



NeoCharge Energy Monitor Electrical Installation Guide

Smart Home Energy Monitor with
Flexible Rogowski Current Sensors
(NCEM-NA)



Safety information



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that accompany this symbol to avoid possible injury or death.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

WARNING

The NeoCharge Energy Monitor requires installing transformers inside a home's electrical panel and working around dangerous voltage that could lead to injury or death. The installation should be performed by a skilled person, such as a licensed electrician or other qualified professional, in accordance with the regional electrical code where it is being installed.

Improper installation or use of the equipment can be dangerous or even fatal. In no event shall NeoCharge be liable to you or any third party for any damages, either direct or indirect, arising from or related to any personal injury as a result of your failure to follow the safety information and instructions in this Installation Guide.

Need help?

<https://help.getneocharge.com/en-US>

support@getneocharge.com

+1 888 944 5581

Safety information (continued)

WARNING

- Remove power from the electrical panel before inspecting. Wear protective eyewear and protective gloves before attempting to inspect the NeoCharge Energy Monitor system. Ensure no wiring for voltage measurement, current measurement, power, or data is frayed or has exposed conductors. Ensure there are no cracks, breaks, or other defects in the enclosure of the Energy Monitor, the CT clamps, the Rogowski coil sensors, the integrators, or the sensor power supply.
- If you believe any of the NeoCharge Energy Monitor components may have been damaged, do not attempt to use them. Contact support at support@getneocharge.com immediately.
- Do not use the NeoCharge Energy Monitor in any manner other than specified in this installation guide; otherwise, the protection provided by the equipment may be impaired.
- Do not attempt to open, disassemble, or repair any of the components of the NeoCharge Energy Monitor.
- Do not install the NeoCharge Energy Monitor in environments with explosive gas or vapors; nor in damp or wet environments; nor in direct sunlight; nor where temperatures are consistently below -40° F (-40° C) or above 122° F (50° C); nor where relative humidity consistently exceeds 90% (non-condensing).
- Ensure the NeoCharge Energy Monitor does not have power during any handling, including installation and disassembly.
- Do not perform any maintenance, service, or cleaning of the NeoCharge Energy Monitor after installation. Contact customer service for support.
- The NeoCharge Energy Monitor should only be used with the provided energy-monitoring current sensors (Rogowski coil sensors and CTs) and the provided sensor power supply.
- Basic Insulation: Use current sensors only on insulated conductors, secured from contacting live parts.
- Do not cut, splice, or extend the Rogowski coil, the integrator signal cable, or the 12V power cables. These are calibrated sensor components.
- To reduce the risk of electric shock, always open or disconnect circuits from the power-distribution system (or service) of a building before installing or servicing current sensors.
- The NeoCharge Energy Monitor should be wired to power using 16AWG, 600V, UL1015, 105° C (or higher) copper-only wires
- It is recommended that the NeoCharge Energy Monitor be wired to the breaker closest to the device.
- Do not position the NeoCharge Energy Monitor so that it is difficult to operate the disconnecting devices or breakers.
- Do not use 3rd-party accessories, current transformers (CTs), Rogowski coil sensors, integrators, or power supplies with the NeoCharge Energy Monitor. The NeoCharge Energy Monitor, its sensors, and its sensor power supply are customized and integrated. Third-party accessories may compromise the data accuracy and equipment safety.
- The current transformers may not be installed in equipment where they exceed 75 percent of the wiring space of any cross-sectional area within the equipment.

- Restrict the installation of current transformers in an area where it would block ventilation openings.
- Restrict the installation of current transformers in an area of breaker arc venting. Do not install the NeoCharge Energy Monitor in any area where breaker arc venting exhaust gases could be redirected as a result of submetering equipment installation.
- The NeoCharge Energy Monitor is not suitable for Class 2 wiring methods and is not intended for connection to Class 2 equipment. (Refer to NEC 2023, Section 725.)
- Secure current transformers and route conductors so that the conductors do not directly contact live terminals or buses.
- The NeoCharge Energy Monitor shall not be mounted within 50.8 mm (2 in) of any live parts, including primary conductors, primary terminals, and primary lugs, but excluding insulated cables. It's acceptable for the NeoCharge Energy Monitor to be mounted to the grounded panel box and near the neutral bus bar for installation. The NeoCharge Energy Monitor employs Class I wiring, allowing its wires to safely coexist with all other wires in the panel.
- If the NeoCharge Energy Monitor is attached to the enclosure, it shall not contact the panel interior insulation, such as the material that separates the GND and LIVE bus bars.
- NeoCharge Energy Monitor mounting provisions shall not be attached to any energized part.
- Voltage sensing and power supply connections to the primary voltage shall have overcurrent protection through connection to a breaker/MCB.

Before you get started

The NeoCharge Energy Monitor is installed in a home's electrical panel. The main breaker will need to be set to the off position, which will shut off all of the power in the home. **However, the service mains will remain energized and dangerous.** The following may help with safe installation.

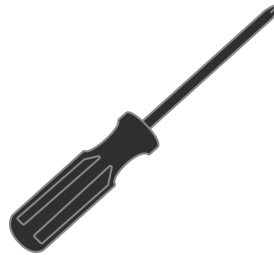
- Installation should be performed by a skilled person such as a licensed electrician or other qualified professional.
- Install in accordance with the regional electrical code where it is being installed.
- Ensure that the product specifications of the NeoCharge Energy Monitor are compatible with the system and the panel type where it is being installed.
- Identify the location of the service disconnect. It may be outside of the panel.
- Ensure the work environment is clean with additional lighting available.
- Identify empty breakers or breakers that can be tapped for voltage monitoring. The number required corresponds to the system phases.
- In addition to the Energy Monitor, this model installs two integrators and a sensor power supply inside the panel. Plan for clear mounting space (see Step 3).
- The following items are recommended:



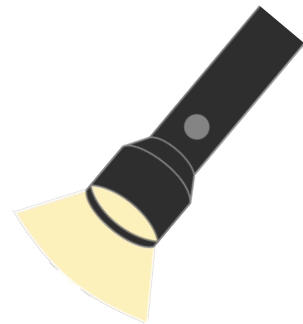
Insulated gloves



Protective eyewear



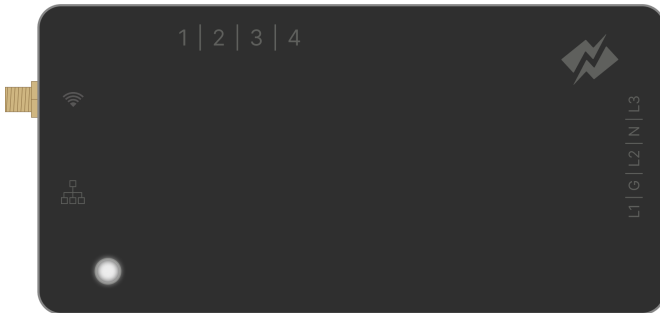
Phillips
screwdriver



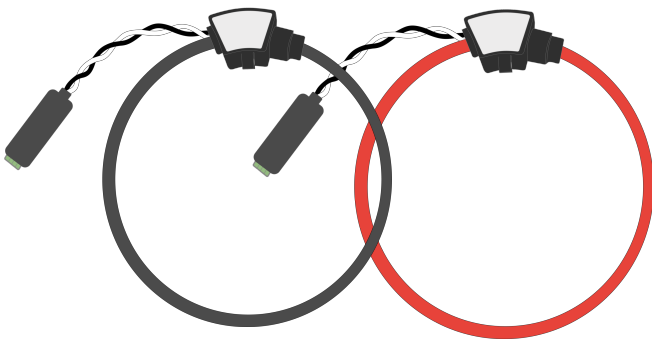
Alternative light
source

What's in the box

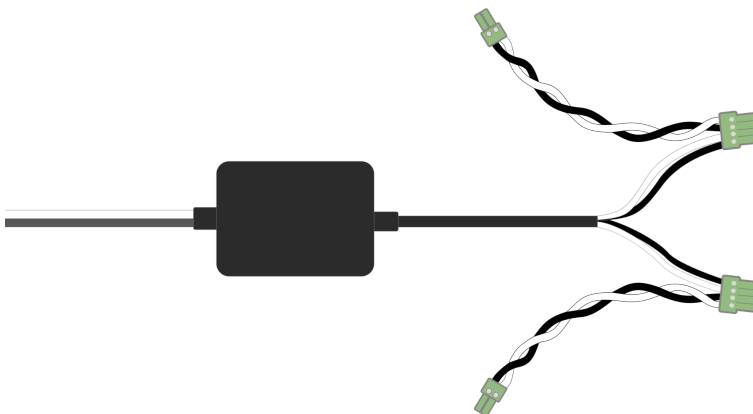
The NeoCharge Energy Monitor contains the following items. **If any of these items are missing or if you believe they've been damaged, contact support immediately.**



NeoCharge Energy Monitor



Two Main flexible current sensors with integrators



One power supply with two 12V output harnesses and attached signal wire



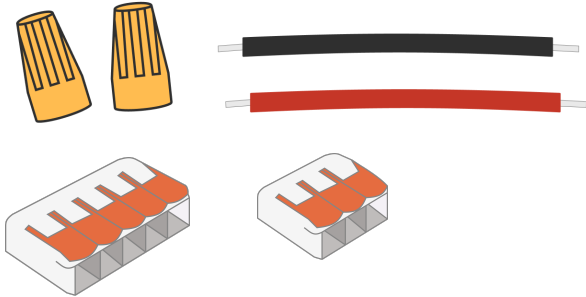
Two Branch 50A current transformers (CTs) with 22 AWG wire and screw terminal plugs



Wire harness with 7.6mm screw terminal plugs and 4x16AWG wire leads



WiFi antenna assembly

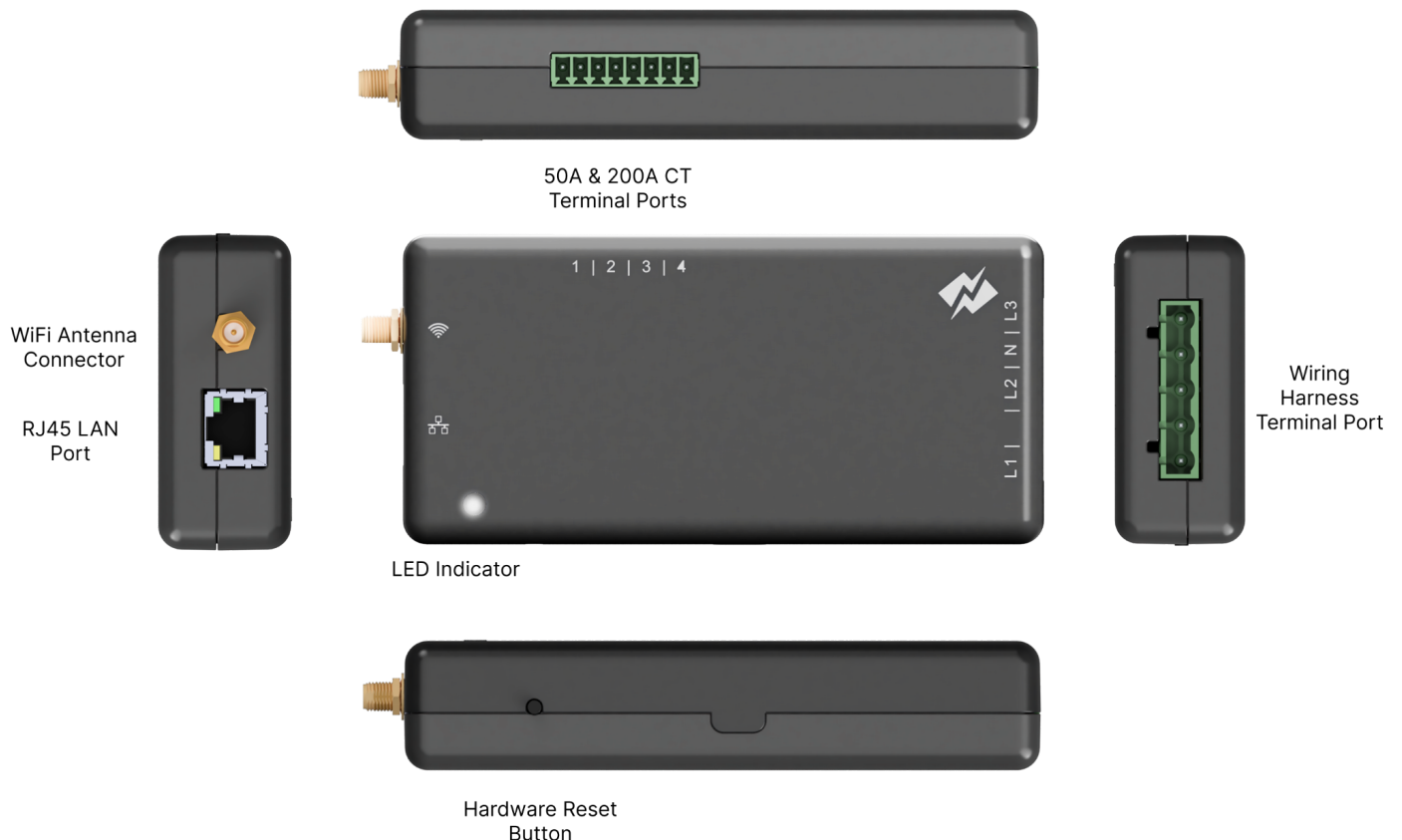


Wire nuts / wago connectors and splicing wires

Energy monitor connections

The energy monitor is the hub of the NeoCharge Energy Monitor system. The screw terminal port for the wiring harness is located on the right side of the monitor. The terminal ports across the top of the monitor are the inputs for the current sensors: the Main ports receive the signal cables from the two Rogowski integrators, and the Branch ports receive the 50A Branch CTs.

