



# Powerwall 3 Owner's Manual & Safety Instructions

For the latest Powerwall documents in all supported languages, including the Warranty, visit

[www.tesla.com/support/powerwall](http://www.tesla.com/support/powerwall).

To secure the full 10-year product warranty, Powerwall must be registered by completing the commissioning process and sending system information to Tesla.

**Product Specifications**

This manual applies to the following products:



- Powerwall 3 (1707000-xx-y)
- Backup Gateway 2 (1232100-xx-y)
- Gateway 3 (1841000-x1-y)
- Backup Switch (1624171-xx-y)

All specifications and descriptions contained in this document are verified to be accurate at the time of printing. However, because continuous improvement is a goal at Tesla, we reserve the right to make product modifications at any time.  
The images provided in this document are for demonstration purposes only. Depending on product version and market region, details may appear slightly different.

**Errors or Omissions**

To communicate any inaccuracies or omissions in this manual, please contact Tesla.

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		Tesla	Tesla Motors	Powerwall
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# IMPORTANT SAFETY INSTRUCTIONS

## SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

Powerwall 3 installation and service require knowledge of high voltage electricity and should only be performed by Tesla Certified Installers. Tesla assumes no liability for injury or property damage due to repairs attempted by unqualified individuals or a failure to properly follow these instructions. These warnings and cautions must be followed when using Powerwall 3.

## Symbols in This Document

This manual uses the following symbols to highlight important information:



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



**CAUTION:** indicates a hazardous situation which, if not avoided, could result in minor injury or damage to the equipment.



**NOTE:** indicates an important step or tip that leads to best results, but is not safety or damage related.

## General Information



**WARNING:** Read this entire document before installing or using Powerwall 3. Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, or death, or can damage Powerwall 3, potentially rendering it inoperable.



**WARNING:** Electric shock hazard. The DC conductors of any connected PV system are normally ungrounded but will become intermittently grounded without indication when the inverter measures the PV array isolation. Disconnect all sources of supply before servicing.



**WARNING:** A battery can present a risk of electrical shock, fire, or explosion from vented gases. Observe proper precautions.



**WARNING:** This product can expose you to chemicals including cobalt and lithium compounds. These chemicals are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov). You cannot be exposed to these chemicals without opening the external casing. Only members of the Tesla Service team and other Tesla-certified technicians should open the external casing.



**WARNING:** Powerwall 3 installation must be carried out only by Tesla Certified Installers who have been trained in dealing with high voltage electricity.



**WARNING:** Powerwall 3 is heavy. Use of lift equipment is recommended.




**WARNING:** Use Powerwall 3 only as directed.





**WARNING:** Do not use Powerwall 3 if it is defective, appears cracked, broken, or otherwise damaged, or fails to operate.



## IMPORTANT SAFETY INSTRUCTIONS


 **WARNING:** Before beginning the wiring portion of the installation, ensure that the Powerwall 3 is switched off, and open any associated circuit breakers and disconnect switches (if applicable for the installation).


 **WARNING:** Do not attempt to open, disassemble, repair, tamper with, or modify Powerwall 3. Powerwall 3 and its components are not user serviceable. Batteries in Powerwall are not replaceable. Contact Tesla Support or the Certified Installer who installed the system for any repairs.


 **WARNING:** To protect Powerwall 3 and its components from damage when transporting, handle with care. Do not impact, pull, drag, or step on Powerwall 3. Do not subject Powerwall 3 to any strong force. To help prevent damage, leave Powerwall 3 in its shipping packaging until it is ready to be installed.


 **WARNING:** Do not insert foreign objects into any part of Powerwall 3.


 **WARNING:** Do not expose Powerwall 3 or its components to direct flame.


 **WARNING:** Do not install Powerwall 3 near heating equipment.


 **WARNING:** Do not immerse Powerwall 3 or its components in water or other fluids.


 **CAUTION:** Powerwall is not designed nor warrantied for non-stationary applications.


 **CAUTION:** Risk of electric shock. Do not remove cover, there are no user serviceable parts inside. Refer servicing to qualified personnel.


