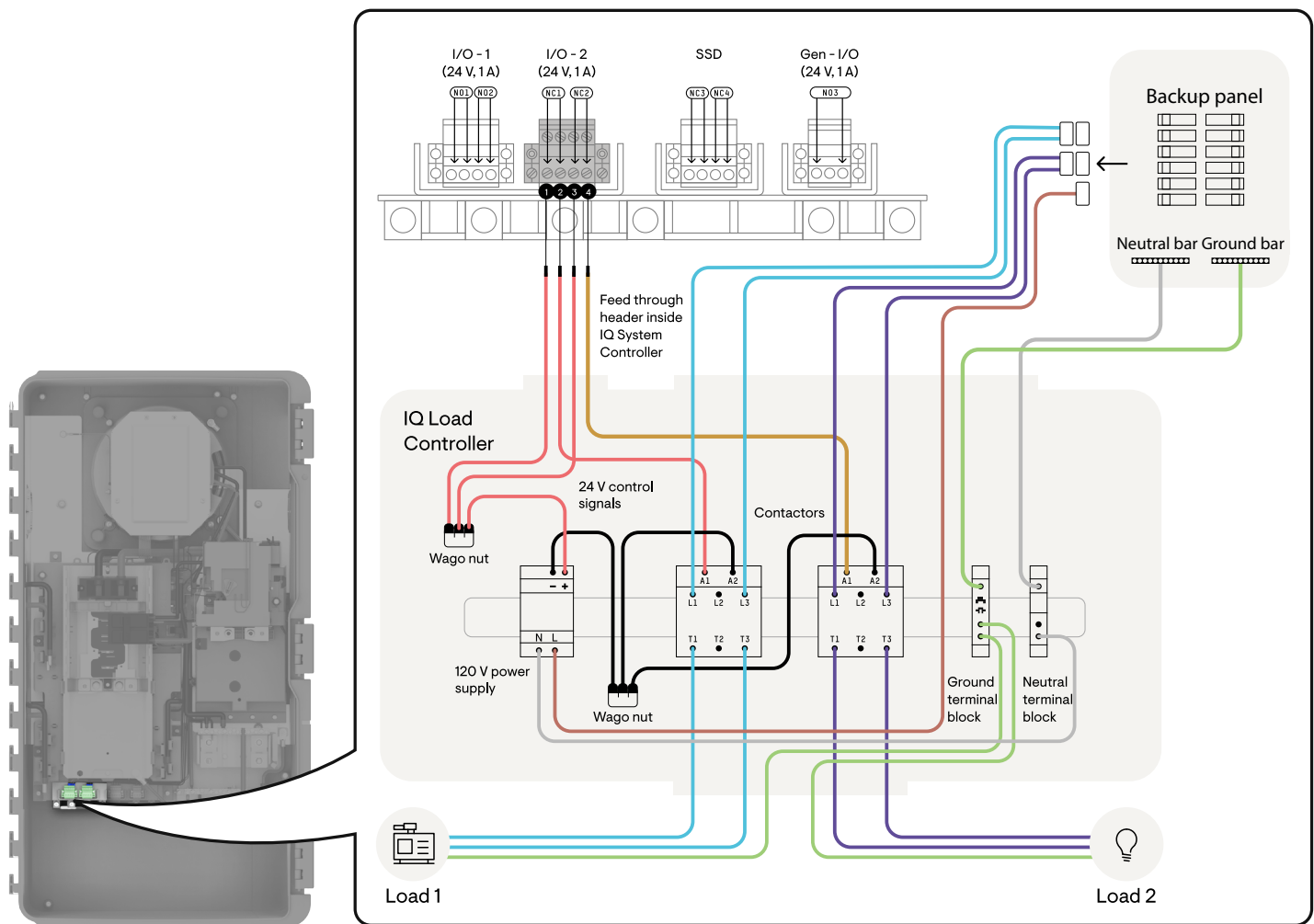
**Note:** Control lines to headers support 28 AWG and 16 AWG wire gauges.

