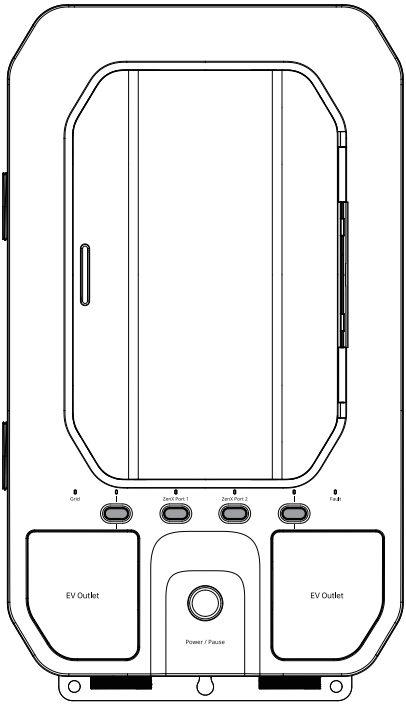
ZENDURE

SuperCharged

Home Panel with EV Outlets Installation Manual



support@zendure.com

DISCLAIMER

The ZENDURE Home Panel with EV Outlet (referred to as Home Panel) must be installed by a licensed electrician, who should be familiar with all electrical codes, electrical wiring practices and experience working with home electrical systems. Any accident, damage or personal injury caused by incorrect installation is the sole responsibility of the user.

Read all safety guidelines, warnings and other product information in this manual carefully, and read any labels or stickers attached to the product before using. Users take full responsibility for the safe usage and operation of this product. Familiarize yourself with relevant regulations in your area. You are solely responsible for being aware of all relevant regulations and using Zendure products in a way that is compliant.
Keep this manual for future reference.

CONTENTS

1. Before You Begin

The information contained herein is subject to change without notice. For the latest version, please visit https://zendure.com/pages/download-center.

2. Specifications

General	
Model	ZDSHPEV2
Weight	≈ 19.4lbs / 8.8kg
Dimensions	11.2 x 4.7 x 19.4in / 285 x 119 x 492mm
Wireless Type	Bluetooth, Wi-Fi
Mounting Type	Wall Mount
Type of Enclosure	Type 1
Maximum # of Circuits	10
Rated Relay Module Current	30A x4, 20A x6
Rated System Voltage	120VAC/240VAC
Max Total Input Current	50A x4
Operating Humidity (RH)	5-85%

Max connected	2*SuperBase V + 8*Satellite battery
Rated Max SuperBase V Input	7600W Max (3800W x2)
SuperBase V Charging Power	7200W Max (3600W x2)

Tip: The Smart Home Panel is compatible only with SuperBase V and its Satellite Battery, and not with generators or other brands' power stations.

3. Safety Guidelines

3.1 Instructions

1. The product must be installed by a licensed electrician and verified by local AHJ (Authority Having Jurisdiction, i.e., local, state, or federal entities).
2. The Home Panel defaults to Grid Mode when not powered. For safety, do not access or disconnect any load circuits when there is an internal fault. Power down those loads and contact a licensed electrician or Zendure technical support.
3. Do NOT unplug fuses while Home Panel is energized, or may cause damage to the Home Panel.
4. All upstream breakers feeding into Home Panel should be non-AFCI or non-GFCI. AFCI or GFCI protection should be downstream of the Home Panel using AFCI/GFCI breakers or outlets. Follow NEC or local electrical codes for AFCI or GFCI installation.
5. Do not use around strong static electricity or magnetic fields.
6. Do not install or operate the product outdoors or expose to moisture or submerge it in liquid. Only clean the ports with a dry cloth.
7. Do not block or obstruct the cooling fan during use or place the product in an unventilated or dusty area.
8. Do not install or operate the product in extreme temperatures. Do not dispose of the product in heat or fire.
9. Do not use the product if it is damaged or appears to be damaged. Do not disassemble the product. Consult official Zendure channels when service or repair is required. Incorrect disassembly or reassembly may result in a risk of fire or injury to persons.
10. Do not connect the relay lines to circuit breakers higher than their current rating. Doing so can result in damage to the relay modules.
11. The split-phase mode should be used for multi-wire circuits (MWBC, circuits sharing a balanced neutral), and the circuits split across the two phases appropriately.

