

TROUBLESHOOTING

Solar Panel Troubleshooting: Faults, Red Lights & No Output

Solar systems are famously low-maintenance, so it's alarming when the inverter starts flashing red or your monitoring app shows zero generation. Often the cause is simple (a switch that tripped in a storm, or shading and dirt cutting output) and there's a safe reboot you can try yourself. But solar also carries live DC voltage that never switches off in daylight, so this guide is deliberately careful about what you should and shouldn't touch. When in doubt, the answer is always to call a licensed solar electrician.

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<https://shutthefrontup.com.au/solar-panel-troubleshooting>

QUICK ANSWER

When a solar system stops producing, the fault is usually the **inverter, a tripped switch, shading or dirt on the panels, or a dropped monitoring connection**. Start by reading the inverter's lights and screen: a green light is normal, and a **solid red light signals a genuine fault**, usually with an error code that names the cause.

There is one fault you must not touch. An **"Isolation", "ISO" or "Ground" fault (often after rain or a storm) means moisture may have entered the wiring and is a fire risk**. Do not attempt to reset it; switch the system off and call a licensed solar electrician.

Bottom line: Read the inverter lights, check your isolators and breakers, and try one controlled reboot. If a fault returns (or it's an isolation fault), stop and call a CEC-accredited installer.

Who this is for: Australian homeowners whose solar system has stopped generating or is showing a fault light, before booking a service call.

Where solar faults usually come from

The inverter

The inverter is the brain of the system and the most common point of failure. A red light plus an error code on its screen usually tells you exactly why it has shut down.

A tripped switch or isolator

Solar systems have several isolators and breakers at the switchboard and beside the inverter. A storm or grid event can trip one, and the system simply stops until it's switched back on.

Shading, dirt or a dead string

Gradual drops in output usually mean dirty panels, new shading (a growing tree, an aerial), or one string of panels underperforming. Not a hard fault.

Monitoring / wi-fi dropout

If the app shows no data but the house has power and the inverter light is green, it's often just the inverter's wi-fi connection that has dropped, not the generation.

Isolation / ground fault

An isolation fault means moisture may have entered the DC wiring or isolator. A genuine safety and fire risk. This one is never a DIY reset.

Quick solar symptom checker

SYMPTOM	MOST LIKELY CAUSE	WHAT TO DO SAFELY
Inverter screen blank / no lights	AC supply off or isolator switched off	Check the inverter's AC isolator and the solar breaker at the switchboard are on.
Solid red light + error code	A genuine inverter fault (code names it)	Note the code, then try one controlled reboot (below). If it returns, call your installer.

SYMPTOM	MOST LIKELY CAUSE	WHAT TO DO SAFELY
"ISO" / Isolation / Ground fault	Moisture in the DC wiring (safety risk)	Do NOT reset. Switch the system off and call a licensed solar electrician immediately.
App shows zero, house has power	Wi-fi / monitoring dropout	Check the inverter light. If green, reconnect the inverter wi-fi. Generation is probably fine.
Lower output than usual	Dirty panels, new shading, or a weak string	Compare output in your app; clean panels safely from the ground and check for new shade.
Output drops midday / overheating	Inverter over-temperature or ventilation blocked	Make sure the inverter's vents are clear of dust, spiders and clutter; shade it from direct afternoon sun if possible.
Breaker trips when solar runs	Wiring or inverter fault	Leave it off and call a licensed electrician. Do not keep resetting it.

Step 1: read the inverter lights

Your inverter is the fastest diagnosis tool you have. Most units use a simple colour code:

- **Green:** normal, generating. If the app shows nothing but the light is green, your generation is fine and the problem is the monitoring connection.
- **Orange / yellow:** a warning or standby state (for example, waiting for enough sunlight, or a minor grid issue).
- **Red:** a genuine fault. There is almost always an error code on the screen or in the app that names the cause. Write it down before you do anything else.

Step 2: check your switches and isolators

Australian solar systems have several safety switches, and a storm or grid dropout can trip one. Check, in this order:

- The **Solar Supply Main Switch** and **Grid Supply Main Switch** at your switchboard are on.
- The switches at the inverter (the **AC isolator** and **DC isolator**) are on.

