



P0C7C

Hybrid/EV Battery Temperature Sensor G Circuit

P0C7C indicates that the hybrid or electric vehicle battery management system has detected an abnormal signal on the temperature sensor circuit designated as 'G' for the high-voltage battery pack. The computer compares the sensor's voltage or resistance against expected values and flags the circuit when the reading falls outside the valid range or behaves erratically.

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

Symptoms you may notice

- Illumination of the check engine light or hybrid system warning lamp.
- Often no symptoms besides the warning light, especially if the sensor fault is intermittent.
- Reduced electric-only driving range or forced engine operation in a hybrid.
- A message on the dash indicating a hybrid battery temperature problem or limited power.
- Possible reduced charging rate or disabled fast-charging on some electric models.
- In rare cases, the vehicle may enter a limp mode that limits speed or power output.

Common causes, most likely first

- 1 A faulty temperature sensor G itself, either open circuit, shorted, or drifting out of specification.
- 2 Damaged or corroded wiring and connector pins between the sensor and the battery management module.
- 3 A poor ground connection shared by the sensor circuit, causing a reference voltage offset.
- 4 Internal failure in the battery management module or its sensor interface circuitry.
- 5 Physical damage to the sensor harness from road debris, rodent chewing, or chafing against the battery pack.
- 6 Extreme ambient temperatures or a battery pack that has been overheated, which can stress the sensor.
- 7 Aftermarket or incorrectly installed battery pack components that disturb the sensor wiring.



How to diagnose and fix it

- 1 Use an OBD-II scan tool to read the freeze-frame data and confirm that P0C7C is the only temperature sensor code present.
- 2 Visually inspect the sensor G wiring and connector at the battery pack for corrosion, chafing, or loose pins.
- 3 Measure the resistance of the temperature sensor G with a multimeter and compare it to the manufacturer's temperature-resistance chart.
- 4 Check the reference voltage and ground at the sensor connector with the key on, engine off, to verify the circuit integrity.
- 5 If the sensor and wiring test good, perform a wiggle test on the harness while monitoring live data to catch intermittent faults.
- 6 Substitute a known-good sensor of the same type or use a signal simulator to confirm whether the fault follows the sensor or the module.
- 7 If the module is suspected, follow the manufacturer's diagnostic flow for module testing before replacement, as modules require programming.

Hidden causes of temperature sensor G faults

- A common oversight is assuming the sensor is bad when the real problem is a corroded connector pin that adds resistance only when the pack is warm and expands.
- The code can set intermittently from a loose ground strap on the battery pack, which shifts the sensor reference voltage without any sensor defect.
- Some battery management systems log this code after a low-voltage event, such as a weak 12-volt battery, so always check the auxiliary battery first.
- A failed cooling fan or blocked battery pack air filter can cause real overheating that damages the sensor, so the code may be a symptom rather than the root cause.
- Replacing the sensor without clearing adaptive learning values can leave the module still using old temperature offsets, so a relearn procedure is often required.

Can I keep driving with P0C7C?

You can usually drive the vehicle short distances to a repair shop, but avoid aggressive acceleration, sustained high speeds, and fast charging because a faulty temperature reading can prevent the battery management system from protecting the pack. If the vehicle enters a reduced-power mode or displays a high battery temperature warning, stop driving and have it towed.



Tools that help

- OBD-II scan tool with live data and hybrid battery parameters
- Digital multimeter with temperature probe
- Manufacturer service information for sensor resistance charts
- Insulated hand tools and high-voltage safety gloves
- Wire terminal pick and contact cleaner

Reading P0C7C

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
7C	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 · **P0C7A** Drive Motor B Inverter Voltage Too High · **P0C7B** Generator Inverter Voltage Too High · **P0C7D** Hybrid/EV Battery Temperature Sensor G Range/Performance

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/p0c7c/>