12. Adhere to all local and national safety regulations for installation and use.
13. This product is designed for residential use only. Keep out of reach of children and pets.
14. The maximum total current for all input circuits under the Grid Mode is 100A (240V).

3.2 Warnings

1. This product is not intended to be used as a service disconnect. To completely de-energize the product, the user MUST open the upstream breakers as well as physically unplug all SuperBase Vs. Failure to do so may cause a shock hazard.
2. Home Panel by itself does not provide an AFCI (Arc Fault Circuit Interrupter) or GFCI (Ground Fault Circuit Interrupter) function. Consult a licensed electrician for AFCI or GFCI solutions.
3. The Home Panel MUST be completely de-energized before being serviced. Electrical equipment should be serviced by authorized personnel only.

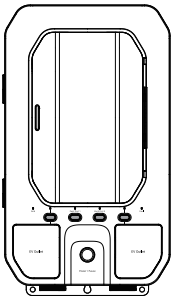
4. Important Tips

Complete the following steps to de-energize the Home Panel

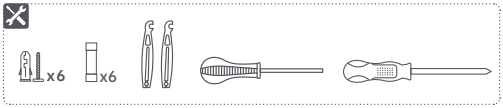
1. Open all connected upstream circuit breakers and make sure the Grid Indicator are off.
2. Turn off SuperBase Vs, unplug them off the Home Panel and ensure the ZenX Port Indicators are off.
3. The alarm will sound if the Home Panel is energized while the Front Panel is open. Please ensure that the unit is de-energized and the alarm has stopped.

5. Product Features

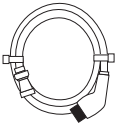
5.1 What's in the Box



Smart Home Panel



A Bag of Accessories



ZenX Cable x2

Communication cable

PE; OUT-IN; M-LA1~2; M-LB1~2; OUT-LA0~4; OUT-LB0~4

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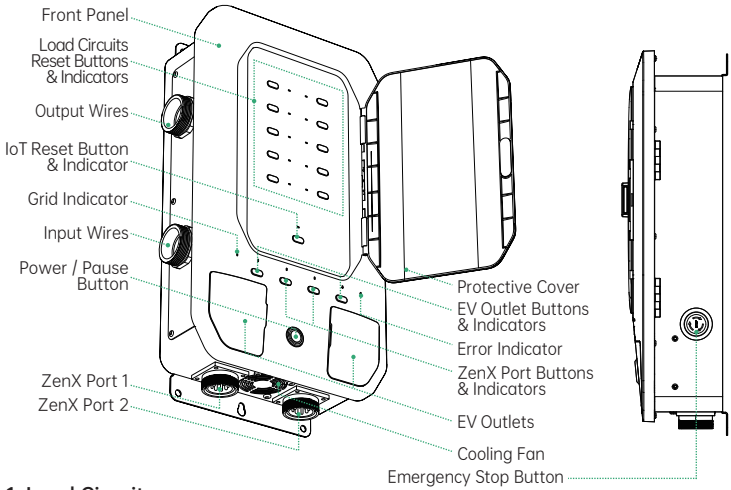
5.2 External



1. Load Circuits

The Home Panel can be set up to a total of 10 load circuits, circuits 1, 3, 5, 7, 9 on the left and 2, 4, 6, 8, 10 on the right. There is a button allowing users to turn ON/OFF or manually reset each circuit relay if there has been an overcurrent event on the circuit.

2. Grid Indicator and ZenX Port Indicators

There are three power source indicators on the Home Panel, one for the grid, two for the SuperBase Vs. If any of these indicators are illuminated, Home Panel is energized from that source and, therefore, cannot be opened to be serviced.

