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.

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)
- Powerwall 3 Expansion (1807000-xx-y)
- Backup Gateway 2 (1152100-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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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: Powerwall 3 installation must be carried out only by Tesla Certified Installers who are licensed electricians.

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.

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

IMPORTANT SAFETY INSTRUCTIONS

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: 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.

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 water does not drain directly onto Powerwall 3. For instance, do not install Powerwall 3 beneath rain gutters or faucets.

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

EU Declaration of Conformity

This device has different types of radio equipment. The manufacturers of the radio equipment declare the RF Modules listed have been evaluated against the essential requirements and other relevant provisions of Directive 2014/53/EU. The full text of the Declaration of Conformity can be found at the following Internet address: *https://www.tesla.com/eu-doc*

Radio Frequency Information

The devices described below have been evaluated against the essential requirements of Directive 2014/53/EU.

Radio Equipment	Frequency Band	Maximum Power	Manufacturer
LTE FDD (Band 1/3/7/8/20/28)	Band 1: 1920-1980 MHz Uplink, 2110-2170 MHz Downlink Band 3: 1710-1785 MHz Uplink, 1805-1880 MHz Downlink Band 7: 2500-2570 MHz Uplink, 2620-2690 MHz Downlink Band 8: 880-915 MHz Uplink, 925-960 MHz Downlink Band 20: 832-862 MHz Uplink, 791-821 MHz Downlink Band 28: 703-748 MHz Uplink, 758-803 MHz Downlink	200 mW	Quectel Wireless Solutions Co., Ltd., Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
LTE TDD (Band 38/41)	Band 38: 2570-2620 MHz Downlink only Band 41: 2496-2690 MHz Downlink only	200 mW	
Wi-Fi	2400-2483.5 MHz, 5150-5350 MHz, 5480-5730 MHz, 5735-5875 MHz	100 mW	
Bluetooth/Bluetooth Low Energy	2400-2483.5 MHz	100 mW	
802.15.4 (Thread)	2400-2483.5 MHz	100 mW	

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*.

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.

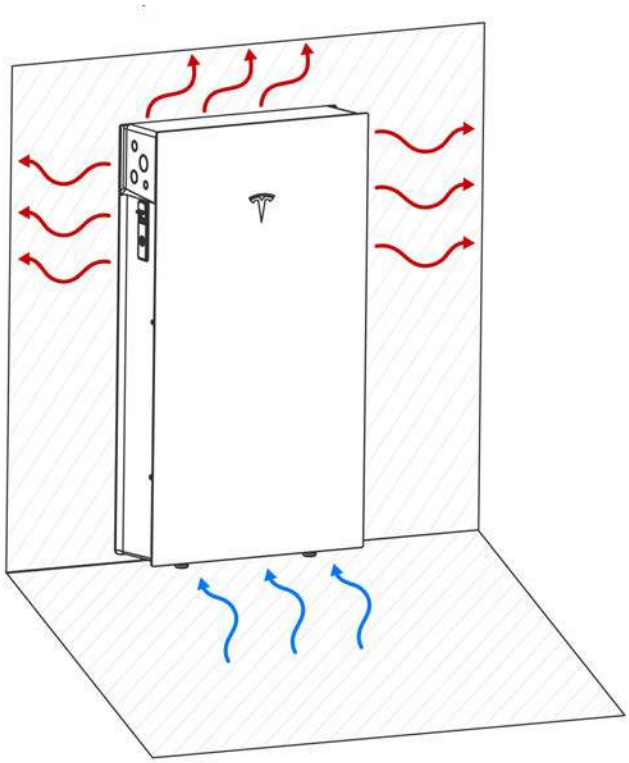
For best performance, the average ambient temperature over the system's lifetime should fall within the optimum temperature range specified below.

Operating Temperature	-20°C to 50°C[1]

[1]Powerwall 3 is designed to operate in all climates and in direct sunlight, from temperatures of -20°C to 50°C. Performance may be de-rated at operating temperatures above 40°C.

