

GENERIC · POWERTRAIN

P0E89

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E89

Battery Charger B Voltage Sensor Circuit Intermittent/Erratic

P0E89 means the powertrain control module (PCM) has seen the voltage signal from the battery charger B voltage sensor jump around or drop out intermittently, rather than holding a steady value. The sensor monitors the charger's output, and the PCM flags this code when the signal is erratic for a calibrated amount of time or number of ignition cycles.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Charging system warning lamp may flicker or stay on if the charger stops working
- Battery may not hold a charge or may go flat overnight if the charger fails to engage
- Reduced electric-only range or slower charging on plug-in hybrid vehicles
- Possible electrical accessories behaving erratically if system voltage fluctuates

Common causes, most likely first

- 1 Corroded, loose, or damaged wiring or connector terminals at the battery charger B voltage sensor
- 2 Faulty battery charger B voltage sensor itself, especially if it has been exposed to heat or moisture
- 3 Poor ground connection for the sensor or the charger assembly
- 4 Internal fault in the battery charger module causing an unstable reference voltage
- 5 PCM software calibration issue or internal PCM driver fault on the sensor circuit
- 6 Electrical interference from nearby high-current cables or aftermarket accessories

How to diagnose and fix it

- 1 Inspect the sensor connector and harness for corrosion, chafing, or loose pins, and clean or repair as needed
- 2 Check the sensor ground circuit for excessive resistance and repair any bad ground
- 3 Back-probe the sensor signal wire and monitor voltage with a multimeter or oscilloscope while wiggling the harness to catch intermittent faults
- 4 Compare the sensor reading with a known-good reference or scan tool live data to confirm erratic behavior
- 5 Replace the battery charger B voltage sensor if the signal is erratic and wiring is proven good
- 6 Check for technical service bulletins or software updates for the PCM or charger module
- 7 Clear the code and perform a road test or charging cycle to verify the repair



Intermittent sensor faults that fool technicians

- A loose ground at the charger assembly often mimics a failed sensor, so always load-test the ground circuit before condemning parts.
- The code can set from a momentary voltage spike during engine cranking, so check for a weak battery or starter draw before chasing the sensor.
- On some vehicles the charger B voltage sensor is integrated into the charger module and cannot be replaced separately, requiring module replacement.
- Intermittent faults often leave no freeze-frame data, so a wiggle test with a graphing multimeter is more reliable than a static code read.
- Aftermarket accessories wired near the charger harness can introduce electrical noise that the PCM interprets as an erratic sensor signal.

Can I keep driving with P0E89?

You can usually drive the vehicle, but avoid long trips or heavy electrical loads until the fault is repaired, because an intermittent charger fault can leave you with a flat battery or reduced hybrid function. If the charging system warning lamp is on or the battery voltage is dropping, stop driving and seek service.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope or graphing multimeter
- Wire terminal pick and electrical contact cleaner
- Service information for wiring diagrams and sensor specifications

Reading P0E89

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

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P0E88** Battery Charger B Voltage Sensor Circuit High · **P0E8A** Battery Charger B Current Sensor Circuit · **P0E8B** Battery Charger B Current Sensor Circuit Range/Performance



See it working

Watch the animated explainer [How a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0e89/>

