

TESLA

Solar Panels System Manual



Solar Panels System

Congratulations on your solar panels system. Welcome to the Tesla family and the energy revolution. Your beautiful and durable solar system will produce clean, renewable energy for years to come.

This manual walks you through each step of monitoring and maintaining your solar system.

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Safety

Your safety is Tesla's top priority. Follow these precautions around your solar system and related electrical equipment.

If you believe your solar panels system requires repair, or your inverter displays an error message, please contact Tesla Customer Care for guidance.

DANGER:

Your solar system generates electrical current. Contact with electrically active parts of a photovoltaic (PV) system and related equipment can result in burns, sparks, and lethal shock.

DO NOT service the system, disconnect wires, open electrical panels, or damage any portion of your equipment in any way.

NOTE:

Opening or altering electrical equipment by anyone other than a Tesla approved technician may void your warranty.

DANGER:

Do not walk on the roof without being trained and using required safety equipment. Walking on a roof is a fall hazard and can result in serious injury or death.

Solar System Components

BREAKERS

Switches inside electrical panels that protect your home from harmful power surges.

DISCONNECT

A switch, operated by a large handle, that disconnects or interrupts the electrical circuit.

INVERTER

A central component that converts solar-generated power from Direct Current (DC) voltage to Alternating Current (AC) voltage for your home's use.

Disconnect Procedure



If your system is not yet activated, it is important to follow disconnect procedures in this exact order:

1. Turn on the breakers in your main electrical panel.

Go to your main electrical panel. Most electric panels are mounted on an outside wall, or mounted in a garage, basement, or closet.

Find the breakers labeled ***Solar System, PV, Photovoltaic Backfeed, or Tesla.***

Switch these ***On.***

You may have an additional sub-panel. If you do, check to see if there are additional solar breakers in the sub-panel and switch them ***On.***

2. Switch on the external AC and DC disconnects.

If your solar panels have one or both of these, switch these ***On.***

Inverters

Inverters commonly installed along with Tesla Solar Panels are shown below, along with On/Off switch components.

- 1 DC Disconnect Dial
- 2 On (I) Off (O) Switch

SolarEdge

ABB

Delta



Home Energy Monitoring

TESLA MOBILE APP

Use the Tesla mobile app to monitor your solar panels as well as products like Powerwall or your Tesla vehicle. The app gives you visibility into your solar panels power generation and home energy use. The app also sends alerts from Tesla Customer Care if Tesla detects issues with your solar panels. Most issues can be resolved remotely by Tesla Customer Care. If not, Tesla sends a technician directly to your home.



Home Energy Monitoring

BACKUP GATEWAY OR SOLAR GATEWAY

For homes with Powerwall, a **Backup Gateway** is installed for system monitoring and accessing Powerwall energy in case of a power outage.

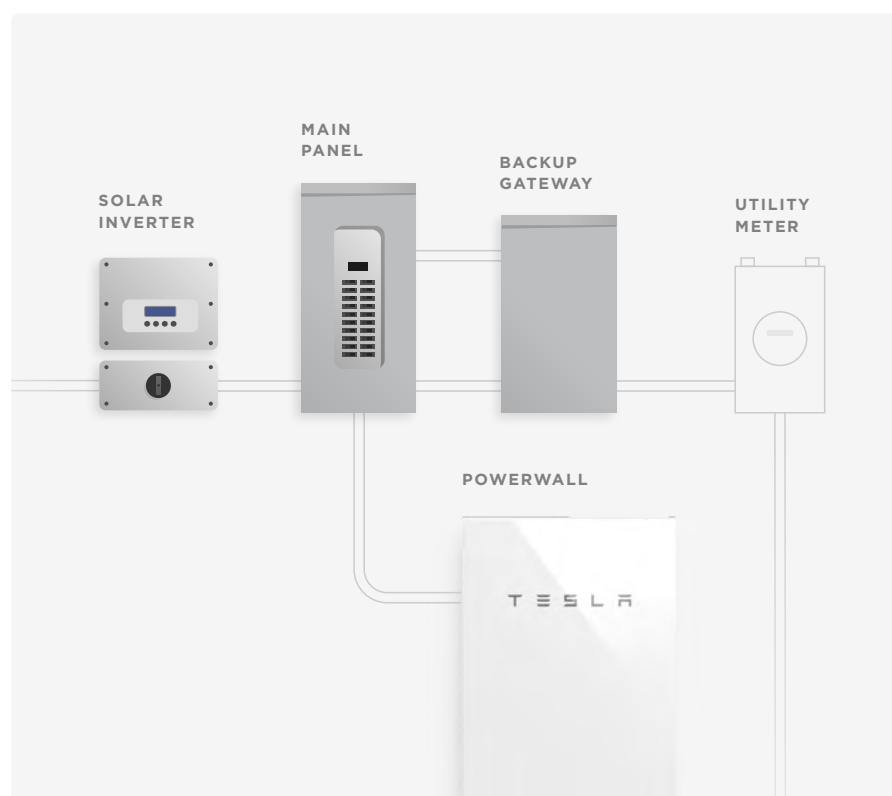
For homes without Powerwall, a **Solar Gateway** is installed for system monitoring.