3. ZenX Port and Button

There are two ZenX ports on the bottom of Home Panel. They connect SuperBase Vs to the Home Panel through the ZenX Cable (one for each SuperBase V). Press the corresponding buttons to make SuperBase Vs ready for output or charging.

4. EV Outlet and Button

There are two outlets on the Home Panel for EV charging. Currently, they are only available in Grid Mode, and it's recommended work together with Zendure Mobile EV Charger (not included).

5. IoT Reset Button and Indicator

This button can be used to reset the pairing and connect to Wi-Fi network.

6. Error Indicator

This indicator is normally off if no fault is present inside. It will turn red if there is a fault in the product. Users can go to the Zendure app for detailed information. If there is an issue, please contact customer support for assistance.

7. Power / Pause Button and Indicator

The button will turn ON/OFF the 10 load circuits, while you can still have network connection.

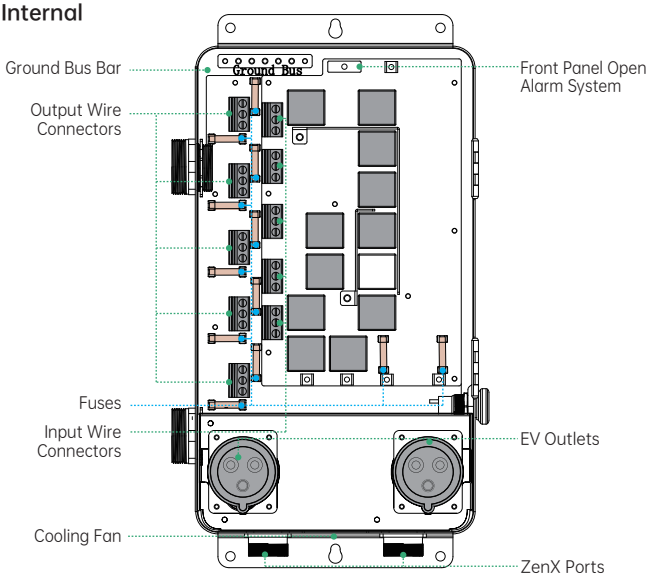
* This is the only "quick disconnect" that can be used to manually cut all power in an emergency. AC in and SuperBase V in still energize.

8. Emergency Stop Button

The button will physically isolate the 10 load circuits and lock out both connected SuperBase Vs to provide further safety protection, while network is unavailable.

* Please note that this does not substitute for a service disconnect, nor does it substitute for the de-energization procedure required before servicing.

5.3 Internal



1. Ground Bus Bar
The ground bus bar should be connected to the ground bus bar in the main electrical panel. The panel casing is connected to this ground.
NOTE: Please follow NEC and/or local code requirements with regard to bonding neutral and ground. Bonding should be done at the first means of disconnect, which is the service panel, NOT the Home Panel.

2. Output Wire Connectors
These are the wire connectors for output hot wires going to the load.

3. Fuses
They are overcurrent protection fuses. Each fuse can be individually replaced without affecting other circuits. De-energize the Home Panel before replacing any module.

4. Input Wire Connectors
These are the wire connectors for hot wires coming from the circuit breakers in your main panel.

5. Cooling Fan
The cooling fan is activated under extreme operating conditions to reduce the ambient temperature inside of the unit.

6. Front Panel Open Alarm System
When the load circuits are energized, an alarm will sound if the Front Panel is opened. To de-energize the product, all upstream breakers must be opened and both SuperBase Vs must be unplugged.