## Section C - Wiring

### Aux wiring: IQ Load Controller

Up to two IQ Load Controllers, each enabling fine-grained, circuit-level control for two 240 V or four 120 V essential load circuits, can be integrated with IQ System Controller. Each 240 V load can be controlled independently, while the 120 V loads can be controlled in groups of up to two loads. Sunlight Backup system needs at least one IQ Load Controller to be installed on the site.

For detailed wiring instructions, refer to the IQ Load Controller QIG.



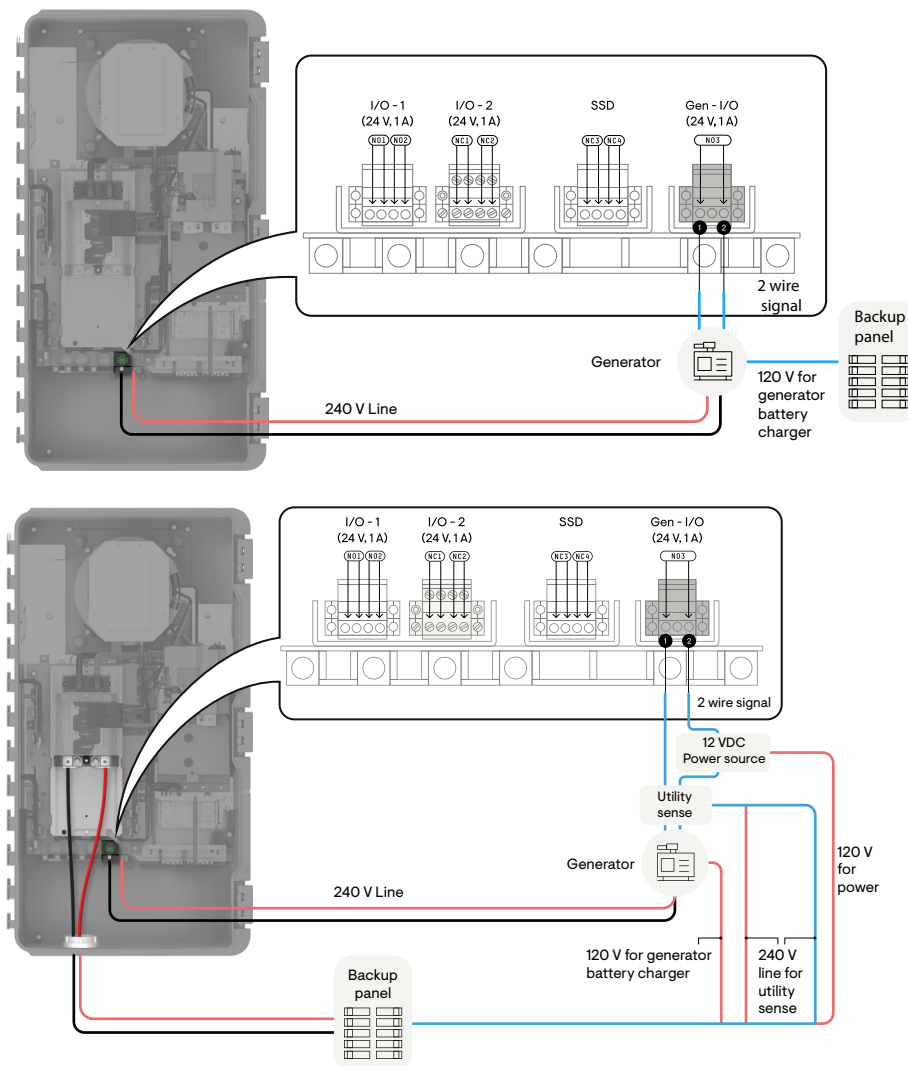
**Note:** Control lines to headers support 28 AWG and 16 AWG wire gauges.

## Section C - Wiring

### Aux wiring: Generator control

An auto-start generator can be integrated with the Enphase Energy System without the need for any external automatic transfer switch (ATS).