 **CAUTION:** Both AC and DC voltage sources may be terminated inside this equipment. Each circuit must be individually disconnected before servicing.


 **CAUTION:** When the PV array is exposed to light, it supplies a DC voltage to this equipment.

 **CAUTION:** Do not use cleaning solvents to clean Powerwall 3, or expose Powerwall 3 to flammable or harsh chemicals or vapors.

 **CAUTION:** Do not use fluids, parts, or accessories other than those specified in this manual, including use of non-genuine Tesla parts or accessories, or parts or accessories not purchased directly from Tesla or a Tesla-certified party.

 **CAUTION:** Do not place Powerwall 3 in a storage condition for more than one (1) month, or permit the electrical feed on the Powerwall 3 to be severed for more than one (1) month. Please reach out to your installer for more information if needed.

 **CAUTION:** Do not paint any part of Powerwall 3, including any internal or external components such as the exterior shell or casing.

 **CAUTION:** When installing Powerwall 3 in a garage or near vehicles, keep it out of the driving path. If possible, install Powerwall 3 on a side wall and/or above the height of vehicle bumpers.



# IMPORTANT SAFETY INSTRUCTIONS

## Environmental Conditions



**WARNING:** Install Powerwall 3 in a location that prevents damage from flooding.



**CAUTION:** Operating or storing Powerwall 3 in temperatures outside its specified range might cause damage to Powerwall.



**CAUTION:** Ensure that no water sources are above or near Powerwall 3, including downspouts, sprinklers, or faucets.



**CAUTION:** Ensure that snow does not accumulate around Powerwall 3.

## FCC

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.

**15.21** - Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**15.105 (b)** - 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 or more 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.

## RF Exposure Information (MPE)

This device has been tested and meets applicable limits for Radio Frequency (RF) exposure. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

## ISED Canada Compliance Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). 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.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.



## POWERWALL 3 WARRANTY

Tesla Powerwall 3 comes with a warranty whose term depends on the connection of Powerwall 3 to the Internet.

To secure the full 10-year warranty for Powerwall 3, it must be reliably connected to the Internet to allow remote firmware upgrades from Tesla. If an Internet connection is not established or is interrupted for an extended period, and Tesla is unable to contact you, the warranty may be limited to 4 years.

For more information, refer to the Tesla Powerwall Warranty for your region at [tesla.com/support/energy/powerwall/documents](https://tesla.com/support/energy/powerwall/documents).



## CARE AND MAINTENANCE

### Environmental Requirements

Powerwall 3 is capable of charging and discharging within the operating temperature range specified below. At the extremes of the temperature range, Powerwall 3 may limit charge or discharge power to improve battery lifespan.

Operating Temperature	-20°C to 50°C (-4°F to 122°F) <sup>1</sup>
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<sup>1</sup>Powerwall 3 is designed to operate in all climates and in direct sunlight, from temperatures of -20°C to 50°C (-4°F to 122°F). Performance may be de-rated at operating temperatures above 40°C (104°F).

### Care and Cleaning

Keep the immediate area around Powerwall 3 clear of foreign objects and debris to maintain optimal airflow.



**CAUTION:** Do not lean on, stack anything on top of, or hang anything from Powerwall 3 or from wires or conduit leading to Powerwall 3.



**CAUTION:** To clean Powerwall 3, use a soft, lint-free cloth. If needed, the cloth can be dampened with mild soap and water only.



**CAUTION:** Do not use cleaning solvents to clean Powerwall 3 or expose Powerwall 3 to flammable or harsh chemicals or vapors.

### Maintenance

Powerwall 3 does not require pre-scheduled preventative maintenance. The only maintenance required by an owner is to keep the Powerwall unit free and clear of debris, especially around the air intake and exhaust.





