Home Energy Monitor

by Neurio Technology

PRELIMINARY
DO NOT DISTRIBUTE

W2 Installation Guide

Welcome

This booklet will guide you or your electrican through the installation process of Neurio. We will focus on a 2-phase system, the most common power system in North America. If you have a one-phase or 3-phase or solar system, please visit support.neur.io for instructions

Items to prepare before installation

- Smartphone
- Flashlight
- Thick insulated rubber gloves
- Screwdrivers
- Pliers
- Two empty breakers (or one dual pole breaker)*

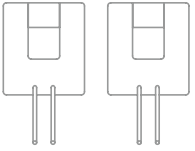
To watch a video of the installation process, visit support.neur.io

CAUTION: It is highly recommended that this product be installed by an electrician or other qualified professional. Please read and review the safety warning provided at the end of this book

* The voltage cables on the Neurio Sensor need to be installed on two empty breakers (one for each phase) or one empty dual (double) pole breaker. However, some regional codes allow you to piggyback wires on existing breakers by using the supplied wiretaps and attaching the voltage wires from Neurio to the existing cables before they go into a breaker. See Step 4 for diagrams. Please consult your local electrical code for approved methods.

What's included

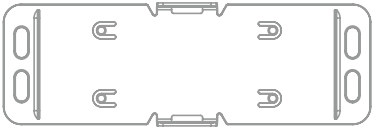
Neurio W2 Sensor



Current Transformers (x2)

Voltage Cable

Antenna and extension cable



Mounting Plate

Antenna Mounts (x2)

Marrette (x1)	Screws (x2)	Jumper Wires (x2)
Wiretaps (x2)	Cable Ties (x2)	Neurio Sticker

Overview of Install

Step 1
Turn off the main breaker

Step 2
Remove the panel cover

Step 3
Mount the sensor

Step 4
Connect the voltage cable

Step 5
Connect the CTs

Step 6
Connect the antenna

Step 7
Check your work

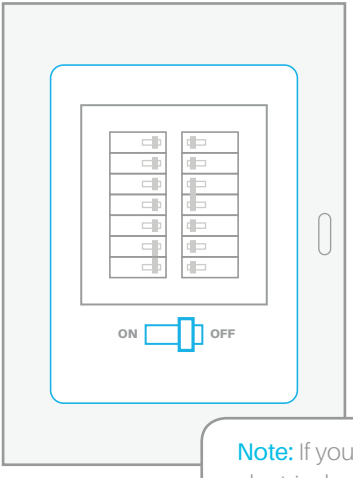
Step 8
Replace the panel cover

Step 9
Connect Neurio to WiFi

If you get stuck at any point, visit **support.neur.io**
for walkthrough videos and helpful tips.

Step 1: Turn off main breaker

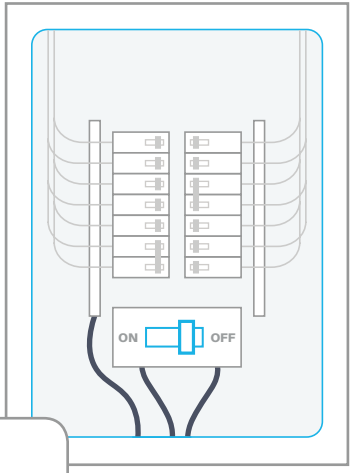
Simply flip the switch to turn off the Main Breaker.



Note: If you have more than 1 electrical panel, make sure Neurio is installed in the main one (the one that draws power directly from your utility).

Step 2: Remove panel cover

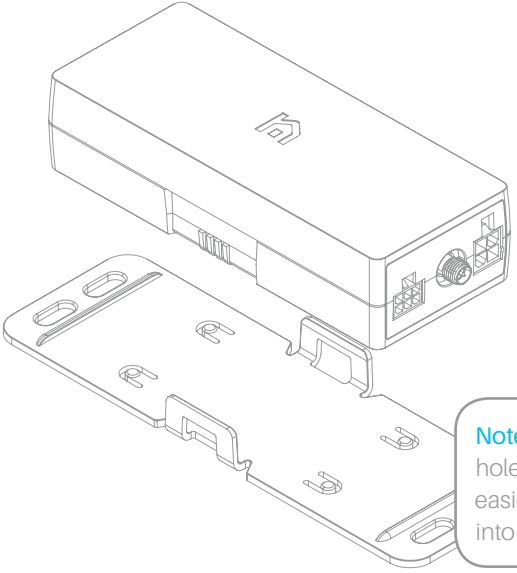
Remove the screws on the corners of the panel and remove the cover. After you do this, you should see the wires going into each breaker and main lines from the utility..



