



P0AAA

Hybrid/EV Battery Voltage Isolation Sensor Circuit High

P0AAA indicates that the hybrid or electric vehicle battery management system has detected an abnormally high voltage on the isolation sensor circuit, which monitors the electrical separation between the high-voltage battery and the vehicle chassis. The computer expects a specific voltage signal from this sensor, and a reading above the calibrated threshold triggers this code, often indicating a loss of proper isolation or a sensor circuit fault.

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

Symptoms you may notice

- Illumination of the high-voltage battery warning light or master warning indicator
- Often no symptoms besides the warning light, especially if the isolation fault is minor
- Reduced power output or entry into limp mode to protect the high-voltage system
- Inability to start or charge the vehicle if the isolation fault is severe
- Intermittent warning light that may appear during damp weather or after washing the vehicle

Common causes, most likely first

- 1 High-voltage battery isolation sensor internal failure or signal circuit short to voltage
- 2 Damaged or chafed high-voltage cable insulation allowing voltage leakage to chassis ground
- 3 Moisture intrusion into high-voltage connectors or battery pack enclosure
- 4 Contamination or debris bridging high-voltage terminals to ground
- 5 Faulty battery management system (BMS) or hybrid control module misinterpreting sensor data
- 6 Corroded or loose ground connection for the isolation sensor circuit



How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data using a scan tool capable of accessing hybrid/EV-specific modules
- 2 Visually inspect high-voltage cables, connectors, and battery pack for signs of damage, corrosion, or moisture
- 3 Perform a voltage drop test on the isolation sensor circuit wiring and check for shorts to voltage or ground
- 4 Measure isolation resistance using an insulation tester according to manufacturer procedures
- 5 Verify sensor signal voltage at the BMS connector and compare with scan tool data to isolate sensor versus wiring
- 6 Replace the isolation sensor or repair damaged wiring as needed, then clear codes and retest
- 7 If the fault persists, follow manufacturer-specific diagnostic flow for the high-voltage battery system

Isolation Faults Often Misdiagnosed

- A high voltage reading on the isolation sensor circuit can be caused by a simple loose ground connection rather than a failing high-voltage battery, so always check grounds first.
Moisture from a car wash or heavy rain can temporarily bridge high-voltage connectors to ground, setting this code intermittently without any permanent damage.
- The code does not always mean the high-voltage battery is failing; a faulty sensor or wiring short can produce the same high reading and is far cheaper to fix.
- After any high-voltage component repair, the isolation fault may remain stored until the vehicle completes several drive cycles, so do not assume the repair failed immediately.
Technicians sometimes replace the battery pack unnecessarily when the real issue is a chafed cable rubbing against a metal bracket under the vehicle.

Can I keep driving with P0AAA?

Do not continue driving with this code active, as a high-voltage isolation fault can pose a serious safety risk of electric shock or fire. Have the vehicle towed to a qualified hybrid/EV service facility and avoid touching any orange high-voltage cables.

Tools that help

- Hybrid/EV-capable scan tool
- Digital multimeter with high-voltage rating
- Insulation resistance tester (megohmmeter)
- Manufacturer service information for high-voltage safety procedures
- Personal protective equipment (insulated gloves, safety glasses)



Reading P0AAA

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

Often seen with

P0AA6 Hybrid/EV Battery Voltage System Isolation Fault · **P0AA7** Hybrid/EV Battery Voltage Isolation Sensor Circuit · **P0AA8** Hybrid/EV Battery Voltage Isolation Sensor Circuit Range/Per · **P0AA9** Hybrid/EV Battery Voltage Isolation Sensor Circuit Low · **P0AAB** Hybrid/EV Battery Voltage Isolation Sensor Circuit Intermitt

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/p0aaa/>