Care and Cleaning

Keep the immediate area around Powerwall 3 clear of foreign objects and debris to maintain optimal airflow. Do not install anything in the space around or in front of Powerwall 3.



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.

CARE AND MAINTENANCE

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.

The owner is responsible for ensuring the Powerwall system is operational; this can be confirmed by the white LED on the front of Powerwall 3, or in the Tesla mobile app.

NOTE: If the Powerwall system is not operational for an extended period of time, this may result in damage to your system and void your Powerwall warranty.

ABOUT POWERWALL 3

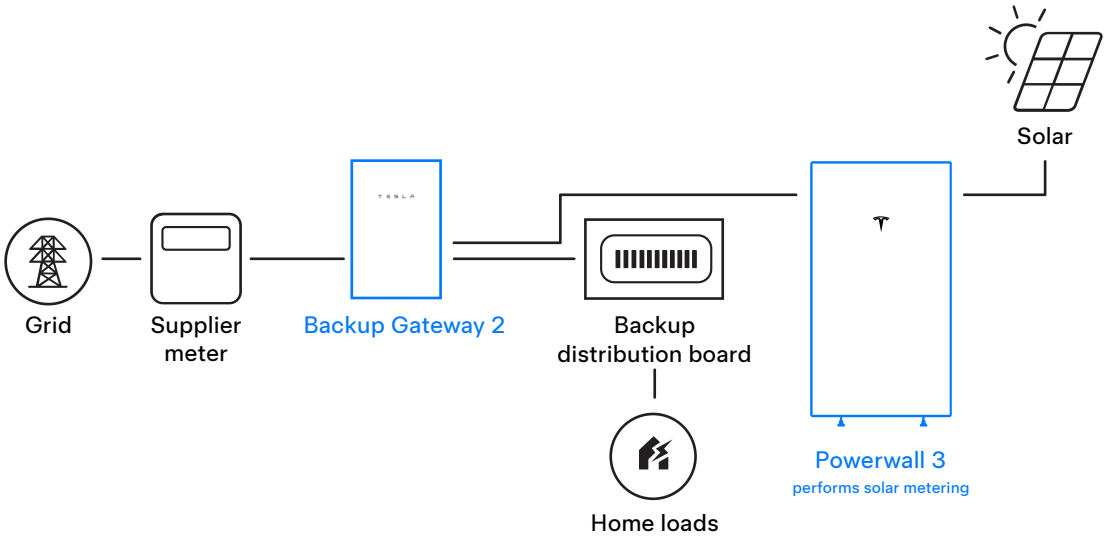
System Design

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

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.

Figure 1. Whole Home Backup



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.

