

GENERIC · POWERTRAIN

P0DF1

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0DF1

Generator Inverter Temperature Sensor B Circuit Intermittent/Erratic

P0DF1 indicates that the generator inverter's temperature sensor B circuit is reporting an intermittent or erratic signal to the control module. The computer detects this when the sensor's voltage or resistance readings jump unpredictably or drop out momentarily, rather than following a smooth, expected curve.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- Possible intermittent charging system warning light or voltage gauge fluctuation.
- Reduced or fluctuating electrical output, leading to dim lights or slow accessory operation.
- In rare cases, the vehicle may enter a reduced power mode or limit electrical loads.
- Inconsistent cabin climate control or other electrical anomalies if the inverter shares data with body modules.

Common causes, most likely first

- 1 Faulty generator inverter temperature sensor B, such as an internal short or open circuit.
- 2 Damaged or corroded wiring harness or connector at the sensor or inverter assembly.
- 3 Loose or intermittent ground connection for the inverter or sensor circuit.
- 4 Heat-related degradation of the sensor or its wiring due to proximity to high-temperature components.
- 5 Poor electrical connection at the control module pins for the sensor circuit.
- 6 Aftermarket accessories or improper repairs that disturb the inverter wiring.
- 7 Internal fault in the generator inverter assembly affecting sensor signal processing.



How to diagnose and fix it

- 1 Perform a visual inspection of the inverter temperature sensor B, its connector, and wiring for damage, corrosion, or loose pins.
- 2 Check for technical service bulletins (TSBs) or manufacturer-specific diagnostic procedures for this code.
- 3 Use a scan tool to monitor the sensor B temperature PID while wiggling the harness and connectors to identify intermittent faults.
- 4 Measure the resistance or voltage of the sensor circuit at the sensor and at the control module, comparing to specifications.
- 5 Perform a voltage drop test on the ground and power circuits related to the inverter temperature sensor.
- 6 If the sensor is faulty, replace it according to the manufacturer's procedure, which may involve replacing the inverter assembly if the sensor is not serviceable separately.
- 7 Clear the code and verify the repair by test-driving the vehicle under conditions that previously triggered the code.

Intermittent sensor faults need careful circuit testing

- A common mistake is replacing the inverter assembly when the actual problem is a chafed wire or corroded connector, so always perform a thorough circuit test first.
- The code can set due to a momentary glitch that never recurs, so check for stored freeze-frame data and history before condemning parts.
- Heat soak after shutdown can cause the sensor to act erratically, so testing when the engine is cold may miss the fault; try monitoring the signal during a hot restart.
- Inverter temperature sensor B is often part of a dual-sensor strategy, and a fault in sensor A can sometimes cause cross-talk that sets a B code, so verify both circuits.
- Aftermarket electrical accessories tapped into the inverter wiring can introduce noise or voltage drops that mimic a sensor failure, so inspect for non-factory modifications.

Can I keep driving with P0DF1?

The vehicle is generally safe to drive with this code because it is an intermittent sensor fault, but avoid heavy electrical loads and long trips until repaired. If the charging system warning light comes on or voltage drops, stop driving and seek service immediately.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with min/max recording
- Backprobe pins or breakout box for circuit testing
- Wiring diagram and service information for the specific vehicle
- Heat gun and freeze spray for temperature-related testing



Reading P0DF1

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- F1** The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0A0A** High Voltage System Interlock Circuit A · **P0A1F** Battery Energy Control Module A Performance · **P0DF0** Generator Inverter Temperature Sensor B Circuit · **P0DF2** Generator Inverter Temperature Sensor C Circuit

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0df1/>