The RJ45 LAN port and coaxial connector for the WiFi antenna cable are on the left-hand side of the monitor. On the bottom of the monitor is the hardware reset button.



Step 1: Download the app (homeowner)

Use the camera on your phone to scan the QR code below. This QR code will both download the **NeoCharge App** onto a mobile phone from the Apple App Store or Google Play and start the Energy Monitor setup process. Once the app is downloaded, you'll be prompted to **create an account** if you don't have one.

Also, if you plan to connect the NeoCharge Energy Monitor to the internet via WiFi, this is a great time to use a phone to check the signal strength of the Wi-Fi network next to the electrical panel in the home. Low/no signal may require a Wi-Fi extender or an Ethernet connection for the NeoCharge Energy Monitor to work properly.



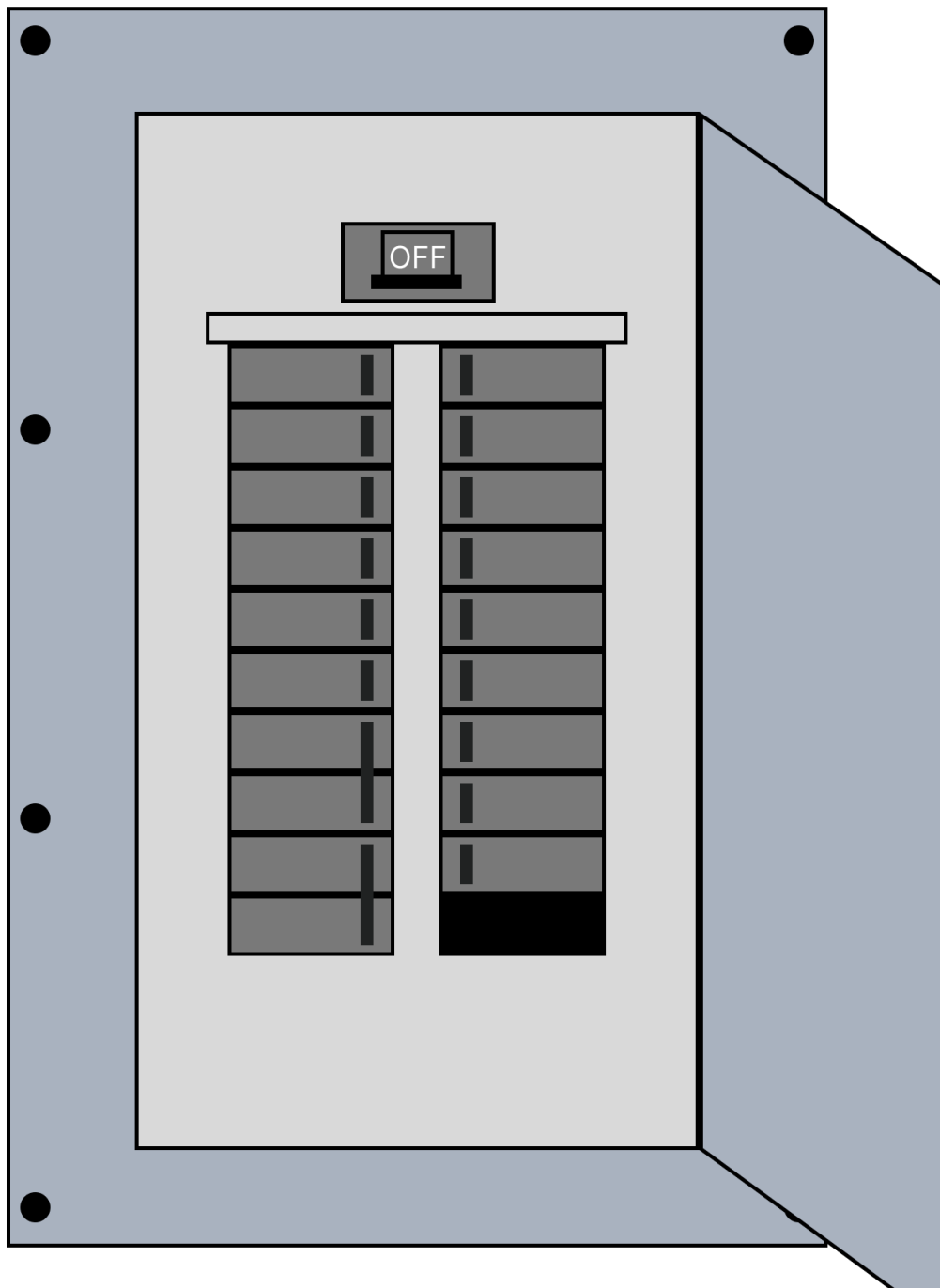
[Download Here](#)



Step 2: Turn off the main breaker and remove the cover

First, turn service disconnects and/or main breakers feeding the panel into the OFF position. Note that these may be located outside of the panel in which you're installing the NeoCharge Energy Monitor. Next, remove any screws holding the cover to the panel and remove the cover to access the circuit breakers and **the energized service mains!**

① Service disconnect may be located outside of the panel

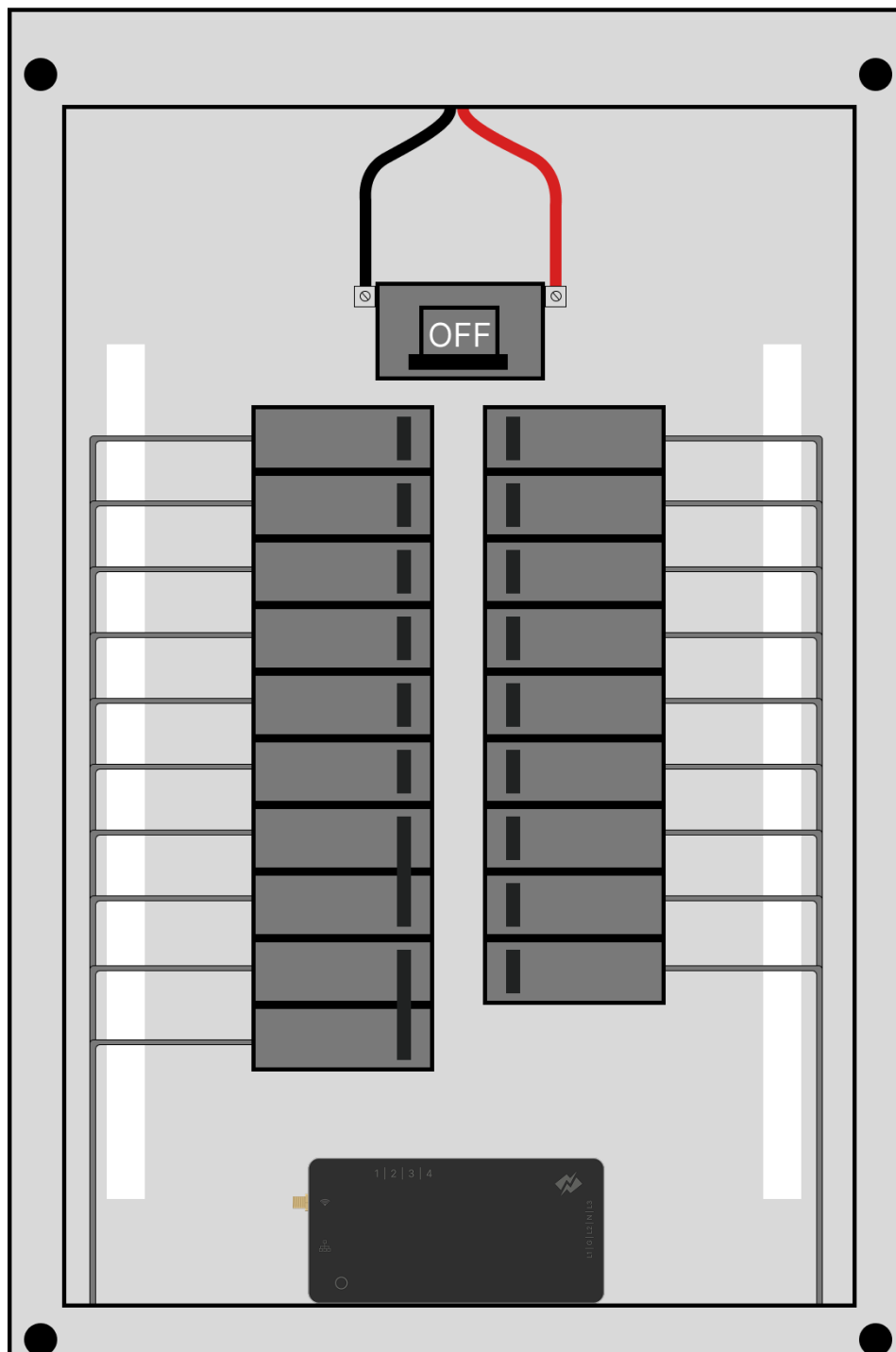


⚡ DANGER: The service mains are energized!

Step 3: Find a place for the monitor

Locate a place within the electrical panel for the NeoCharge Energy Monitor **ensuring it is at least 50.8mm (2 in) from any live parts**, including primary conductors, primary terminals, and primary lugs; but excluding insulated cables. The breaker box may be oriented differently than below, but the monitor is small and designed to fit easily in the box. Find a place that works. Also identify mounting locations for the sensor power supply and the two integrators — they install inside the panel near the Energy Monitor and must respect the same 50.8 mm (2 in) clearance from live parts.

⚡ DANGER: The service mains are energized!



Step 4: Plug in the voltage sensing wire harness

Insert the 7.6mm screw terminal plug of the power supply wiring harness with four 16AWG wire leads into the port on the right side of the energy monitor until it clicks into place securely. These wires can also be cut to length to reduce panel clutter.

