

GENERIC · POWERTRAIN

P0BE0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BE0

Drive Motor Inverter Temperature Sensor F Circuit

P0BE0 means the computer has detected a fault in the electrical circuit for the temperature sensor that monitors the drive motor inverter, the component that converts battery direct current into the alternating current the traction motor needs. The inverter's control module compares the sensor signal against expected limits and flags this code when the voltage or resistance falls outside the normal range, indicating an open, short, or erratic signal rather than necessarily a failed sensor.

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 besides the warning light
- Reduced power or limp mode as the inverter derates to protect itself from overheating
- Intermittent loss of drive or hesitation during acceleration
- Overheating warning or shutdown of the hybrid/electric drive system in severe cases
- Poor energy efficiency or unusual battery drain noticed by the driver

Common causes, most likely first

- 1 Damaged or chafed wiring harness between the inverter temperature sensor and the control module
- 2 Corroded, loose, or pushed-back terminals at the sensor or inverter connector
- 3 Failed inverter temperature sensor itself, reading open or shorted
- 4 Internal fault in the inverter control module or its signal processing circuit
- 5 Coolant leaks or contamination reaching the sensor and connector, causing signal corruption
- 6 Heat damage to the sensor or wiring from prolonged inverter operation at high temperature



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data to confirm the fault conditions
- 2 Visually inspect the inverter temperature sensor connector and harness for corrosion, chafing, or loose pins
- 3 Measure sensor resistance or voltage at the sensor and compare with the manufacturer's specification
- 4 Back-probe the signal circuit at the control module to check for continuity and correct reference voltage
- 5 Check for coolant intrusion or heat damage around the inverter housing and sensor mounting area
- 6 Replace the inverter temperature sensor if it fails electrical testing, then clear codes and verify the signal reads correctly
- 7 If the sensor and wiring test good, diagnose the inverter control module for internal signal faults before replacement

What technicians overlook on P0BE0

- A common mistake is replacing the inverter temperature sensor immediately, when a chafed harness near a sharp bracket or heat source is the real cause of the circuit fault.
This code can set intermittently from a connector that only loses contact when the inverter heats up and expands, so a cold static test may pass while the fault is still present.
- Coolant seepage from a failing inverter cooling circuit can wick into the sensor connector and alter resistance without any visible external leak.
- The code does not always mean the sensor is bad; a failing inverter control module can bias the signal circuit and set the same fault.
After any repair, the inverter may need a relearn or adaptation drive cycle before the code stays cleared, and skipping this step leads to false comebacks.

Can I keep driving with P0BE0?

You can usually drive the vehicle to a repair shop, but avoid hard acceleration and long uphill climbs because the inverter may derate power or shut down if it cannot trust its temperature reading. If the vehicle enters limp mode or shows an overheating warning, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Manufacturer service information for sensor resistance and voltage specifications
- Wiring diagram for the inverter temperature sensor circuit
- Hand tools for connector and sensor access



Reading P0BE0

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- B** Hybrid propulsion.
- E0** The exact fault within that area.

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0BE1** Drive Motor Inverter Temperature Sensor F Circuit Range/Perf · **P0BE2** Drive Motor Inverter Temperature Sensor F Circuit Low · **P0BE3** Drive Motor Inverter Temperature Sensor F Circuit High · **P0C73** Hybrid Battery Pack Cooling Pump 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/p0be0/>

