

Critical updates and best practices for installing and commissioning Enphase Energy Systems

Overview

This document provides Enphase Authorized installers with a summary of all critical information needed to properly install and commission Enphase Energy Systems. Be sure to check for a new version of this document on a regular basis as it is updated frequently:

<https://link.enphase.com/best-practices>



Most recent revision

Revision V3.7 – 8/18/2022

- Added wiring instructions for System Controller 2 packaging SKU EP200G-SC2-RSD-KIT in [critical update 1.7](#)

[View revision history](#)

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Critical updates

Update 1.1

Plugging the Communications Kit into the IQ Gateway prior to updating the IQ Gateway software version will corrupt the Communication Kit software, making the Communication Kit non-functional.

Recommended solution: To avoid this situation, update the IQ Gateway software via the Enphase Installer App prior to connecting the Communication Kit to the IQ Gateway.

Update 1.2

When wiring a Rapid Shutdown Switch always de-energize the IQ System Controller 2 before installing, testing, or troubleshooting the switch. If any one of the control wires touch ground or neutral while the IQ System Controller 2 is energized, the IQ System Controller 2 will be damaged.

Recommended solution: Do not wire the Rapid Shutdown Switch while the IQ System Controller 2 is energized/powered on. Rapid Shutdown Switch installation and wiring should be treated as a live wire installation. De-energize the system when disconnecting, connecting any RSD wiring. Refer to the diagrams on the following pages for detailed wiring instructions.



A demonstration video is also available:
<https://link.enphase.com/video/install-rsd>

Update 1.3

PLC scan for IQ8 Microinverters will not work if the IQ Gateway version is less than 5.0.55.

Recommended solution: To avoid this situation, use the Enphase Installer App to upgrade the IQ Gateway software to a version greater than 7.X.

Critical updates

Update 1.4

If the IQ Gateway circuit is powered by the busbar on the IQ Combiner, damage to the ESUB circuit board will occur. This issue applies to Enphase Energy Systems with IQ8 Microinverters and an IQ System Controller 2.

Recommended solution: To prevent damage to the ESUB circuit board, the IQ Gateway circuit breaker must be installed on the generator slot of the IQ System Controller 2 busbar. Refer to the diagrams on the following pages for detailed wiring instructions.

If the Enphase Energy System requires generator support, the generator slot on the IQ System Controller 2 busbar will not be available to power the IQ Gateway. In this case, the pre-installed 40 Amp NFT circuit breaker must be replaced with a quad circuit breaker (Eaton BQC215240 or BQC220240) to provide power to the IQ Gateway.



A demonstration video is also available:
<https://link.enphase.com/video/install-breaker>

Update 1.5

The DC Switch on the IQ Battery must not be turned ON without first supplying AC power, including during provisioning and commissioning. Turning on the DC Switch without AC power can damage the IQ Battery.

Recommended solution: Before commissioning, the DC Switch on the IQ Battery must not be turned ON, unless instructed by the Enphase Installer App. Turning the DC switch ON before it is instructed can damage the IQ Battery. After commissioning, always follow the sequence to supply the AC power first and then turn the DC Switch ON. The turn OFF sequence for AC power or DC Switch does not matter.

Update 1.6

Do not leave the DC switch on the IQ Battery in the ON position for an extended period of time (such as overnight or for more than 24 hours) unless the IQ Battery is commissioned, communicating with IQ Gateway, connected to AC power, has passed functional testing, and is fully operational.

Recommended solution: Leaving the DC switch ON, without AC power or communication with the IQ Gateway, will drain the battery. Not following these instructions may damage the battery cells and void the limited warranty.

Critical updates

Update 1.7

To ensure installer convenience, all future shipments of IQ System Controller 2 from our distribution centre will include a pre-wired Rapid Shutdown switch and a 20A circuit breaker in the generator position. Systems with IQ8 Microinverter and a System Controller 2 must use a Rapid Shutdown switch, and the IQ Gateway in the Combiner must be powered using from the IQ System Controller 2 busbar.

Existing IQ System Controller 2 SKU EP200G101-M240US01 is being discontinued and replaced by SKU EP200G-SC2-RSD-KIT. The SKU EP200G-SC2-RSD-K will be a kit of

1. IQ System Controller 2 (EP200G101-M240US01).
2. RSD switch (EP200G-NA-02-RSD).
3. Circuit breaker for IQ Gateway pre-installed in generator spot of IQ System Controller (BRK-20A-2P-240V).
4. 20 ft each of color-coded wires and labels for ease of Rapid Shutdown switch wiring.

Critical update 1.2

Components

The four connectors are located in the accessories kit that is provided with the IQ System Controller 2.

Accessories kit



Connectors



Watch a demonstration video of this installation:

<https://link.enphase.com/video/install-rsd>

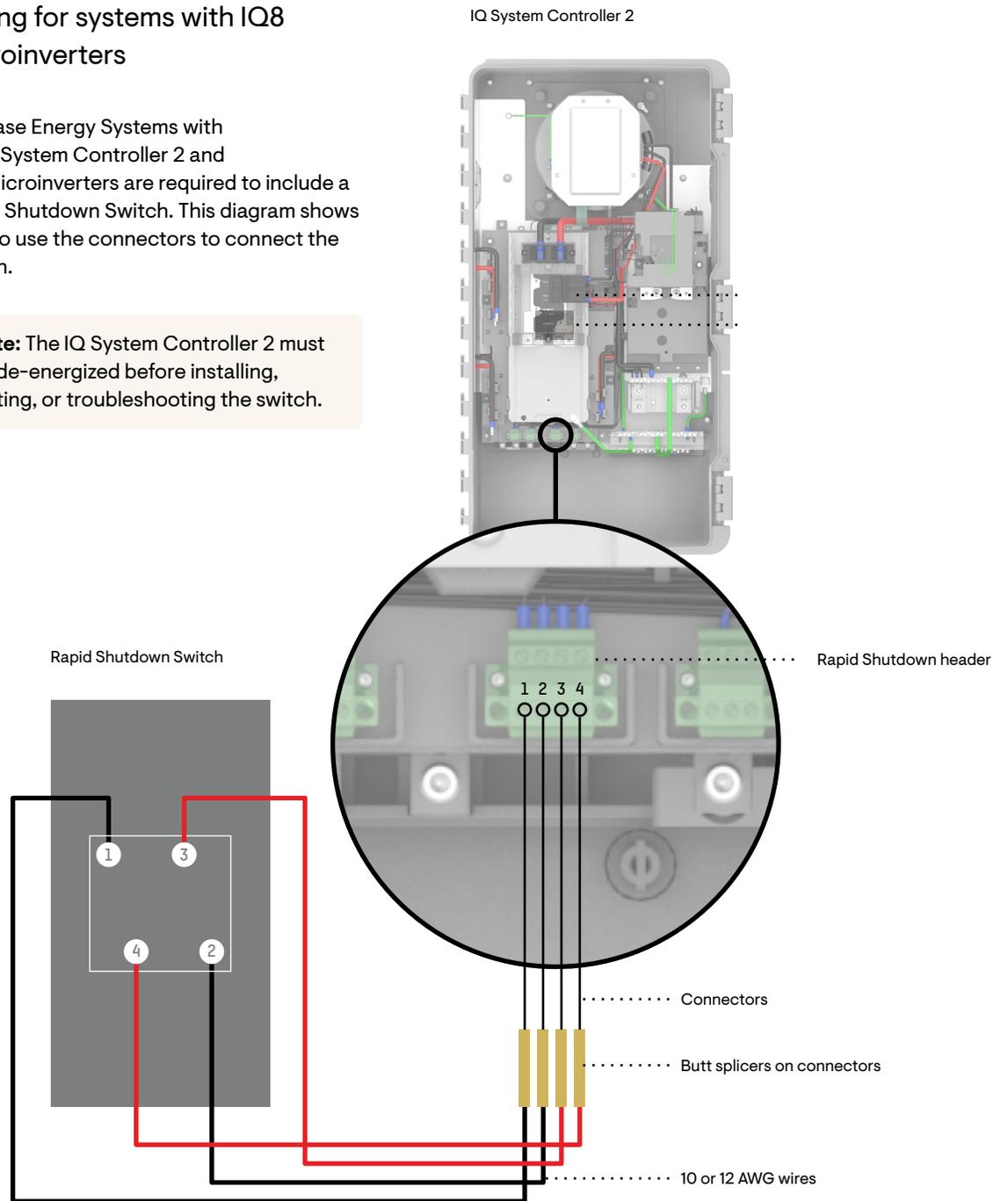
Critical update 1.2

Wiring diagram

Wiring for systems with IQ8 Microinverters

Enphase Energy Systems with an IQ System Controller 2 and IQ8 Microinverters are required to include a Rapid Shutdown Switch. This diagram shows how to use the connectors to connect the switch.

Note: The IQ System Controller 2 must be de-energized before installing, testing, or troubleshooting the switch.



Watch a demonstration video of this installation:

<https://link.enphase.com/video/install-rsd>

Critical update 1.2

Wiring diagram

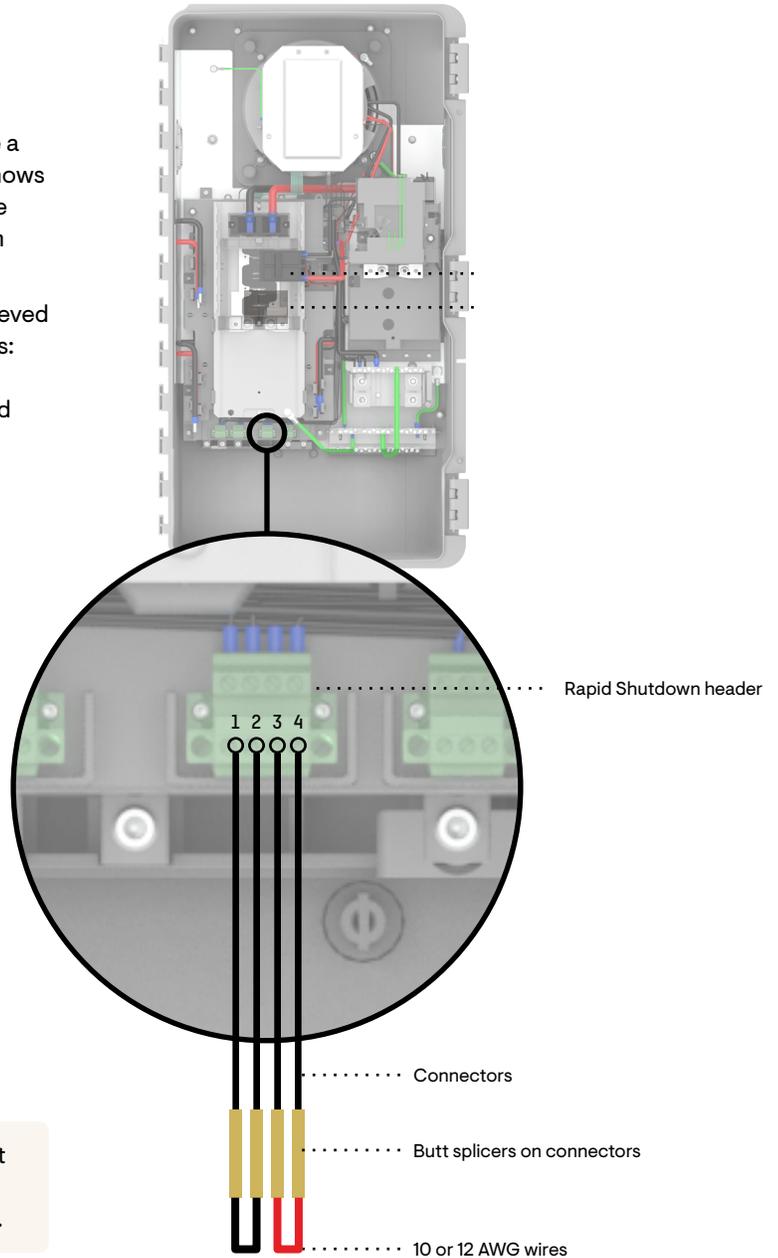
Wiring for systems with non-IQ8 Microinverters

Enphase Energy Systems with an IQ System Controller 2 and M215, M250, IQ6, or IQ7 Microinverters do not require a Rapid Shutdown Switch. This diagram shows how to use the connectors to bypass the Rapid Shutdown Switch in the IQ System Controller 2.