In both instances, you need an always-on Internet connection, a router with an open Ethernet port, an AC power outlet, and the Gateway.

CONNECTING TO YOUR BACKUP GATEWAY

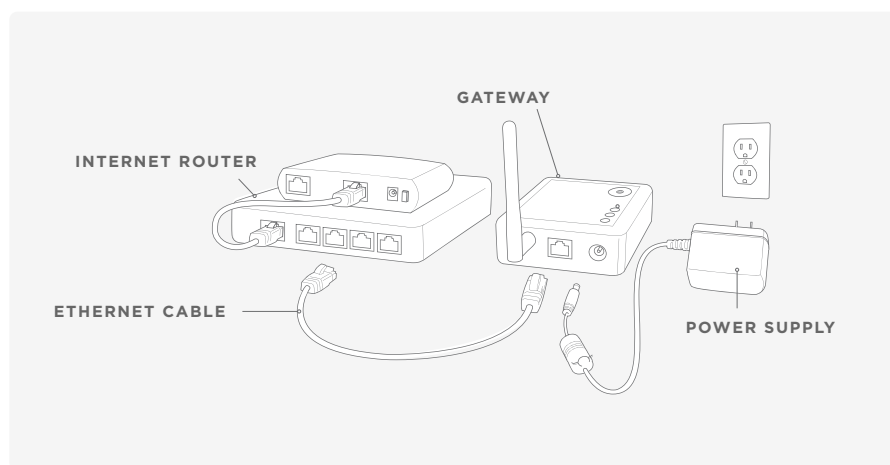
If your home has a Powerwall installed, the Backup Gateway is already installed and set up.

Use the Tesla mobile app to follow your energy production in real time.



Find more information about Monitoring from your Home Network at: tesla.com/support/energy/own/powerwall/monitoring-from-home-network

Home Energy Monitoring



CONNECTING TO YOUR SOLAR GATEWAY

For homes without Powerwall, connect the Solar Gateway to monitor energy production from your solar panels.

1. Download the Tesla mobile app on your smartphone.

2. Log into the Tesla app.

3. Connect the Solar Gateway to your router.

Use the included Ethernet cable to connect the Solar Gateway to your router.

4. Turn on the Solar Gateway.

Plug your Solar Gateway into a power strip near your router using the included power supply. The power light on top glows white.

5. Watch for a signal.

The Solar Gateway should be connected. If you see a **WEAK SIGNAL** notification, move the Solar Gateway closer to the inverter until the notification disappears.

6. Use the Tesla app to monitor energy production in real time.

If you have trouble setting up or troubleshooting your Solar Gateway, please visit:

tesla.com/support/energy/own/solar-panels/monitoring



Solar System Performance

Your solar system performance is measured by how much energy is generated over time. Energy production can vary from month to month based on seasonal weather conditions. Other factors that can hinder production include:

- Unexpected shading due to new tree growth
- Debris or dirt on the panels
- Long periods of rainy or snowy weather

You can find expected performance information on your solar panels layout document. You can also use the Tesla mobile app to follow your energy production in real time.

Solar Panels Maintenance

Solar panels require routine maintenance. Minor care on your part can ensure better system performance.

SHADE MANAGEMENT

Shade on your solar panels can hinder electricity production. Keep trees or other tall plants trimmed to prevent shade on your solar panels.

