

GENERIC · POWERTRAIN

P0C97

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0C97

Hybrid/EV Battery Temperature Sensor L Circuit

P0C97 indicates that the hybrid or electric vehicle battery pack's temperature sensor 'L' circuit has a problem, such as an open, short, or out-of-range signal. The battery energy control module monitors this sensor to protect the high-voltage battery from overheating or overcooling, and it sets the code when the voltage or resistance reading falls outside the expected range.

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 hybrid system warning light, often with no other noticeable symptoms
- Reduced electric-only driving range or the vehicle refusing to enter EV mode
- A message on the dash indicating the hybrid battery is too hot or too cold, even when ambient temperatures are normal
- Intermittent loss of power or a forced engine-on condition as the system limits battery usage
- In rare cases, the vehicle may fail to start or go into a limp-home mode

Common causes, most likely first

- 1 Faulty battery temperature sensor 'L' itself, due to internal failure or contamination
- 2 Damaged or corroded wiring or connector at the sensor, often from vibration or moisture intrusion
- 3 Open or shorted circuit in the harness between the sensor and the battery energy control module
- 4 Poor electrical connection at the battery energy control module connector
- 5 Failed battery energy control module, though this is less common
- 6 Extreme ambient temperatures or a recently replaced battery pack that requires sensor calibration



How to diagnose and fix it

- 1 Use a scan tool to read the live data for sensor 'L' and compare it with other battery temperature sensors to confirm an erratic or out-of-range reading.
- 2 Visually inspect the sensor connector and wiring for corrosion, chafing, or loose pins, and repair any obvious damage.
- 3 Measure the resistance of the sensor with a multimeter and compare it to the manufacturer's specification for the current temperature.
- 4 Check for continuity and short-to-ground or short-to-power on the signal and return circuits between the sensor and the control module.
- 5 If the wiring and sensor test good, substitute a known-good sensor or simulate the signal with a resistor box to see if the code changes.
- 6 Clear the code and perform a road test to verify the repair, monitoring live data to ensure the sensor reading tracks realistically.
- 7 If the fault persists after all external checks, follow the manufacturer's diagnostic flow for internal control module testing or replacement.

Battery temperature sensor L diagnostic traps

- A common oversight is replacing the sensor without checking the harness; vibration and heat often damage the wiring near the battery pack, causing the same code.
- The code can be set by a temporary extreme temperature event, such as parking in direct sun in summer or extreme cold, and may not indicate a hard failure.
- Some vehicles use a single sensor for multiple cells, so a fault in sensor 'L' can affect the reading for a whole module, leading to misdiagnosis of the battery pack itself.
- After battery pack replacement or sensor replacement, some systems require a calibration or learn procedure; skipping it can leave the code stored.
- A weak 12-volt auxiliary battery can cause erratic sensor readings and set this code, so always check system voltage first.

Can I keep driving with P0C97?

You can usually drive the vehicle with this code, but avoid aggressive acceleration or long trips that heavily load the hybrid battery until it is repaired. If the vehicle enters a reduced-power mode or shows a high-voltage battery warning, stop driving and seek professional service.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Resistor box for signal simulation
- Wire repair kit with crimpers and heat shrink
- Manufacturer service information for wiring diagrams and specifications

Reading P0C97

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

Often seen with

P0A9C Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0AC4** Hybrid/EV Powertrain Control Module Requested MIL Illuminati · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0C96** Hybrid/EV Battery Temperature Sensor K Circuit Intermittent/ · **P0C98** Hybrid/EV Battery Temperature Sensor L 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/p0c97/>