The wire harness provides power and voltage sensing for different system configurations:

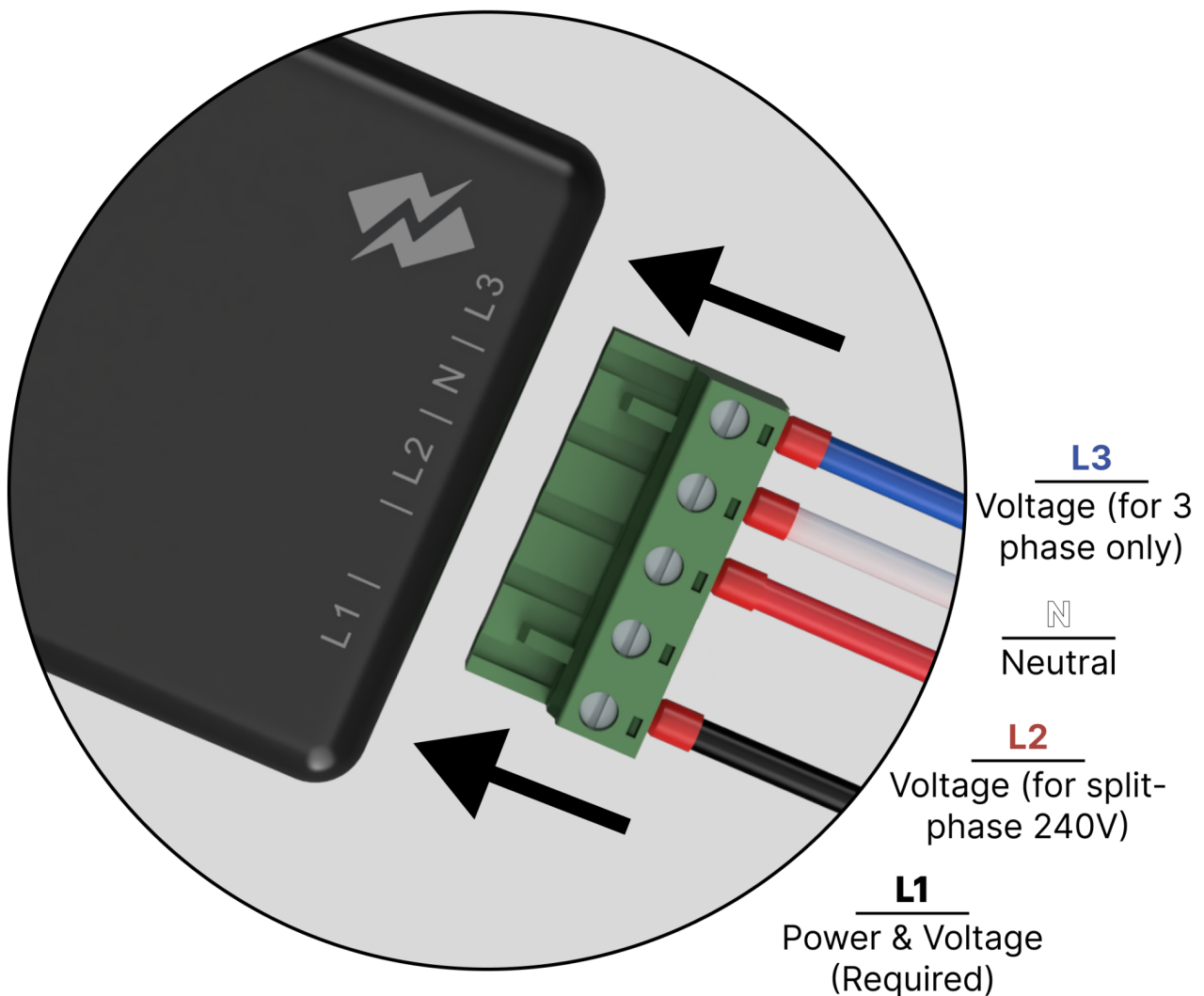
Black (L1) - Power & Voltage: Required for all installations. Powers the device and provides voltage reference for Phase A.

Red (L2) - Voltage: For split-phase 240V systems (most US residential). Provides voltage reference for Phase B. Leave disconnected for single-phase 120V systems.

White (N) - Neutral: Connect to the neutral bus bar. Required for all installations.

Blue (L3) - Voltage: For 3-phase systems only. Leave disconnected for residential split-phase systems.

IMPORTANT: L2 and L3 should ONLY be connected to hot/line conductors for voltage sensing - never to neutral. If not needed for your configuration, leave them disconnected.



Step 5: Connect Power — Wire Harness + Sensor Power Supply

For North American Homes

For North American Homes

The Energy Monitor's wire harness and the sensor power supply's input wires connect to breaker power together in this step. The sensor power supply's two input wires are interchangeable — one connects to a breaker (hot) and one to neutral.

Use the included Wago lever connectors or wire nuts to join wires. When using the Wago connectors: lift the levers, insert each stripped wire fully, and snap the levers closed. Give each wire a gentle tug to confirm it is secured.

1.) Splicing into in-use breakers - Step 5(a) — RECOMMENDED

Most panels do not have empty breakers — splice into two in-use breakers using the included Wago connectors. Use breakers rated up to 15A; any amperage rating may be used if the splicing wire gauge matches the existing circuit wire and meets applicable electric codes.

2.) Wiring to empty breakers - Step 5(b)

If the panel has empty (unused) breakers, wire directly to the breakers. A 15A breaker is typical, but any ampacity may be used — the breaker serves only the Energy Monitor and sensor power supply, which together draw less than 1.5A.

3.) Only if wiring to a AFCI / GFCI breaker - Step 5(c)

If the wire harness is wired to an AFCI / GFCI breaker, the black wire needs to be wired to the hot side and the white to the neutral on this breaker. The white is not wired to the neutral bus.

Step 5(a): Splicing into in-use breakers (recommended)

Secure the **White (N)** wire from the wire harness to the neutral bus bar, and secure one of the sensor power supply's input wires to a separate terminal on the neutral bus bar.

Turn off two vertically adjacent (stacked) single-pole breakers and remove their wires.

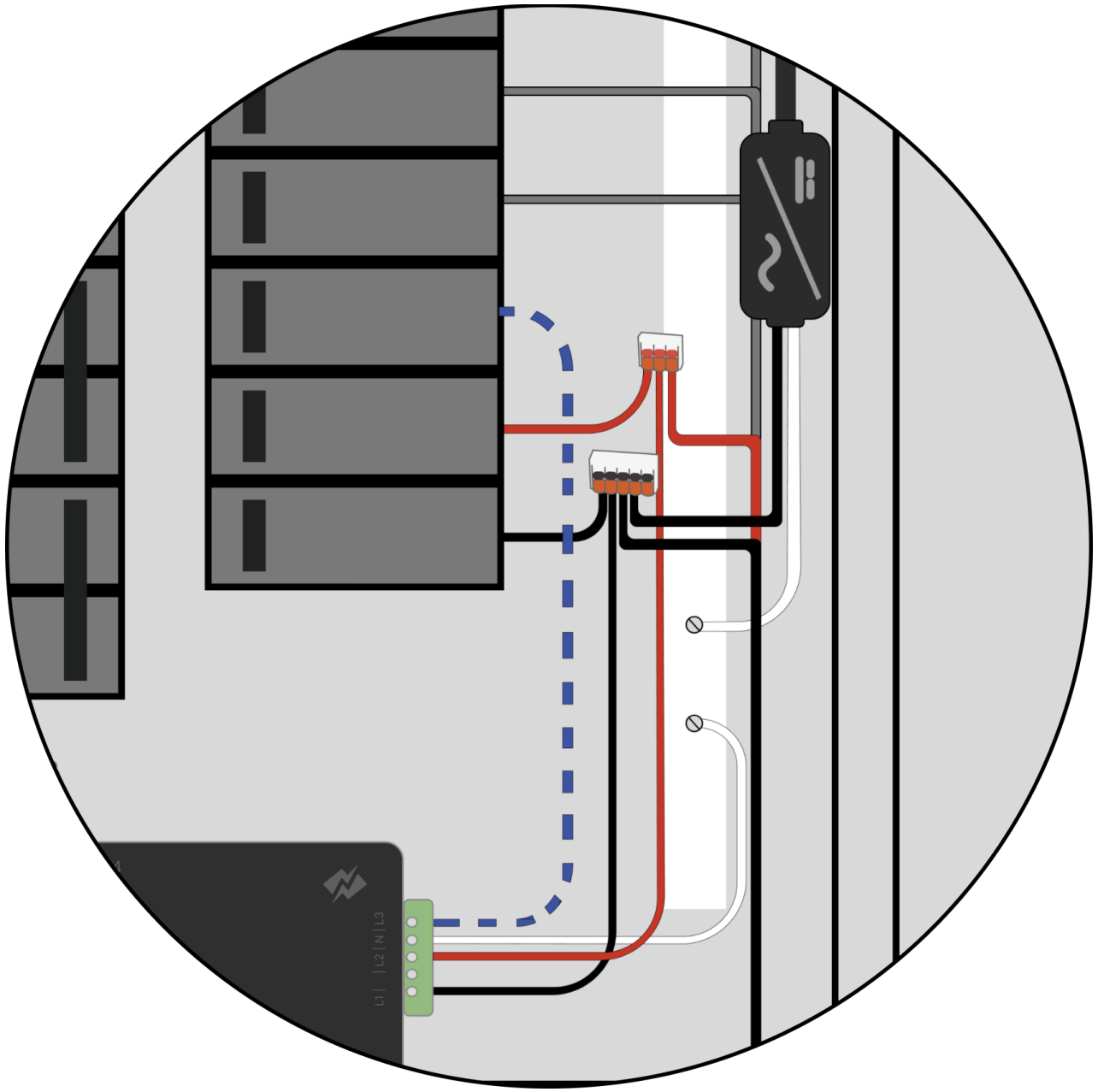
First breaker — 5-port Wago: insert the splicing wire, the **Black (L1)** harness wire, the sensor power supply's remaining input wire, and the original circuit wire (one port stays empty). Land the splicing wire on the breaker.

Second breaker — 3-port Wago: insert the splicing wire, the **Red (L2)** harness wire, and the original circuit wire. Land the splicing wire on the breaker.

The **Blue (L3)** wire is not used in split-phase systems and can be capped or left disconnected.

Three-phase (208Y/120 V) panels only: secure the **Blue (L3)** wire to a third adjacent breaker (shown as dashed).

① Use breakers rated up to 15A, or any rating if the splicing wire gauge matches the existing circuit wire and meets national and regional codes



Step 5(b): Wiring to empty breakers

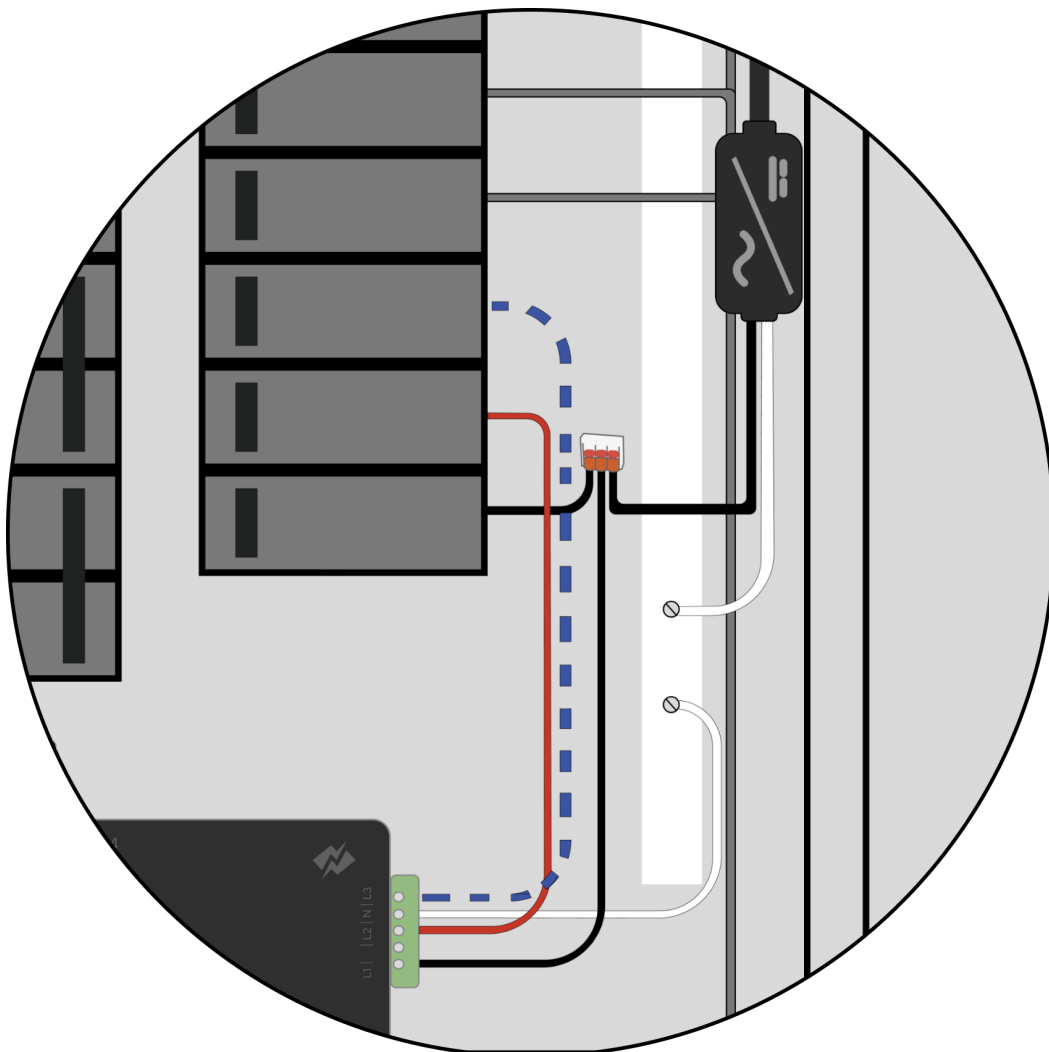
Secure the **White (N)** wire from the wire harness to the neutral bus bar, and secure one of the sensor power supply's input wires to a separate terminal on the neutral bus bar.