Figure 2. Partial Home Backup with Loads Downstream of Backup Gateway 2

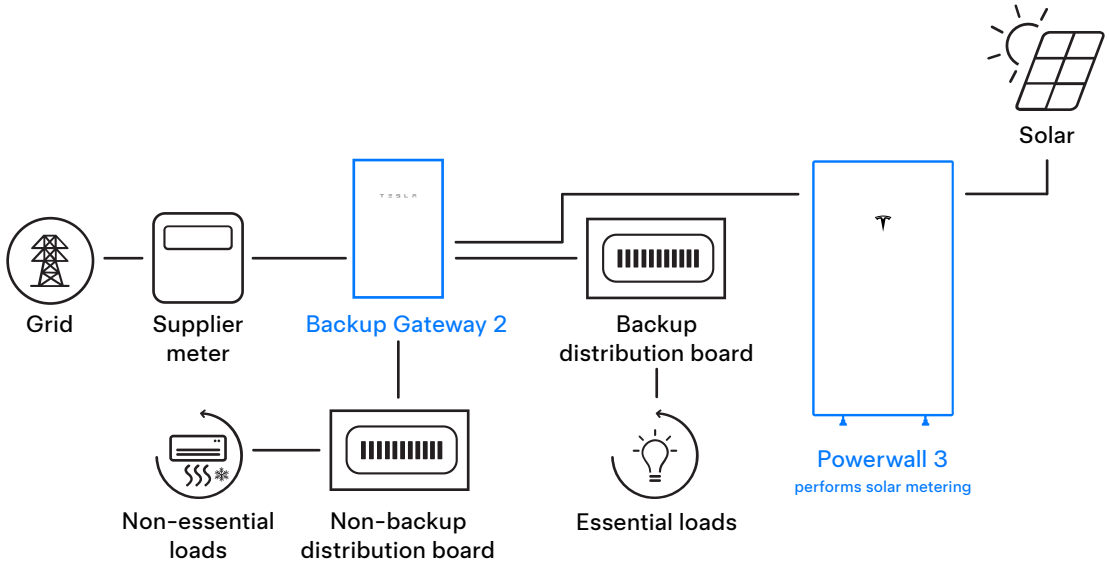
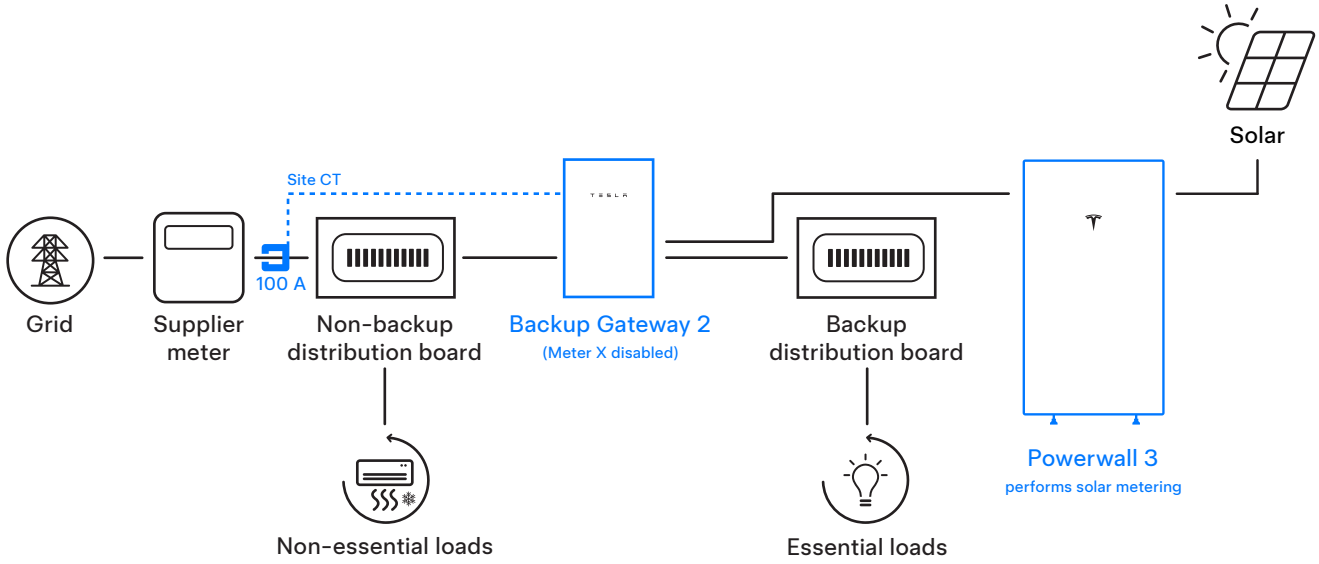


Figure 3. Partial Home Backup with Loads Upstream of Backup Gateway 2



System Components

Powerwall

Component	Description	Tesla Part Numbers
	Powerwall 3 is an integrated solar and battery system that converts energy from solar panels to be used by the home, and stores excess energy for future use. Every system contains at least one Powerwall 3, with additional Powerwalls installed depending on your home's energy consumption.	1707000-xx-y
Expansion unit is mounted behind Powerwall 3 unit in this image; it can also be mounted side-by-side with Powerwall 3	**Powerwall 3 Expansion** is a battery that provides additional storage for a Powerwall 3 system.	1807000-xx-y

Powerwall is installed with the following Tesla device.

