



P0DF7

Generator Inverter Temperature Sensor C Circuit Range/Performance

P0DF7 means the powertrain control module has detected that the signal from the generator inverter temperature sensor C is outside its expected range or is not performing as designed. The computer compares the sensor's voltage or resistance pattern against a known good profile and flags this code when the reading is implausible, stuck, or erratic.

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 a dedicated charging system warning light
- Often no symptoms besides the warning light, especially if the inverter is still operating within safe limits
- Reduced or fluctuating charging voltage observed on a voltmeter or dash gauge
- Intermittent electrical accessories such as dimming lights or slow-blowing blower motor
- Possible entry into limp mode or reduced power output on some vehicles as a protective strategy
- A stored history of related generator or inverter codes in the module

Common causes, most likely first

- 1 Faulty generator inverter temperature sensor C or its internal thermistor element
- 2 Damaged, chafed, or corroded wiring in the sensor circuit, including the signal, ground, or reference return
- 3 Loose or contaminated connector pins at the sensor or at the generator inverter assembly
- 4 Overheating of the inverter due to a separate cooling system fault, such as a blocked duct or failed fan
- 5 Internal fault in the generator inverter module affecting the sensor reference voltage
- 6 Software calibration issue in the powertrain control module requiring a reflash or update



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear codes and verify whether P0DF7 returns immediately or only after a drive cycle
- 2 Visually inspect the sensor connector and harness for damage, corrosion, or loose pins, and repair any obvious wiring faults
- 3 Measure the sensor's resistance or voltage at the connector and compare it to the manufacturer's specification for the current temperature
- 4 Back-probe the signal circuit at the powertrain control module to check for continuity and to rule out high resistance or a short to ground or voltage
- 5 Check the inverter cooling system for restrictions, fan operation, and coolant or airflow faults that could cause genuine overheating
- 6 If the sensor is integral to the inverter assembly and tests out of range, replace the affected sensor or inverter module according to service information
- 7 After repair, clear codes, perform a road test with the scan tool recording live data, and confirm the sensor reading tracks realistically with temperature

What the inverter temperature sensor code hides

- A common misdiagnosis is replacing the generator inverter when the actual fault is a chafed signal wire near a hot exhaust component or a corroded ground that skews the sensor reading.
- This code can set intermittently from a genuine overheating event caused by a failing cooling fan or a blocked air duct, so always verify the inverter's thermal environment before condemning the sensor.
- Some vehicles use the inverter temperature signal for charge control strategy, so a plausible but slightly offset reading may cause poor fuel economy or weak charging without ever setting a hard fault.
- A weak or failing 12-volt battery can cause erratic module behavior and false sensor codes, so load-test the battery and check charging voltage before deep circuit testing.
- The sensor C designation often refers to a specific thermistor inside a multi-sensor inverter pack, and replacing the whole pack for one failed element is a costly trap when a pigtail repair may suffice.

Can I keep driving with P0DF7?

You can generally drive the vehicle short distances to a repair shop, but avoid heavy electrical loads and long trips until the fault is diagnosed. If the charging warning light is on or the battery voltage is dropping, stop driving and arrange a tow to prevent a no-start or stall condition.



Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with temperature or resistance measurement
- Back-probe kit and wiring diagram for the generator inverter circuit
- Infrared thermometer to verify actual inverter temperature
- Basic hand tools for connector and panel access

Reading P0DF7

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
D	Hybrid propulsion.
F7	The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0A0D** High Voltage System Interlock Circuit A High · **P0DF5** Generator Inverter Temperature Sensor B Circuit Low · **P0DF6** Generator Inverter Temperature Sensor B Circuit High · **P0DF8** Generator Inverter Temperature Sensor C Circuit Low

See it working

Watch the animated explainer [How Crank and Cam Position Sensors Work](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0df7/>

