

GENERIC · POWERTRAIN

P0ED8

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0ED8

Hybrid/EV Battery Pack F Voltage Sensor Circuit Range/Performance

P0ED8 means the hybrid or electric vehicle battery pack control module has detected that the voltage sensor circuit for battery pack F is reporting a voltage outside the range the module expects for the current operating conditions. The computer compares the sensor signal against other pack voltage measurements and its own models, and it sets this code when the signal is implausible, erratic, or stuck rather than simply low or high.

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

Symptoms you may notice

- Illumination of the hybrid or EV system warning light, often with a message to service the high-voltage battery
- Reduced electric driving range or a switch to a limited-power limp mode
- The vehicle may refuse to start or engage drive if the battery management system cannot trust the pack voltage reading
- Inconsistent state-of-charge display or sudden jumps in the battery gauge
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 A faulty voltage sensor or sensing harness inside the battery pack F assembly
- 2 Corroded, loose, or damaged connector pins at the pack F voltage sensor circuit
- 3 A break or short in the sensor wiring between the pack F sensor and the battery control module
- 4 Water intrusion or contamination affecting the pack F sensor connector or circuit board
- 5 A failing battery pack control module or interface board that processes the sensor signal
- 6 Internal cell imbalance or a weak module in pack F that produces a plausible but out-of-range voltage reading
- 7 Software or calibration issues in the battery control module after a repair or replacement



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data for P0ED8, then check for related codes in the battery control module and other hybrid systems
- 2 Inspect the pack F voltage sensor connector and harness for corrosion, water intrusion, loose pins, and chafed wiring
- 3 Measure the sensor circuit voltage and resistance at the connector and compare with the service information for the pack F sensor
- 4 Perform a battery pack voltage measurement with a calibrated meter and compare it with the sensor-reported value to confirm a sensor or wiring fault
- 5 Check for technical service bulletins or software updates for the battery control module that address voltage sensor plausibility faults
- 6 Replace the faulty voltage sensor or repair the affected harness section, then clear codes and verify the reading matches a known-good reference
- 7 If the sensor and wiring test good, follow the manufacturer's diagnostic flow for the battery control module and pack F internal faults

What the pack F voltage code hides

- A voltage sensor circuit range/performance code often sets from an intermittent signal that only fails under certain temperatures or vibration, so a simple static test can pass while the fault remains.
- Technicians sometimes replace the entire battery pack when the real problem is a corroded connector pin or a chafed wire in the sensor harness, which is far cheaper to repair.
- The battery control module may set this code when pack F voltage is plausible but inconsistent with other pack voltages, so a weak module or cell imbalance can trigger it without any sensor fault.
- After battery pack service or module replacement, missing calibration or a software mismatch can cause a false range/performance code until the system is properly initialized.
- This code does not always mean the high-voltage battery is failing; it specifically flags the sensor circuit's range or performance, and the pack may still be healthy.

Can I keep driving with P0ED8?

You can usually drive the vehicle to a service location if it remains in a reduced-power mode, but avoid heavy acceleration, long trips, and any attempt to charge if the warning light is accompanied by a high-voltage isolation or overheating message. If the vehicle refuses to start or repeatedly enters limp mode, have it towed rather than forcing it to drive.



Tools that help

- Hybrid/EV-capable scan tool with battery control module access
- Digital multimeter with high-voltage safety rating and appropriate probes
- Insulation tester or megohmmeter for high-voltage circuit checks
- Manufacturer service information and wiring diagrams
- Battery pack lifting or support equipment if pack access is required

Reading P0ED8

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
E	Hybrid propulsion.
D8	The exact fault within that area.

Often seen with

P0A04 Motor Electronics Coolant Temperature Sensor Circuit Intermi · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0ED7** Hybrid/EV Battery Pack F Voltage Sensor Circuit · **P0ED9** Hybrid/EV Battery Pack F Voltage Sensor Circuit Low · **P0EDA** Hybrid/EV Battery Pack F Voltage Sensor Circuit High

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/p0ed8/>

