

Technician Briefing: Electrical Issue on Leopard 53 Power Catamaran

Owner: Matthew Kahn

Vessel: 2025 Leopard 53 Power Catamaran

Inverter System: Dual Victron Phoenix Inverters 12/3000

Inverter Location: Designated compartment behind the starboard engine room

Reported Issue: Inverter-Linked Power Cutoff

When running high-power AC appliances (e.g., watermaker, microwave, electric kettle), the following behavior occurs:

- Appliance operates for 13 minutes.
- Suddenly, all power on the boat shuts off, including other systems.
- After a brief interval, power comes back on automatically.
- The cycle repeats consistently when any of these appliances are used.
- The issue is not isolated to a specific appliance; it appears linked to overall power draw.

Power System Configuration Summary

Inverter System:

- Two Victron Phoenix Inverter 12/3000 units (12V, 3000VA, 120V 60Hz).
- One is dedicated to the microwave oven (per label), both are parallel connectable.
- System supports global voltage/frequency compatibility.
- Likely in split-phase or parallel configuration.
- Switches between shore power, generator, and battery bank.

AC Load Distribution:

- AC loads split between inverter-backed and non-inverter lines.
- Automatic switching between power sources.

Battery Charger:

- Victron Centaur Battery Charger 12V 100A visible in the system layout.

Battery Bank:

- Supplies DC power to inverter, likely 12V lithium or AGM bank.
- Voltage sag under high current may be contributing to issue.

Preliminary Diagnosis and Observations

1. Inverter Overload or Over-Temperature Shutdown:

- Appliance load may exceed inverter capacity, triggering auto-shutdown.

2. Voltage Drop Under Load:

- Batteries may sag under high draw, even if SOC is nominal.

3. Appliance Startup Surges:

- Initial surge from microwave/kettle may cause brief overdraw.

4. Faulty Transfer Relay or Configuration:

- Misconfigured transfer relay could result in full power loss and reset behavior.

Suggested Actions for Technician

1. Review inverter logs via VictronConnect or Cerbo GX.

2. Measure DC battery voltage under load.

3. Confirm inverter settings:

- Continuous output rating
- Input current limits
- Voltage shutdown thresholds

4. Test appliances individually.

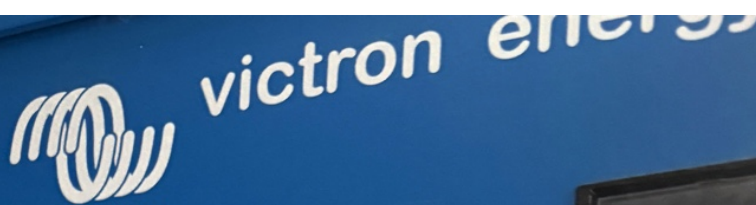
5. Inspect battery cabling and terminals.

Additional Notes

- Inverters located behind the starboard engine room.
- Access to Cerbo GX or schematics can be provided.
- Issue persists with or without shore/generator power.







output current



centaur
battery charger 12^{VOLT} 100^{AMP}

This continuous duty charger is Ignition Protected per ISO 8846.
CAUTION: Do not expose to rain or spray.
WARNING electrical shock hazard: A GFCI must be installed in the AC supply circuit. Disconnect the supply before opening panel and before making or breaking the connections to the battery.
www.victronenergy.com