# ABOUT POWERWALL 3

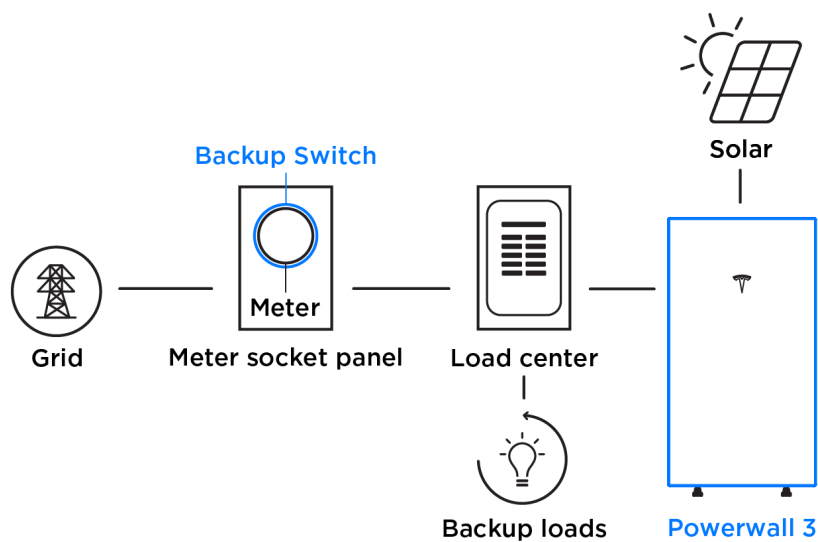
## System Design

Powerwall 3 is a fully integrated solar and battery system that stores energy from solar production. It converts energy from solar panels or Solar Roof, and its rechargeable battery pack provides energy storage for solar self-consumption, load shifting, or off-grid use. Powerwall 3 is installed with Backup Switch, Backup Gateway 2, or Gateway 3 to control the system's connection to the grid and monitor home energy consumption.

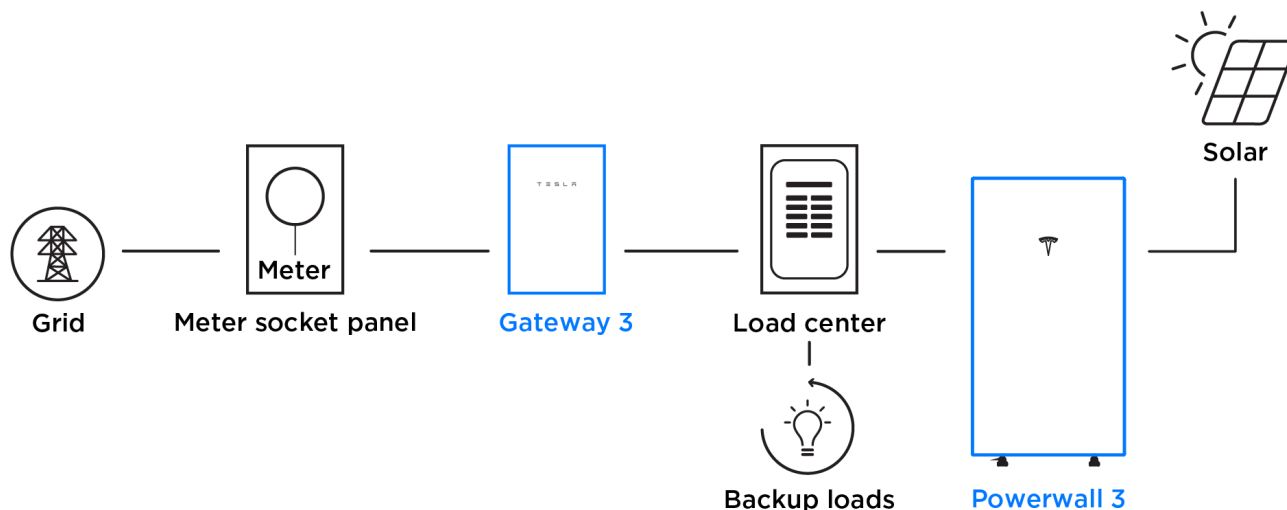
### Whole Home Backup System

A Powerwall 3 system for whole home backup is designed to store energy from the grid or solar, and power the entire home during a grid outage.

