

GENERIC · POWERTRAIN

P0A27

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0A27

Battery Power Off Circuit

P0A27 indicates that the hybrid vehicle control module has detected a fault in the battery power off circuit, which is responsible for safely disconnecting high-voltage battery power when the vehicle is shut down or a crash is detected. The computer monitors the circuit's continuity and voltage and sets this code when the signal is outside the expected range, often leaving the high-voltage system in an unsafe state.

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 master warning light
- The vehicle may refuse to start or enter 'Ready' mode
- Reduced power or limp-home mode with limited electric assist
- High-voltage battery contactors may not open or close, causing a no-start condition
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Faulty battery power off circuit relay or contactor
- 2 Damaged or corroded wiring in the high-voltage battery power off circuit
- 3 Poor electrical connection at the hybrid battery junction block or service plug
- 4 Failed hybrid vehicle control module or battery energy control module
- 5 Blown high-voltage fuse or fusible link in the power off circuit
- 6 Water intrusion or contamination in the battery pack connector
- 7 Intermittent short or open in the circuit due to vibration or heat damage



How to diagnose and fix it

- 1 Perform a visual inspection of the high-voltage battery power off circuit wiring and connectors for damage or corrosion
- 2 Check all related fuses and fusible links with a multimeter for continuity
- 3 Test the battery power off relay or contactor for proper operation and resistance
- 4 Measure voltage and continuity on the power off circuit at the hybrid control module connector and compare to factory specifications
- 5 Inspect the service plug and battery junction block for secure connection and cleanliness
- 6 If the circuit tests good, substitute a known-good relay or contactor and clear the code to see if it returns
- 7 Follow the manufacturer's diagnostic flow chart for the hybrid control module, including software updates or replacement if all else fails

High-voltage safety and circuit checks

- Many technicians overlook the service plug disconnect, which is part of the power off circuit and can cause this code if not fully seated.
- A weak or failing 12-volt auxiliary battery can cause erratic behavior in the hybrid control module and set false power off circuit codes.
- The code can be set by a momentary loss of communication between the battery energy control module and the hybrid control module, not just a hard wiring fault.
- Always disable the high-voltage system and wait the specified time before probing any orange cables to avoid serious injury.
- After repairs, the code may require a specific drive cycle or relearn procedure to clear from history.

Can I keep driving with P0A27?

Do not continue driving with this code because the high-voltage battery may not disconnect properly in a crash, posing a severe safety risk. Have the vehicle towed to a qualified hybrid service facility for diagnosis and repair.

Tools that help

- Digital multimeter with high-voltage rated probes
- OBD-II scan tool with hybrid system capability
- Insulated hand tools
- Factory service information for circuit diagrams and testing procedures
- High-voltage safety gloves and barriers



Reading P0A27

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A0F** Engine Failed to Start · **P0A1F** Battery Energy Control Module A Performance · **P0A28** Battery Power Off Circuit Low · **P0A29** Battery Power Off Circuit High

See it working

Watch the animated explainer [How a Knock Sensor Works: Spark Timing and Octane](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0a27/>

