SAFETY GUIDE

Solar & Battery Safety Essentials

The safety measures that matter most in a solar and battery install — electrical, battery, wiring, and pre-energize checks — for Canadian systems.

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Solar and battery systems are safe when installed right — and a real hazard when they're not. These are the safety measures that matter most, whether you install yourself or hire an electrician.

Electrical safety (non-negotiable)

- ☐ Grid-connected systems must meet the **Canadian Electrical Code** and get permits, inspection, and utility approval
- ☐ Final AC connection should be done by a qualified — and where required, licensed — electrician
- ☐ Every circuit needs correctly sized fusing or breakers, and a proper disconnect
- ☐ Proper grounding and bonding throughout — this is what protects against shock and fire

Battery safety

- ☐ Use quality $LiFePO_4$ batteries with a built-in Battery Management System (BMS) — it protects against overcharge, over-discharge, and short circuit
- ☐ Keep batteries in a ventilated, dry space away from living areas where practical
- ☐ Don't charge lithium below freezing without built-in heating — it damages the cells
- ☐ Never mix old and new batteries, or lithium with lead-acid, in the same bank

> **Why $LiFePO_4$ is the safe choice:** lithium iron phosphate is the most thermally stable lithium chemistry — far more resistant to thermal runaway than the lithium types used in phones and EVs. It's why it's become the standard for home energy storage.

Wiring & installation

- ☐ Use correctly rated wire gauge for the current — undersized wire overheats
- ☐ Rapid shutdown devices where required, so first responders can de-energize panels
- ☐ Weatherproof outdoor connections; use UV-rated cable for exposed runs
- ☐ Torque connections to spec — loose connections are a leading cause of failures and fires

Before you energize

- ☐ Double-check polarity and voltage before connecting the battery and inverter
- ☐ Confirm the inverter, battery, and controller are all matched to the same voltage
- ☐ Have the system inspected where required before it goes live

Want a free custom design for your setup?

We're Neighborhood Solar Store — a Canadian solar retailer shipping panels, inverters, batteries and complete systems Canada-wide. Tell us what you want to power and we'll design a complete system and quote it, free, no obligation. Free lifetime technical support on every order.

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