6. Installation Checklist

No.	Checklist	Status
Before installation		
1	Determine the installation location. The Home Panel is rated to IP20, therefore, it needs to be installed away from direct sunlight, rain, snow and moisture.	
2	Determine the distance between the Home Panel and main electrical panel.	
3	Determine if there is a split-phase or double pole load (240V or MWBC, USA only) that needs to be connected to the Home Panel. Half input should be connected on the same phase (phase A), whereas the other half input should be connected on the opposite phase (phase B). Mismatched phases will result in an error condition and Home Panel will not work properly.	
4	Confirm the number of loads to be connected to Home Panel. You can connect up to 10 single pole load circuits, or up to 5 double pole load circuits, or mix in proportion.	
5	Determine whether the upstream circuit breakers of the selected loads require AFCI or GFCI protection. Consult a licensed electrician for AFCI or GFCI solutions.	
6	Determine and gather required materials. Home Panel can support up to 1 1/4-inch conduit. Ensure that necessary adjustment factors (for number of conductors) are accounted for and that wire ampacity is sized appropriately. For longer runs it is recommended that you use separate conduits for the input and output wires.	
During installation - Circuit breaker		
1	It's recommended to connect to the upstream 60A circuit breakers. Failure to do so may cause overcurrent protection to fail.	
2	The ampacity rating of wiring used should match the circuit current. Using an undersized cable may cause overheating and even a fire.	
3	All upstream breakers should be non-AFCI or non-GFCI. Any AFCI/GFCI breakers need to be moved downstream of the Home Panel.	
During installation - Wiring		
1	As using split phase, the half AC input should be connected with hot wires on the same phase, the other half AC input should be connected with hot wires on another phase.	
2	As using split phase, the half AC input should be connected with hot wires on the same phase, the other half AC input should be connected with hot wires on another phase.	
3	With a multimeter in continuity setting, confirm that the hot wire in of each Home Panel circuits is not shorted to ground.	
Commissioning		
1	Make sure the SuperBase Vs are enabled and that the power button is on (green light).	
2	Close the upstream breaker of Home Panel and energize the Home Panel AC input. The Grid Indicator (white) will turn on if there is no fault.	
3	Turn each branch circuit breaker back on one by one and check the indicator status of each circuit and power indicator. The indicators will stay white.	

4	If you haven't done so already, download the Zendure app. For first time users, the app will lead through a commissioning process to setup the Home Panel.	
5	Follow the instructions in the app to conduct device wiring testing. If the device wiring testing fails, correct the wiring following the prompts in the app and re-run the wiring test.	
6	Connect the SuperBase Vs and Home Panel using the ZenX Cable. Turn on the SuperBase Vs, then press the ZenX Port button on the Home Panel to enable each SuperBase V.	
7	Switch the power supply from Grid Mode to Backup Mode (SuperBase V) for each circuits via the app. Check whether the switchover is successful and there are no errors reported on the app. Follow the instructions on the app to fix the errors if any.	
8	Set up the charging for SuperBase V on the app (if AC grid charging is desired), check whether the SuperBase V is recharged successfully and there are no errors reported on the app. Follow the instructions on the app to fix the errors if any.	

7. Installation Steps

7.1 Preparation

Tools required:

1. Level
2. Drill
3. Screwdrivers
4. Pliers
5. Wire cutters, nuts, harnessConduit, conduit whip
6. Conduit, Conduit whip
7. Tape measure
8. Multimeter, Voltage detector
9. We recommend to use the 60A circuit breaker (two double pole 60A circuit breaker or 4 single pole 60A circuit breaker) , which can support the home panel to have the max output power . Please make sure do not use the circuit breaker more than 60A , or it can't protect the home panel properly.It is not recommend to use the circuit breaker less than 60A either, which will impact the max output capacity of the Smart Home Panel .