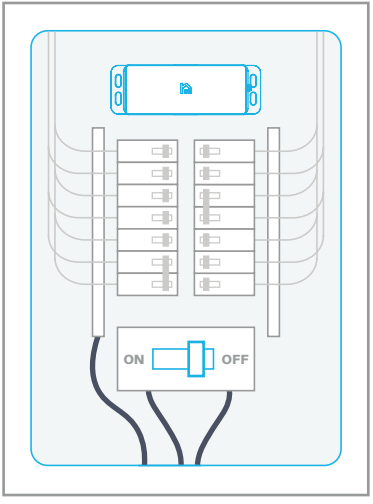
Note: If your panel has a secondary cover that hides the main utility line, please remove that as well.

Step 3: Mount the W2 Sensor

Find a suitable place in your panel where Neurio can fit. Then, using the supplied self-drilling screws, secure the mounting plate to your metal panel. Now clip your Neurio into place.



Note: Drilling pilot holes may make it easier to mount Neurio into metal panel

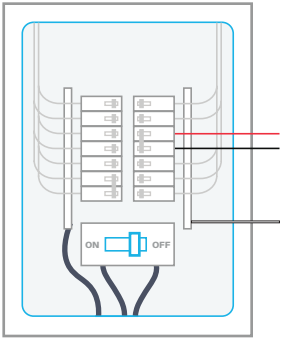


CAUTION: Be sure to account for the length of the CTs and the 2-foot voltage cable, and ensure that there is enough room on the sides of Neurio for the wires and antenna to connect to..

Step 4: Connect the Voltage Cable

a) Connect the voltage cable to Neurio by inserting the connector

b) Connect the black and red wires to the empty 15 or 20 amp breakers. Connect the white wire to the neutral bus bar usually located next to the breaker.



Note: To remove wire from wiretap, simple pull on the wire and twist

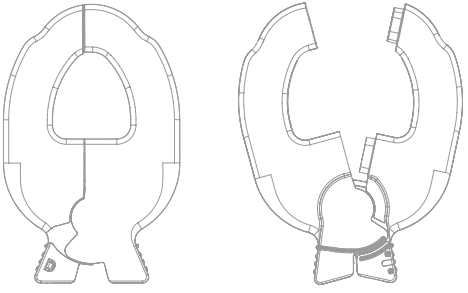
Alternate wiring with wiretap

If an empty breaker isn't available, you can use the provided wiretaps to connect to an existing breaker. To do this, remove the existing wire from a 15 or 20 amp breaker and replace it with the jumper wire provided in the contents of the box. Then use the wiretap to connect the jumper wire, the wire from Neurio, and the original wire you removed from the breaker. It might take a little force to ensure the wires are secured into the wiretap all the way.

Note: The blue wire is not used for 2 phase installs. Twist the marrette onto the blue wire and tuck it into the panel, out of the way

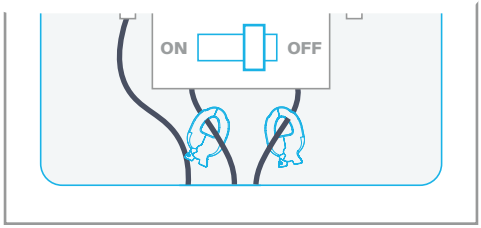
Step 5: Connect the CTs

a) For Universal CTs, just pinch the handle to open the jaws

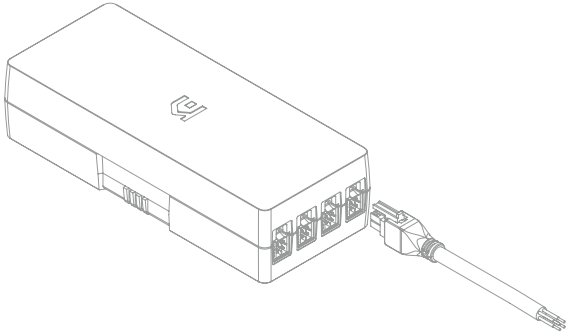


CAUTION: Be sure to take care to not touch the exposed main line connections to the main breaker

b) Loop the CT around each of the main power lines. Pay close attention to the label. The direction it faces is very important.



c) Insert the CT connectors to the ports labeled [1] and [2].



