CIRCUIT & CURRENT · FREE CHECKLIST

Inverter & battery buyer's checklist

14 questions to ask before you sign a quote for an inverter, battery or solar. Tick each one off with your installer.



WHAT YOU NEED

- ☐ **1. What must run in a power cut?** List the essentials: lights, fridge, Wi-Fi, TV, alarm, gate. Heavy loads (hot water source, oven, pool pump, most air-conditioners) usually stay on the grid side.
- ☐ **2. For how many hours?** This sets the battery size. My answer: _____
- ☐ **3. What did the calculator say?** Inverter _____ kW · battery _____ kWh · start-up peak _____ kW. Ask the installer to confirm or correct these.

THE INVERTER

- ☐ **4. What is its continuous rating, and its surge rating for how long?** Continuous kW must cover everything that runs at once; the surge rating must cover motors starting.
- ☐ **5. How fast does the backup port switch over?** Many hybrids switch in about 10 ms; some take seconds. It matters for computers and anything that must not reboot.
- ☐ **6. Can I add solar later — how much?** Ask for the maximum PV input power and voltage, and how many MPPT inputs it has.
- ☐ **7. Is this model approved for grid connection where I live?** See the rules box below.

THE BATTERY

- ☐ **8. How many kWh are usable — not just on the label?** Lithium ($LiFePO_4$) lets you use most of it; lead-acid only about half if it is to last.
- ☐ **9. What does the warranty promise?** Years, cycles, and how much capacity is guaranteed at the end.
- ☐ **10. Does the battery talk to the inverter?** Lithium batteries should be on the inverter maker's compatible list, with a communication cable to the BMS.

THE INSTALLATION

- ☐ **11. Who registers the system with the utility, and when?** In South Africa it must be registered with your municipality or Eskom before it is installed — even with zero export.
- ☐ **12. Will I get a certificate for the electrical work?** In South Africa: a Certificate of Compliance under SANS 10142-1 from a registered electrician. Ask for it in writing.
- ☐ **13. How is the protection and earthing done?** DC breakers or isolators for battery and panels, surge protection, and how the earth is handled when the inverter runs on backup.
- ☐ **14. Is the quote itemised, and will you set it up with me?** Inverter, battery, panels, protection, labour and certificate listed separately — and the app, work modes (self-use, time-of-use) and zero-export set up at handover.

The rules where you live

South Africa: register first (municipality / Eskom) · inverter type-tested to NRS 097-2-1 · wiring to SANS 10142-1 with a CoC.

UK: BS 7671 · ENA G98 / G99 notification · MCS for the Smart Export Guarantee.

Europe: EN 50549-1 and your network operator's rules (Germany: VDE-AR-N 4105).

Australia / NZ: CEC-listed inverter · AS/NZS 4777 · AS/NZS 5139 (batteries) · AS/NZS 3000.

India: CEA connectivity regulations · BIS-registered inverter (IS 16169 anti-islanding test).

Never connect an inverter to the house wiring yourself, and never plug a generator or inverter into a wall socket. Solar panels in daylight are always live, even with the inverter off.



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