SHORT-CIRCUIT WITHSTAND AND CLOSING RATINGS WHEN USING SPECIFIC CIRCUIT BREAKERS				
WHEN PROTECTED BY A CIRCUIT BREAKER OF THE SPECIFIC MANUFACURE,TYPE,AND AMPERE RATING AS MARKED BELOW, THIS TRANSFER SWITCH IS SUITABLE FOR USE IN CIRCUITS CAPABLE OF DELIVERING THE SHORT-CIRCUIT CURRENT AT THE MAXIMUM VOLTAGE MARKED. Ce commutateur, s'il est protégé par un disjoncteur dont le nom du fabricant, le type et le courant nominal sont indiqués plus bas, convient aux circuits capables d'acheminer un courant de court-circuit à la tension maximale indiquée plus bas.				
SHORT-CIRCUIT CURRENT (RMS SYMMETRICAL AMPERES X 1000)	VOLTAGE (VOLTS AC , MAXIMUM)	MANUFACTURER	TYPE	RATING (AMPERES)
10	400	Various	Various	60

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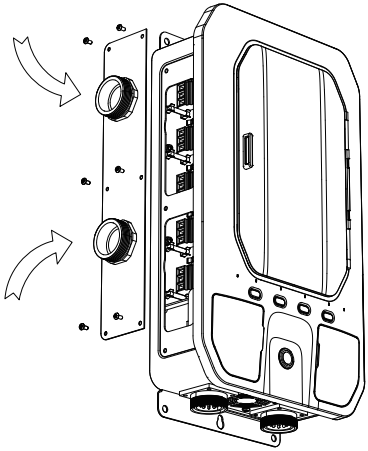
Warning:
Installation of this product involves high voltage. Please hire a licensed electrician to perform the installation.
Once you have determined the load circuits that you want to back up, fill out the table below. The numbering arrangement is the same as the Home Panel.

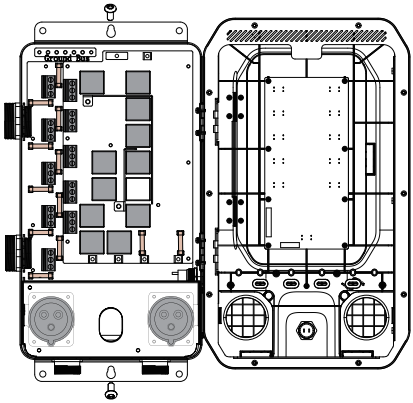
Circuit	Name	Circuit	Name
1		2	
3		4	
5		6	
7		8	
9		10	

7.2 Mounting

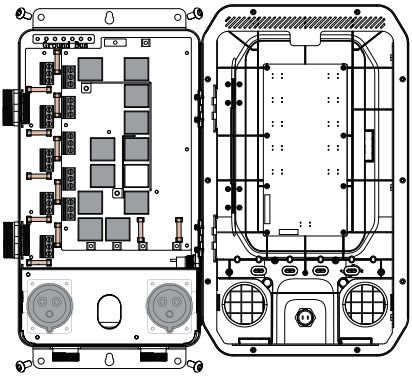
Position the Home Panel center to center to your main electrical panel. Please follow the local safe electrical clearance distance. Make sure you also check the length of the flexible conduit.



1. Loosen the screws and remove the side cover of the input and output wires.



2. Open the Front Panel and tighten the centered screws on the top and bottom.



3. Tighten other 4 screws with the level.

7.3 Wiring

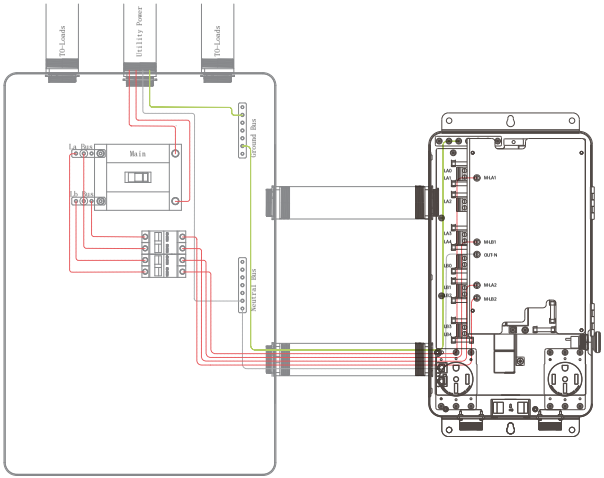
All wires come labeled in the box, 4 input wires, labeled "1 in - 4 in" connected to the 60A circuit breakers, 10 output wires, labeled "1 out - 10 out" connecting to the load hot wires, one neutral wire connecting to the neutral bus bar in the main electrical panel and one ground wire connecting to the ground bus bar in the main electrical panel. Users should connect all input, output, neutral and ground wires to their designated connectors inside the Home Panel.
The maximum current for circuits 1-4 is 30A. Maximum current for circuits 5-10 is 20A. The current rating for each circuit should not be exceeded. Please plan the load circuits appropriately.
Position the Home Panel center to center to your main electrical panel and measure the length of wires needed. Please follow the local safe electrical clearance distance.
All wires come in the box are 6ft (or 2m), you may use your own wires with the right length instead of the included wires.