To view the full list of supported generators and more details, see [Generator Integration Tech Brief](#).



1. Install generator CTs (CT-200-SPLIT) for L1 and L2 at the IQ System Controller 2 generator input terminal for power monitoring when the generator is running.
2. Use the Enphase Installer App to commission and program IQ System Controller 2 to control the generator.

- For two-wire autostart generators, wire the generator I/O port in IQ System Controller 2 to the two-wire remote start terminals of the generator.
- For utility sense generators, wire the input of a 12 V DC power supply to the backup loads panel.
- Wire one end of the DC power supply output to one of the terminals of the generator auxiliary contact (NO3) on the IQ System Controller 2.
- Wire the other terminal of the generator auxiliary contact (NO3) to the coil of an external Normally Closed (NC) power relay.
- Wire the other end of the DC power supply output to the other end of the coil of the NC power relay.
- Wire one terminal of the external NC power relay to one of the poles of a double pole breaker on the backup loads panel.
- Wire the other terminal of the external NC power relay to one of the utility sense terminals on the generator through a fuse.
- Wire the second pole of the double pole breaker on the backup loads panel to the second utility sense terminal on the generator via a fuse.

**NOTE:** Control lines to headers support 28 AWG and 16 AWG wire gauges.

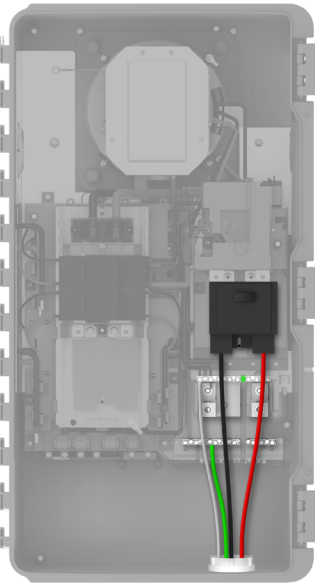
Refer to the technical brief and user guides for detailed instructions on generator integration; see the Generator Support page at <https://enphase.com/installers/storage/generator>. Always follow generator installation and operation instructions from the generator manufacturer.

# Section C - Wiring

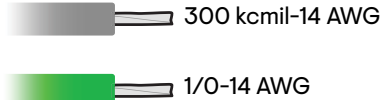
## Main/supply side wiring

The main wiring is the final step in the installation process.  
The wiring is similar for both full home and partial home backup.

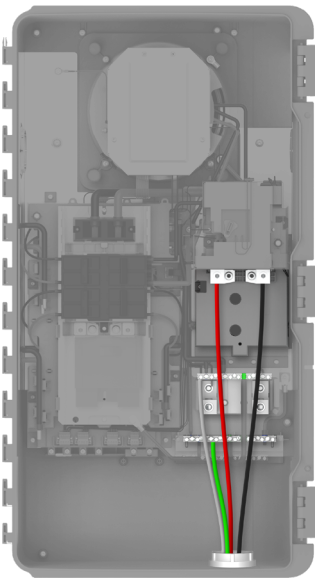
When using the Eaton CSR main breaker



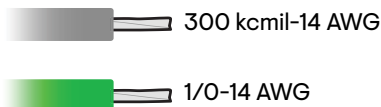
AWG	TORQUE (LB.IN)
300 kcmil-2	250



When not using Eaton CSR main breaker



Main lug connection

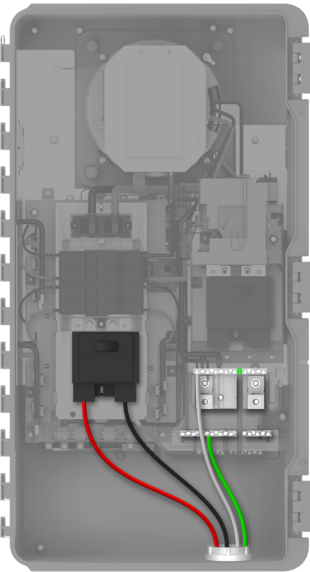


NEUTRAL AND GROUND CONNECTIONS	AWG	TORQUE (LB.IN)	
Main lug	300 kcmil-1	275	⊙ 1/4"
Neutral and ground bar – large holes	1/0-3	50	
	4-6	45	⊘
	8	40	5/16"-24 UNF
	10-14	35	
Neutral and ground bar – small holes	6-8	25	⊘
	10-14	15	#10-32 UNF
Neutral lugs	300 kcmil-6	275	⊙ 3/8"