Rapid shutdown functionality is still achieved in these systems in one of these methods:

- The branch circuit breaker(s) installed within the IQ Combiner
- The aggregate PV circuit breaker installed within IQ System Controller
- A dedicated AC disconnect switch

IQ System Controller 2



Note: The IQ System Controller 2 must be de-energized before installing, testing, or troubleshooting the switch.



Watch a demonstration video of this installation:

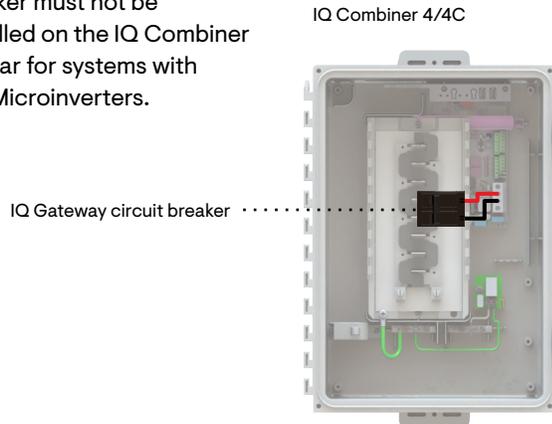
<https://link.enphase.com/video/install-rsd>

Critical update 1.4

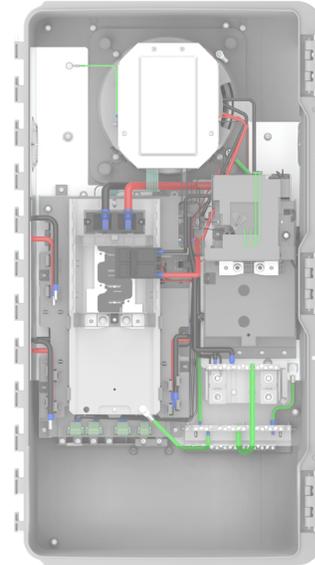
Wiring diagram

- ✘ Incorrect installation for systems with an IQ System Controller 2 and IQ8 Microinverters.

The IQ Gateway circuit breaker must not be installed on the IQ Combiner busbar for systems with IQ8 Microinverters.



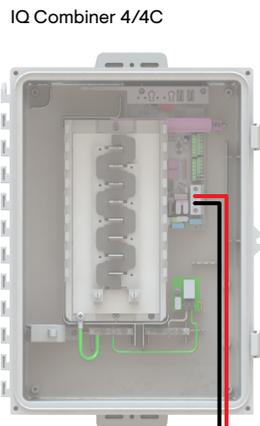
IQ System Controller 2



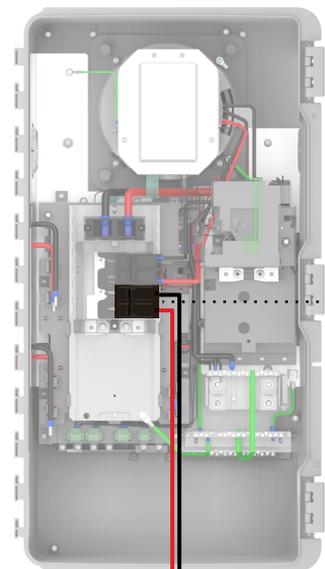
- ✔ Correct installation for systems with an IQ System Controller 2 and IQ8 Microinverters, **without** generator support.

The IQ Gateway circuit breaker must be installed on the IQ System Controller 2 busbar in the slot intended for the generator circuit breaker.

The Eaton circuit breaker provided in the IQ Combiner for powering the IQ Gateway can be used for this purpose. Please carry a spare Eaton 15A or 20A, 240V, 2-pole circuit breaker (BR 215 or BR 220) in case an Eaton circuit breaker is not provided in the IQ Combiner.



IQ System Controller 2



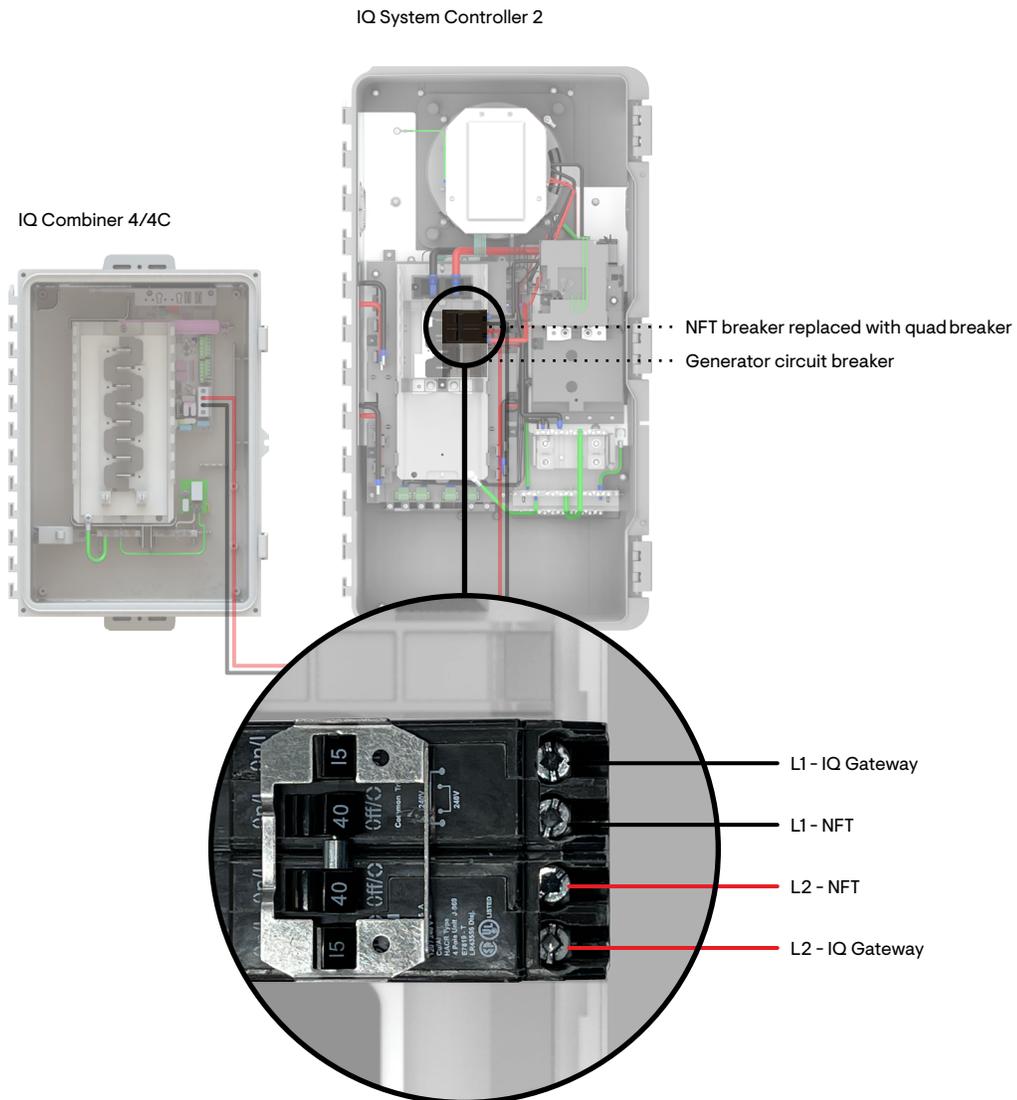
Watch a demonstration video of this installation:
<https://link.enphase.com/video/install-breaker>