If a switch has tripped, that alone may explain a dead system. Turn it back on once and see if the inverter restarts. If it trips straight back off, stop. That's a fault, not a nuisance trip, and needs an electrician.

Step 3: one controlled reboot

A large share of red-light faults clear with a proper shutdown-and-restart. Do it in this sequence (check your inverter manual, as models vary):

1. Turn **OFF** the AC isolator next to the inverter.
2. Turn **OFF** the DC isolator next to the inverter.
3. Wait a few minutes for the inverter to power down completely.
4. Turn the **DC isolator ON**, then the **AC isolator ON**, then confirm the Solar Supply Main Switch at the board is on.

The inverter will run a startup sequence that can take several minutes before it shows green and begins generating again. **Only ever reboot once.** If the fault comes straight back, do not keep resetting it. Book a service.

The one fault you must not reset: isolation / ground faults

If your inverter reports an **"Isolation Fault", "ISO Error" or "Ground Fault"** (especially after rain or a storm) treat it as a safety issue, not an inconvenience. It indicates moisture may have entered the DC cabling or isolator, which is a genuine fire risk, and the system shuts down to protect you.

Do not touch the wiring and do not try to reset it. Switch the system off at the isolators if you can do so safely, and call a licensed, CEC-accredited solar electrician. Remember that solar panels produce live DC voltage whenever there is daylight (there is no "off" on the panel side) so opening the inverter or handling DC cabling is never a homeowner job.

Low output rather than a hard fault

If the system runs but produces less than it used to, it's usually not a fault at all:

- **Dirty panels.** Dust, bird droppings and pollen cut output. Use your monitoring app to compare generation before and after a clean. See our [solar maintenance guide](#) for how to clean safely.
- **New shading.** A tree that's grown, a new aerial or a neighbouring build can shade panels at certain times of day.
- **A weak string.** If one group of panels is underperforming, the monitoring data will often show it. That's one for your installer.

Safe checks before calling your installer

☐ Read the inverter light and note the error code

Green is normal; red is a real fault. The code tells the technician exactly what's wrong.

☐ Check switchboard and inverter isolators are on

A storm can trip the solar main switch or an isolator.

☐ Try one controlled reboot

AC off, DC off, wait, then DC on and AC on. Only once.

☐ Never reset an isolation / ground fault

Switch it off and call a licensed solar electrician. It's a fire risk.

☐ Never open the inverter or touch DC wiring

Panels are live in daylight; there is no off switch on the panel side.

☐ Rule out monitoring dropouts

No app data but a green light usually means wi-fi, not generation.

Frequently asked questions

Why is my solar inverter showing a red light?

A solid red light means a genuine inverter fault, and there is almost always an error code on the screen or app that names the cause. Note the code, check your isolators and breakers are on, and try one controlled reboot. If the fault returns, call your installer. An isolation or ground fault should never be reset. Switch the system off and call a licensed electrician.

How do I reboot my solar inverter safely?

Turn off the AC isolator next to the inverter, then the DC isolator, wait a few minutes for it to power down, then turn the DC isolator back on, the AC isolator back on, and confirm the solar main switch at your board is on. The inverter takes several minutes to restart. Only reboot once. If the fault returns, book a service.

What is a solar isolation fault and is it dangerous?

An isolation (ISO) or ground fault indicates moisture may have entered the DC wiring or isolator, often after rain or a storm. It is a genuine fire risk, which is why the system shuts down. Do not attempt to reset it. Switch the system off if you safely can and call a licensed, CEC-accredited solar electrician.

My solar app shows no generation but the house has power. What's wrong?

If the inverter light is green, your panels are almost certainly generating and the issue is just the monitoring connection. Usually the inverter's wi-fi has dropped. Reconnect the inverter to your wi-fi following the manufacturer's app. If the inverter light is red or off, that's a different problem.

Why is my solar producing less power than before?

Gradual drops are usually dirty panels, new shading (a growing tree or new structure), or one underperforming string rather than a hard fault. Compare output in your monitoring app, clean the panels safely from the ground, and check for new shade. If output is still low, ask your installer to check the strings.

Related reading

Solar panel maintenance

Cleaning, checks and keeping output high.

<https://shutthefrontup.com.au/solar-panel-maintenance>

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Common shutter faults and safe fixes.

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