Section C - Wiring

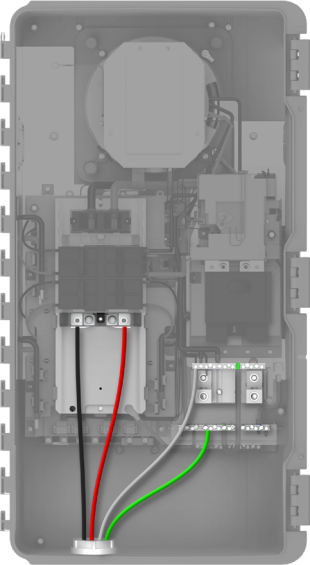
Backup loads wiring

When using the Eaton CSR main breaker



AWG	TORQUE (LB.IN)
300 kcmil-2	250

When not using the Eaton CSR main breaker



NEUTRAL AND GROUND CONNECTIONS	AWG	TORQUE (LB.IN)	
Backup lug	300 kcmil-1	275	⊗ 1/4"
	1/0-3	50	
	4-6	45	⊗
	8	40	5/16"-24 UNF
Neutral and ground bar – large holes	10-14	35	
	6-8	25	⊗
	10-14	15	#10-32 UNF
Neutral and ground bar – small holes			
Neutral lugs	300 kcmil-6	275	⊗ 3/8"