Critical update 1.4

Wiring diagram

- ✓ Correct installation for systems with an IQ System Controller 2 and IQ8 Microinverters, **with** generator support.

The existing NFT circuit breaker must be replaced with a new quad circuit breaker (Eaton circuit breaker BQC215240 or BQC220240). The IQ Gateway can then be wired to the 15/20 Amp circuit in the quad circuit breaker. The generator slot on the IQ System Controller 2 busbar must be used for the generator circuit breaker.



Watch a demonstration video of this installation:

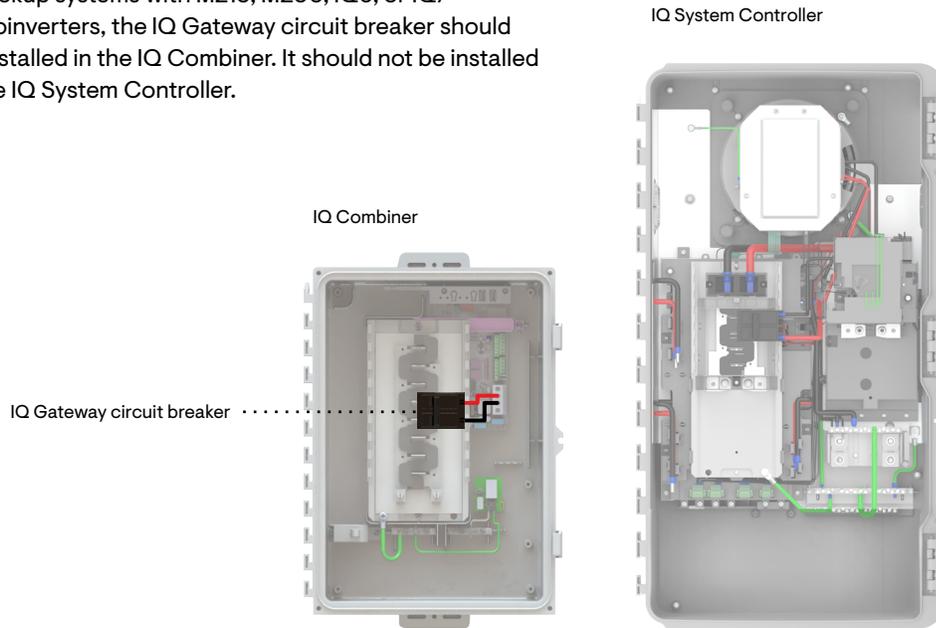
<https://link.enphase.com/video/install-breaker>

Critical update 1.4

Wiring diagram for systems with grid-tied microinverters

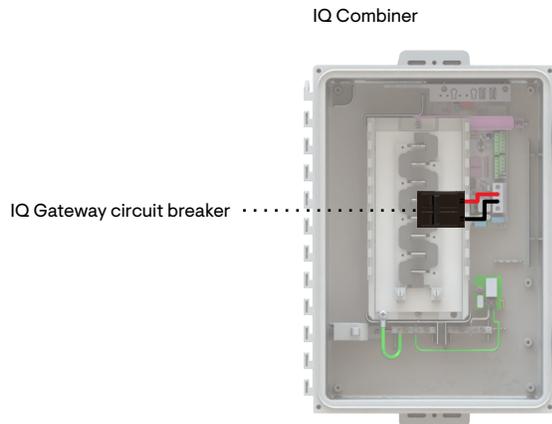
- ✓ Correct installation for backup systems with an IQ System Controller 1 or 2 and M215, M250, IQ6, or IQ7 Microinverters.

In backup systems with M215, M250, IQ6, or IQ7 Microinverters, the IQ Gateway circuit breaker should be installed in the IQ Combiner. It should not be installed in the IQ System Controller.



- ✓ Correct installation for solar-only systems with M215, M250, IQ6, IQ7, or IQ8 Microinverters.

In grid-tied solar-only systems with M215, M250, IQ6, IQ7, or IQ8 Microinverters, the IQ Gateway circuit breaker should be installed in the IQ Combiner.



Critical update 1.4

Frequently asked questions

1. What if there is a Siemens or ABB circuit breaker fitted in the IQ Combiner for an IQ Gateway?
 - Siemens and ABB 20 A circuit breakers are approved by UL for use with IQ Combiners but they are not approved by UL for use with IQ System Controller 2. Installers will have to procure Eaton circuit breaker BR220 or BR215 which can be fitted into IQ System Controller 2 and wired to IQ Gateway.
2. Does the IQ Gateway circuit breaker need to be moved in existing installations?
 - The IQ Gateway circuit breaker must be moved to the IQ System Controller 2 busbar in systems with IQ System Controller 2 and IQ8 Microinverters because leaving the circuit breaker on the IQ Combiner busbar will eventually result in equipment damage.
 - The IQ Gateway circuit breaker must remain on the IQ Combiner busbar for systems with an IQ System Controller 1 or 2 and M215, M250, IQ6, or IQ7 Microinverters.
 - The IQ Gateway circuit breaker must remain on the IQ Combiner busbar for solar-only systems with M215, M250, IQ6, IQ7, or IQ8 Microinverters.
3. Why does the IQ Gateway circuit breaker ship with the IQ Combiner?
 - The IQ Gateway circuit breaker ships with the IQ Combiner because the majority of systems require the circuit breaker remain in the IQ Combiner. For further details, refer to question #2 above.
4. Why do some circuit breakers require hold down kits?
 - As per National Electric Code, all circuit breakers which back-feed voltage into the busbar need a hold down kit to ensure the circuit breakers are not inadvertently removed when the busbar is energized.