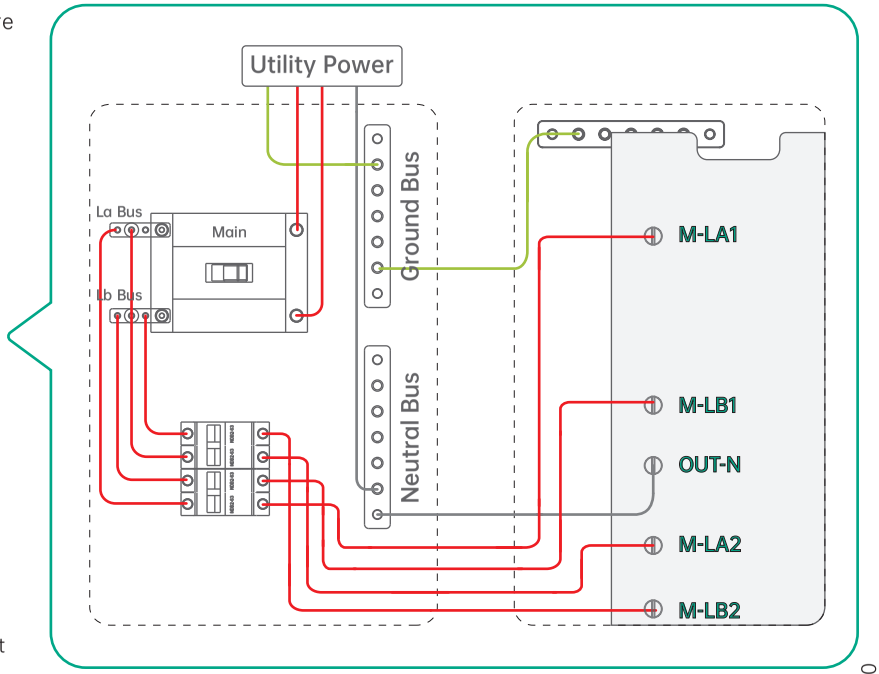
Step:

1. Turn off the main breaker as well as the 60A circuit breakers intended to be connected in the main electrical panel and use a voltage detector or voltmeter to make sure the system is fully de-energized.
2. Remove the front cover of the main electrical panel. Keep in mind that the grid side of the main panel (upstream of the main breaker) is still energized.
3. Attach both top and bottom conduit (not included) to the Home Panel and main electrical panel.
4. Pull all wires (Input, output, neutral and ground) from the Home Panel to the main electrical panel.
5. Connect the neutral wire and the ground wire to the neutral and ground bus respectively.
6. Remove the hot wires from the circuit breakers. Connect each load hot wire to the corresponding output wire from the Home Panel (for example, the output wire labeled "1 out" means it's the output for channel 1). Make sure they are connected to the right numbers as planned.
7. Repeat step 6 for all 10 load circuits.

Input wiring diagram

8AWG hot wires, 8AWG neutral wire and 12AWG ground wire are recommended.





