

GENERIC · POWERTRAIN

P0BDE

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BDE

Drive Motor Inverter Temperature Sensor E Circuit High

P0BDE indicates that the inverter's temperature sensor E circuit is reporting an abnormally high signal voltage to the vehicle's control module. The computer has detected a voltage that exceeds the expected range for the current operating conditions, which usually points to an open circuit, a faulty sensor, or a wiring problem rather than an actual overheating event.

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, often with no other noticeable symptoms
- Reduced power or limp mode if the inverter derates to protect itself from perceived overheating
- Inconsistent or erratic temperature readings on a scan tool, sometimes jumping or sticking at a high value
- In rare cases, a burning smell or visible damage to the inverter or its wiring if the fault is accompanied by a real overheat
- Intermittent warning light activation, especially over bumps or in wet conditions, if the fault is a loose connection

Common causes, most likely first

- 1 Open or high-resistance wiring in the sensor E circuit, such as a broken wire or corroded connector
- 2 Faulty inverter temperature sensor E, reading high or failing open
- 3 Poor electrical connection at the sensor or control module, including loose pins or water intrusion
- 4 Damaged or chafed harness causing an intermittent short to voltage or open circuit
- 5 Internal fault in the inverter assembly affecting the sensor circuit or its signal processing
- 6 Control module software or hardware issue misinterpreting the sensor signal (less common)



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data for P0BDE, noting the sensor E voltage and temperature readings to confirm the fault is active.
- 2 Visually inspect the inverter temperature sensor E, its connector, and the wiring harness for damage, corrosion, or loose pins, repairing as needed.
- 3 Measure the resistance of the sensor E circuit at the sensor connector and compare it to the manufacturer's specification for the current temperature.
- 4 Check for continuity and voltage drops along the signal and ground circuits between the sensor and the control module to rule out open or high-resistance wires.
- 5 If the sensor tests out of range, replace the inverter temperature sensor E and clear the code to see if it returns.
- 6 If the wiring and sensor are good, test the control module's internal circuitry or consult service information for module reprogramming or replacement.
- 7 After repairs, perform a road test with a scan tool monitoring sensor E data to verify the code does not reset and the readings are normal.

When the sensor lies about overheating

- A high signal voltage on a temperature sensor circuit almost always means an open circuit or a sensor that has failed open, not that the inverter is actually overheating.
- Technicians often replace the inverter assembly when the real problem is a chafed wire in the harness, so always perform a voltage drop test on the signal circuit before condemning expensive components.
- Intermittent P0BDE codes that appear only in wet weather often trace to water intrusion in a connector, which can corrode pins and cause a high-resistance signal without any visible damage.
- Some vehicles use a shared reference voltage for multiple sensors, so a short in another sensor's circuit can pull down the reference and set P0BDE along with other codes.
- The code can be set by a faulty control module that misreads a correct sensor signal, but this is rare and should only be suspected after all wiring and sensor tests pass.

Can I keep driving with P0BDE?

You can usually continue driving to a repair shop if the only symptom is the warning light and the vehicle drives normally, but avoid heavy acceleration or sustained high-speed driving because a genuine overheating condition could damage the inverter. If the vehicle enters limp mode or you notice a burning smell, stop safely and have it towed.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with resistance and voltage measurement
- Wiring diagram or service information for the specific vehicle
- Back probe pins or breakout box for connector testing
- Infrared thermometer for verifying actual inverter temperature

Reading P0BDE

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

Often seen with

P0BDB Drive Motor Inverter Temperature Sensor E Circuit · **P0BDC** Drive Motor Inverter Temperature Sensor E Circuit Range/Perf · **P0BDD** Drive Motor Inverter Temperature Sensor E Circuit Low · **P0BDF** Drive Motor Inverter Temperature Sensor E Circuit Intermitte · **P0BE0** Drive Motor Inverter Temperature Sensor F Circuit

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/p0bde/>