## Section C - Wiring

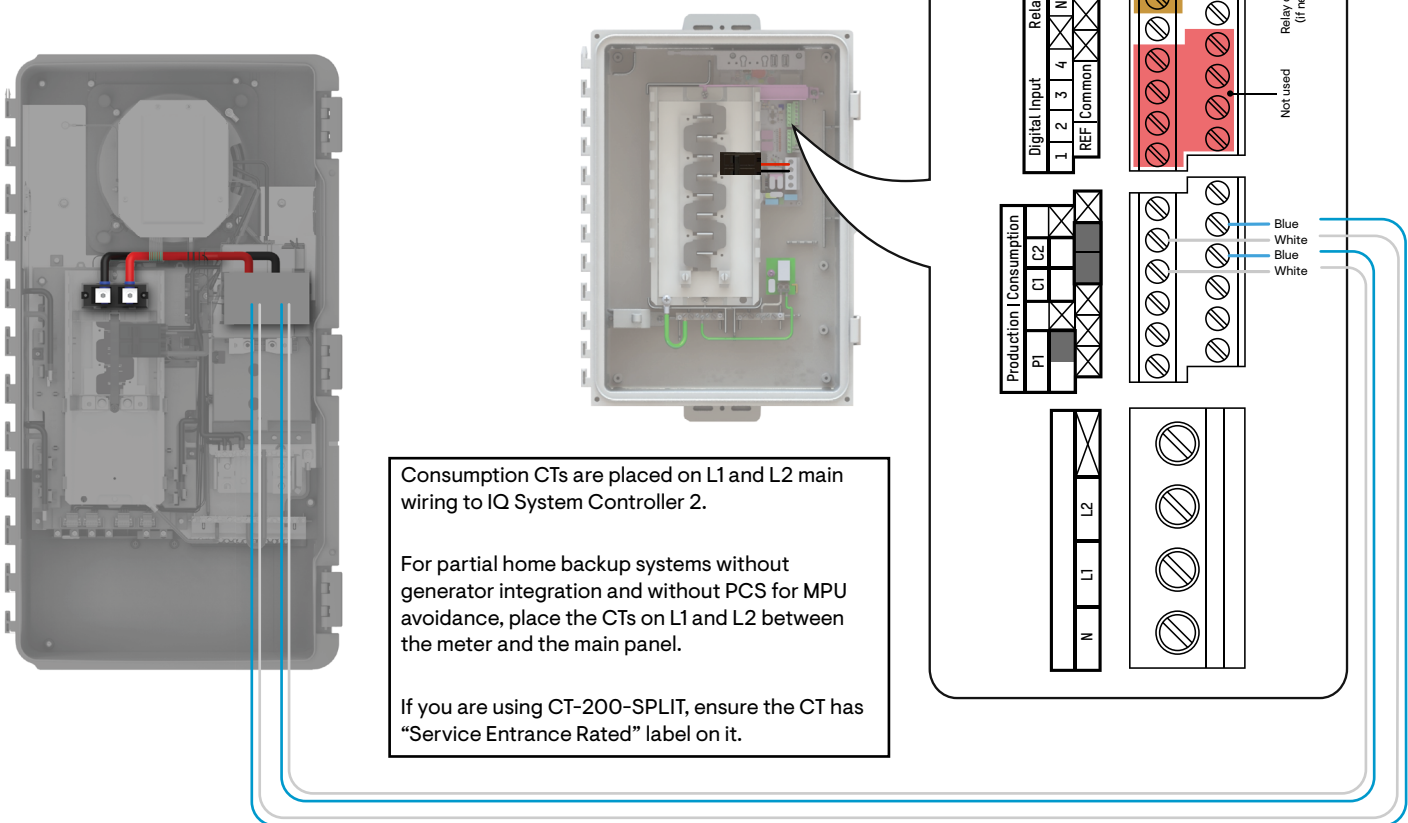
### CT wiring

There are multiple scenarios for CT wiring. For a complete description, refer to the IQ Gateway QIG.

Place the Consumption CTs as shown below for:

- Whole home backup
- Partial home backup with Power Control Systems (PCS) for main panel upgrade (MPU) avoidance
- Any system with generator integration

For PCS setup, refer to the Enphase Installer App.



If using PCS: After placing the Consumption CTs and wiring to the IQ Gateway, the following label has to be pasted on the CTs.

This sensor is part of a Power Control System. Do not remove or disable. Replace with same type and rating.

If PCS is used, place the following label on the dead front with the PCS setting filled in the blank space.


THE MAXIMUM CURRENT BACKFED BY THIS SYSTEM TO THE MAIN PANEL MAY BE CONTROLLED ELECTRONICALLY. REFER TO MANUFACTURER'S INSTRUCTIONS FOR MORE INFORMATION.

PCS CONTROLLED CURRENT SETTINGS:  AMPS


When installing a generator, the generator CTs should be paralleled to the Consumption CTs wiring using a Wago nut.

# Close and energize


## IQ System Controller 2


 **WARNING!** Connect the AC wires of the IQ Combiner, IQ Batteries, and generator into the terminal lugs at the bottom of the IQ System Controller 2 load center on the left. Do not connect the AC wires directly to the breakers. The AC wires go into the terminal lugs, as shown on the label.


- A. Before energizing, make sure that all IQ System Controller 2 wiring is complete.


 **WARNING!** If not commissioning the system, you must ensure that the DC switches on all IQ Batteries are turned off to avoid the depletion of charge on the IQ Batteries.

- B. Reconnect the dead front ground cable to the grounding bar. Place the dead front using the five reserved screws. Tighten the cover screws using a Phillips screwdriver.

 **WARNING!** Risk of equipment damage. Ensure that no conductors are pinched before placing the dead front.

 **WARNING!** If either solar, storage, or generator circuits are not used in an installation, their respective red and black colored conductors should remain stowed in the clips on the plastic frame supporting the panel board interior, and their end caps should not be removed.


 **DANGER:** Risk of electric shock. There are many potential sources of voltage. Check any IQ Battery, PV, or other generation sources for voltage.