Turn off two vertically adjacent (stacked) empty single-pole breakers. Join the **Black (L1)** harness wire, the sensor power supply's remaining input wire, and a splicing wire in a 3-port Wago connector (a wire nut listed for three 16 AWG conductors may also be used), then land the splicing wire on the first breaker. Secure the **Red (L2)** wire from the harness directly to the second breaker.

The **Blue (L3)** wire is not used in split-phase systems and can be capped or left disconnected.

Three-phase (208Y/120 V) panels only: secure the **Blue (L3)** wire to a third adjacent breaker (shown as dashed).

① A larger amp breaker may be used if the gauge of the splicing wire matches the existing gauge wire from the breaker, meeting the national and regional codes



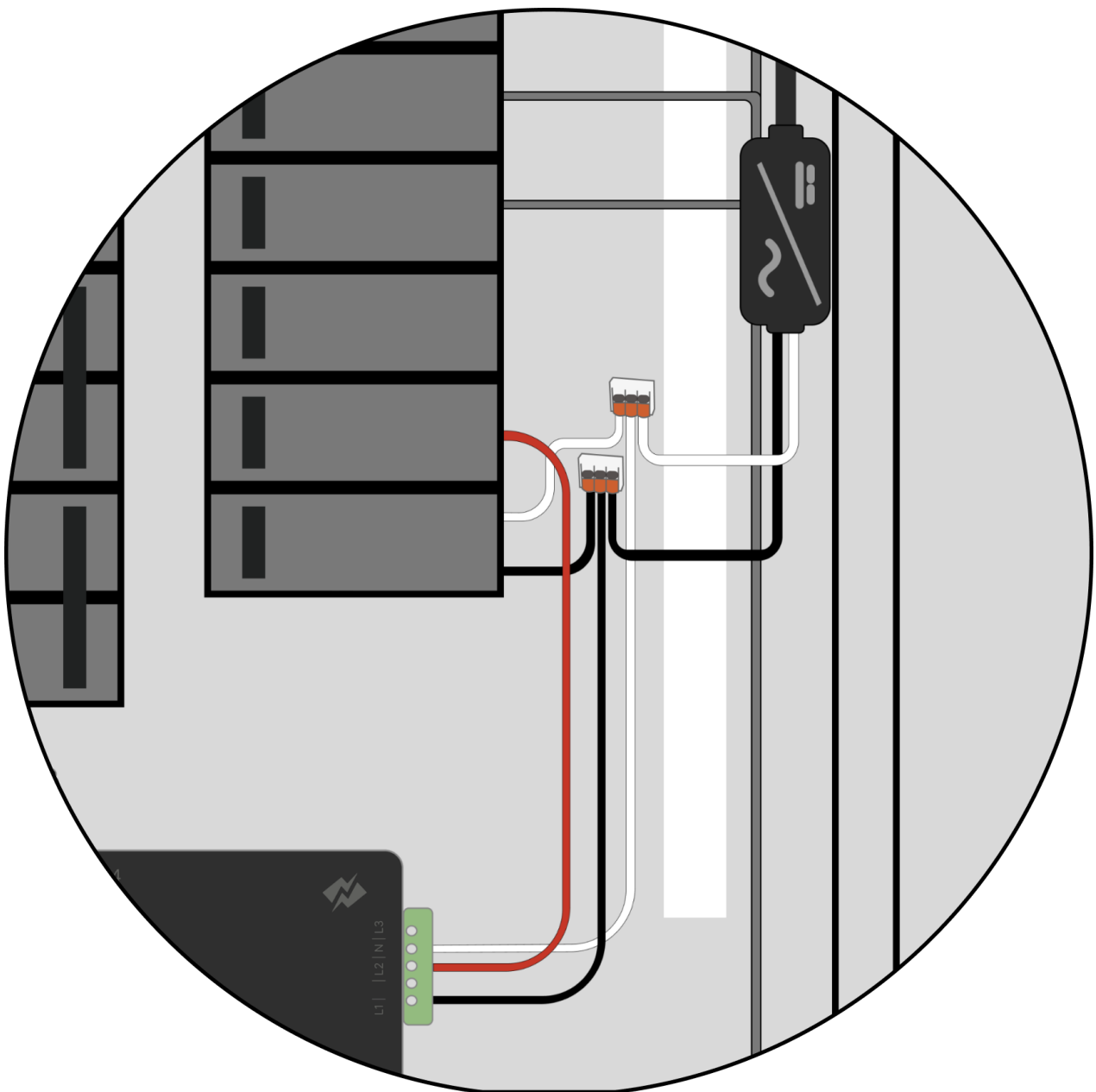
Step 5(c): Wiring to a AFCI / GFCI breaker

The **Blue (L3)** wire is not used in split-phase systems and can be capped or left disconnected.

If the wire harness is wired to an AFCI / GFCI breaker, join the **Black (L1)** harness wire, one sensor power supply input wire, and a splicing wire in a wire nut / Wago connector, and land the splicing wire on the hot side of the breaker. Join the **White (N)** harness wire, the power supply's remaining input wire, and a splicing wire in a second Wago connector, and land that splicing wire on the neutral terminal of this breaker. The white is NOT wired to the neutral bus.

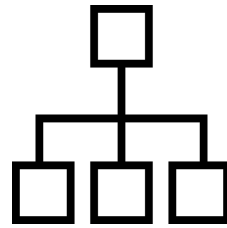
Secure the **Red (L2)** wire from the harness to an adjacent single-pole breaker.

① The white is not wired to the neutral bus.



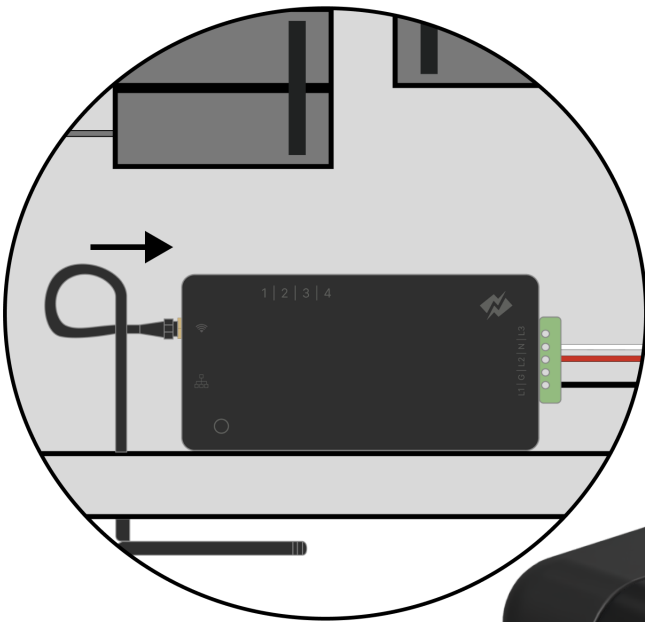
Step 6: Prepare for internet connection

The NeoCharge Energy Monitor is capable of connecting to the internet either via a wired LAN connection, a Wi-Fi connection, or both. If both are implemented, the NeoCharge Energy Monitor will prioritize wired LAN. If a wired LAN is unavailable, the NeoCharge Energy Monitor will attempt to connect over Wi-Fi. Choose the preferred method(s) and go to the corresponding step below.



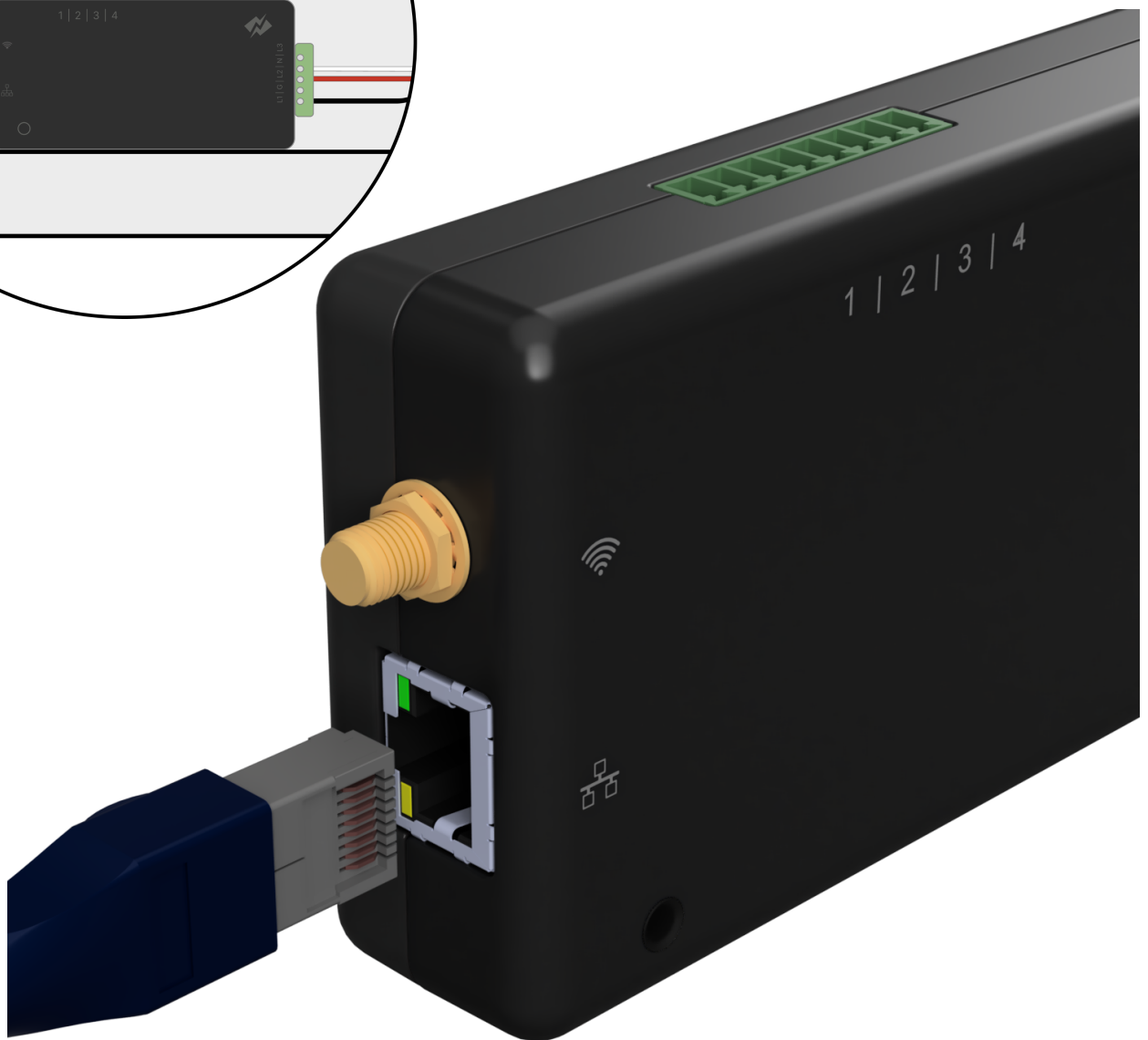
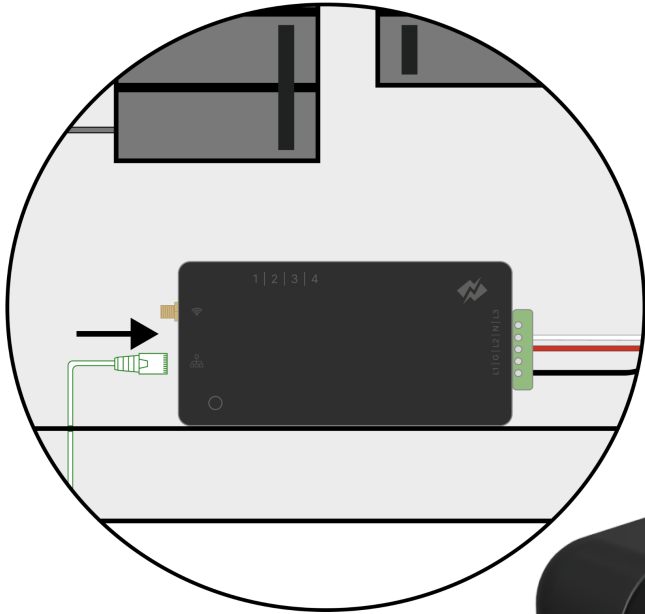
Step 6(a): Prepare for Wi-Fi connection (Most Common)

This step is to prepare for a wireless internet connection. To connect to the internet via wired LAN, see Step 6(b). Use a screwdriver to remove a knockout from the electrical panel. Now, feed the antenna through the hole so it is outside of the electrical panel. Then, screw the antenna assembly cable to the left-hand side of the energy monitor in the coaxial connector marked with the WiFi symbol. Finally, plug the hole of the electrical box with the knockout plug on the antenna cable. It's acceptable to install the antenna inside of a wall.