Tesla Energy Equipment

Component	Description	Tesla Part Numbers
	The **Backup Gateway 2** is installed in partial and whole home backup systems. Powerwall controls operation of the system, while Backup Gateway 2 monitors energy usage and manages the transition to and from backup operation.	1152100-xx-y

Additional Equipment

Component	Description
	The **Remote System Shutdown Switch**, when installed, is a means of initiating PV array rapid shutdown and disconnecting and de-energizing output of PV and battery equipment. To turn the system off, push in on the switch. To turn the system back on, twist the red button clockwise, allowing it to return to the ON position.

Powerwall 3 Overview

Powerwall 3 includes the following components and features:

Component/Feature	Name
1	LED Indicator
2	On/Off Switch
3	Integrated DC Isolator
4	Air Intake
5	Air Exhaust

SYSTEM OPERATION

Powerwall systems provide control and monitoring capability through the Tesla app. During normal operation, Powerwall 3 communicates with Backup Gateway 2, 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.

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*.

Troubleshooting

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

CAUTION: Powerwall 3 and Backup Gateway 2 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

NOTE: Powerwall 3 Expansion units do not have an LED indicator, so the logo on the front of the unit is not illuminated.

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* 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 the Powerwall 3 integrated DC isolator OFF.
3. Turn off the AC breaker to Powerwall 3.

   NOTE: Powerwall 3 Expansion units are connected to Powerwall 3 via a factory-made harness. They are not connected to a breaker and they do not have an on/off switch; when Powerwall 3 is turned off, any Expansion units will automatically shut down.

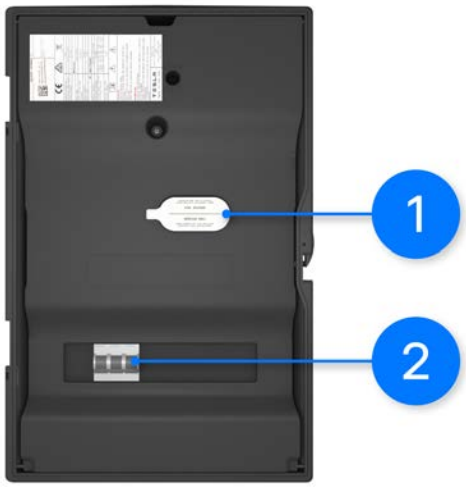
4. Turn off the AC breaker to the Gateway (for whole-home backup systems, this may be a breaker inside the Gateway).
5. Wait for at least one hour.
6. Turn the AC breakers back on.
7. Turn on Powerwall 3.
8. Turn the Powerwall 3 integrated DC isolator ON.

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* for best practices to extend the backup duration of your system during an outage.

- 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.



Component	Name
1	Backup Gateway 2 manual override switch
2	Backup Gateway 2 circuit breaker (in most whole-home backup systems)

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

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 serial numbers (see *System Information on page 19*)
- 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.

NOTE: Powerwall 3 Expansion units are connected to Powerwall 3 via a factory-made harness. They are not connected to a breaker and they do not have an on/off switch; when Powerwall 3 is turned off, any Expansion units will automatically shut down.

- 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 Powerwall 3 integrated DC isolator.
- Turn off the AC breaker to the Gateway.
- Acceptable fire extinguisher types are water, CO2, 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 Powerwall 3 integrated DC isolator.
- Turn off the AC breaker to the Gateway.
- 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 Powerwall 3 integrated DC isolator.
- Turn off the AC breaker to the Gateway.
- 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 Powerwall 3 integrated DC isolator.
- Turn off the AC breaker to the Gateway.
- 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*.

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.

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