

GENERIC · POWERTRAIN

P0BDB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BDB

Drive Motor Inverter Temperature Sensor E Circuit

P0BDB indicates that the vehicle's control module has detected an abnormal electrical condition on the signal circuit for temperature sensor E, which monitors the drive motor inverter. The inverter converts direct current (DC) from the battery to alternating current (AC) for the drive motor, and this sensor helps the system protect itself from overheating. The code is set when the sensor's voltage reading falls outside the expected range or the circuit 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 service vehicle soon message, often with no other symptoms
- Reduced power output or limp mode as the system limits inverter operation to prevent damage
- Inconsistent or inaccurate temperature readings on a scan tool data stream
- Possible shutdown of the electric drive system if the fault escalates
- In rare cases, a burning smell or visible overheating signs if the inverter actually overheats

Common causes, most likely first

- 1 Faulty temperature sensor E inside the inverter assembly
- 2 Damaged or chafed wiring harness between the sensor and the control module
- 3 Corroded or loose electrical connector at the sensor or control module
- 4 Internal failure within the inverter assembly affecting sensor signal
- 5 Control module software glitch or internal circuit fault
- 6 Coolant leaks or blockages causing the inverter to overheat and stress the sensor



How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data, then clear the code and test-drive to see if it returns
- 2 Visually inspect the sensor wiring and connectors for damage, corrosion, or loose pins
- 3 Measure the sensor's resistance and compare it to the manufacturer's specification for the current temperature
- 4 Backprobe the sensor signal circuit at the control module to check for voltage drops or shorts
- 5 If the sensor is faulty, replace it according to service information, which may require inverter disassembly
- 6 Check the inverter cooling system for proper coolant level and flow, as overheating can trigger the code
- 7 After repairs, clear codes and verify the sensor reading is stable and within range during a road test

Don't Replace the Inverter Before Checking This

- A common oversight is assuming the inverter assembly is faulty when the actual problem is a chafed wire in the harness near the motor mount or a corroded connector pin.
The code can be set by a temporary overheating event caused by low coolant or a failing coolant pump, so always verify cooling system health before condemning the sensor.
- Some vehicles require a software update to the control module to correct overly sensitive temperature sensor thresholds that falsely set this code.
- The sensor may be integrated into the inverter and not serviceable separately, but the wiring and connectors are often the real culprit and should be tested first.
A weak 12-volt battery or poor ground connection can cause erratic sensor readings and set this code, so check power and ground integrity before deeper diagnostics.

Can I keep driving with P0BDB?

You can usually drive the vehicle with this code, but avoid aggressive acceleration or sustained high-speed driving because the system may limit power to protect the inverter. If the vehicle enters limp mode or shows overheating warnings, stop driving and seek professional diagnosis to prevent damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram and service information
- Socket and ratchet set
- Insulation resistance tester (megohmmeter)



Reading P0BDB

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0BDA** Drive Motor Inverter Temperature Sensor D Circuit Intermitte · **P0BDC** Drive Motor Inverter Temperature Sensor E Circuit Range/Perf · **P0BDD** Drive Motor Inverter Temperature Sensor E Circuit Low · **P0C00** Drive Motor A Current Low

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/p0bdb/>

