

GENERIC · POWERTRAIN

P0E85

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E85

Battery Charger B Voltage Sensor Circuit

P0E85 indicates that the powertrain control module (PCM) has detected an abnormal voltage signal from the battery charger B voltage sensor circuit, which is part of the high-voltage charging system on electrified vehicles. The PCM compares the sensor's reported voltage against expected values and sets this code when the signal falls outside the valid range or is inconsistent with other charging system data.

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

Symptoms you may notice

- Illumination of the check engine light or a dedicated charging system warning light
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced or disabled high-voltage charging, leading to a low state of charge in the traction battery
- The vehicle may enter a reduced power or limp mode to protect the high-voltage system
- In some cases, the vehicle may fail to start or may not accept a charge from an external source
- A message on the driver information display indicating a charging system fault or service required

Common causes, most likely first

- 1 Faulty battery charger B voltage sensor, either internally shorted or open
- 2 Damaged or corroded wiring and connectors in the sensor circuit, including chafed harnesses
- 3 Poor electrical connection at the sensor or at the PCM, such as loose pins or terminal tension loss
- 4 Internal failure of the battery charger assembly that affects the sensor's reference voltage or ground
- 5 PCM software issue or internal fault causing misinterpretation of the sensor signal
- 6 Water intrusion or contamination in the sensor connector or charger housing
- 7 Aftermarket accessories or improper previous repairs that disturbed the sensor circuit



How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data, then clear codes and test-drive to see if P0E85 returns
- 2 Visually inspect the battery charger B voltage sensor, its connector, and the wiring harness for damage, corrosion, or loose pins
- 3 Measure the sensor's reference voltage and ground at the connector with a digital multimeter, comparing to manufacturer specifications
- 4 Back-probe the sensor signal wire and check for a voltage that correlates with actual charger output, looking for opens, shorts, or high resistance
- 5 If the sensor is accessible and suspect, perform a resistance or voltage output test according to the service information, and replace if out of specification
- 6 Check for technical service bulletins (TSBs) or software updates for the PCM that may address false setting of this code
- 7 If all external circuits and the sensor test good, follow the diagnostic flow chart for internal charger or PCM faults, which may require dealer-level testing

What the charger B sensor code really means

- This code often sets intermittently due to a poor connection at the sensor connector rather than a failed sensor, so a thorough wiggle test and terminal tension check are essential before replacing parts.
- On many electrified vehicles, the battery charger B voltage sensor is integrated into the charger assembly, meaning a sensor fault may require replacing the entire charger rather than a separate sensor.
- A weak or failing 12-volt auxiliary battery can cause erratic behavior in the high-voltage charging system and set false sensor codes, so always verify the 12-volt system first.
- The PCM may set P0E85 as a result of a communication error or a low-voltage condition during a charging event, so checking for related communication codes is wise.
- Clearing the code without repairing the underlying issue may lead to a repeat failure and potential damage to the high-voltage battery due to improper charging.

Can I keep driving with P0E85?

If the vehicle drives normally and the only symptom is a warning light, you can drive it short distances to a repair facility, but avoid relying on the high-voltage charging system and do not attempt long trips. If the vehicle enters limp mode or shows a charging system fault message, stop driving and have it towed to avoid damaging the high-voltage battery or being stranded.



Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter with back-probing pins
- Wiring diagram and service information for the specific vehicle
- Insulation tester for high-voltage circuit checks (if qualified)
- Terminal pick and electrical contact cleaner

Reading P0E85

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A1F** Battery Energy Control Module A Performance · **P0E84** Battery Charger B Temperature Sensor Circuit Intermittent/Er · **P0E86** Battery Charger B Voltage Sensor Circuit Range/Performance · **P0E87** Battery Charger B Voltage Sensor Circuit Low

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0e85/>

