

Installing Breakers in the Enphase IQ Combiner+ and IQ Combiner 3

To install additional breakers in the Enphase IQ Combiner+™ or the Enphase IQ Combiner 3™, read and follow all warnings and instructions in this Guide. If you do not fully understand any of the concepts, terminology, or hazards outlined in these instructions, refer installation to a qualified electrician or installer. These instructions are not meant to be a complete explanation of a renewable energy system. All installations must comply with national and local electrical codes. Professional installation is recommended.

SAFETY

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

This guide contains important instructions that you must follow during installation of additional breakers in the IQ Combiner+.

Safety Instructions

	DANGER: Risk of electric shock. Risk of fire. Do not attempt to repair the Enphase IQ Envoy™; it contains no user-serviceable parts. Tampering with or opening the IQ Envoy will void the warranty. Warranty void if cover removed. If the IQ Envoy fails, contact Enphase Customer Support for assistance (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. Be aware that installation of this equipment includes risk of electric shock. Do not install the IQ Combiner without first removing AC power from the Enphase System. Ensure the power coming from the microinverters is de-energized before servicing or installing.
	DANGER: Risk of electric shock. Risk of fire. Only qualified personnel should troubleshoot, install, or add parts to the Combiner.
	DANGER: Risk of electric shock. Improper servicing of the combiner box or its components may result in a risk of shock, fire or explosion. To reduce these risks, disconnect all wiring before attempting any maintenance or cleaning.
	DANGER: Risk of electric shock. Always de-energize the AC branch circuit before servicing. While connectors are rated for disconnect under load, it is a best practice to de-energize before disconnecting.
	DANGER: Risk of electric shock. Risk of fire. Only use electrical system components approved for wet locations.
	DANGER: Risk of electric shock. Risk of fire. Ensure that all wiring is correct and that none of the wires are pinched or damaged.
	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. Remove rings, bracelets, necklaces, watches etc. when working with batteries, photovoltaic modules or other electrical equipment.
	DANGER: Risk of electric shock. Risk of fire. Before making any connections verify that the circuit breakers are in the off position. Double check all wiring before applying power.

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.

	WARNING: Before installing or using the Combiner, read all instructions and cautionary markings in the technical description and on the equipment.
	WARNING: Use the circuit breakers in the Enphase Combiner only for serving Enphase equipment. No other loads are allowed.
	WARNING: This unit is not provided with a GFDI device.
	WARNING: This product is intended for operation in an environment having a maximum ambient temperature of 46°C (115°F).
	NOTE: Perform all wiring in accordance with all applicable local electrical codes, with the Canadian Electrical Code, Part I, and with the National Electrical Code (NEC), ANSI/NFPA 70.
	NOTE: Protection against lightning and resulting voltage surge must be in accordance with local standards.
	NOTE: Using unapproved attachments or accessories could result in damage or injury.
	NOTE: Install the Combiner in the field with 75°C or higher copper conductors sized per local code requirements and voltage drop/rise considerations.
	NOTE: Use Class 1 wiring methods for field wiring connections to terminals of a Class 2 circuit. Use 14 to 6 AWG wire for branch circuits and 14 to 3 AWG for output circuits. Select the wire gauge used based on the protection provided by the circuit breakers/fuses. Overcurrent protection must be installed as part of the system installation.
	NOTE: To ensure optimal reliability and to meet warranty requirements, the Enphase Combiner must be installed according to the instructions in the installation manual.



INSTALLING ADDITIONAL BREAKERS



DANGER! Risk of electric shock. Always de-energize the Combiner before beginning any of the following procedures.

1 Remove the Door

- A) Open the enclosure door.
- B) If needed, remove the door: Pinch the top of the hinge rod using a needle-nosed pliers. Slide the door up and away to remove it. Set the door aside for later reattachment.

2 Add Breakers as Needed

You can install 10A, 15A, or 20A breaker(s) in the IQ Combiner+ or the IQ Combiner 3:


- BRK-10A-2-240V
- BRK-15A-2-240V
- BRK-20A-2P-240V

The combiner includes one two-pole 10A circuit breaker that feeds the IQ Envoy and the AC outlet (if present). You can install additional breakers, if needed. You must follow all NEC and local electrical codes. To install a breaker:

- A) Check that the IQ Combiner is de-energized.
- B) Flip the breaker to the **off** position.
- C) Loosen the screws on the deadfront and remove the deadfront.
- D) Remove a filler plate from the deadfront for each breaker position you will use. To remove the filler plate, press the single latch inward while gently pushing the filler plate out.
- E) Install the breaker by rocking it to the left, catching the clips that hold it in place. Then rock the breaker to the right so it is fully seated and secure.
- F) Wire the conductors to the circuit breaker(s) as specified on the combiner box wiring label.
- G) Tighten the breaker connections to 2.2 Nm (20 in-lb).
- H) Re-install the clear plastic deadfront, aligning the deadfront screws with the screw holes in the combiner. Start each screw, then go back and fully tighten each of the screws.
- I) Position the deadfront, aligning the deadfront screws with the screw holes in the combiner. Start each screw, then go back and fully tighten each of the screws.
- J) Flip the breaker to the **on** position.

3 Energize the Combiner

- A) Reinstall the Combiner door (if removed) and close it:
 - Set the door back on the pins.
 - Apply downward pressure until door snaps into place.
- B) Turn on the circuit feeding the combiner box.

All four IQ Envoy LEDs flash amber during boot up (approximately three minutes). When boot up is complete, the Device Communications LED  lights solid green if the microinverters have been detected or amber if not.