Watch a demonstration video of this installation:

<https://link.enphase.com/video/install-breaker>

Critical update 1.7

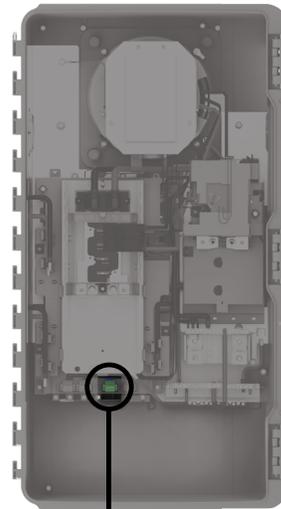
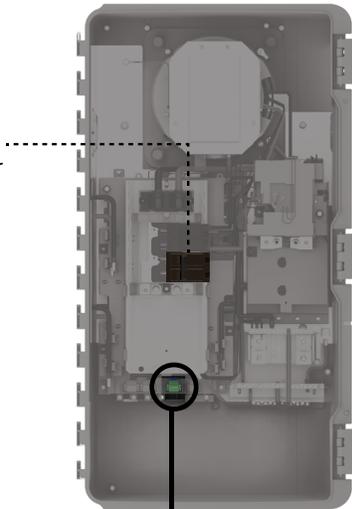
EP200G-SC2-RSD-KIT with pre-wired Rapid Shutdown switch and IQ 8 Gateway circuit breaker

Wiring for systems with IQ8 Microinverters

Wiring for systems with Non-IQ8 Microinverters

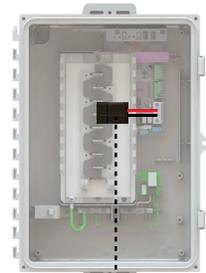
Update 1

IQ Gateway circuit breaker included in Generator position on the busbar. Use this circuit breaker to power the IQ Gateway.



Remove the circuit breaker included in System Controller 2. Use the circuit breaker in IQ Combiner to power the IQ Gateway

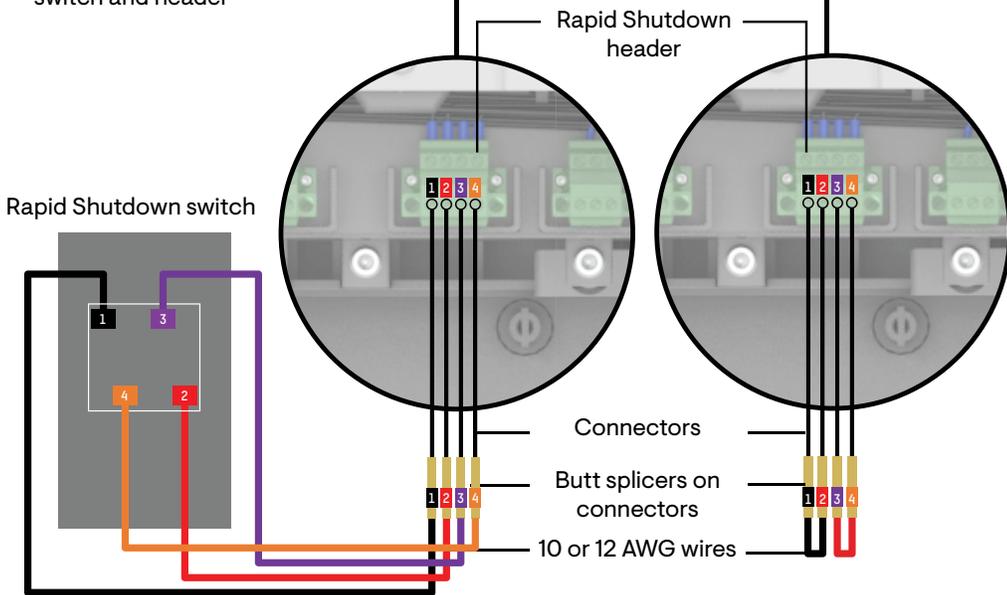
IQ Combiner



IQ Gateway Circuit Breaker

Update 2

Rapid Shutdown switch and 20 ft of colored wires included in packaging. Color coded labels added to the switch and header

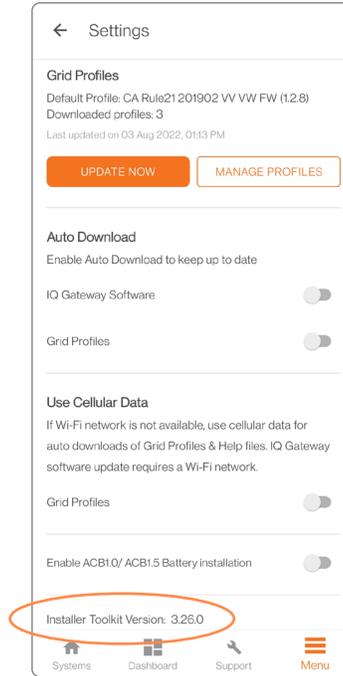


Best practices

Before going to the job site, complete these steps from the office.

