

GENERIC · POWERTRAIN

P0DA3

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0DA3

Drive Motor B Inverter Voltage Sensor A Circuit

P0DA3 indicates that the inverter for drive motor B has detected an abnormal voltage signal from its 'A' voltage sensor circuit, which monitors the high-voltage bus or phase voltage inside the inverter. The computer sets this code when the sensor's output falls outside the expected range or does not correlate with other voltage measurements, potentially affecting motor B's operation.

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

Symptoms you may notice

- Illumination of the check engine light or hybrid/EV system warning light
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced power or limp mode, limiting the vehicle's speed and acceleration
- The vehicle may refuse to start or shift into gear if the hybrid system is disabled
- In rare cases, a sudden loss of drive motor B assistance or abnormal noises from the inverter

Common causes, most likely first

- Faulty voltage sensor A inside the drive motor B inverter
- Damaged or corroded wiring and connectors between the sensor and the inverter control module
- Poor electrical connection or ground at the inverter assembly
- Internal failure of the inverter control board affecting sensor signal processing
- High-voltage cable or connector issue causing voltage spikes or drops
- Software glitch in the inverter control module requiring recalibration or update



How to diagnose and fix it

- 1 Perform a thorough visual inspection of the inverter wiring, connectors, and ground points for damage or corrosion
- 2 Use a scan tool to check for related codes and freeze-frame data, and verify the sensor voltage reading with a multimeter if accessible
- 3 Check service information for any technical service bulletins or software updates related to the inverter voltage sensor circuit
- 4 Test the voltage sensor circuit for continuity, short circuits, and proper reference voltage according to the manufacturer's procedure
- 5 If the sensor is integrated into the inverter, replace the inverter assembly as required
- 6 After repair, clear codes and perform a road test to verify the fault does not return

Inverter Voltage Sensor Circuit Pitfalls

- A loose or corroded ground connection at the inverter can cause this code even when the sensor itself is good, so always check grounds before condemning parts.
- Intermittent faults often appear only under specific conditions such as high load or temperature extremes, so a wiggle test of the harness while monitoring live data can be more effective than a static check.
- Some vehicles require a relearn or calibration procedure after inverter replacement or battery service, and skipping this step can cause the code to reset immediately.
- The code may be set by a voltage spike from the high-voltage system during charging or regenerative braking, which can damage the sensor circuit without any obvious wiring fault.
- Do not assume the inverter is faulty solely based on this code; always verify power and ground at the sensor and check for communication codes that might indicate a broader control module issue.

Can I keep driving with P0DA3?

If the vehicle enters limp mode or the hybrid system warning is illuminated, avoid driving at high speeds or under heavy load and seek service promptly. Continued driving with a confirmed inverter voltage sensor fault can lead to complete loss of drive motor B assistance or further inverter damage.

Tools that help

- OBD-II scan tool with live data and hybrid/EV capability
- Digital multimeter with high-voltage safety rating
- Oscilloscope for waveform analysis of sensor signals
- Insulated hand tools and personal protective equipment for high-voltage work
- Manufacturer service information for wiring diagrams and diagnostic procedures



Reading P0DA3

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- A3** The exact fault within that area.

Often seen with

P0A0F Engine Failed to Start · **P0DA2** Battery Charger A Coupler Lock Position Sensor Circuit Inter · **P0DA4** Drive Motor B Inverter Voltage Sensor A Circuit Range/Perfor · **P0DA5** Drive Motor B Inverter Voltage Sensor A Circuit 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/p0da3/>

