



P0BDA

Drive Motor Inverter Temperature Sensor D Circuit Intermittent/Erratic

P0BDA indicates that the vehicle's control module has detected an intermittent or erratic signal from the temperature sensor circuit labeled 'D' inside the drive motor inverter, which is the power electronics unit that converts battery direct current into alternating current for the electric motor. The computer sets this code when the sensor's voltage readings jump, drop out, or behave in a way that does not match expected temperature patterns, rather than when the sensor simply reads too hot or too cold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Hybrid propulsion

Symptoms you may notice

- A warning light or service vehicle soon message on the dashboard, often with no other noticeable symptoms
- Reduced power or a limp-home mode triggered by the inverter protecting itself when temperature data becomes unreliable
- Intermittent stalling or refusal to start if the inverter shuts down due to a lost temperature signal
- A temperature gauge or battery/inverter temperature readout that jumps erratically or reads unrealistically
- Occasional cooling fan runs at full speed because the controller cannot trust the inverter temperature reading
- No symptoms besides the warning light in many cases, especially when the erratic signal is brief

Common causes, most likely first

- 1 A failing temperature sensor inside the drive motor inverter, where the thermistor element becomes intermittent with heat and vibration
- 2 Damaged or chafed wiring between the inverter temperature sensor and the control module, often near connectors or where the harness bends
- 3 Corroded, loose, or water-intruded electrical connectors at the inverter or controller, causing resistance changes that mimic sensor faults
- 4 A poor ground connection for the inverter or control module, which makes the sensor return signal unstable
- 5 Internal faults in the inverter control board or the control module's sensor input circuit, including cold solder joints
- 6 Heat-related intermittent opens in the sensor circuit that only appear after the inverter reaches operating temperature
- 7 Aftermarket accessories or poor previous repairs that have disturbed the inverter harness or added electrical noise



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P0BDA, then clear the code and test-drive to confirm whether it returns and under what conditions
- 2 Inspect the inverter temperature sensor harness and connectors for chafing, corrosion, water intrusion, and loose pins, repairing any damage found
- 3 Measure the sensor's resistance or voltage at the control module connector and compare it with the manufacturer's temperature chart while wiggling the harness to catch intermittent faults
- 4 Check and clean the inverter and control module ground connections, then verify ground voltage drop under load
- 5 If the sensor is accessible and tests out of specification, replace the inverter temperature sensor or the sensor assembly as required by the manufacturer's procedure
- 6 If the sensor and wiring test good but the code persists, substitute a known-good sensor or use a signal simulator to determine whether the fault lies in the inverter or the control module
- 7 After repairs, clear codes, perform any required inverter calibration or learn procedure, and verify with a road test that the code does not return

Why this code is often misdiagnosed

- P0BDA is an intermittent circuit code, so a sensor that reads a steady but slightly wrong temperature will not set it; technicians who only check the live temperature value and see something plausible often miss a signal that drops out for milliseconds.
- The letter D in the definition refers to one specific sensor circuit in a family of inverter temperature sensors, so replacing the wrong sensor or the entire inverter because of a P0BDA can be an expensive misdiagnosis when the fault is a chafed wire.
- Heat soak after shutdown is a common trigger, so the code may only appear on a second key cycle or after the vehicle sits hot, and a cold-bay inspection will show nothing wrong.
- A weak 12-volt battery or charging system fault can cause control modules to log erratic sensor codes, so check system voltage and grounds before condemning the inverter.
- Related codes for other inverter temperature sensors or for inverter over-temperature protection are often stored alongside P0BDA, and reading all of them helps pinpoint whether the problem is one circuit or a shared ground or reference voltage.

Can I keep driving with P0BDA?

You can usually drive the vehicle to a workshop, but avoid heavy acceleration, sustained high speeds, and repeated fast charging because the inverter may derate power or shut down if it loses temperature monitoring. If the vehicle enters limp mode or the warning light flashes, stop driving and have it inspected.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with resistance and voltage measurement
- Manufacturer service information with wiring diagrams and sensor temperature resistance charts
- Back probe pins or breakout leads for testing connectors without damage
- Insulated hand tools and connector release tools
- Thermal camera or infrared thermometer for checking inverter temperature behavior

Reading P0BDA

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0BD9** Drive Motor Inverter Temperature Sensor D Circuit High
 · **P0BDB** Drive Motor Inverter Temperature Sensor E Circuit · **P0BDC** Drive Motor Inverter Temperature Sensor E Circuit Range/Perf · **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/p0bda/>