 **WARNING!** Risk of equipment damage. Do not wire the IQ System Controller 2 when it is energized.

- C. If you work on an IQ6, IQ7, or M Series retrofit system, and you plan to energize IQ System Controller 2 and connect the PV without commissioning the system on the same day, follow the sequence below:
- Leave the IQ Combiner breaker in the load panel where it was originally placed instead of connecting the IQ Combiner L1 and L2 circuits to the terminal lugs in IQ System Controller 2. This way, your PV systems can still be functional before commissioning.
  - TURN OFF the DC switches on all batteries.
  - OPEN the IQ Battery breaker in IQ System Controller 2.

- d. CLOSE breakers in the following order:

1. Main breaker
2. Load breaker

 **WARNING!** At commissioning, you must reconnect the IQ Combiner L1 and L2 circuits back to the terminal lugs in IQ System Controller 2.

- D. If you plan to commission the system, follow the instructions in the Enphase Installer App to provision and energize Enphase Energy System.
- E. Once connected to the IQ Gateway, refer to the Enphase Installer App help topics for more information.
- F. If you do not see the IQ System Controller 2 information in Enphase Installer App, check if the IQ Gateway is connected to the internet.
- G. Remember to close and secure the door of the IQ System Controller 2 before leaving the site.

# Safety

**IMPORTANT SAFETY INSTRUCTIONS. SAVE THESE INSTRUCTIONS.** This guide contains important instructions that you must follow during the installation and maintenance of the IQ System Controller 2. Failing to follow any of these instructions may void the warranty ([enphase.com/warranty](https://enphase.com/warranty)).

## In case of fire or other emergency

### In all cases:

- If safe to do so, turn off all DC switches on each IQ Battery.
- Turn off the PV breaker and battery breakers inside the IQ System Controller 2.
- Turn off the AC breaker for the IQ System Controller 2 circuit.
- If an isolator switch is present, switch off the AC isolator for the IQ System Controller 2 circuit.
- Contact the fire department or other required emergency response team.
- Evacuate the area.

### In case of fire:

- When safe, use a fire extinguisher. Suitable types are A, B, and C dry chemical fire extinguishers. Additional extinguishing media include carbon dioxide or alcohol-resistant foams.




### In case of flooding:

- Stay out of the water if any part of the IQ System Controller 2 or wiring is submerged.
- If possible, protect the system by finding and stopping the source of the water and pumping it away.
- If water has contacted the unit, call your installer to arrange an inspection. If you are sure that water has never contacted the battery, let the area dry completely before use.








### In case of unusual noise, smell, or smoke:

- Ensure nothing is in contact with the IQ System Controller 2 or the venting area on top of the IQ System Controller 2.
- Ventilate the room.
- Contact Enphase Customer Support at [enphase.com/en-us/support/contact](https://enphase.com/en-us/support/contact).


















## Safety and advisory symbols

-  **DANGER:** This indicates a hazardous situation, which, if not avoided, will result in death or serious injury.
-  **WARNING:** This indicates a situation where failure to follow instructions may be a safety hazard or cause equipment malfunction. Use extreme caution and follow instructions carefully.
-  **NOTE:** This indicates information particularly important for optimal system operation. Follow instructions carefully.

## Safety instructions

-  **DANGER:** Risk of electric shock. Risk of fire. Only qualified electricians should install, troubleshoot, or replace the IQ System Controller 2.
-  **DANGER:** Risk of electric shock. Risk of fire. Do not attempt to repair the IQ System Controller 2. Tampering with or opening the IQ System Controller 2 will void the warranty. If the IQ System Controller 2 fails, contact Enphase customer support for assistance at [enphase.com/en-us/support/contact](https://enphase.com/en-us/support/contact).
-  **DANGER:** Risk of electric shock. Do not use Enphase equipment in a manner not specified by the manufacturer. Doing so may cause death or injury to persons or damage to equipment.
-  **DANGER:** Risk of electric shock. Do not install the IQ System Controller 2 without first removing AC power from the photovoltaic system and ensuring that the DC switch on the IQ Batteries is off. Disconnect the power coming from the photovoltaics and ensure that the DC switch on the IQ Batteries is off before servicing or installing.
-  **DANGER:** Risk of electric shock. Risk of fire. Do not work alone. Someone should be in the range of your voice or close enough to come to your aid when you work with or near electrical equipment.
-  **DANGER:** Risk of fire. Do not allow or place flammable, sparking, or explosive items near the IQ System Controller 2.
-  **DANGER:** Risk of electric shock. In areas where flooding is possible, install the

IQ System Controller 2 at a height that prevents water ingress.