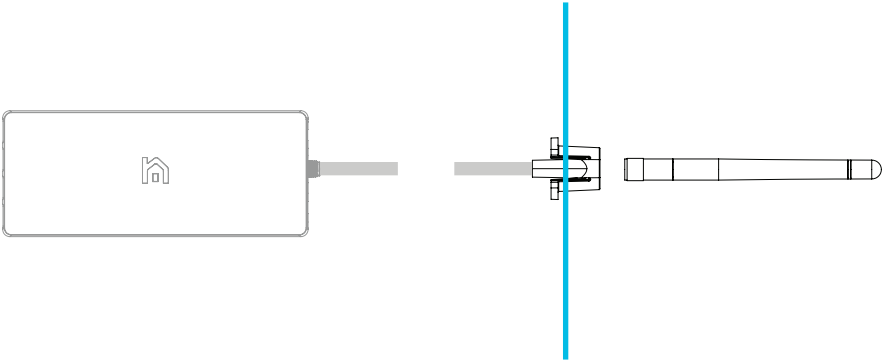
Step 6: Hook up the antenna

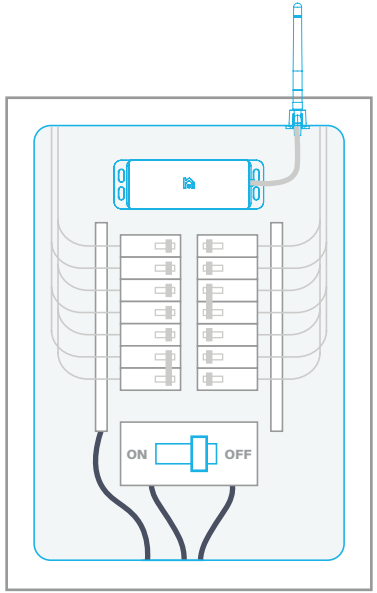
a) Attach the extension cable to the Neurio Sensor

b) Locate a metal circular knockout in your panel and remove the metal to expose the hole. Gently tapping with a hammer may be needed.

c) Thread the extension cable through the antenna mount and screw on the antenna.

d) Insert the antenna through the open knockout and click the antenna mount in to place




ON
OFF

Step 7: Review your work

a) Antenna with extension cable

b) Neurio W2 Sensor

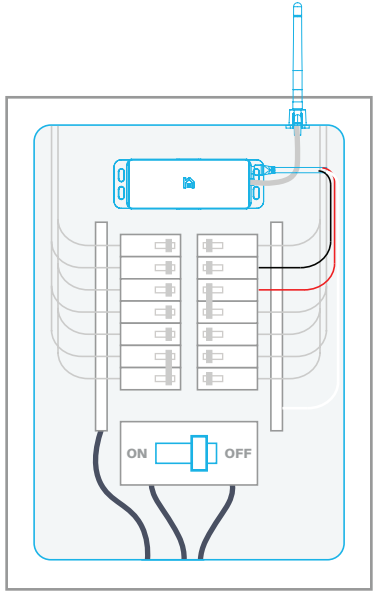
c) Voltage Cable

    i) Blue and Red wire to 2 breakers
    ii) Black wire to Neutral to bus bar

d) CT Connector

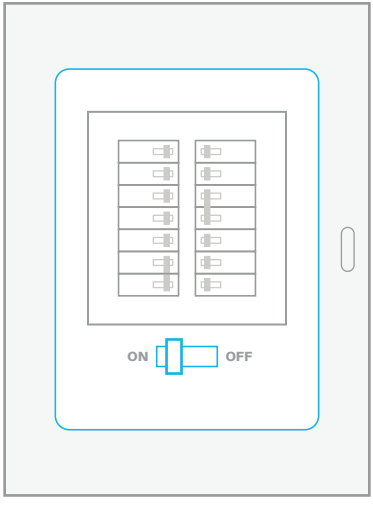
    i) Connector around mains
    ii) Make sure the label is facing ..