Step 6(b): Prepare for wired LAN connection

This step is to prepare for a wired internet connection. To connect to the internet wirelessly via Wi-Fi, see Step 6(a). Run a Cat5e or higher Ethernet cable with an RJ45 connector from a router, switch, or modem to the electrical panel. Then, use a screwdriver to remove a knockout from the electrical panel. Next, feed the cable through the hole to the NeoCharge Energy Monitor and plug it into the socket on the side of the energy monitor marked with the Ethernet symbol.



Step 7: Installing the Main (200A) flexible current sensors

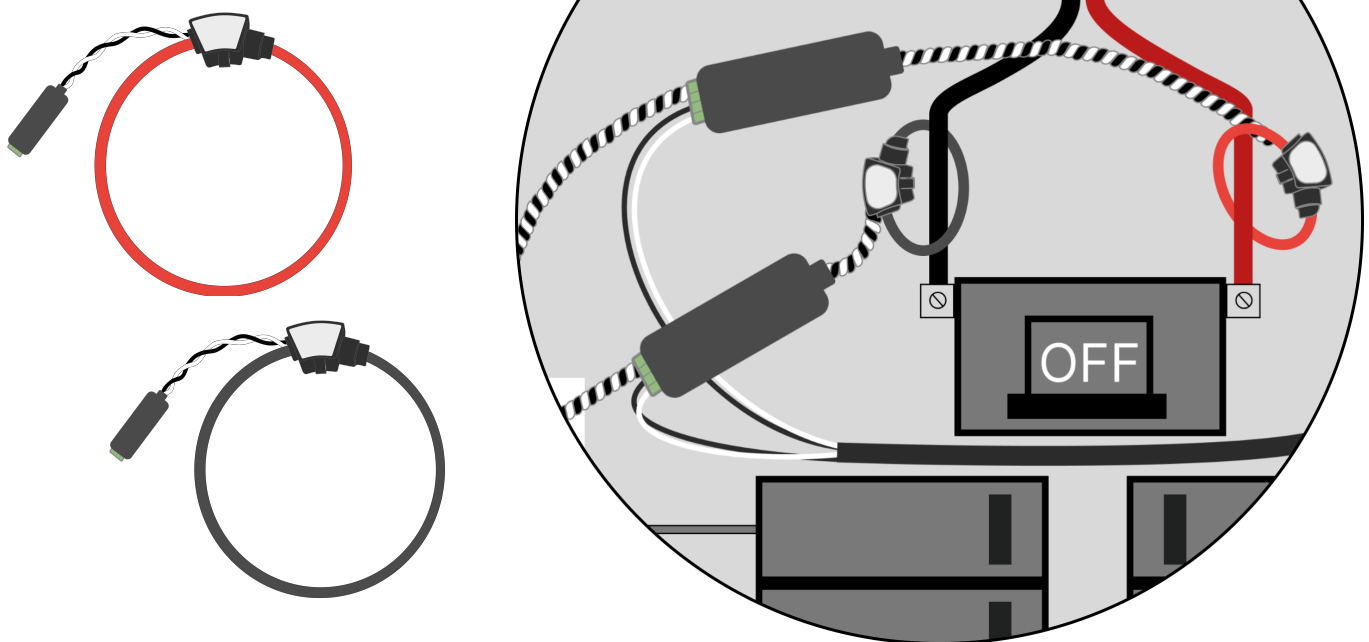
The two flexible current sensors measure the incoming live mains. **They should not be used on neutral lines.** Each sensor is a flexible coil connected to an integrator; both integrators are powered by the power supply you wired in Step 5.

First, connect power and signal: locate the 12V output harness on the sensor power supply and insert a 4-terminal plug into the port on each integrator. Then route each integrator's twisted signal cable to the Energy Monitor and insert the plugs into slots 1 and 2 (recommended) on the top of the monitor. The signal cable leads should remain twisted. Do not cut, splice, or extend the coil, signal, or 12V cables.

The coils will be installed differently depending upon whether or not the home has solar and how that solar system is connected to the electrical system. The flexible sensors on the mains will provide net metering out of the box — displaying electricity used minus electricity produced. These installations are covered in the subsequent pages. To monitor electricity used and electricity produced separately, Branch CTs will be used as described in Step 8.

Install Type:

- Step 7(a): No solar
- Step 7(b): Breaker-fed solar
- Step 7(c): Line-side tap solar



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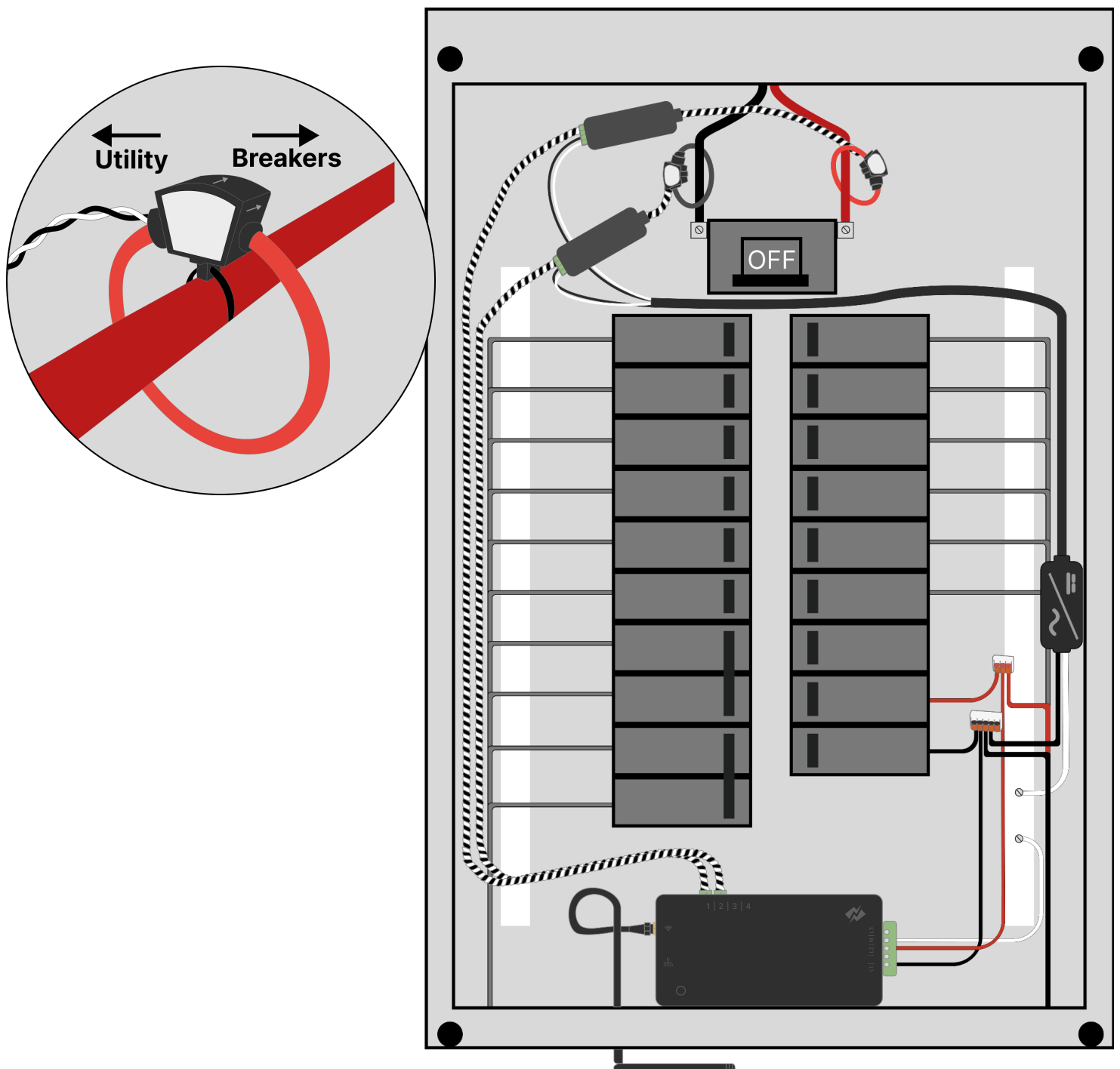
Step 7(a): No solar - Main current sensor installation

Release the side of each sensor to open one end of the coil. Wrap the coil around one of the main service cables, then secure the end back into the clasp. Use a zip tie to center the cable within the coil — this keeps the reading as accurate as possible.

IMPORTANT! The arrow on the sensor should point towards the load.

Repeat for the second main service cable. Then confirm each integrator's signal cable is plugged into a Main sensor port on top of the Energy Monitor (see Step 7).

⚡ DANGER: The service mains are energized!



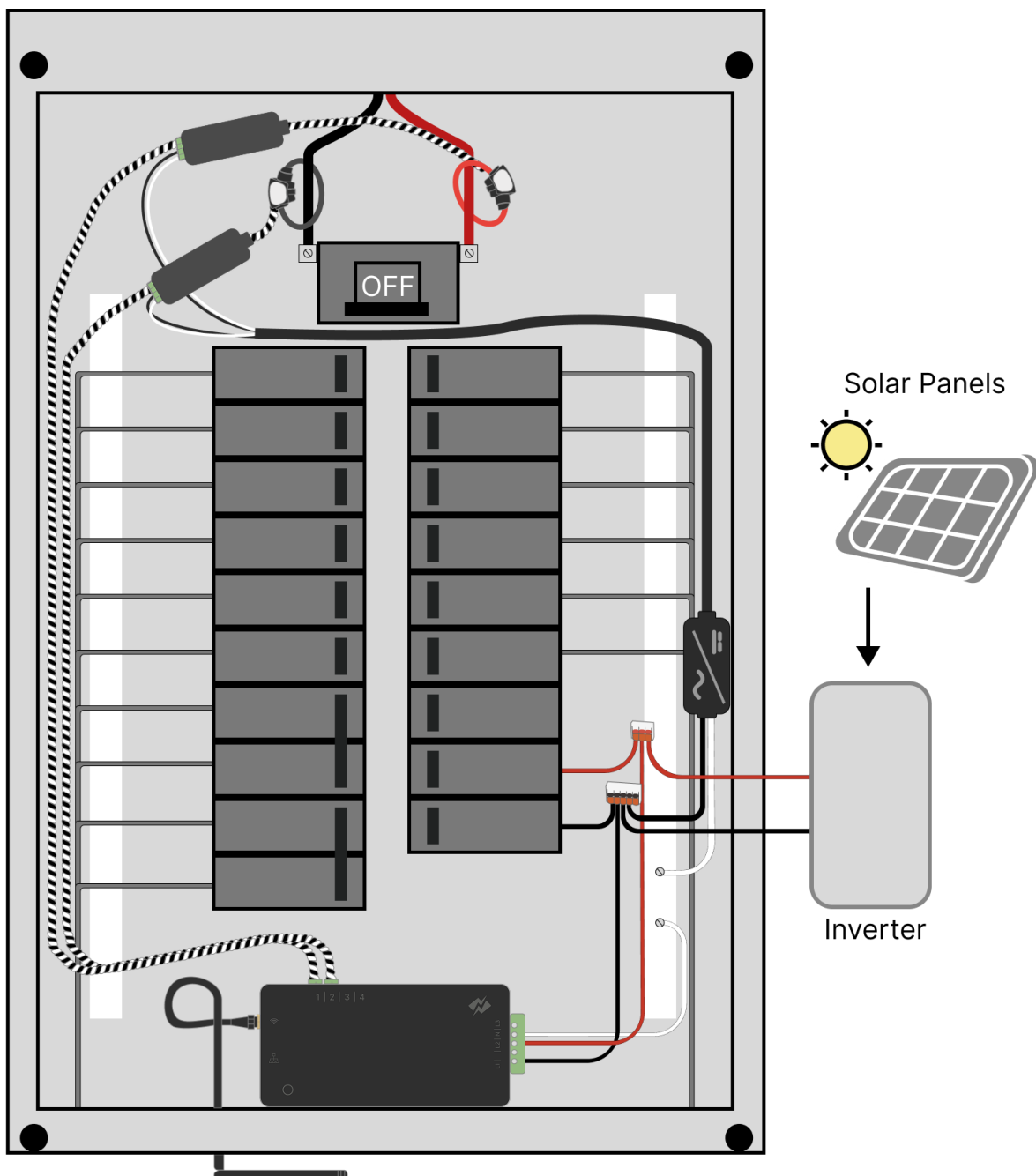
Step 7(b): Breaker-fed solar - Main current sensor installation

Release the side of each sensor to open one end of the coil. Wrap the coil around one of the main service cables **between the meter and the main breaker**, then secure the end back into the clasp. Use a zip tie to center the cable within the coil — this keeps the reading as accurate as possible.