* Please make sure to connect as above diagram , if only connect the OUT-N and M-LA2 , then will only have 1800W max charging power for SBV , if only connect the OUT-N and M-LB2 , then will not output power .

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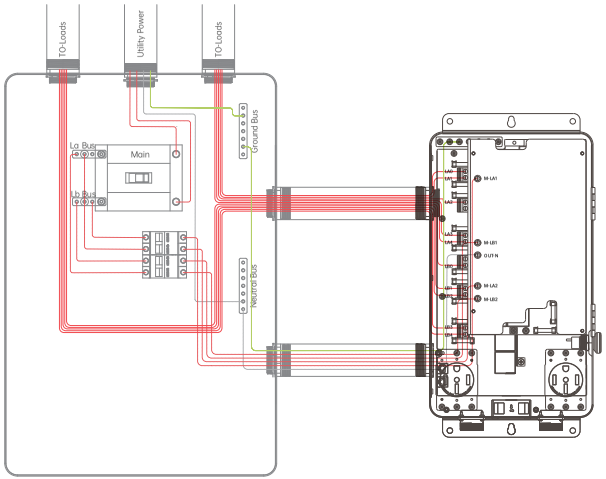
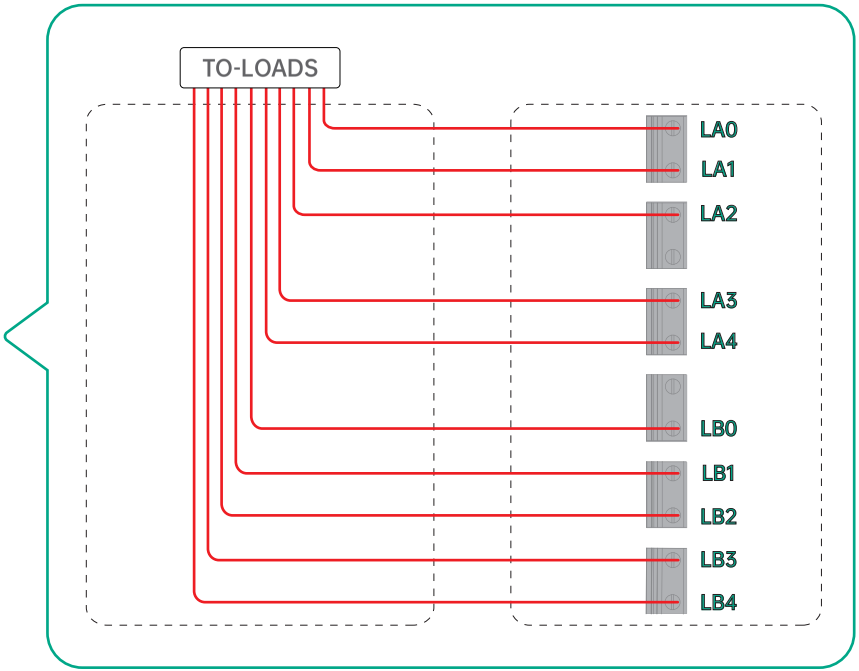
Output-Single Phase 120V wiring diagram

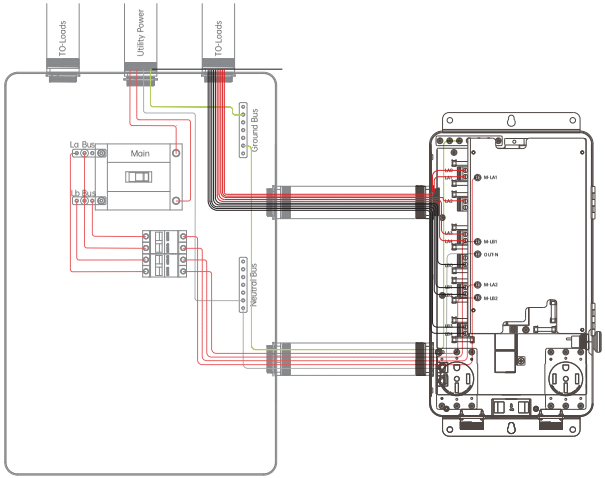
10AWG hot wires are recommended.