Note: The 2 cable ties are provided to help tidy up your wiring


ON
OFF

Step 8: Put on panel cover

You're almost done. Replace the cover on your panel. Make sure to place the supplied Neurio breaker sticker next to the breaker that Neurio's black wire.



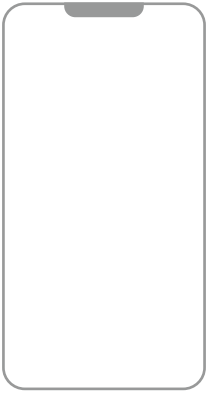
When powered on, Neurio will play the following tones to indicate its status in sequential order:

TONE	INDICATION	DESCRIPTION
Short beeps 	Voltage check	One beep for each voltage wire that is connected. For a 2-phase installation there should be two beeps to indicate that the black and red wires are connected.
Short chime 	Neurio's WiFi network started	Neurio has started hosting its own WiFi network. You can join this network to configure Neurio and connect it to your own WiFi network.
Long beep 	Voltage warning (conditional)	Indicates that two wires are connected to the same phase. For North American apartments, this means that one of Neurio's wires should be moved to a different breaker. This tone can be ignored for all other 2-phase installations.
Long chime 	Neurio joined network successfully	Neurio successfully joined your WiFi network.
Falling tone 	Neurio failed to join network	Neurio was unable to join your WiFi network. Neurio will now start hosting its own WiFi network again to allow you to re-connect to Neurio and re-enter the WiFi credentials.

If Neurio is connected to the WiFi network, you should also hear a long chime one minute after the short chime.

Step 9: Connect Neurio to Wifi

Now that the Neurio Sensor has been installed, please follow the instructions in the Welcome Guide to connect Neurio to the Wifi Network.



WHAT DOES THIS WARRANTY COVER?

Neurio Technology Inc., a corporation registered under the laws of British Columbia, ("we", "us", or "our") warrants this Energy Monitor hardware ("Neurio") to be free from defects in materials and workmanship when used in accordance with our published guidelines (the "Warranty") for a period of ONE (1) YEAR from the date the Neurio is delivered to you (the "Warranty Period").

WARRANTY LIMITATIONS

THIS WARRANTY SHALL NOT EXTEND BEYOND THE WARRANTY PERIOD. TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY AND THE REMEDIES SET FORTH HEREIN ARE EXCLUSIVE, AND ARE IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL, WRITTEN, STATUTORY, EXPRESS OR IMPLIED. WE DISCLAIM ALL STATUTORY AND IMPLIED CONDITIONS, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WARRANTIES ARISING BY CUSTOM, USAGE OR TRADE, AND WARRANTIES AGAINST HIDDEN OR LATENT DEFECTS, TO THE EXTENT PERMITTED BY LAW. IN SO FAR AS SUCH WARRANTIES CANNOT BE DISCLAIMED, WE LIMIT THE DURATION AND REMEDIES OF SUCH WARRANTIES TO THE WARRANTY PERIOD, AND, AT OUR OPTION, TO THE REPAIR OR REPLACEMENT SERVICES DESCRIBED BELOW.

WHAT WE WILL DO IF THE WARRANTY IS BREACHED

If, during the Warranty Period, you submit a valid claim to us, we will, at our exclusive option and without charge, (i) repair the Neurio using new or previously used parts that are equivalent to new in performance and reliability, and return the repaired Neurio to you, or (ii) send you a replacement Neurio. Any repairs or replacements are warranted for the remainder of the initial Warranty Period.

HOW TO OBTAIN WARRANTY SERVICE

To obtain Warranty service within the Warranty Period, you must return the Neurio, freight paid, with a copy of the sales receipt or other proof of purchase that shows the date of sale and/or delivery date, to:

Neurio Technology Inc. , 515-88 E Pender St, Vancouver, BC, Canada, V6A 3X3

In the event your Neurio needs to be upgraded or repaired, you must contact us prior to shipping it to us, and we will assign you a Return Merchandise Authorization (RMA) number.