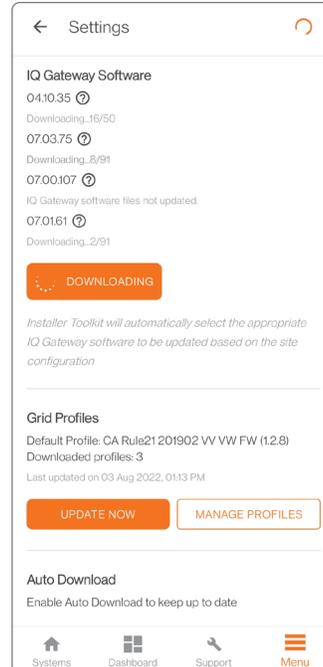
1. Check to ensure that you have the latest version of the Enphase Installer App downloaded on your phone (3.26). Log in to the Enphase Installer app using your Enphase cloud credentials and go to the 'Menu & Settings' screen to verify you have the latest version of the Enphase Installer App.

You can get the latest Enphase Installer App release from the [Apple App Store](#) and [Android App Store](#).



2. After logging in to the Enphase Installer App, go to 'Menu => Settings', and tap on the 'Download' option (under Envoy Software) to download all applicable IQ Gateway software.

Note: When commissioning your system, the Enphase Installer App will select the appropriate software release version based on the devices and configuration of the site.



Best practices

Before going to the job site, complete these steps from the office.

- To save time, you can create the site in Enphase Installer Portal. Additionally, you can perform the following operations in Enphase Installer Portal, so that they do not need to be completed on-site:
 - Update tariff, permitting information, and grid profile in the Enphase Activation.
 - Ensure the site is set to an Enphase storage system approved grid profile.

System

*Name Installer Reference

*Type
 Select System Type

Third Party Owned (ex: PPA or Leased)

PV Installer

Enphase Energy (26668)

Owner

First Name

Last Name

Email

Phone

Owner will receive MyEnphase for system performance monitoring.
 Change Enlighten Version

Location

*Street Address
 Enter a location

Street Address 2

*City

*State/Province

*Zip/Postal Code

*Country
 United States

Latitude

Longitude

Need Help?

Get answers to common questions about the activation process.

Activation Checklist

Stage: Started 0% complete

1 Started

- Owner Entered
- Location Entered
- Gateway(s) Entered

2 Connecting

- Gateway(s) Reported

3 Verifying

- Good Communication Established
- System Operation Verified

4 Ready

- Arrays Built
- System Operational
- Access Granted to Owner

- For retrofit installations that do not require IQ Gateway replacement, you can update the IQ Gateway software remotely from the Enphase cloud (NOTE: the IQ Gateway must be installed and connected to Wi-Fi or ethernet).

#1

Gateway Serial Number: 121836006902

Gateway Status: Reporting Status: Device Online

Last Report Date: 08/02/2022 04:25 AM PDT

First Report Date: 04/08/2019 12:06 PM PDT

Select your site configuration to upgrade Gateway software in advance.

Microinverter SKU: IQ7/IQ6 Family Does this site have storage?

Upgrade Envoy Gateway upgrade is not required for IQ7/IQ6 family of microinverters without storage

Software Upgrade Status: Upgrade Not Submitted

Gateway Version: 5.0.62

IQ Battery
 [Add IQ Battery](#)

IQ System Controller
 [Add IQ System Controller](#)

Best practices

Before going to the job site, complete these steps from the office.

5. Ensure Bluetooth and Location permissions are provided/granted to the Enphase Installer App. This is requested by the Enphase Installer App when the app is opened on the Mobile device. Simply allow these permissions when requested by the Enphase Installer App.
6. Always carry the array map of the site containing the microinverter positions on the roof. This will save time in device scanning and array map generation for the site.
7. If you are planning to configure PV shedding, identify the branch circuit that will be shed as well as the list of microinverters so that functional operation of the shedding operation can be verified.
8. Ensure that anyone commissioning an Enphase Energy System has completed the [required training](#), and that the user is certified (please note there are distinct trainings for installing and commissioning IQ8 PV, generator, or load shedding functionality).
9. For M-Series Enphase storage system installations, update the M-Series Microinverter firmware prior to visiting the site to save time during your commissioning process.
10. Ensure that you have both a Cellular Modem and Communication Kit available to you before commissioning. NOTE: Only plug in the Communication Kit into the Gateway USB connection after updating the Gateway software via the Enphase Installer App. It is recommended to have a spare Communication Kit with you when arriving at the site for commissioning.
11. When installing an Enphase Energy System with an IQ System Controller 2, make sure to carry the following accessories:
 - A spare Eaton circuit breaker (Eaton SKU: BR215 or a Eaton SKU: BR220) for moving the IQ Gateway circuit to the IQ System Controller 2 (only for installations without a generator).
 - A quad Eaton circuit breaker (Eaton SKU: BQC220240) for moving the IQ Gateway circuit to the IQ System Controller 2 (only for installations with a generator).
 - Eaton Hold down kits (Eaton SKU: BRHDK125) for storage and generator circuit breakers.
12. For installations with IQ8 Microinverters, in addition to the above, the following accessories must also be carried:
 - A Rapid Shutdown Switch (Enphase SKU: EP200G-NA-02-RSD).
 - An Eaton Hold down kit (BRHDK125) for the aggregate PV circuit breaker in IQ System Controller 2.

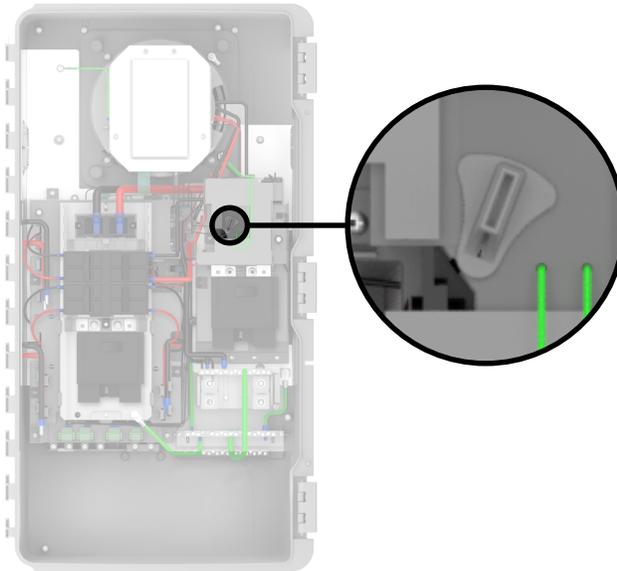
Best practices

On-site, but before beginning the commissioning process.

