

GENERIC · POWERTRAIN

P0A61

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0A61

Drive Motor A Phase V Current Low

P0A61 means the hybrid or electric vehicle controller has detected that the current flowing through one phase of the drive motor A circuit is lower than expected for the operating conditions. The computer compares commanded torque and measured phase current, and it flags this code when the actual current falls below a calibrated threshold, indicating a possible open circuit, high resistance, or faulty current sensor.

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

Symptoms you may notice

- Illumination of the hybrid system warning light or check engine light, often with no other noticeable symptoms
- Reduced power or limp-home mode, where the vehicle limits motor output to protect the inverter and motor
- Rough running, shuddering, or hesitation during acceleration or regenerative braking
- The engine may start more frequently or run continuously in a hybrid because the electric motor assist is restricted
- In rare cases, the vehicle may fail to start or move if the fault is severe and the controller disables the motor drive

Common causes, most likely first

- 1 Damaged or corroded wiring or connector terminals in the motor phase circuit, especially at the inverter or motor connections
- 2 Open or high-resistance stator winding in drive motor A, often due to overheating or mechanical damage
- 3 Faulty current sensor inside the inverter or motor control unit that misreports phase current
- 4 Internal failure in the inverter or motor control module, such as a failed current transducer or driver circuit
- 5 Loose or improperly torqued phase cable connections that create intermittent high resistance
- 6 Contamination or fluid intrusion into the motor or inverter connectors causing corrosion and increased resistance



How to diagnose and fix it

- 1 Inspect the motor phase cables and connectors for corrosion, looseness, or physical damage, and repair or replace as needed
- 2 Measure the resistance of each motor phase winding with a precision ohmmeter and compare to specifications to check for an open or shorted winding
- 3 Perform a voltage drop test on the phase cables under load to identify high-resistance connections that a simple resistance check might miss
- 4 Use a scan tool to monitor live phase current data and compare commanded versus actual current to confirm the fault
- 5 Check the current sensor signal at the inverter or motor control module with an oscilloscope to verify sensor accuracy and linearity
- 6 If the sensor or inverter is faulty, replace or reprogram the affected module according to the manufacturer's service procedure
- 7 Clear the codes and perform a road test to verify the repair and ensure the code does not return

What a low phase current really tells you

- A low phase current reading does not automatically mean the motor is bad; a poor connection at the inverter terminals can cause the same symptom and is far cheaper to fix.
- The current sensor inside the inverter is a common failure point that can report low current even when the motor and wiring are perfectly healthy, leading to unnecessary motor replacement.
- Intermittent faults often appear only when the motor is hot or under high load, so a cold static resistance check may pass while the problem remains.
- Hybrid control systems may set this code as a secondary effect of a low auxiliary battery or a failing DC-DC converter, so always check system voltage first.
- After repairing the circuit, some vehicles require a specific relearn or calibration procedure for the current sensor, and skipping it can cause the code to reset immediately.

Can I keep driving with P0A61?

Limit driving to a short distance to a repair shop because the vehicle may enter limp-home mode or lose motive power without warning. Avoid heavy acceleration, high-speed driving, and towing until the fault is diagnosed and repaired.



Tools that help

- Hybrid/EV-capable scan tool with live data and graphing
- Digital multimeter with milliohm resolution
- Oscilloscope for current sensor signal analysis
- Insulation tester (megohmmeter) for motor winding checks
- Manufacturer service information for wiring diagrams and torque specifications
- Personal protective equipment (insulated gloves, safety glasses) for high-voltage work

Reading P0A61

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

Often seen with

P0A60 Drive Motor A Phase V Current · **P0A62** Drive Motor A Phase V Current High · **P0A63** Drive Motor A Phase W Current · **P0A64** Drive Motor A Phase W Current Low · **P0A65** Drive Motor A Phase W Current High

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/p0a61/>