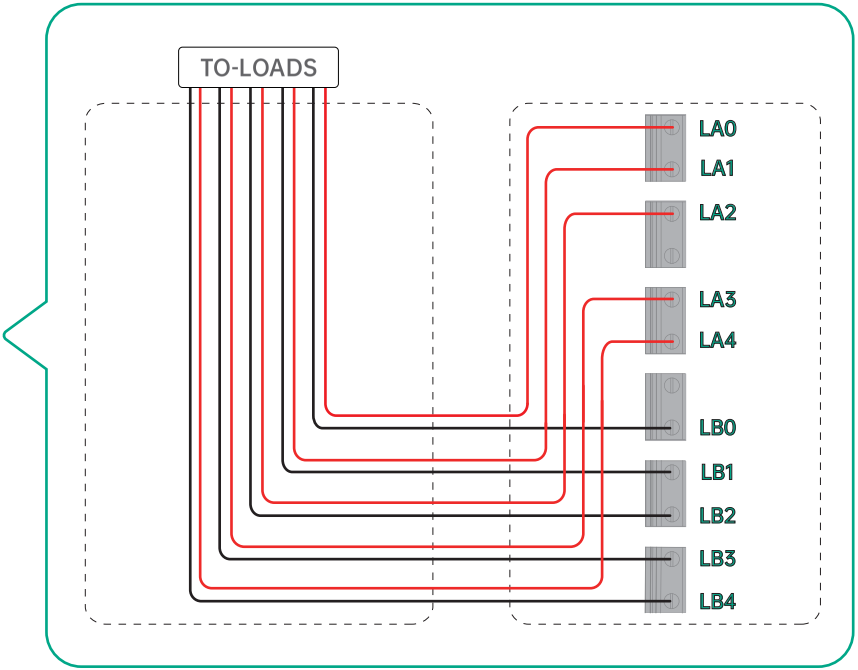




Output-Single Phase 240V wiring diagram

10AWG hot wires are recommended.





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8. System Commissioning

1. After you have connected all wires accordingly, clean up all the wires and tie them using a wire harness. Close the Front Panel and tighten the screws to secure the door. Label the circuit names accordingly on the Home Panel.
2. Download the Zendure app, connect a SuperBase V to the Home Panel without pressing the ZenX Port button.
3. Press the IoT Reset button for network connection. For first time users, the app will lead through a commissioning process to setup the Home Panel. Simply follow the steps to complete the process. Once you have finished the commissioning process on the app, you are ready to energize the Home Panel.
4. After completing the device wiring test, press the ZenX Port button for the connected SuperBase V. The ZenX Port indicator should turn green. Watch for any abnormal signs and fault indication.
5. If there is no sign of fault, turn the main breaker back on and then turn the 60A circuit breakers back on and watch for any fault indication.
6. If the device wiring testing reports any errors, or if there are any errors, please resolve the issues following the message shown on the App or contact our customer support. You can leave your Home Panel as long as there is no indication of electrical or other type of sign for a fault. The default mode for Home Panel is grid power so it will not affect your use of power.
7. If there is no sign of error, congratulations! Here you go.

Warning:
The Home Panel defaults to Grid Mode when without power, which means the load is automatically connected to the grid power if no power is supplied to the Home Panel or it's started for the first time. Please make sure energization of load circuits do not endanger any person or incur any property damage before closing the main breaker.

9. Firmware Update, Voice Control

Firmware Update
When using it for the first time, please check and update to the latest firmware. Zendure App supports over-the-air (OTA) update.

Voice Control
Home Panel is easy to integrate with your existing Google or Alexa voice assistant. Just say the word for hands-free status and controls.

Read the Zendure App user guide and access the download link here:
https://app.zendure.com/download

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