1. Ensure the IQ System Controller is taken out of manual override (after de-energizing the system). To remove Manual Override, remove the IQ System Controller dead front to access the gray MID toggle switch located in the middle right-side of the IQ System Controller (red circle in the image to the right).

- Power down the system.
- Move the MID toggle switch to the right approximately 5 degrees.
- Manual override on IQ System Controller has been disabled and will power up in normal operation once power is restored to the IQ System Controller.

Note: Manual override must not be switched while system is energized.



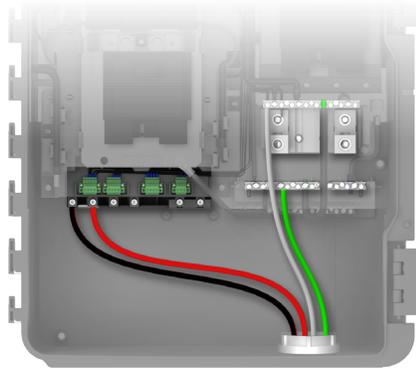
2. The DC Switch on the IQ Battery must not be turned ON without first supplying AC power, including during provisioning and commissioning. Turning on the DC Switch without AC power can damage the IQ Battery.
3. Do not leave the DC switch on the IQ Battery in the ON position for an extended period of time (such as overnight or for more than 24 hours) unless the IQ Battery is commissioned, communicating with IQ Gateway, connected to AC power, has passed functional testing, and is fully operational.
4. Ensure you scan all devices, including IQ Batteries, IQ System Controller, and microinverters before updating the IQ Gateway software (in step 4 of the commissioning process).

Best practices

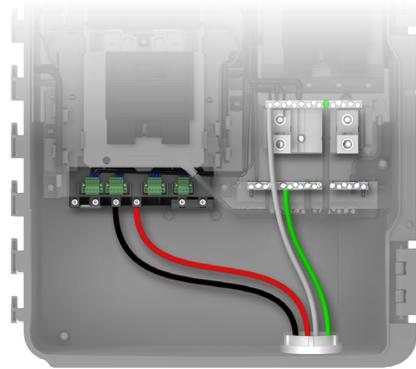
On-site, but before beginning the commissioning process.

5. If you are using IQ System Controller 2, ensure the PV and IQ Battery circuits are connected to the correct terminal blocks in the bottom and NOT directly to the circuit breakers. Learn more about [IQ System Controller 2 wiring details](#).

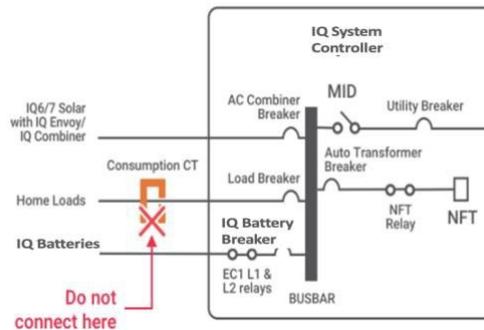
Storage wiring



PV wiring



6. Ensure that the Consumption CT is placed on the grid side of the IQ System Controller.



7. With IQ8 Sunlight Backup and/or energy storage systems, the IQ Combiner 4/4C must be wired directly to the AC Combiner terminal lugs in the in the IQ System Controller 2 to enable extra protection provided by a relay. PV cannot be wired into a loads panel.

- The relay rating limits max 'backup' system size to 64A and the remaining balance of the system will need to be grid tied with a separated IQ Combiner 4/4C or standalone IQ Gateway with a Q-LCF-064-1P (Radius Line Filter).
- Enphase sales and installation guidance: For large IQ8PV Sunlight Backup and/or energy storage systems, customers can back up one IQ Combiner 4/4C with IQ8 Microinverters. Any additional IQ8 Microinverters will need to be grid tied with a separated IQ Combiner or IQ Gateway with a Q-LCF-064-1P (radius line filter).

Read more about [design and installation parameters for IQ8 back-up configurations](#).

Commissioning process

Installer Took Kit Commissioning Step		Step Description	On-Site ITK Step duration with Best Practices (hrs.: min)	On-Site ITK Step duration w/o Best Practices (hrs.: min)	Best Practice
	1	System Details	Done from office	0:05	Create the Commissioning Site from the office using Enphase Installer Portal or ITK before going to the job site
	2a	Devices and Array	0:10	0:30	Have a physical copy of the microinverter serial number map. Get familiar with the bar codes to be scanned in the IQ System Controller and IQ Batteries before this activity.
	2b	Site Configuration	0:05	0:40	Have a physical copy of the microinverter serial number map and bar codes to avoid manual entry of the microinverter serial numbers. Always enable Aux Contact before moving forward.
	3	Tariff & Storage Configuration (Optional)	Done from office	0:02	Complete this step from the office in Enphase Installer Portal or the ITK app to save time when on-site.
	4	Envoy Connectivity	Done from office	0:25	Remotely update the Gateway software (if installed and connected) using Enphase Installer Portal before going to the site. If on-site: Ensure your phone is charged; Locate your phone close to the Gateway
	5	Provisioning	0:10	0:20	Connect the Comms-Kit to the Gateway (after software update) and wait for the Comms-Kit to become ready. This can take ~5 minutes.
	6	Validation	0:25	0:50	Identify what load(s) should be turned on ahead of time. For example, a Dryer, Microwave oven, etc. during CT validation. Identify a 120V load/connection that is part of the backup panel; bring a hair dryer or other load for testing (as needed).
7	Post Commissioning	Where the PDF summary report is generated summarizing the status and configuration of the system.	0:02	0:02	N/A
Total commissioning time			0:52		

It is strongly recommended to scan the microinverter barcodes using Enphase Installer App camera scan as the PLC scan can incorrectly capture serial numbers of microinverters from a nearby site.

