

GENERIC · POWERTRAIN

P0AA6

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0AA6

Hybrid/EV Battery Voltage System Isolation Fault

P0AA6 indicates that the hybrid or electric vehicle's battery management system has detected a loss of electrical isolation between the high-voltage battery system and the vehicle chassis. The computer monitors isolation resistance and sets this code when the resistance drops below a safe threshold, meaning high-voltage current could potentially leak to the chassis or other low-voltage circuits.

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 service vehicle soon light
- Often no symptoms besides the warning light, with the vehicle driving normally
- Reduced power or a fail-safe mode that limits vehicle speed
- Inability to start the vehicle or engage the high-voltage system
- A noticeable drop in fuel economy or electric range if the vehicle enters a limited-operation mode
- In rare cases, a mild electrical shock sensation when touching the vehicle body, though this is uncommon due to multiple safety layers

Common causes, most likely first

- 1 Moisture or water intrusion into a high-voltage connector, cable, or battery pack enclosure
- 2 Damaged or chafed high-voltage cable insulation rubbing against a metal component
- 3 Internal insulation failure within the high-voltage battery pack, such as a leaking cell or degraded module
- 4 Failed isolation monitoring circuit or sensor within the battery management system
- 5 Contamination (e.g., dirt, salt, or debris) bridging a high-voltage terminal to ground
- 6 Aftermarket accessories or improper repairs that compromise high-voltage wiring insulation
- 7 A faulty high-voltage component (e.g., inverter, motor, or charger) with internal isolation breakdown



How to diagnose and fix it

- 1 Perform a visual inspection of all high-voltage cables and connectors for signs of damage, corrosion, or moisture, and check for aftermarket wiring that may have been improperly installed.
- 2 Use a diagnostic scan tool to read freeze-frame data and check for related codes in other modules (e.g., battery energy control module, inverter) to narrow the fault area.
- 3 Measure isolation resistance with a megohmmeter (insulation tester) at the battery pack terminals and at each high-voltage component, following manufacturer procedures and safety precautions.
- 4 Disconnect and isolate sections of the high-voltage system one at a time to identify which segment causes the isolation fault, such as the battery pack, cables, or a specific component.
- 5 Inspect the high-voltage battery pack for signs of moisture, coolant leaks, or physical damage, and check the integrity of the pack enclosure seals.
- 6 If the fault is traced to a specific component (e.g., a cable, connector, or module), replace or repair it according to the manufacturer's service information, ensuring proper isolation and torque specifications.
- 7 After repairs, clear the code and verify isolation resistance is within specification, then perform a road test to confirm the code does not return.

Isolation faults that fool even seasoned techs

- A common cause of P0AA6 that is often overlooked is moisture ingress after a car wash or heavy rain, which can temporarily bridge high-voltage terminals to ground and set the code without any permanent damage.
- The code does not always indicate a failed battery pack; a simple chafed cable or a loose connector with contamination can trigger the same isolation fault, so thorough inspection of wiring is essential before condemning expensive components.
- Some vehicles set P0AA6 as a result of a weak 12-volt auxiliary battery causing erratic behavior in the battery management system, so always verify the low-voltage system is healthy before diving into high-voltage diagnostics.
- Aftermarket electrical accessories, such as dash cams or alarm systems, that are improperly grounded or routed near high-voltage wiring can introduce isolation faults, so check for non-factory wiring during diagnosis.
- The isolation fault may be intermittent and only appear under certain conditions (e.g., high humidity or vibration), so using a scan tool with data logging during a test drive can help reproduce the fault.

Can I keep driving with P0AA6?

Do not continue driving with this code active, as a high-voltage isolation fault poses a potential electrocution risk and can lead to sudden loss of power. Have the vehicle towed to a qualified hybrid/EV service facility for diagnosis and repair.



Tools that help

- Diagnostic scan tool capable of reading hybrid/EV-specific codes and data
- Megohmmeter (insulation resistance tester) rated for high-voltage applications
- Digital multimeter with high-voltage safety rating
- Insulated hand tools and personal protective equipment (PPE) for high-voltage work
- Manufacturer service information for high-voltage system disable and isolation procedures

Reading P0AA6

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
A	Hybrid propulsion.
A6	The exact fault within that area.

Often seen with

P0AA0 Hybrid/EV Battery Positive Contactor Circuit · **P0AA1** Hybrid/EV Battery Positive Contactor Circuit Stuck Closed · **P0AA2** Hybrid/EV Battery Positive Contactor Circuit Stuck Open · **P0AA3** Hybrid/EV Battery Negative Contactor Circuit · **P0AA4** Hybrid/EV Battery Negative Contactor Circuit Stuck Closed

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/p0aa6/>

