



Volvo Chassis - Troubleshooting Inverter

> Internal Content

Power Inverter

In the event the inverter/charger is not working and/or all appliances are inoperable:

1. Assure the switch is on
2. Assure the fuse on the unit is not blown
3. Check the “reset” button at the truck’s Load Center
4. Check for a good clean connection at the battery cables
5. Connect a cord via the Shore Power connection
6. Check interior receptacles via appliances or volt-ohm meter
7. Replace the inverter/charger assembly per service bulletin 396 01

In the event the inverter/charger shuts down during operation or flashes any sequence of miscellaneous fault codes, refer to the following troubleshooting reference guide

Common problems

The unit shuts down during operation for four main reasons:

- low battery - when the battery reaches approximately 11.8 Vdc (for loads greater than 150 watts) for more than four minutes, or 12.3 Vdc for loads less than 150 watts.
- high battery - when the battery voltage exceeds 16 Vdc
- overload - when the AC load connected to the inverter exceeds the rated load or when the internal temperature thresholds are reached

This table lists problems you may encounter and offers suggestions to fix them. Refer to Table 4-2 and Table 4-3 for explanation of the blinking



Table 4-1 Troubleshooting reference

Symptom	Possible Problem	Remedy
Loads will not start when there is no shorepower	· Inverter not turned on · Batteries at low voltage · Inverter too hot	· Turn the inverter on · Recharge batteries by running the engine or connect to shorepower · Wait until inverter has cooled down
Loads stop running almost as soon as they start	· Load is too heavy · Batteries at low voltage level · Bad battery cable or corroded battery terminals · Batteries in poor condition	· Reduce the load · Recharge batteries by running the engine or plug into shorepower · Check cable and connectors · Test and replace, if necessary
Reduce the load Recharge batteries by running the engine or plug into shorepower Check cable and connectors Test and replace, if necessary	· Too many appliances have reduced battery voltage to shutdown level · Ambient temperature is too high	· Reduce number of loads. Allow inverter to cool and restart. Start the truck to recharge the batteries. · Disconnect appliances and let the unit cool down
er will not work even after toggling switch and batteries are	· Remote switch may be	· Check that the remote switch is firmly

charged and the inverter is cold	disconnected at the unit (not likely) · Fuse on the unit (shown in Figure 1-1) may have blown (not likely)	connected · Replace fuse or return unit to an authorized Volvo dealer
AC voltage at receptacles reads low	· Wrong type of volt meter being used	· Use a true RMS meter
In inverter mode, times to shutdown are getting shorter for the same kind of AC load	· Bad battery cable or corroded battery terminals · Batteries too old or damaged	· Check cables and connectors · Replace batteries

Blinking lights on the remote switch

This table describes the different sequences of blinking lights you may encounter when the inverter is enabled (switch is on) or the unit is charging (switch is off). Light sequences are described as follows:

Fast blink	Light is on for 1/4 second and off for 1/4 second
Slow blink	Light is on for 1/2 second and off for 1/2 second
Very slow blink	Light is on for one second and off for one second

Table 4-2 explains the blinking pattern of the AC input LED when the inverter is connected to shorepower. Table 4-3 explains the inverter LED flashing pattern when the unit is in invert mode or in charge mode.

Table 4-2 Interpreting AC input LED blink patterns

Inverter LED	AC input LED	Condition
Off	ON	Connected to shorepower within 100 to 130 Vac range and battery charger is operational

and battery charger is operational		
Off	Very slow blink	· Delay on transfer from the inverter to shorepower · AC power is not in range (outside 100 to 130 Vac range) · Battery is not being charged. AC output load may be too great · Extension cord to shorepower may be too long or not of sufficient conductor size, resulting in voltage drop

Table 4-3 explains the inverter LED flashing pattern when the unit is in invert mode or in charge mode.

Table 4-3 Inverter LED blink patterns

Unit in invert mode	Unit in charge mode	Condition
Slow blink	N/A	Low battery
Fast blink	Fast blink	High battery
Fast blink	Slow blink	Unit over temperature and has shut down
Fast blink	Slow blink	Ambient temperature too high and unit has shut down
Slow blink	N/A	Over current
Very slow blink	N/A	Auto shutdown. Inverter has shut down because no load has been detected in 24 hours or the load is too small to detect



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