IMPORTANT! The arrow on the sensor should point towards the load.

Repeat for the second main service cable. Then confirm each integrator's signal cable is plugged into a Main sensor port on top of the Energy Monitor (see Step 7).

⚡ DANGER: The service mains are energized!



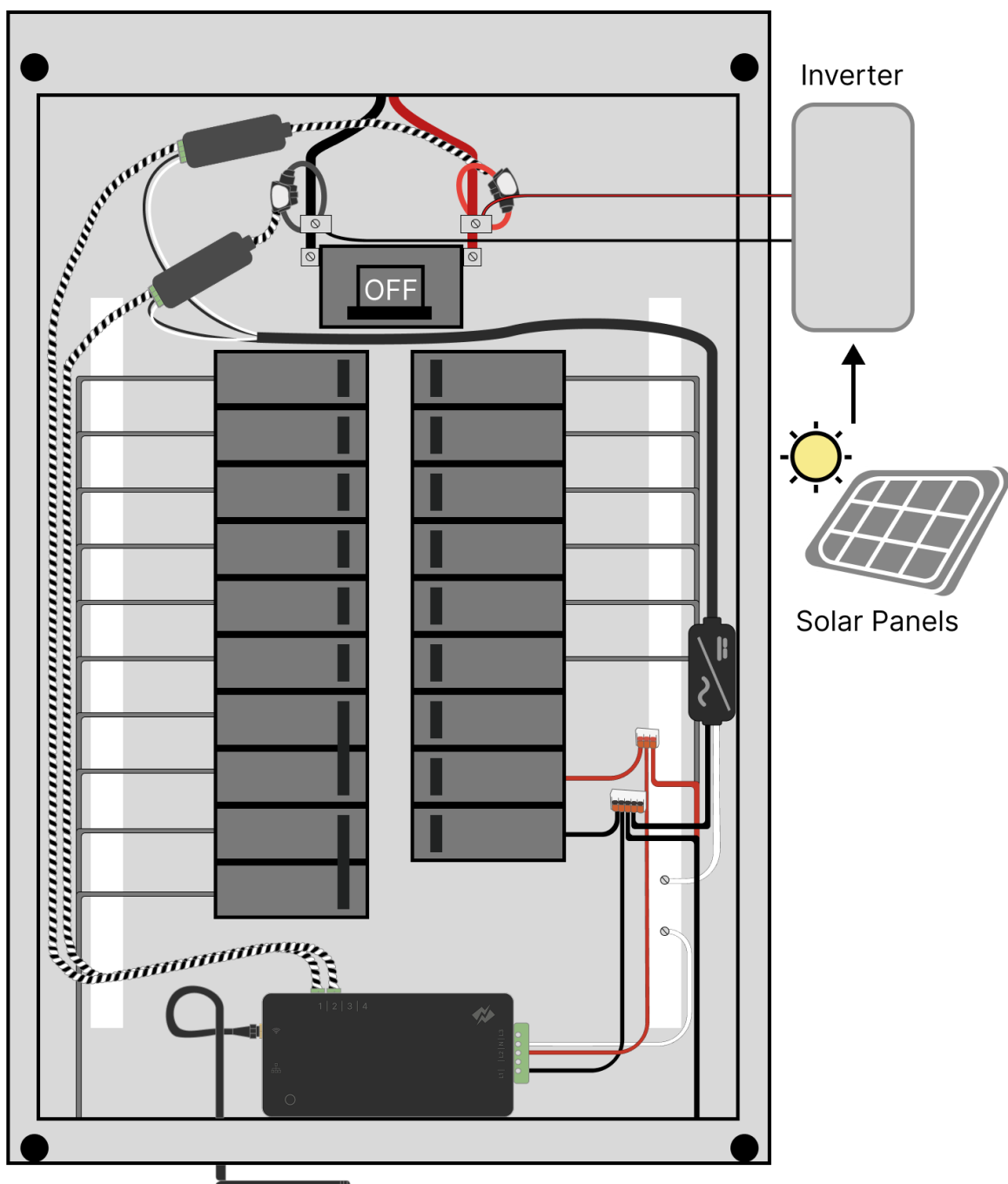
Step 7(c): Line-side tap solar Main flexible current sensors installation

Release the side of each sensor to open one end of the coil. Wrap the coil around one of the main service cables **between the utility meter and the incoming line-side inverter taps**, then secure the end back into the clasp. Use a zip tie to center the cable within the coil — this keeps the reading as accurate as possible.

IMPORTANT! The arrow on the sensor should point towards the load.

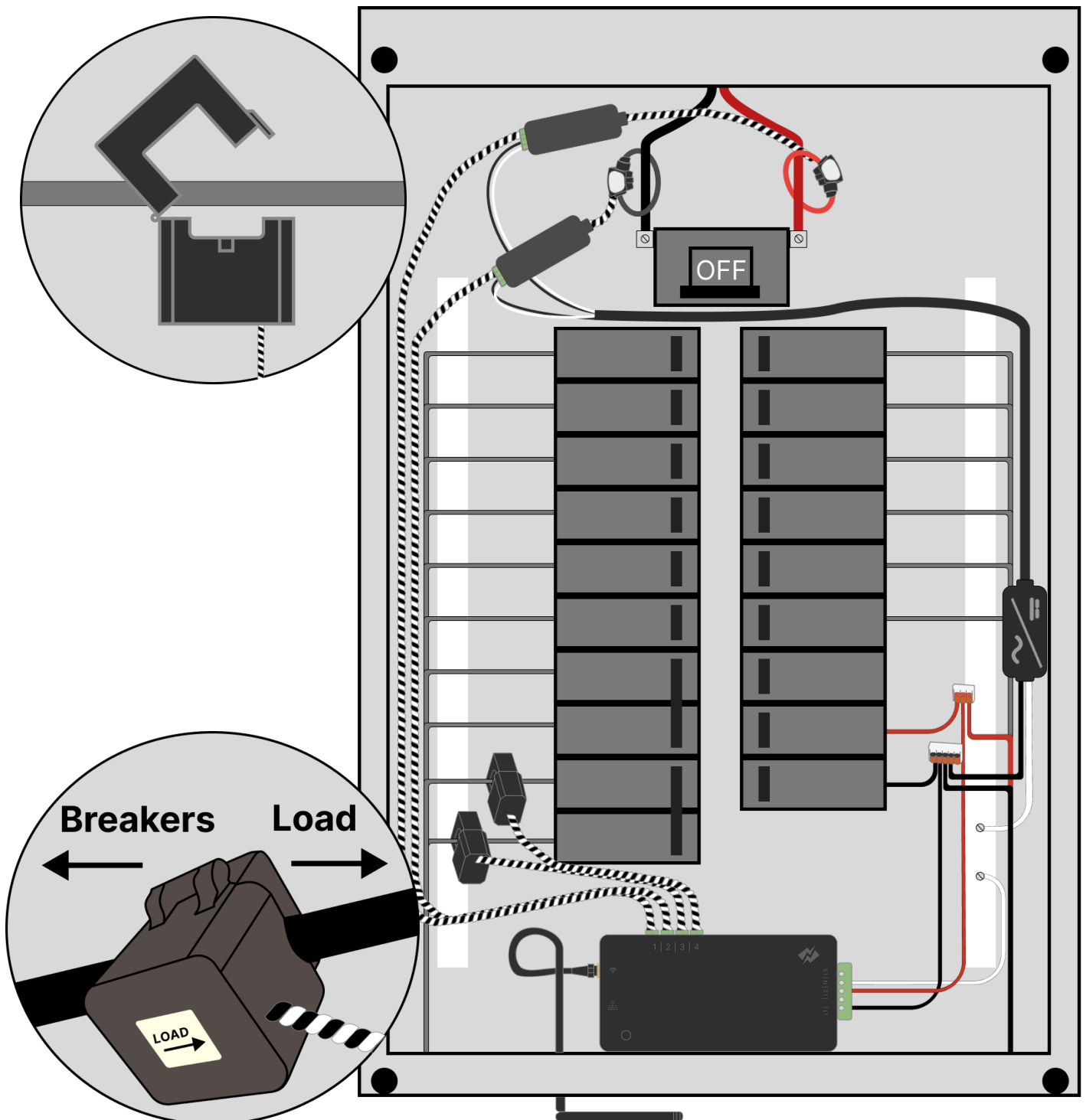
Repeat for the second main service cable. Then confirm each integrator's signal cable is plugged into a Main sensor port on top of the Energy Monitor (see Step 7).

⚡ DANGER: The service mains are energized!



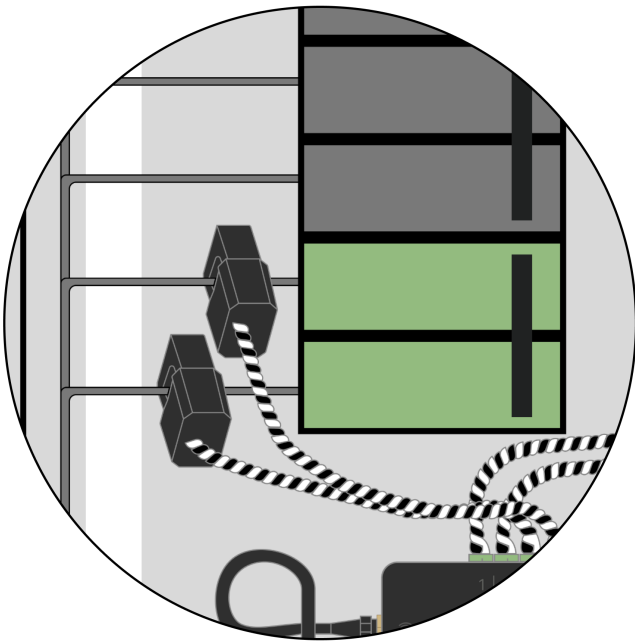
Step 8: Plug in and connect the Branch current transformers

If the NeoCharge Energy Monitor has Branch CTs, open the clasps on the CTs and place each clamp around the non-neutral leg from the breaker that is to be monitored. Then shut the clasps to secure the CTs. Then, insert the screw terminal plugs into the ports on the top of the energy monitor. Note the port numbers. To avoid clutter, unscrew the 22 AWG wires from the screw terminals, cut them to size, and reattach them (ensure the black and white wires are screwed back into the same terminal port on the connector for correct polarity). **IMPORTANT! The Load imprint on the bottom of the CTs should point toward the load.**

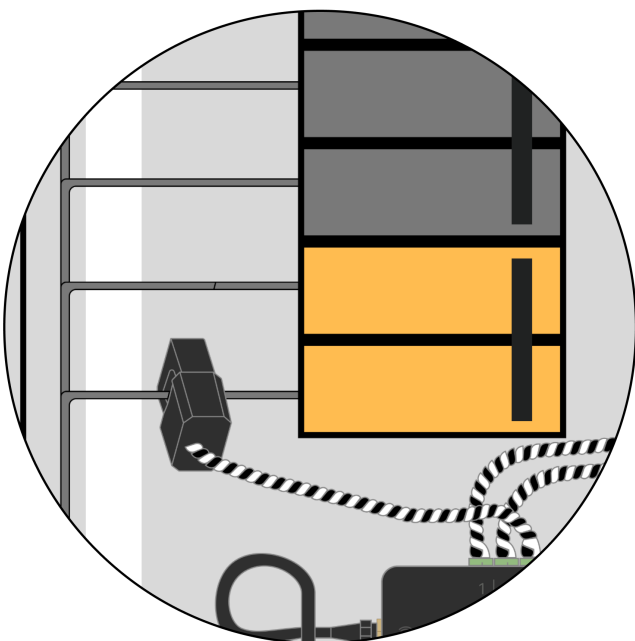


Step 8 (continued): A note about multi-pole breakers

If 2- or 3-pole breakers are to be monitored, we recommended that one CT be used on each pole; however, to conserve the number of CTs, a single CT can be used. To use a single CT, clasp the clamp around either one of the non-neutral leads coming off the breaker (it doesn't matter which). When only one CT is used, input a circuit multiplier in the app to double or triple the reading by entering a "2" or "1.7". Using a single CT to monitor a multi-pole breaker does not accurately monitor unbalanced loads.