SOLAR PANELS CLEANING

Cleaning your panels occasionally to remove accumulated dust, pollen, and leaves maintains system performance. How often you clean depends on where you live. Ordinarily, you can rinse off panels with a water hose from ground level to remove accumulations. Rinse only the glass cover of the panels; do not rinse wiring or areas underneath panels. For safety and performance reasons, rinse panels only when the sky is overcast, or when the sun is low in the sky, as panels can become hot under intense sunshine.

If you have excessive soiling, such as bird droppings, you may wish to hire a local solar panel cleaning service.

INVERTER SERVICE AND REPLACEMENT

If your inverter is still under its 10-year warranty and you experience an issue with the inverter, please contact Tesla Customer Care to make a warranty claim against the manufacturer and receive inverter service, repair, or replacement.

If your inverter is no longer under warranty and you experience an issue with the inverter, please contact Tesla Technical Support as the system warranty may cover service, repair, or replacement of the inverter.

SNOW OR ICE

Do not shovel snow off your solar panels. While accumulated snowfall can cover panels and temporarily reduce production, this is not a cause for concern. Your system is designed with annual energy production in mind, and occasional inclement weather is expected.

Warranty and Service

SOLAR PANELS WARRANTY

Review your Warranty Agreement for detailed information about the coverage of your system over time.

HOW TO GET WARRANTY SERVICE

In the rare case that your solar system is not operating properly, please contact Tesla Technical Support. If Tesla determines that a problem cannot be diagnosed or resolved remotely, Tesla Technical Support will arrange for service. If the issue is covered by warranty, your solar panels will be repaired at no cost to you. If the issue is not covered by your warranty, Tesla Technical Support will assist you in resolving the issue and any service charges that may apply.

INVERTER WARRANTY

Review your inverter Warranty Agreement for detailed information about the inverter coverage over time, typically 10 years. If you experience any issues with your inverter during the warranty period, please contact Tesla Technical Support to make a warranty claim against the manufacturer and receive inverter service.

If you experience any issues with your inverter after the inverter warranty period, contact Tesla Technical Support. In some systems, Tesla warrants that, after the end of the manufacturer's inverter warranty period, and under normal use and service conditions, your system inverter will be free from defects in workmanship, or from defects in or a breakdown of materials or components, for the remainder of the Solar Panels system warranty, typically a period of 20 years.

POWERWALL WARRANTY

Powerwall is a maintenance-free product with a 10-year warranty. Visit Tesla's support page for the **Powerwall Owner's Manual** at tesla.com/support/energy/own/powerwall/owner-documents



Related Products: Powerwall

If you have a Powerwall, you are successfully storing excess solar energy from solar panels and powering your home even when the sun isn't out. You also have the advantage of automatically backing up your home during a utility power outage.

Powerwall is a maintenance-free product with a 10-year warranty. Visit the Tesla support page for the **Powerwall Owner's Manual** at: tesla.com/support/energy/own/powerwall/owner-documents

POWERWALL OPERATION

After your solar panels are commissioned and the inverter is active, Powerwall automatically begins operation. You do not need to do anything to begin operation. If you do not see Powerwall in the Tesla mobile app, check that your home Internet connection is working and that the Powerwall switch is turned on.

If a brownout or blackout is experienced when Powerwall is in backup mode, reduce home energy usage. As you turn off appliances or switch off circuit breakers in your electrical panel, Powerwall automatically attempts to restart.

If you have any questions about your Powerwall, please contact Tesla Customer Care.

Frequently Asked Questions

You can find detailed expansions of these FAQs and more at: tesla.com/support/energy/own/solar-panels/getting-started

How does the solar system work with the local utility company?

The solar system works in tandem with the local utility company through a process called Net Energy Metering (NEM). During the day, you will use all the electricity the system produces as your primary source. If you require more electricity than what the system can provide, you will pull that from the local utility at their regular rates. If on the flip side, you use less electricity than what the system produces, the excess will flow to the utility as a credit, that can be used at a later date. Every utility handles these credits a little differently, so we always recommend reaching out to them directly if you have questions about their specific NEM policy.

How much energy do my solar panels produce?

The amount of energy that your solar panels produce depends on your system size, as well as environmental factors such as shade, dust, debris, snow, and weather. Refer to your customer agreement for more information on solar panel layout.

Can I see how much solar energy my home is generating and using?

The Tesla mobile app gives you real-time and historical visibility into your solar production. Use the Tesla mobile app to follow your energy production in real time.