Troubleshooting

1. Gateway connectivity and firmware update issues:

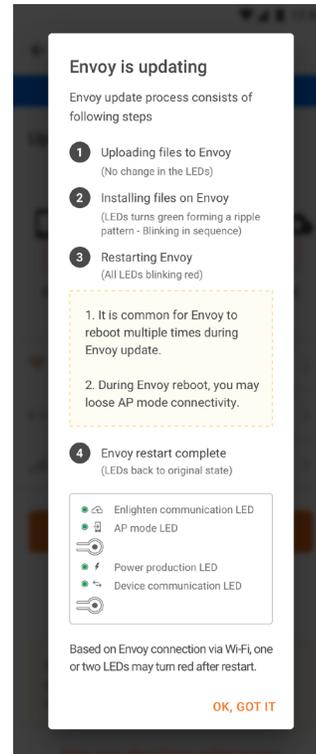
- Turn OFF mobile data when connected to the IQ Gateway over AP mode to ensure better connectivity.
- Once the IQ Gateway software update is complete, the IQ Gateway may restart multiple times. Please wait until the LED lights on the IQ Gateway have stabilized to either solid green or blank.

2. IQ Battery or IQ System Controller stuck during provisioning:

- Always stay close to the IQ Gateway when starting provisioning. However, if one or more devices are stuck in 'Not discovered' state, move closer to the non-discovered devices. This will ensure that bluetooth communication from the phone to the devices is improved.
- If one or more devices are stuck in 'Waiting for acknowledgment' state:
 - Please retry provisioning before reaching out to customer support.
 - You can reconnect the Communication Kit to a different USB port on the IQ Gateway.
 - You can connect the Communication Kit USB dongle (inside of the black Communication Kit enclosure) directly to the IQ Gateway.
 - Power cycle the IQ Battery using steps mentioned in section 3.7 or IQ System Controller that is in the 'Waiting for acknowledgment' state.

3. Functional validation troubleshooting steps:

- Ensure batteries are sufficiently charged (above 15%) but not completely charged (100%) before starting the test.
- Follow the instructions in the functional test and wait for loads and IQ Batteries to stabilize in each step before moving forward.
- When going Off-Grid or On-Grid, wait until you hear the relay (inside of the IQ System Controller) opening/closing audible sound to confirm the grid transition.



Troubleshooting

4. Additional troubleshooting:

- Post commissioning, follow the homeowner walk-through instructions on the Enphase Installer App to ensure you have informed the homeowner about the features of the Enphase Energy System before leaving the site.
- If you are stuck (frozen) on any screen of the Enphase Installer App, please close and restart the application.
- If you are not able to connect to the IQ Gateway in AP mode, turn OFF and turn ON AP mode using the AP mode button on the IQ Gateway and retry your connection.
- Always test voltages before and after relays as there will be no voltage on the IQ Battery and PV lugs at the lower region of the IQ System Controller if the relays are open (possibly because of manual override not being exited properly).
- For any assistance, either reach out to customer support or create a support case for the site. You can also go through the Enphase FAQs and video library under support for assistance.

5. Please refer to the [Enphase Storage System Commissioning guide](#) for more details.

6. Communication Kit troubleshooting

- Change the USB ports where the Communication Kit is connected.
- Take green USB drive out of black box and plug directly into USB port.
- Perform an IQ Gateway hard reset.

7. IQ Battery Troubleshooting–Steps to perform Power Cycle in IQ Battery

- Turn DC switches off in IQ Battery.
- Turn AC feeding battery off.
- Wait 5 minutes.
- Turn AC feeding battery on.
- Verify red light in IQ Battery flashing in 3 seconds.
- Wait for 2 minutes.
- Turn on DC switches in IQ Battery.

Product name reference

A number of installers and homeowners asked us to clarify our product and service names, so we conducted an audit of all our names and came to the same conclusion: we needed to simplify our product names to make it easier to navigate and remember our system, product, and service offerings. We believe that our new names more accurately describe product function, are easier to remember, and will benefit homeowners and installers alike.

Previous name	New name
Ensemble	Enphase Energy System
Encharge	IQ Battery
IQ Envoy	IQ Gateway
Enpower	IQ System Controller
Q Cabling	IQ Cabling and IQD Cabling
Q Relay	IQ Relay
Load Control	IQ Load Controller
Enlighten App	Enphase App
Enlighten Manager	Enphase Installer Portal
Enlighten Installer Toolkit (ITK)	Enphase Installer App

Revision history

Revision V3.7 – 8/18/2022

- Added update 1.7 to [critical updates](#).

Revision V3.6 – 8/3/2022

- Added IQ Battery power sequencing instructions in [best practices](#).
- Added new diagrams for grid-tied microinverters in [critical update 1.4](#).
- Added update 1.5 and update 1.6 to [critical updates](#).

Revision V3.5.1 – 8/3/2022

- Added new diagrams for Rapid Shutdown Switch in [critical update 1.2](#).
- Added new diagrams for IQ Gateway circuit breaker installation in [critical update 1.4](#).

Revision V3.4 – 6/28/2022

- Added schematic diagram for IQ Gateway circuit breaker installation in IQ System Controller 2 with and without generator in [critical update 1.4](#).
- Added [product name reference](#) to show mapping of old product names to new product names for quick reference.

Revision V3.3 – 6/20/2022

- Added instruction for avoiding system failure on IQ System Controller 2 due to ESUB over-voltage caused by incorrect wiring of IQ Gateway circuit breaker in [critical update 1.4](#).
- Added FAQ related to ESUB over-voltage in [critical update 1.4](#).

Revision V3.2 – 6/13/2022

- Added instructions on the sequence of switching on AC and DC in IQ Battery while commissioning Enphase storage system in [best practices](#).
- Added Communication Kit [troubleshooting](#) steps.
- Added IQ Battery power cycle [troubleshooting](#) steps.
- Added best practices for scanning microinverters in [commissioning process](#).

Revision history

Revision V3.1 – 5/27/2022

- PLC scan for IQ8 Microinverters works only if the IQ Gateway software version is 7. X or above. Refer to the [best practices](#) for more information.
- IQ8 Sunlight Backup and/or energy storage systems must be landed on the PV relay in IQ System Controller 2 due to the extra protection function needed. IQ Gateway circuit breaker is wired directly to the IQ System Controller 2. Refer to the [best practices](#) for more information.

Revision V3.0 – 5/24/2022

- Added instructions for wiring the Rapid Shutdown Switch in [critical update 1.2](#).

Revision V2.0 – 5/5/2022

- Added containment actions on how to prevent Communication Kit failure and avoid damaging the system controller when installing a rapid shutdown switch.

Revision V1.0 – 9/1/2021

- Initial version of the storage system best practices and troubleshooting tips.