

GENERIC · POWERTRAIN

P0D42

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0D42

Battery Charger 14 Volt Output Voltage Sensor Circuit

P0D42 indicates that the powertrain control module has detected an abnormal voltage signal from the 14-volt output voltage sensor circuit of the battery charger, which is part of the vehicle's high-voltage to low-voltage charging system. The computer compares the sensor's reported output against expected values and sets this code when the signal falls outside the valid range for a calibrated time.

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 service vehicle soon message
- Often no symptoms besides the warning light
- Low or fluctuating 12-volt battery voltage, leading to dim lights or slow cranking
- Battery warning lamp or charging system message on the dash
- Electrical accessories behaving erratically or resetting
- Reduced fuel economy or hybrid system performance degradation

Common causes, most likely first

- 1 Faulty 14-volt output voltage sensor or its internal circuitry
- 2 Damaged, corroded, or loose wiring or connector at the sensor or charger
- 3 Open or shorted signal circuit between the sensor and the control module
- 4 Failed battery charger module or DC-DC converter assembly
- 5 Poor ground connection for the sensor or charger
- 6 Software calibration issue in the control module requiring reprogramming



How to diagnose and fix it

- 1 Perform a visual inspection of the sensor, wiring, and connectors for damage or corrosion
- 2 Check for technical service bulletins or software updates related to the charging system
- 3 Measure the sensor reference voltage and signal voltage with a digital multimeter and compare to specifications
- 4 Test the continuity and resistance of the signal and ground circuits to rule out wiring faults
- 5 Substitute a known-good sensor or simulate the signal to verify the circuit response
- 6 If the sensor and wiring are good, diagnose the battery charger module or DC-DC converter
- 7 Clear the code and perform a road test to confirm the repair and ensure the code does not return

Sensor Circuit Checks Before Module Replacement

- A common oversight is replacing the battery charger module when the actual fault is a chafed wire or corroded pin at the sensor connector, which costs far less to fix.
- The code can be set by a weak or failing 12-volt battery that causes voltage spikes, so always load-test the battery before condemning the sensor circuit.
- On some vehicles, the 14-volt output sensor is integrated into the charger assembly and cannot be serviced separately, requiring replacement of the entire unit.
- Intermittent connections can set this code without any drivability symptoms, so wiggle-test the harness while monitoring sensor data to catch intermittent faults.
- A charging system software calibration may be required after sensor replacement to prevent false re-setting of the code.

Can I keep driving with P0D42?

The vehicle may continue to drive, but the charging system may not maintain proper 12-volt battery voltage, risking a no-start or electrical failure. Avoid long trips and have the fault diagnosed promptly to prevent being stranded.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram and service information
- Test light or jumper wires
- Battery load tester



Reading P0D42

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

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P0D40** Battery Charger A Input Voltage Sensor A Circuit High · **P0D41** Battery Charger A Input Voltage Sensor A Circuit Intermittent · **P0D43** Battery Charger 14 Volt Output Voltage Sensor Circuit Range/

See it working

Watch the animated explainer [How the PCV System Works: Crankcase Ventilation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0d42/>