WHAT THIS WARRANTY DOES NOT COVER

This Warranty does not apply:

1. To damages caused by operating the Neurio outside of our published guidelines;

2. To damages caused by improper operation or storage, misuse, abuse, accident or neglect, contact with liquids, extreme humidity or heat, contact with sand, dirt, food or the like, fire, or other external cause, or any other acts that are outside the course of normal consumer usage;

3. To damages caused by modification or repair to the Neurio by anyone other than one of our authorized representatives, including software/firmware modifications;

4. When serial numbers or product labels have been removed, altered or obliterated, seals have been broken, or there is any other evidence of tampering with the Neurio;

5. Where you are unable to present proof of purchase when requesting Warranty service;

6. To defects caused by normal wear and tear or otherwise due to the normal aging of the Neurio;

7. To damage caused during shipment (such claims should be presented directly to the freight forwarder or shipping company);

8. To any used Neurio purchased from a third party; or

9. Where the damage is purely cosmetic damage, including but not limited to scratches, dents or deterioration to the surface finish.

DESIGN CHANGES

We reserve the right to change or improve the design of the Neurio without prior notification to you. Design changes will not be implemented retroactively, and any design changes to future products does not imply the availability of an upgrade to existing units.

LIMITATION OF LIABILITY

EXCEPT AS PROVIDED IN THIS WARRANTY AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, WE ARE NOT RESPONSIBLE FOR ANY SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING ANY DAMAGES FOR LOST DATA OR LOST PROFITS, OR FOR ANY INJURY, LOSS OR DAMAGE SUSTAINED BY ANY PERSON OR PROPERTY, THAT MAY RESULT FROM THE NEURIO FAILING TO OPERATE CORRECTLY AT ANY TIME, INCLUDING WITHOUT LIMITATION, DAMAGES RESULTING FROM THE USE, INABILITY TO USE, OR INACCURRACY OF THE NEURIO. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS YOUR EXCLUSIVE REMEDY UNDER THIS WARRANTY.

OUTSIDE THE UNITED STATES AND CANADA

In countries other than the United States and Canada, the terms and conditions of this Warranty may be different. Unless a specific Neurio warranty is communicated to you in writing by us, no warranty or liability exists beyond any minimum requirements imposed by law, even though defect, damage, or

Questions or feedback?
support.neur.io

FCC Part 15

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

1. This device may not cause harmful interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Changes or modifications to this device, not expressly approved by XXXX. could void the user's authority to operate the equipment.

Contains FCC ID: W72-N1LD
Contains IC ID: 8253A-N1LD

FCC RF Exposure Requirements:

This product complies with the FCC RF exposure limit set forth for an uncontrolled environment and is safe for intended operation as described in this manual. This device is only authorized for use in a mobile application, at least 20 cm of separation distance between the radiating antenna and the user's body must be maintained at all times. Further RF exposure reduction can be achieved if the product can be kept as far as possible from the user's body or set the device to a lower output power if such a function is available. Separate approval is required for all other operating configurations, including portable configurations with respect to 47 CFR Part 2.1093 and different antenna configurations.

Industry Canada Notifications

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

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

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage;

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

Installing Neurio requires working with voltages that are hazardous to human health, and thus should only be done by a qualified professional. Installations should be performed in accordance with the applicable electrical code for the region in which Neurio is being installed. Whenever possible, power should be disconnected upstream from the installation location before attempting installation of Neurio. If power cannot be disconnected, high voltages may still be present, and caution must be taken to avoid injury. If Neurio is not used as instructed, its protection mechanisms may be impaired. **Rules: 1.** Installations should be performed by a qualified professional. **2.** Do not use Neurio with voltages that exceed 240V. **3.** Only install Neurio in approved breaker panels or enclosures. **4.** Neurio must not be exposed to moisture, direct sunlight, extremely low or high temperatures, and conductive pollution. Consult the User Manual for Neurio's acceptable operating environment. **5.** Neurio must be installed in a location that limits access to only qualified personnel.