

GENERIC · POWERTRAIN

P0E03

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E03

Generator Phase U Current Sensor Circuit High

P0E03 indicates that the generator's phase U current sensor is reporting a voltage above the normal range to the engine control module. The computer detects an abnormally high signal on the sensor circuit, which can be caused by a faulty sensor, wiring problems, or a genuine overcurrent condition in the generator.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the battery/charging system warning light
- Often no symptoms besides the warning light
- Dimming headlights or other electrical accessories
- Battery not charging properly or going dead
- Reduced engine performance or stalling in severe cases
- Possible stored trouble codes related to the charging system

Common causes, most likely first

- 1 Faulty generator phase U current sensor
- 2 Damaged or shorted wiring in the sensor circuit
- 3 Poor electrical connection at the sensor or generator
- 4 Internal generator fault causing actual overcurrent
- 5 Failed voltage regulator or rectifier in the generator
- 6 Corroded or loose ground connections
- 7 Engine control module (ECM) software or hardware issue



How to diagnose and fix it

- 1 Perform a visual inspection of the generator, sensor, and wiring for obvious damage or corrosion
- 2 Check for technical service bulletins (TSBs) related to this code for your vehicle
- 3 Use a scan tool to view live data from the phase U current sensor and compare to specifications
- 4 Test the sensor circuit for shorts to voltage or ground using a multimeter
- 5 Check the generator's output and internal components if the sensor circuit tests normal
- 6 Replace the faulty current sensor if testing indicates it is defective
- 7 Repair or replace damaged wiring or connectors as needed

What the phase U sensor code really means

- A high signal from the phase U current sensor does not always mean the sensor itself is bad; it can indicate a real overcurrent condition in the generator that requires further diagnosis.
- Some vehicles may set this code intermittently due to loose connections that only act up under certain conditions like vibration or temperature changes.
- The phase U current sensor is part of the generator's internal circuitry on many modern vehicles, so replacement may require replacing the entire generator assembly.
- Misdiagnosis often occurs when technicians replace the generator without first checking the sensor circuit, leading to repeat failures if the wiring is the root cause.
- This code can be accompanied by other generator-related codes, so a thorough scan of all systems is essential before parts replacement.

Can I keep driving with P0E03?

If the battery/charging warning light is on, the vehicle may continue to run until the battery is depleted, which could leave you stranded. It is advisable to limit driving and have the charging system inspected promptly to avoid a no-start condition.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the charging system
- Basic hand tools (sockets, wrenches, screwdrivers)
- Battery load tester
- Oscilloscope (optional for advanced diagnostics)



Reading P0E03

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

Often seen with

P0562 System Voltage Low · **P0E01** Generator Phase U Current Sensor Circuit Range/Performance · **P0E02** Generator Phase U Current Sensor Circuit Low · **P0E04** Generator Phase V Current Sensor Circuit · **P0E05** Generator Phase V Current Sensor Circuit Range/Performance

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/p0e03/>