-  **WARNING:** Risk of equipment damage. IQ System Controller 2 is shipped and stored on its back. The upright position is only needed when installed.
-  **WARNING:** You must install the IQ System Controller 2 only on a suitable wall using an Enphase wall-mount bracket.
-  **WARNING:** Before installing or using the IQ System Controller 2, read all instructions and cautionary markings in this guide and on the equipment.
-  **WARNING:** Do not install or use the IQ System Controller 2 if it has been damaged in any way.
-  **WARNING:** Do not sit on, step on, place objects on, or insert objects into the IQ System Controller 2.
-  **WARNING:** Do not place beverages or liquid containers on top of the IQ System Controller 2. Do not expose the IQ System Controller 2 to flooding.
-  **NOTE:** Perform installation and wiring, including protection against lightning and resulting voltage surges, in accordance with all applicable local electrical codes and standards.
-  **NOTE:** Because IQ Battery is grid forming, you must install signage in accordance with NEC articles 705, 706, and 710.
-  **NOTE:** Using unapproved attachments or accessories could result in damage or injury.
-  **NOTE:** Install properly rated over current protection as part of the system installation.
-  **NOTE:** To ensure optimal reliability and to meet warranty requirements, the IQ System Controller 2 must be installed and/or stored according to the instructions in this guide.
-  **NOTE:** The IQ System Controller 2 is compatible only with the IQ Combiner 4/4C fitted with USB hub, USB radios, Production CT, and Consumption/PCS CTs. The IQ Combiner with the IQ Gateway inside is required for the operation of the IQ System Controller 2. Earlier versions of the IQ Gateway communications gateway are incompatible.
-  **NOTE:** The Enphase IQ System Controller 2 is intended to operate with an internet connection through the IQ Gateway. Failure to maintain an internet connection may have an impact on the warranty. See limited warranty for full terms and services ([enphase.com/warranty](https://enphase.com/warranty)).
-  **NOTE:** When replacing an IQ System Controller 2, you must replace it with an IQ System Controller 2 of the same type with the same AC current rating.
-  **NOTE:** Properly mount the IQ System Controller 2. Ensure that the mounting location is structurally suited to bearing the weight of the IQ System Controller 2.
-  **NOTE:** During use, storage, and transport, keep the IQ System Controller 2:
  - Properly ventilated
  - Away from the water, other liquids, heat, sparks, and direct sunlight
  - Away from excessive dust, corrosive and explosive gases, and oil smoke
  - Away from direct exposure to gas exhaust, such as from motor vehicles
  - Away from falling or moving objects, including motor vehicles. If mounted in the path of a motor vehicle, we recommend a 91 cm (36 in) minimum mounting height
  - In a location compliant with fire safety regulations
  - In a location compliant with local building codes and standards
-  **NOTE:** IQ System Controller 2 is not suitable for use as service equipment in Canada.



### Environmental protection

**ELECTRONIC DEVICE: DO NOT THROW AWAY.** Waste electrical products should not be disposed of with household waste. Refer to your local codes for disposal requirements.



# Revision history

REVISION	DATE	DESCRIPTION
140-00236-12	December 2023	Alternate breakers approved for the Eaton load centre.
140-00236-11	June 2023	Editorial updates were made as per UL NOM.
	April 2023	Editorial updates were made throughout the document for Sunlight Backup installation guidelines.

Previous releases.

# Installer notes

# Installer notes

IQSC-2-QIG-0051-12-EN-US-2023-12-06

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