#### Whole Home Backup with Backup Switch



#### Whole Home Backup with Gateway 3

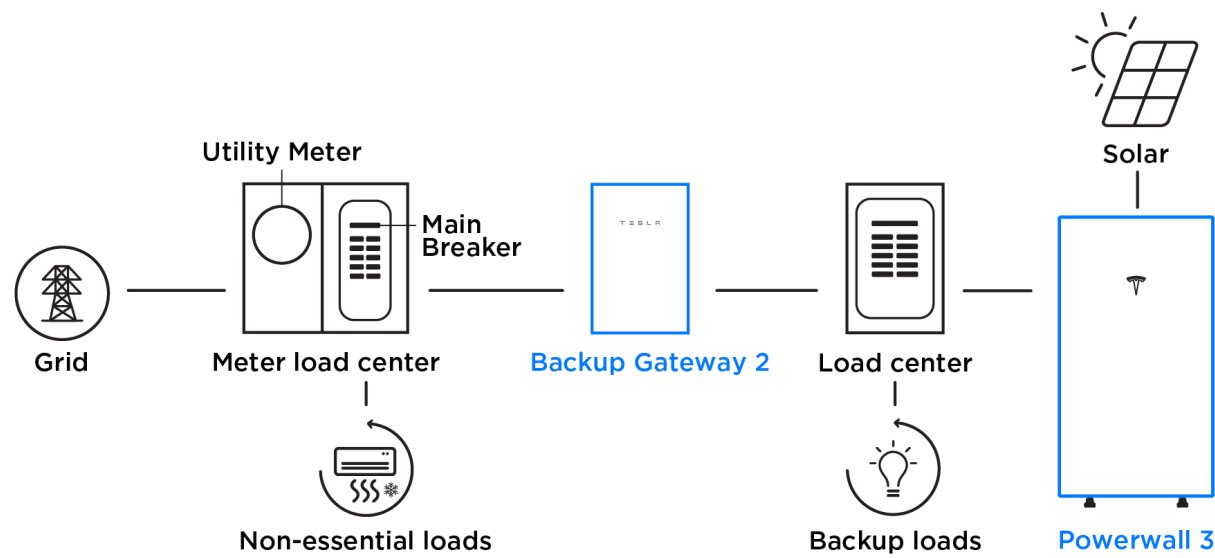




# ABOUT POWERWALL 3

## Partial Home Backup System

A Powerwall 3 system for partial home backup is designed to store energy from the grid or solar, and can power some home loads during a grid outage. These loads are selected during the system design phase, and the installer configures the system at installation to exclude all other loads from backup.








# ABOUT POWERWALL 3

## System Components

### Powerwall


Component	Description	Tesla Part Numbers
	<p><b>Powerwall 3</b> is an integrated solar and battery system that converts energy from solar panels or Solar Roof to be used by the home, and stores excess energy for future use.</p> <p>Powerwall is installed with one of the following Tesla devices.</p>	1707000-xx-y

### Tesla Energy Equipment

Component	Description	Tesla Part Numbers
	<p>The <b>Backup Gateway 2</b> is installed in partial and whole home backup systems.</p> <p>Powerwall controls operation of the system, while Backup Gateway 2 monitors energy usage and manages the transition to and from backup operation.</p>	1232100-xx-y
	<p>The <b>Gateway 3</b> is installed in whole home backup systems.</p> <p>Powerwall controls operation of the system, while Gateway 3 monitors energy usage and manages the transition to and from backup operation.</p>	1841000-x1-y