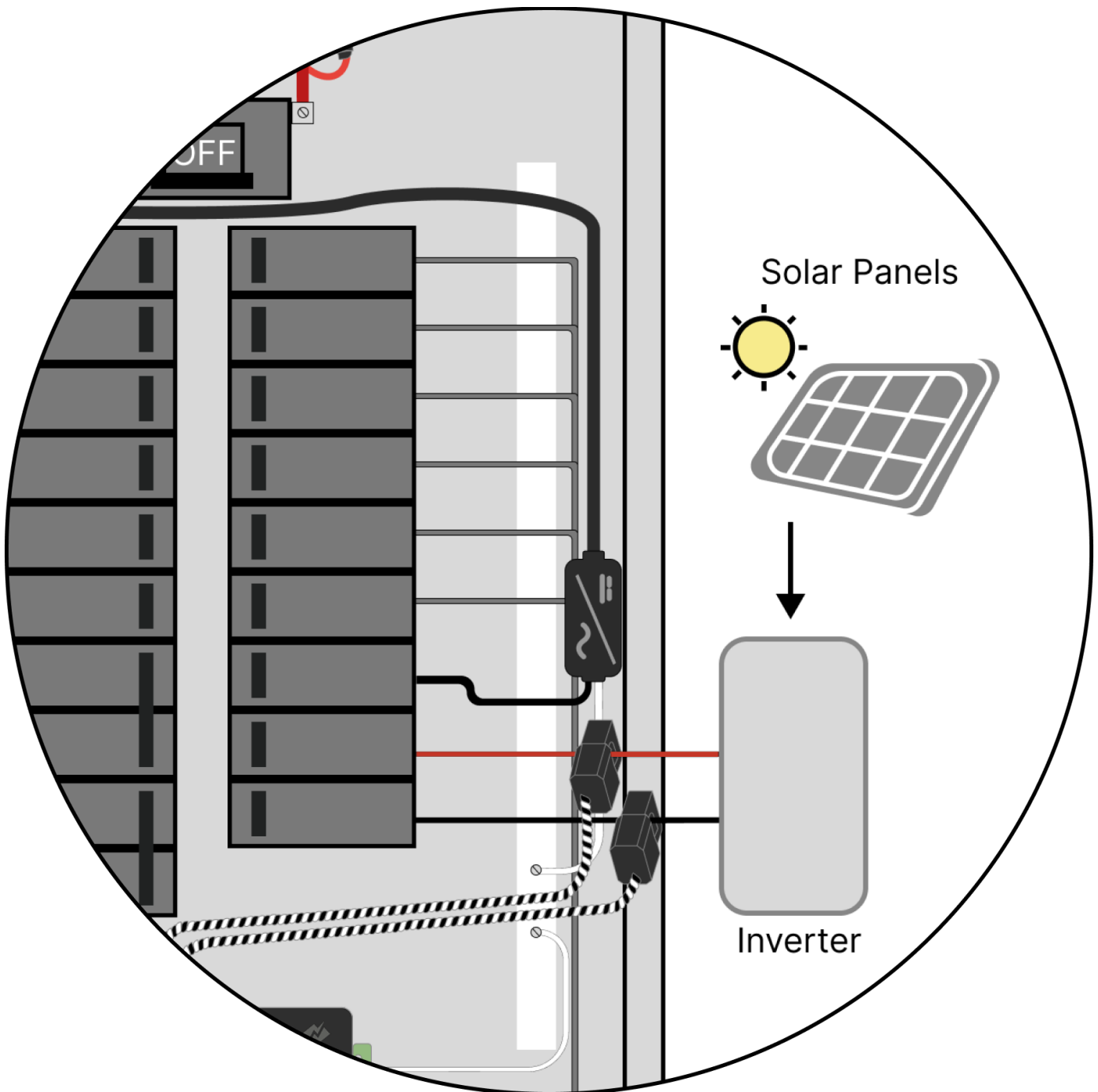
MOST ACCURATE - Attach one branch sensor on each leg of the breaker



LESS ACCURATE - Attach one branch sensor on a single leg and use an app multiplier.

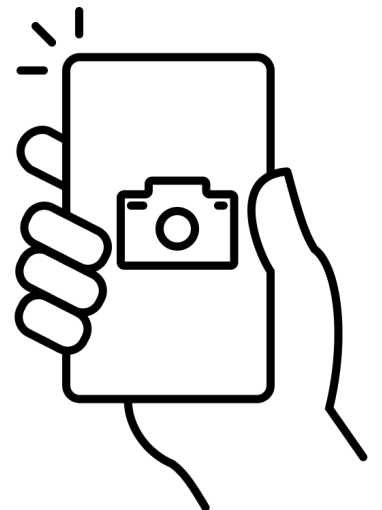
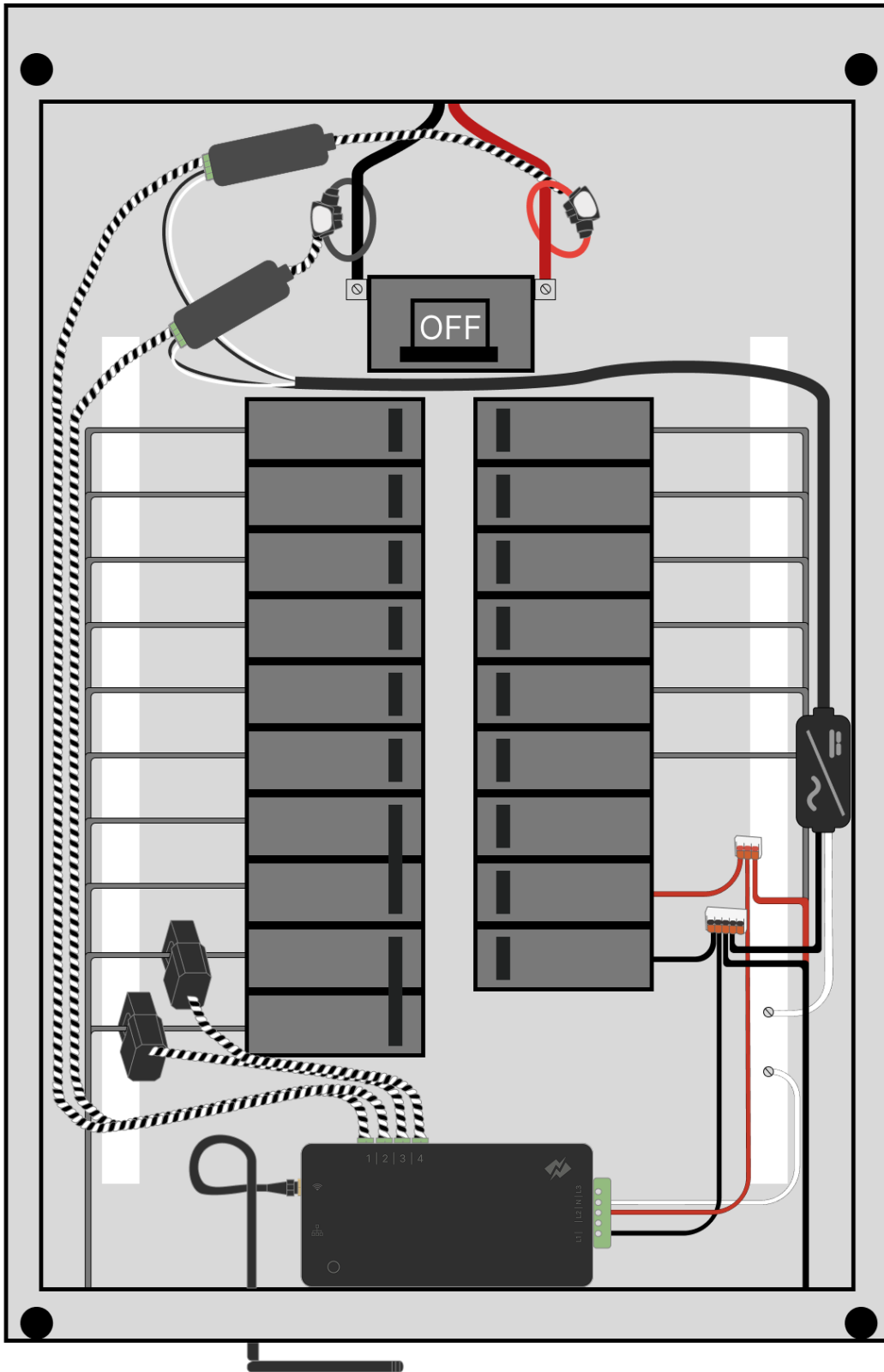
Step 8 (continued): A note about solar monitoring

For the NeoCharge Energy Monitor to be able to calculate how much energy from the system is going to and from the grid, Branch CTs will need to be connected to the incoming leads from the inverter regardless of whether the solar is a breaker-fed or a line-side tap installation. **Specify the circuits monitored by these CTs as 'Solar/Generation' in the app.** If only one CT is used, input a circuit multiplier in the app to double or triple the reading by entering a "2" or "1.7".



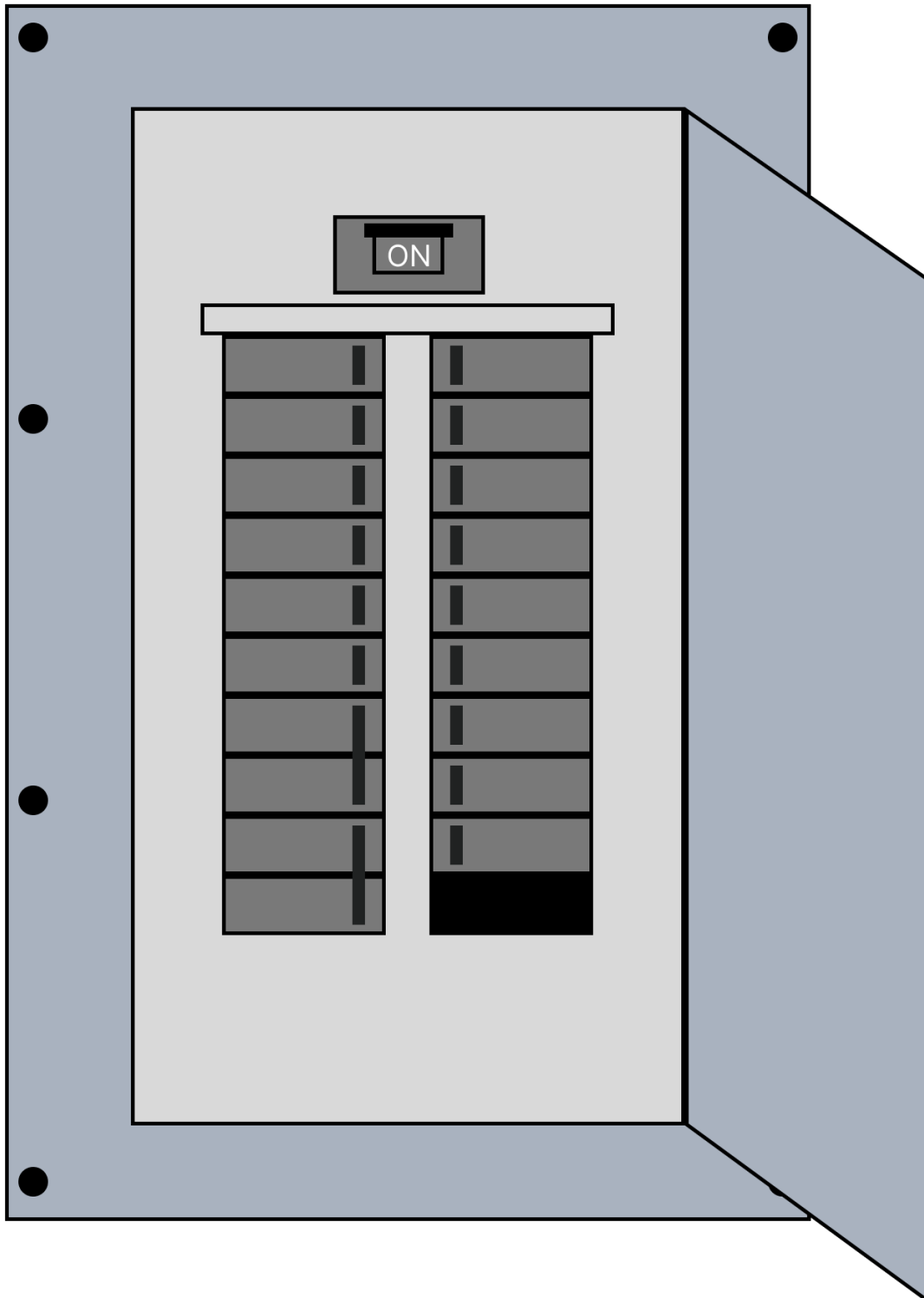
Step 9: Take a photo of your system

Before replacing your panel cover, take photos of the installation in case you need to contact support.



