

GENERIC · POWERTRAIN

P0E5B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E5B

DC/DC Converter Temperature Sensor C Circuit High

P0E5B indicates that the powertrain control module has detected an abnormally high voltage on the signal circuit for the DC/DC converter temperature sensor C. The DC/DC converter changes high-voltage battery power to the low voltage needed by the vehicle's 12-volt systems, and this sensor monitors its internal temperature; a high signal voltage tells the module the sensor circuit is open, shorted to voltage, or the sensor itself has failed.

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 with no other noticeable issues.
- Reduced or complete loss of 12-volt accessory power if the converter enters a protective shutdown.
- A warning message on the dash indicating a hybrid or electric system fault.
- The vehicle may refuse to start or shift into gear if the converter is disabled.
- In rare cases, the DC/DC converter may overheat and produce a burning smell or visible smoke.

Common causes, most likely first

- 1 Open circuit or high resistance in the sensor signal wire between the DC/DC converter temperature sensor C and the control module.
- 2 Short to voltage on the sensor signal circuit, often caused by chafed wiring near the converter or a faulty connector.
- 3 Failed DC/DC converter temperature sensor C, typically an internal open circuit in the thermistor.
- 4 Corroded, loose, or water-intruded electrical connector at the sensor or converter.
- 5 Faulty powertrain control module or DC/DC converter control module, though this is less common.
- 6 Aftermarket accessories or improper wiring repairs that back-probe or splice into the sensor circuit.



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and any stored codes to confirm P0E5B is current and not history.
- 2 Visually inspect the sensor connector and wiring harness for damage, corrosion, or loose pins, and repair as needed.
- 3 Measure the sensor resistance with a multimeter and compare it to the manufacturer's temperature-resistance chart to verify the sensor is within specification.
- 4 Back-probe the signal circuit at the control module connector and check for a short to voltage or an open circuit while wiggling the harness.
- 5 If the sensor is faulty, replace it following the manufacturer's procedure, which may require removing the converter assembly.
- 6 Clear the codes and perform a road test to verify the repair, monitoring live data for the sensor signal to ensure it reads correctly across the temperature range.

Don't overlook the converter coolant loop

- A common oversight is assuming the sensor is at fault when the real problem is a chafed signal wire hidden behind the converter assembly, so always perform a wiggle test on the harness.
- The DC/DC converter temperature sensor C is often integrated into the converter and not sold separately, so technicians sometimes replace the entire converter when only the sensor or its wiring is faulty.
- This code can be set by a low 12-volt battery or poor charging system performance, which causes the control module to misinterpret sensor readings, so check the battery and charging system first.
- On some vehicles, the DC/DC converter is liquid-cooled, and a coolant leak or air pocket can cause the sensor to read incorrectly and set this code even when the sensor circuit is intact.
- A short to voltage on the signal circuit can be caused by a faulty alternator or other high-current accessory sharing the same harness, so inspect for aftermarket wiring before condemning the sensor.

Can I keep driving with P0E5B?

It is generally safe to drive a short distance to a repair shop if the vehicle operates normally, but avoid long trips or heavy electrical loads because the converter may shut down and leave you without 12-volt power. If the vehicle enters a reduced-power mode or the 12-volt system fails, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Back-probe kit or fine test leads
- Wiring diagram for the specific vehicle
- Temperature-resistance chart for the sensor
- Basic hand tools for connector and component access



Reading P0E5B

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 5B** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A94** DC/DC Converter A Performance · **P0E5A** DC/DC Converter Temperature Sensor C Circuit Low · **P0E5C** DC/DC Converter Temperature Sensor C Circuit Intermittent/Er · **P0E5D** DC/DC Converter Enable Circuit Intermittent/Erratic

See it working

Watch the animated explainer [How the PCV System Works: Crankcase Ventilation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0e5b/>