# ABOUT POWERWALL 3

Component	Description	Tesla Part Numbers
	<p>The <b>Tesla Backup Switch</b> is only installed in whole home backup systems.</p> <p>Powerwall controls operation of the system, while Backup Switch monitors energy usage and manages the transition to and from backup operation.</p>	1624171-xx-y



Powerwall 3 Overview

Powerwall 3 includes the following components and features:

Component/Feature	Name
1	LED Indicator
2	On/Off Switch
3	Air Intake
4	Air Exhaust
5	System Shutdown Switch (optional) <sup>1</sup>

<sup>1</sup>The On/Off Switch and optional System Shutdown Switch both act as Rapid Shutdown (RSD) initiators. These switches are used by emergency responders to trigger rapid shutdown of the solar array in the event of an emergency.






## SYSTEM OPERATION

Powerwall systems provide control and monitoring capability through the Tesla app. During normal operation, Powerwall 3 communicates with Backup Gateway 2, Gateway 3, or Backup Switch, and the Powerwall 3 On/Off switch should remain in the ON position. When troubleshooting Powerwall 3 operation, it may be necessary to turn off Powerwall 3 or refer to its LED indicator to confirm that it is operating properly.

 **WARNING:** Do not operate Powerwall 3 unless all covers are in place.

 **WARNING:** Do not disconnect anything from or add anything to Powerwall 3.

 **CAUTION:** Do not try to communicate with Powerwall 3 using third party tools or diagnostics between Powerwall and the Backup Gateway 2, Gateway 3, or Backup Switch.

### Monitoring Your System


Using the Tesla app, you can monitor the system operation from your mobile device, including the following:


- Real-time power usage
- Energy consumption history
- Relative amounts of energy used from solar, grid, and Powerwall storage

To download the latest version of the Tesla app, visit [tesla.com/support/tesla-app](https://tesla.com/support/tesla-app).

### Troubleshooting

If the system is not working correctly, perform the following steps.

 **CAUTION:** Powerwall 3, Backup Gateway 2, Gateway 3, and Backup Switch are not user-serviceable and must be repaired by Tesla or a Certified Installer.

 **WARNING:** Do not open the deadfront cover inside the Gateway. Exposed wiring can present a risk of electrical shock.

Check the LED indicator on Powerwall 3 to determine its status:


LED State	Indication
Solid white	Normal operation
Flashing white	Powerwall 3 is idle. Will enter sleep state if no actions in progress
Off	Powerwall 3 is off or in sleep state
Flashing red	Inverter fault

If it is not possible to communicate with the system through the Tesla app, ensure that the home Internet connection is working. If the home Internet connection is working and communication through the Tesla app is still not possible, see [tesla.com/support/energy/powerwall/mobile-app/connecting-powerwall-wi-fi](https://tesla.com/support/energy/powerwall/mobile-app/connecting-powerwall-wi-fi) for instructions to update your Wi-Fi connection.



## Turning the System Off

If Powerwall 3 is unresponsive, it may be necessary to turn off or power cycle the system. Note that power cycling the system must be done in the proper sequence as defined below.


 **WARNING:** On Powerwall 3 systems with additional interconnected solar, always turn off the solar inverter(s) or disconnect the solar source(s) before turning off Powerwall 3.

### *Performing a Power Cycle*

1. Turn off Powerwall 3 by setting its On/Off switch to the OFF position.
2. Turn off the AC breaker to Powerwall 3.
3. Turn off the AC breaker to the Gateway, if installed (for whole-home backup systems, this may be a breaker inside the Gateway).
4. Wait for at least one hour.
5. Turn the AC breakers back on.
6. Turn on Powerwall 3.



## Backup Troubleshooting

- If a brownout or blackout is experienced during backup operation, reduce the loads and check that the load breakers have not opened.
-  **NOTE:** See [tesla.com/support/energy/powerwall/own/best-practices-during-power-outages](https://tesla.com/support/energy/powerwall/own/best-practices-during-power-outages) for best practices to extend the backup duration of your system during an outage.
- If it is necessary to restart the Backup Gateway 2, Gateway 3, or Backup Switch, Tesla support may direct you to press the Reset button on the device.
  - If it is necessary to manually reconnect to the grid, Tesla Support may direct you to operate the manual override switch on the Backup Gateway 2 or Backup Switch.



