

GENERIC · POWERTRAIN

P0A56

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0A56

Drive Motor B Current Sensor Circuit Range/Performance

P0A56 means the hybrid or electric drive motor control module has detected that the current sensor circuit for drive motor B is reporting a value outside its expected range or is not performing plausibly. The computer compares the sensor's current reading against other operating data and flags the circuit when the signal is erratic, stuck, or inconsistent with actual motor current.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Often no symptoms besides the warning light, with the vehicle driving normally
- Reduced power or a limp-home mode that limits motor output
- The vehicle may refuse to start or shift into gear if the fault is active
- Intermittent hesitation or shuddering under acceleration or regenerative braking
- A stored freeze-frame showing the fault occurred under a specific load or temperature condition

Common causes, most likely first

- 1 Faulty current sensor internal to the drive motor B circuit or its integrated module
- 2 Damaged, chafed, or corroded wiring between the current sensor and the motor control module
- 3 Loose or contaminated connector pins at the sensor or control module
- 4 High-resistance ground connection shared by the current sensor circuit
- 5 Motor control module software calibration issue or internal processing fault
- 6 Electrical interference from nearby high-voltage cables affecting the low-voltage sensor signal
- 7 A failing drive motor B that draws abnormal current and pushes the sensor beyond its expected range



How to diagnose and fix it

- 1 Connect a scan tool and record all stored codes, freeze-frame data, and live current sensor readings for drive motor B
- 2 Visually inspect the current sensor wiring and connectors for chafing, corrosion, or loose pins, and repair as needed
- 3 Measure resistance and voltage drop on the sensor ground and signal circuits to rule out high-resistance connections
- 4 Compare the current sensor reading against a known-good value or a clamp meter during a controlled motor load test
- 5 Check for technical service bulletins or software updates for the motor control module that address current sensor plausibility
- 6 Substitute a known-good current sensor or module only after circuit tests confirm the sensor is the faulty component
- 7 Clear codes and perform a road test with live data to verify the repair and confirm the code does not return

Current sensor faults that mimic motor failure

- A chafed wire or corroded connector pin is far more common than a failed current sensor, so always complete circuit integrity tests before condemning the sensor.
- The code can set intermittently from electrical noise or a poor ground, and the vehicle may drive perfectly between events, leading some technicians to clear it without finding the root cause.
- A weak 12-volt auxiliary battery or charging system fault can cause low-voltage sensor signals to go out of range and set this code on some hybrid platforms.
- Replacing the motor control module without checking for updated calibration or a technical service bulletin can result in the same code returning after repair.
- This code does not always mean the drive motor itself is failing; the sensor circuit and its wiring must be proven faulty before any motor replacement is considered.

Can I keep driving with P0A56?

You can usually drive the vehicle if the warning light is on and power feels normal, but avoid heavy acceleration and long trips until the fault is diagnosed. If the vehicle enters limp-home mode or refuses to start, stop driving and arrange a professional diagnosis.



Tools that help

- Hybrid-capable scan tool with live data and freeze-frame access
- Digital multimeter with min/max recording
- Clamp-on current meter rated for the motor circuit
- Wiring diagram and connector pinout for the specific vehicle
- Insulation resistance tester for high-voltage cable checks
- Hand tools for connector and panel access

Reading P0A56

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A55** Drive Motor B Current Sensor Circuit · **P0A57** Drive Motor B Current Sensor Circuit Low · **P0A58** Drive Motor B Current Sensor Circuit High · **P0A5A** Generator Current Sensor Circuit Range/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/p0a56/>

