

GENERIC · POWERTRAIN

P0AE7

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0AE7

Hybrid/EV Battery Precharge Contactor A Control Circuit High

P0AE7 means the hybrid or electric vehicle control module has detected an abnormally high voltage on the control circuit for the battery pack's precharge contactor A, which is the relay that gently charges the inverter's capacitors before the main contactor closes. The computer expects a specific low-voltage signal on that control wire and instead sees a voltage above the acceptable threshold, so it flags the circuit as high and may inhibit normal high-voltage operation.

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

Symptoms you may notice

- Hybrid or EV system warning light illuminated on the dashboard, often with a message to service the high-voltage system
- Vehicle may refuse to enter READY mode or may shut down shortly after startup
- Reduced power or a limp-home mode with limited electric propulsion
- Audible click from the battery pack area may be missing when the ignition is turned on
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Possible failure to restart after a short drive or after the vehicle sits overnight

Common causes, most likely first

- Open or high-resistance ground in the precharge contactor control circuit, causing the control module to see a floating high voltage
- Shorted control wire between the precharge contactor coil and the hybrid control module, either to power or to another circuit
- Faulty precharge contactor assembly with an internally open or shorted coil winding
- Corroded, loose, or backed-out terminal at the contactor connector or the control module connector
- Failed hybrid or EV control module driver circuit for the precharge contactor
- Water intrusion or contamination in the battery pack connector or contactor housing
- Aftermarket alarm or remote start wiring tapped into the wrong circuit and back-feeding voltage



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, record freeze-frame data, and verify P0AE7 is current rather than history
- 2 Inspect the precharge contactor connector and control module connector for corrosion, loose pins, and chafed wiring
- 3 Measure resistance of the precharge contactor coil and compare to the manufacturer's specification
- 4 Back-probe the control circuit at the contactor and at the module with the key on to check for an unexpected high voltage or a missing ground
- 5 Perform a voltage drop test on the control circuit ground path while the circuit is loaded
- 6 Check for aftermarket wiring or accessories tied into the contactor control circuit and disconnect them for testing
- 7 If the circuit tests good, substitute a known-good contactor or module only after confirming the driver circuit is not shorted

What a high precharge control circuit really means

- A high voltage on the control circuit often points to a missing ground rather than a short to power, because an open ground lets the module's pull-up resistor float the wire high.
- Technicians frequently replace the precharge contactor when the real fault is a corroded ground stud or a broken ground wire inside the battery pack harness.
- The code can set intermittently from vibration or temperature changes, so a wiggle test of the harness while watching live data is more useful than a static resistance check.
- Aftermarket remote starters and alarm systems are a common cause because installers sometimes tap the wrong wire near the hybrid control module and back-feed voltage onto the control circuit.
- P0AE7 does not always mean the contactor has failed; the control module itself can have a faulty driver that holds the circuit high, so module replacement should be the last step.

Can I keep driving with P0AE7?

Do not continue driving normally because a precharge contactor fault can prevent the high-voltage system from closing safely and may leave the vehicle without propulsion. Move the vehicle to a safe location and have it towed or driven only in a verified limp mode to a repair shop.

Tools that help

- OBD-II scan tool with hybrid/EV module access and live data
- Digital multimeter with min/max recording
- Back-probe kit and wiring diagram for the specific vehicle
- Insulated hand tools rated for high-voltage work
- Battery pack service plug removal tool or manufacturer procedure



Reading P0AE7

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- A** Hybrid propulsion.
- E7** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AA6** Hybrid/EV Battery Voltage System Isolation Fault
 · **P0AE6** Hybrid/EV Battery Precharge Contactor A Control Circuit Low · **P0AE8** Hybrid/EV Battery Temperature Sensor D Circuit · **P0AE9** Hybrid/EV Battery Temperature Sensor D Circuit Range/Perform

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/p0ae7/>