Component	Name
1	Backup Gateway 2 / Gateway 3 / Backup Switch RESET button
2	Backup Gateway 2 / Backup Switch manual override switch
3	Backup Gateway 2 / Gateway 3 circuit breaker (in most whole-home backup systems)
4	Backup Switch conduit hub <sup>1</sup>

<sup>1</sup>The Backup Switch conduit hub must be removed to access the Backup Switch Reset button or manual override switch. To remove the conduit hub, use a Phillips PH2 screwdriver to loosen the (3) captured fasteners holding it in place, then remove the hub. Once any service actions have been completed, replace the conduit hub and tighten the (3) fasteners.





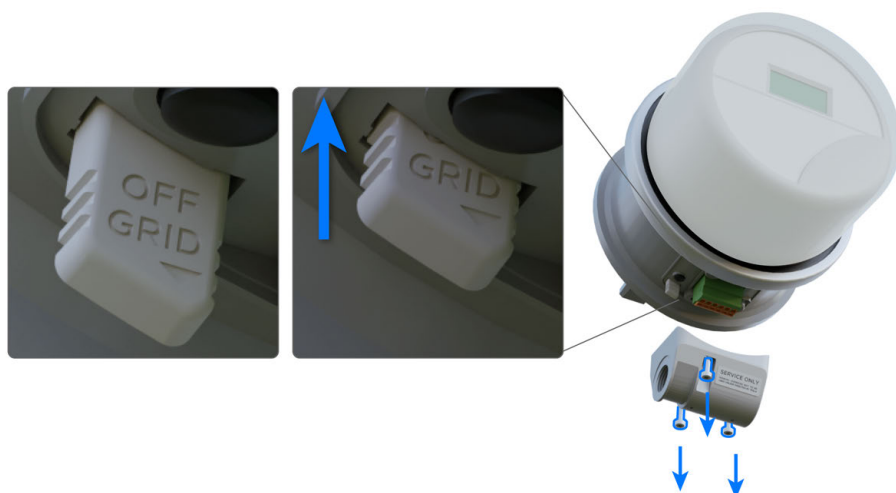
# SYSTEM OPERATION

## Operating the Backup Switch Manual Override

**WARNING:** Improper operation of the manual override switch may damage the unit, and could void the product warranty. Do not remove the conduit hub or operate the manual override switch unless directed to do so by Tesla Support, or in the event that the grid is present but you are experiencing an outage. Contact Tesla Support if you are not sure whether you should operate the manual override switch.

**WARNING:** Do not make any modifications or adjustments to the Utility Meter; only interact with the Backup Switch.

To manually connect the system to the grid, push the Backup Switch manual override switch in.



## Backup Switch LED Status

The Backup Switch LED is located near the Reset button under the conduit hub. To view the Backup Switch LED and determine its status, remove the conduit hub as described above.

LED State	Indication
On (solid)	Power is on, communication established with Powerwall
On (flashing)	Power is on, no communication with Powerwall
Off	Power is off

## Technical Support

If you need further assistance, contact the Tesla Support team via the *Contact Us* page:

[tesla.com/support/energy/more/additional-support/contact-us](https://tesla.com/support/energy/more/additional-support/contact-us)

Have the following information available when contacting Tesla:

- Owner name
- Best way for Tesla to contact you (name, phone number, email)
- Powerwall 3 and Backup Gateway 2 / Gateway 3 / Backup Switch serial numbers (see [System Information on page 19](#))



## SYSTEM OPERATION

- Brief description of the issue



## WHAT TO DO IN CASE OF AN EMERGENCY

In the event of any threat to health or safety, always begin with these two steps before addressing the other suggestions below:

1. Immediately contact the fire department or other relevant emergency response team.
2. Notify all people who might be affected and ensure that they can evacuate the area.