How long can I expect my solar panels to last?

Tesla installs solar power systems to be durable and effective over the long term. Many components of your system are designed to last for decades. As an example, testing by outside researchers has shown that solar panels installed by Tesla have a useful life of 35 years. You should review your Warranty Agreement for detailed information about the coverage of your system over time.

If you have a Tesla PPA or lease, then Tesla will remove the system at the end of the contract term, typically 20 years. At the end of the contract term, you may have the option to renew so that you can continue to generate solar power.

Frequently Asked Questions

Will I still be subject to electric rate increases if I buy solar panels?

Even with solar, you will most likely have a residual utility bill and those rates may fluctuate. The bill depends on the size of your solar panels system relative to your energy demand, as well as your peak hour energy use. You can minimize utility rate changes by using less energy during peak hours. Peak rates may apply only in some markets and with some rate plans.

What happens when the sun goes down?

Your solar panels do not produce electricity in the absence of sunlight. The system inverter goes into “Night Mode” when there is not enough daylight to produce energy. If you have a battery like Powerwall, then you can use stored electricity to help meet your nighttime energy needs. If you don’t have a battery, then at night your home draws power only from the utility grid.

What happens to my solar production on a cloudy day?

Your solar panels still generate electricity on cloudy days, since even diffuse sunlight activates solar power production. Solar panel output on a cloudy day will be less than on a cloudless day, but may still produce a meaningful amount of electricity.

What happens if it snows on my solar panels?

Do not shovel snow off your solar panels. While accumulated snowfall can cover panels and temporarily reduce production, this is not a cause for concern. Your system is designed with annual energy production in mind, and occasional inclement weather is expected.

What should I do if my solar panels have become shaded?

Shade on your solar panels will reduce electricity production. Keep trees or other tall plants trimmed to prevent shade on your solar panel system.

Frequently Asked Questions

How do I clean my solar panels?

Cleaning your panels occasionally removes dust, pollen, and leaves, and maintains system performance. How often you clean depends on where you live. Ordinarily, you can flush the panels with a water hose from the ground to remove accumulations. Rinse only the glass cover of the panels; do not rinse wiring or areas underneath panels. For safety and performance reasons, rinse panels only when the sky is overcast, or when the sun is low in the sky, as panels can become hot under intense sunshine.

If you have excessive soiling, such as bird droppings, you may wish to hire a local solar panel cleaning service.

Will I still have solar power if there is a utility power outage?

If you don't have a battery like Powerwall, your solar panels will not work during a utility outage due to grid safety requirements. However, if you have both solar panels and Powerwall during an outage, your home's power supply operates as an independent system from the utility grid, running on solar energy during the day and storing excess energy for later use.

Can I add a Powerwall to my existing solar panel system?

Yes, Powerwall can be integrated with your existing solar panels. Powerwall is currently compatible with solar inverters from SMA, SolarEdge, Enphase micro inverter, Delta, and ABB.

Visit tesla.com/powerwall to get started adding a Powerwall to your existing solar panel system.

Frequently Asked Questions

If I have Powerwall, how quickly does Powerwall restore power to my home?

Powerwall can detect an outage, disconnect from the grid, and bring power back to your home in a fraction of a second. Powerwall can keep your appliances running without interruption.

What do I do if my inverter displays an error message?

If your inverter displays an error message, contact Tesla Technical Support. One of our experts will gather the necessary information to ensure that we're able to repair your system as quickly as possible.

What if my solar panels need repairs?

WARNING: Never attempt to fix or repair your solar power system. Your solar panel system operates at high voltage and contact with any live parts can result in burns, sparks, and lethal shock. Only Tesla-approved installers can repair Tesla solar panel systems. Do not disconnect wires, open electrical panels, modify, or damage the equipment in any way. Contact Tesla Technical Support to perform repairs.

What if my roof needs repairs after I've installed solar panels?

If you need to make repairs on the roof for any reason, your solar panels may need to be removed and reinstalled.

Contact Tesla

Contact Tesla Customer Care at [888.765.2489](tel:888.765.2489) for assistance with your solar system. Contact Tesla Technical Support at [877.961.7652](tel:877.961.7652) for assistance with technical support.

You can use the Tesla mobile app or visit tesla.com/teslaaccount to find additional resources and follow your energy production in real time.