Step 10: Replace the cover and turn on all breakers

Secure the cover to the box with any screws you removed in Step 2. Next, return any breakers to the on position that you moved to the off position during installation to restore power to the circuits in the home. Then, close the panel. Once the panel cover is replaced, the antenna connector and screw terminal ports on the NeoCharge Energy Monitor will not be accessible.



Step 11: Complete setup

Return to the NeoCharge app to continue the setup process that you began in Step 1 by scanning the QR code on the NeoCharge Energy Monitor or Getting Started Guide to connect the NeoCharge Energy Monitor to the internet via Wi-Fi or wired LAN connection.



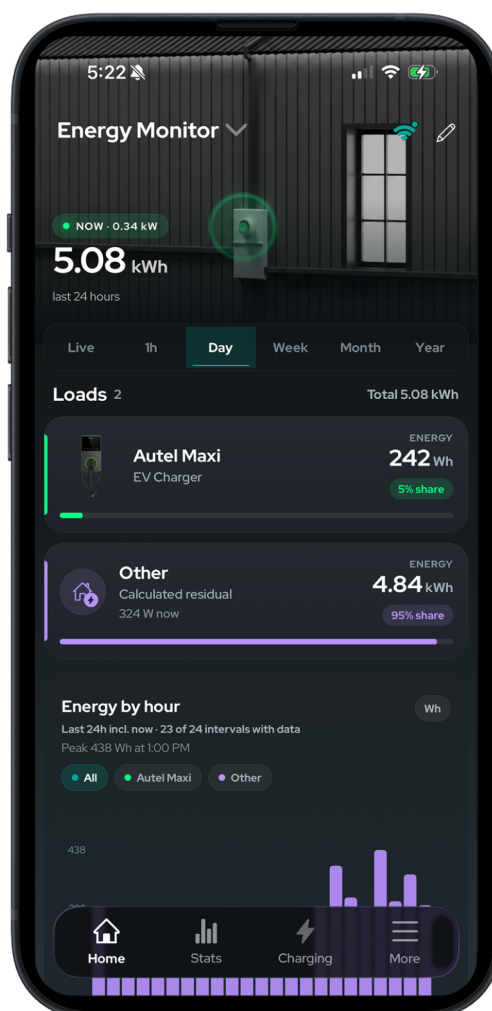
Need help?

<https://help.getneocharge.com/en-US>
support@getneocharge.com
+1 888 944 5581

Step 12: (Optional) Set Up EMS

If you are pairing the Energy Monitor with a compatible OCPP charger to form an energy management system, continue to the [Energy Monitor <> EMS Setup Guide](#) to complete the pairing.

View NeoCharge EMS Setup Guide



Advanced Installation: Dual Energy Monitors (Main Panel + Subpanel)

Some homes may require **two** NeoCharge Energy Monitors to form a complete energy management system. This configuration applies when both of the following are true:

- The EV charger (EVSE) circuit is located in a **subpanel**, and
- **Both** the main service and the subpanel feeder require load management to stay within their ratings (i.e., the load calculation does not pass at either level without it).

① If the subpanel's feeder has sufficient calculated capacity for the EVSE under a standard load calculation, a single Energy Monitor installed in the main panel is all that is required — even when the charger itself is in the subpanel. Use the standard installation steps in this guide and skip this section.

Each Energy Monitor is installed following the same steps in this guide (Steps 2–11), one panel at a time. **All sensors for an Energy Monitor must stay inside the panel where that monitor is mounted.** Never route CT or sensor leads between the main panel and the subpanel.

Subpanel Energy Monitor

- Attach the Main flexible sensors around the **feeder conductors** at the subpanel lugs, so the monitor measures the entire subpanel. Orient the coils per Step 7.
- Attach a Branch CT to the **EVSE breaker** (see Step 8). This circuit is used to verify EMS pairing and charger behavior.
- Wire the voltage sensing harness to **breakers within the subpanel** (see Step 5).

Main panel Energy Monitor

- Attach the Main flexible sensors to the **incoming service mains** exactly as described in Step 7 — including the solar placement variants in Steps 7(b) and 7(c) if the home has solar.
- Branch CTs may be attached to any other circuits of interest **within the main panel**.
- **Do not** attach a Branch CT to the subpanel's feeder breaker. The subpanel Energy Monitor is the source of truth for the feeder.

Configuration

- In the app, enter the **main service rating** for the main panel monitor and the **feeder breaker rating** for the subpanel monitor. Read these ratings directly from the main breaker and feeder breaker labels — do not rely on reported values. The energy management system enforces the limits exactly as entered.
- Both Energy Monitors require an internet connection (see Step 6). Confirm Wi-Fi signal strength at **both** panel locations, or run wired LAN to each.
- Complete EMS pairing per the **Energy Monitor <> EMS Setup Guide** (Step 12). In a dual-monitor installation, the charging limit is set by whichever panel has the least available capacity at any moment. If either Energy Monitor loses power or connectivity, the system automatically reduces the charger to its fail-safe state.

① For homes with solar or battery storage, correct Main sensor orientation on the service mains (Step 7) is critical — the energy management system depends on accurate directional readings to calculate available capacity.

⚠ **WARNING: This system supports one EVSE per branch circuit. Never connect two EV chargers to a single branch circuit; the energy management system does not manage loads sharing one branch circuit, and doing so may overload the circuit.**

Troubleshooting Tips

Here are some troubleshooting tips. For more help, check out the NeoCharge Help Center online at <https://help.getneocharge.com/en-US>.

The NeoCharge app is not finding the NeoCharge Energy Monitor after I've installed it.

Ensure the NeoCharge Energy Monitor has power:

- Check that the LED indicator is on.
- Check that the wire harness is secure and wired properly.
- Check that the main breaker is turned on.
- Check that the breaker powering the NeoCharge Energy Monitor is turned on.

Ensure your phone can connect to the NeoCharge Energy Monitor.

- Check that your phone's Bluetooth is on.
- If you're using an Android, turn on Location Services for your phone to properly scan for Bluetooth devices.
- If you're using an iPhone, make sure Bluetooth is allowed in the Settings > NeoCharge Energy app > Bluetooth allowed

Ensure the NeoCharge Energy Monitor's Wi-Fi antenna is installed properly.

- Check the antenna is properly screwed into the energy monitor
- Ensure the antenna is outside of the electric panel. It's ok if it is inside a wall, just ensure it's not inside the metal box.

Ensure the NeoCharge Energy Monitor's wired LAN connection is installed properly

- Check that the Ethernet cable is securely connected to the NeoCharge Energy Monitor's LAN port
- Check that the Ethernet cable is securely connected to a router, switch, or modem

Ensure the network does not have a firewall preventing new devices from accessing the internet

Try power cycling the breaker to which the NeoCharge Energy Monitor is connected.

Try restarting the NeoCharge App.

Try restarting your phone.

The NeoCharge Energy app isn't getting real-time data from the NeoCharge Energy Monitor.

- Ensure all current sensors are secure: The flexible sensors are fully latched around the mains, and branch CTs are securely fastened around their respective cables in the electric panel.
- Ensure the sensor power supply has power — check that its breaker is on and its input wires are secure in the wire nuts / Wago connectors. The flexible sensors read zero without power.
- Check that the 12V power supply is fully seated in both integrator ports, and the signal cables are fully seated in the Main ports on the Energy Monitor.
- If a main reads inverted (negative when consuming), the coil is facing the wrong direction — reverse it per Step 7.
- Check that the screw terminal plugs are securely plugged into the ports of the energy monitor.

- Check that the CT wires are securely connected to the screw terminals and that the screws are tight.

Need help?

<https://help.getneocharge.com/en-US>

support@getneocharge.com

+1 888 944 5581

Technical Details

Energy Monitor (NeoCharge Energy Monitor)

Supported System Configurations:

- Single-phase, 2-wire systems (120 V L-N)
- Three-phase, 4-wire wye systems (208Y/120 V)

Electrical Ratings:

- Overvoltage Category: CAT III
- Isolation: 4kV galvanic isolation

Interfaces:

- Ethernet: 10/100 Base-T
- Wi-Fi: 802.11b/g/n via SMA antenna connector

Operating Conditions:

- Temperature: -40°F to 122°F (-40°C to 50°C)
- Relative Humidity: Up to 90% RH, non-condensing
- Altitude: Up to 2,000 meters (6,562 ft)
- Environment: Indoor, dry location, Pollution Degree 2

Enclosure:

- Material: 94-V0 rated flame retardant

Current Sensors (Flexible Rogowski Coils / CT Clamps)

- Flexible Rogowski current sensors for up to 200A main service lines
- Split-Core CT clamps for up to 50A branch circuits
- Accuracy: $\pm 2\%$

Applicable Standards

- FTRZ Energy Usage Monitoring Systems
- UL 61010-1 and 61010-2-030
- UL 2808
- ANSI/CAN/UL 2808

Certifications & Compliance



Intertek

5038211

CONFORMS TO

UL STDS 61010-1, 61010-2-030

CERTIFIED TO

CSA STDS C22.2#61010-1-12, C22.2#61010-2-030

Measurement categories are defined by the CE and UL safety standard IEC 61010-1 and are used to indicate the ability of an instrument (like the NeoCharge Energy Monitor) to withstand voltage spikes without posing a shock hazard to the operator. An instrument should only be used at or below its rated measurement category and voltage. For example, the NeoCharge Energy Monitor is CAT III rated and can be used to monitor CAT I, CAT II, and CAT III circuits.

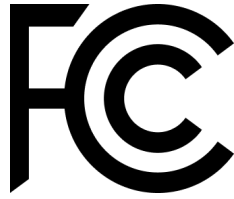
CAT III: This category is for measurements performed on equipment permanently installed in the building. Examples are measurements on motor control centers, circuit-breaker panels, junction boxes, switches, lighting fixtures, and wiring, including cables, bus-bars, and equipment for industrial use and some other equipment, for example, stationary motors with permanent connections to the electrical distribution system.

There are situations where the NeoCharge Energy Monitor needs to monitor the main service entrance, which is classified as CAT IV. In this situation, the NeoCharge Energy Monitor voltage inputs (green screw terminal block) must be connected in a breaker panel or panel board, downstream of the main disconnect, breaker, or fuses. The line voltages at this location will be essentially identical to the voltages measured at the main disconnect, so the NeoCharge Energy Monitor's measurements will be accurate.

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FCC Compliance



FCC: 2AC7Z-ESPS3WROOM1

IC: 21098-ESPS3WROOM1

Model: NCEM-NA

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Caution: Any changes or modifications not expressly approved by NeoCharge void the user's authority to operate the equipment.

Designed by NeoCharge in San Luis Obispo, California

Manufactured by NeoCharge

75 Higuera St, Suite 120, San Luis Obispo, CA 93401

Need help?

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