**WARNING:** Only perform the suggested actions below if it is safe to do so.

- On Powerwall 3 systems with additional interconnected solar, turn off the AC breaker for all solar inverters.
- Turn off all Powerwall(s), then turn off the AC breaker to Powerwall(s).
- Turn off the AC breaker to the Gateway, if installed.
- Acceptable fire extinguisher types are water, CO<sub>2</sub>, and ABC.
- Avoid type D (flammable metal) extinguishers.

In case of flooding:

- Stay out of the water if any part of the battery, Gateway, or wiring is submerged.
- On Powerwall 3 systems with additional interconnected solar, turn off the AC breaker for all solar inverters.
- Turn off all Powerwall(s), then turn off the AC breaker to Powerwall(s).
- Turn off the AC breaker to the Gateway, if installed.
- If possible, protect the system by finding and stopping the source of the water, and pumping water away.
- If any part of the unit was submerged, note the depth and duration of the flooding.
- Contact Tesla Support to determine if the unit can be safely turned back on.
- If Tesla Support has confirmed that it is safe to turn the unit back on, let the area dry completely before use.

If there is an unusual smell or smoke:

- On Powerwall 3 systems with additional interconnected solar, turn off the AC breaker for all solar inverters.
- Turn off all Powerwall(s), then turn off the AC breaker to Powerwall(s).
- Turn off the AC breaker to the Gateway, if installed.
- Ensure nothing is in contact with Powerwall.
- Ventilate the room.



## WHAT TO DO IN CASE OF AN EMERGENCY

If Powerwall is making unusual noises:

- Turn off all Powerwall(s), then turn off the AC breaker to Powerwall(s).
- Turn off the AC breaker to the Gateway, if installed.
- Ensure that nothing is blocking the air intake or exhaust vents on the Powerwall or in the fan.

In all cases, once the situation is stable, contact the Tesla Certified Installer who installed the system.

For first responder information, see [tesla.com/firstresponders](https://tesla.com/firstresponders).



## SYSTEM INFORMATION

The serial numbers for your system can be found on their product labels.

### Powerwall 3 Serial Number

Find the serial number on a sticker on the left side of Powerwall 3.



### Backup Gateway 2 Serial Number

Find the serial number on a sticker on the panel cover of Backup Gateway 2.

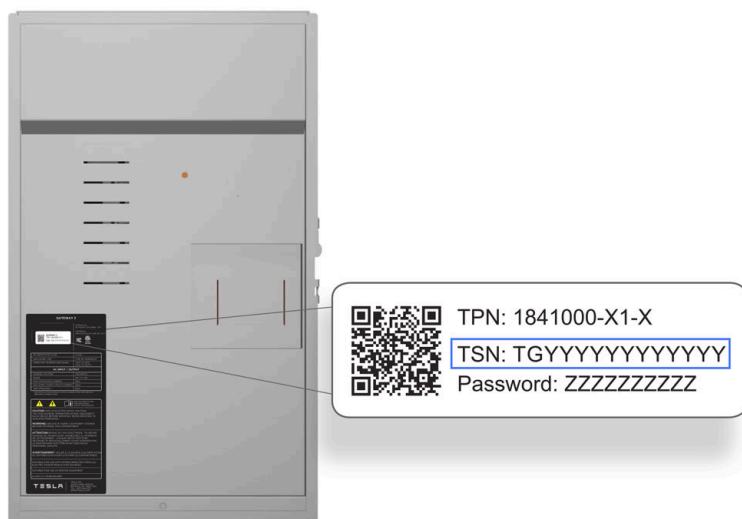




## SYSTEM INFORMATION

### Gateway 3 Serial Number

Find the serial number on a sticker on the panel cover of Gateway 3.





## SYSTEM INFORMATION

### Backup Switch Serial Number

Find the serial number printed on the right side of Backup Switch.





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