

GENERIC · POWERTRAIN

P2C45

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C45

Battery Isolation/Voltage Stabilization Control Circuit Low

P2C45 indicates that the battery isolation or voltage stabilization control circuit has a low voltage condition, meaning the control module has detected a voltage below the expected threshold on that circuit. This circuit is responsible for managing battery isolation or stabilizing voltage during events like start-stop or power distribution, and a low signal can prevent proper operation of that function.

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

Symptoms you may notice

- Illumination of the battery/charging system warning light or a general powertrain warning light
- Intermittent electrical issues such as flickering lights or accessories behaving erratically
- The vehicle may enter a reduced power mode or disable certain electrical features
- Start-stop system may be inoperative or the engine may not restart automatically
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Poor electrical connection at the battery isolation or voltage stabilization control module, such as a loose or corroded ground
- 2 Damaged or chafed wiring in the control circuit, causing a short to ground or an open circuit
- 3 Failed battery isolation relay or voltage stabilization module
- 4 Low battery voltage or a failing battery that causes the control module to set a low circuit code
- 5 Faulty control module internal driver for the circuit
- 6 Corrosion or water intrusion in the connector at the control module



How to diagnose and fix it

- 1 Perform a visual inspection of the battery, battery cables, and the control module connector for corrosion, looseness, or damage
- 2 Check battery state of charge and perform a load test; recharge or replace the battery if it fails
- 3 Use a scan tool to view live data for the battery isolation/voltage stabilization circuit and compare commanded versus actual voltage
- 4 Test the control circuit wiring for continuity and shorts to ground using a digital multimeter, following the manufacturer's wiring diagram
- 5 Check the battery isolation relay or voltage stabilization module for proper operation and replace if faulty
- 6 If all external circuits and components test good, suspect the control module and follow OEM diagnostic procedures for module testing or replacement

Don't overlook the battery itself

- A weak or failing battery is a common root cause for this code because the control module may see low voltage during cranking or load events and set the circuit low code.
- The code can be set by a momentary voltage drop during engine start, so it may be stored as history without any current fault; always check for related pending codes and freeze-frame data.
- Corroded ground connections at the chassis or engine block can cause this code even if the battery and module are good, so inspect and clean all grounds in the circuit.
- Aftermarket accessories wired into the battery isolation circuit can introduce resistance or draw that triggers the code, so check for non-factory wiring.
- Do not replace the control module until you have verified the circuit wiring and battery condition, as misdiagnosis often leads to unnecessary module replacement.

Can I keep driving with P2C45?

If the warning light is on but the vehicle runs normally, you can drive cautiously to a repair shop, but avoid relying on the start-stop feature and monitor for electrical issues. If the vehicle exhibits electrical malfunctions or reduced power, stop driving and seek professional diagnosis to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Battery load tester
- Wiring diagram for the specific vehicle
- Basic hand tools for connector and terminal inspection



Reading P2C45

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

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P2C44** Battery Isolation/Voltage Stabilization Control Circuit Perf · **P2C46** Battery Isolation/Voltage Stabilization Control Circuit High · **U0100** Lost Communication With ECM/PCM A

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/p2c45/>

