

GENERIC · POWERTRAIN

P0A48

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0A48

Drive Motor B Position Sensor Circuit High

P0A48 means the hybrid or electric vehicle controller has detected an abnormally high voltage signal from the position sensor circuit of drive motor B, which is the motor/generator unit that typically provides traction or regenerative braking. The sensor reports the rotor's angular position so the controller can synchronize motor phases, and a high signal indicates an open circuit, a short to voltage, or a sensor that is reporting outside its valid range.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the hybrid system warning light or check engine light, often with a message to service the hybrid system
- The vehicle may enter a reduced-power limp mode or refuse to start or move
- Rough running, shuddering, or hesitation during acceleration because the controller cannot properly time motor phase current
- Loss of regenerative braking or a noticeable change in braking feel
- Often no symptoms besides the warning light if the fault is intermittent or stored during a key cycle
- Possible stalling or sudden loss of propulsion while driving in severe cases

Common causes, most likely first

- 1 Damaged, chafed, or disconnected wiring in the motor position sensor circuit, especially at connectors or where the harness passes near moving components
- 2 A failed motor position sensor (resolver or encoder) inside drive motor B
- 3 Corrosion or water intrusion at the sensor connector or controller connector
- 4 A short to voltage on the sensor signal wire from another circuit or a faulty controller reference voltage
- 5 Internal failure in the hybrid vehicle control module or inverter that reads the position signal
- 6 Mechanical damage to the motor rotor or sensor target wheel causing an erratic signal
- 7 Poor ground connection for the sensor or controller, causing a reference shift



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to see the conditions when P0A48 set
- 2 Visually inspect the motor position sensor harness and connectors for chafing, corrosion, loose pins, or water intrusion, and repair as needed
- 3 Measure sensor circuit resistance and check for shorts to voltage or ground with a digital multimeter, comparing to manufacturer specifications
- 4 Back-probe the sensor signal wire at the controller and monitor the voltage while slowly rotating the motor by hand to confirm a smooth, correct waveform
- 5 Check the sensor reference voltage and ground at the sensor connector to rule out a controller supply issue
- 6 If the circuit tests good, replace the motor position sensor according to service information and clear the code
- 7 After repair, clear codes and perform a road test with a scan tool to verify the position signal reads correctly through the full operating range

What a high motor position signal really means

- A high signal code does not automatically mean the sensor is bad; a poor ground or a short to voltage on the signal wire can pull the reading high and mimic a failed sensor.
- Intermittent P0A48 codes often trace to a harness that rubs against the motor mount or a connector that wicks water, so wiggle-testing the harness while watching live data is a critical step.
- Some vehicles set this code when the 12-volt battery is weak or during low-voltage events, because the controller misreads the sensor signal when its reference voltage sags.
- The motor position sensor is often integrated with the resolver inside the motor, and replacing it may require separating the motor from the transaxle, which is a job for a qualified hybrid technician.
- A failed motor position sensor can cause the controller to lose synchronization and command incorrect phase current, leading to overheating or damage if the vehicle is driven with the fault active.

Can I keep driving with P0A48?

Do not continue driving with P0A48 active because the controller may lose motor synchronization and cause a sudden loss of power or damage to the inverter. Have the vehicle towed to a qualified hybrid repair facility if it is in limp mode or will not move.

Tools that help

- Hybrid-capable scan tool with live data and graphing
- Digital multimeter with back-probe pins
- Oscilloscope for waveform analysis
- Service information with wiring diagrams and sensor specifications
- Insulated hand tools and personal protective equipment for hybrid high-voltage safety



Reading P0A48

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

Often seen with

- P0A45** Drive Motor B Position Sensor Circuit · **P0A46** Drive Motor B Position Sensor Circuit Range/Performance
- **P0A47** Drive Motor B Position Sensor Circuit Low · **P0A49** Drive Motor B Position Sensor Circuit Intermittent
- **P0A4A** Drive Motor B Position Sensor Circuit Overspeed

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/p0a48/>

