

GENERIC · POWERTRAIN

P0C7D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0C7D

Hybrid/EV Battery Temperature Sensor G Range/Performance

P0C7D indicates that the hybrid or electric vehicle battery temperature sensor designated as 'G' is reporting a signal that falls outside the expected range or performance window, so the battery energy control module cannot trust its reading. The computer compares the sensor's voltage or resistance against modeled expectations and flags the code when the signal is implausible, stuck, or erratic for a calibrated period.

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

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Reduced electric-only operation or forced engine running in a plug-in hybrid
- Limited charging rate or a message that the battery is too hot or too cold to charge
- A sudden drop in state of charge or reduced power output under load
- Often no symptoms besides the warning light, especially if the fault is intermittent
- In some cases, the vehicle may refuse to start or enter a limp-home mode

Common causes, most likely first

- 1 Faulty battery temperature sensor G itself, due to internal failure or contamination
- 2 Damaged or corroded wiring or connector at the sensor or along the harness to the battery control module
- 3 High-voltage battery pack overheating from a failed cooling fan, blocked duct, or low coolant
- 4 Software calibration issue in the battery energy control module causing false plausibility errors
- 5 Poor electrical connection at the battery control module connector or a chafed wire in the pack
- 6 Extreme ambient temperatures combined with a marginal sensor that drifts out of range
- 7 A failed cell or module causing localized hot spots that the sensor correctly reports as out of range



How to diagnose and fix it

- 1 Use a scan tool to record freeze-frame data and verify the sensor G reading against other battery temperature sensors when the engine is cold and again after a test drive.
- 2 Inspect the sensor connector and harness for corrosion, loose pins, or chafed insulation, and perform a wiggle test while watching live data.
- 3 Measure the sensor's resistance or voltage at the sensor and at the control module connector, then compare with the manufacturer's temperature-resistance chart.
- 4 Check the high-voltage battery cooling system for proper operation, including fan function, coolant level, and airflow through the pack.
- 5 If the sensor is accessible, substitute a known-good sensor or a resistor of the correct value to see if the code clears and live data normalizes.
- 6 Repair or replace the faulty sensor or harness section, clear the codes, and perform a battery pack relearn or adaptation procedure if required.
- 7 If the sensor and wiring test good, check for technical service bulletins or software updates for the battery control module before condemning it.

What the battery temperature sensor G code hides

- A temperature sensor that reads plausibly but is offset by only a few degrees can set this code without ever showing an obvious out-of-range value on a basic scan tool.
- The code often appears after a battery pack cooling fan fails silently, so the sensor is reporting a real over-temperature condition rather than a sensor fault.
- In many hybrids, sensor G is part of a daisy-chained temperature sensor string, and a single bad sensor or connector can affect the readings of neighboring sensors.
- Technicians sometimes replace the battery pack unnecessarily when the actual fault is a corroded connector pin at the control module that only acts up under vibration.
- A weak 12-volt auxiliary battery can cause erratic module communication and false temperature sensor codes, so always check system voltage first.

Can I keep driving with P0C7D?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, sustained high speeds, and charging if the battery temperature reading is implausible. Continued driving with a genuine over-temperature condition can damage the high-voltage battery pack, so have it diagnosed promptly.



Tools that help

- Hybrid/EV-capable scan tool with live data and freeze-frame recording
- Digital multimeter with temperature probe or resistance measurement
- Manufacturer service information with wiring diagrams and temperature-resistance charts
- Insulated hand tools and personal protective equipment rated for high-voltage work
- Battery cooling system pressure tester or airflow meter

Reading P0C7D

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
7D	The exact fault within that area.

Often seen with

P0A9C Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0C7C** Hybrid/EV Battery Temperature Sensor G Circuit · **P0C7E** Hybrid/EV Battery Temperature Sensor G Circuit Low · **P0C7F** Hybrid/EV Battery Temperature Sensor G Circuit High

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0c7d/>

