

GENERIC · POWERTRAIN

P0C39

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0C39

DC/DC Converter Temperature Sensor A Range/Performance

P0C39 indicates that the powertrain control module has detected an out-of-range or performance fault in the temperature sensor circuit for the DC/DC converter, which is the component that steps high-voltage battery power down to charge the 12-volt system and run accessories. The computer compares the sensor signal against expected values and flags the code when the reading is implausible, stuck, or outside the normal operating window.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message, often with no other noticeable symptoms
- Reduced or intermittent charging of the 12-volt battery, leading to slow cranking or electrical accessories behaving erratically
- The vehicle may enter a reduced-power or failsafe mode that limits speed or disables certain high-voltage functions
- A warning message on the dash indicating a hybrid or electric system fault, sometimes accompanied by a chime
- In rare cases, the DC/DC converter may shut down completely, causing the 12-volt system to run down while driving
- No drivability change at all, with the code found only during a routine scan

Common causes, most likely first

- 1 Faulty DC/DC converter temperature sensor, either open, shorted, or drifting out of calibration
- 2 Damaged or corroded wiring and connector pins in the sensor circuit, often from heat, vibration, or moisture intrusion
- 3 Poor electrical connection at the converter or the control module, including loose ground points
- 4 Internal fault in the DC/DC converter assembly that affects the sensor signal or its reference voltage
- 5 Powertrain control module software issue or internal driver fault on the sensor input circuit
- 6 Overheating of the converter caused by a separate cooling system problem, which pushes the sensor reading beyond its valid range
- 7 Aftermarket accessories or improper repairs that disturb the converter wiring or introduce electrical noise



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data for P0C39 to see the sensor reading and conditions at the time of the fault
- 2 Visually inspect the DC/DC converter, its connectors, and the sensor wiring for chafing, corrosion, loose pins, or heat damage
- 3 Measure the sensor resistance or voltage at the sensor connector and compare with the manufacturer's specification for the current temperature
- 4 Check the sensor signal circuit for continuity and shorts to ground or power, and verify the reference voltage at the control module
- 5 If the sensor is a separate serviceable part, replace it and clear the code; if it is integrated into the converter, follow the manufacturer's procedure for converter replacement or repair
- 6 Check for technical service bulletins or software updates for the powertrain control module that address false or erratic temperature sensor readings
- 7 After repairs, clear codes and perform a road test with live data monitoring to confirm the sensor reading tracks realistically and the code does not return

What the converter temperature sensor really does

- The DC/DC converter temperature sensor is often used to protect the unit from overheating, so a code can set even when the converter is functioning normally if the sensor signal is skewed by a poor connection.
- A common misdiagnosis is to replace the entire DC/DC converter when the actual fault is a chafed wire or corroded pin in the sensor circuit, which is far cheaper to fix.
- Some vehicles set P0C39 as a companion code to other hybrid system faults, so always check for related codes before condemning the converter.
- The sensor may be integrated into the converter assembly on some models, making it non-serviceable separately, but the wiring and connectors are still the first things to test.
- Intermittent faults often appear only when the converter is hot or after a long drive, so a cold static test can pass while the problem remains.

Can I keep driving with P0C39?

You can usually drive the vehicle short distances to a repair shop, but avoid long trips or heavy electrical loads because a failing converter can stop charging the 12-volt battery and leave you stranded. If the vehicle enters a reduced-power mode or shows a hybrid system warning, have it towed rather than risk a shutdown on the road.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with resistance and voltage measurement
- Wiring diagram and connector pinout for the specific vehicle
- Basic hand tools for trim and connector access
- Infrared thermometer to compare converter temperature with sensor reading

Reading P0C39

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A94** DC/DC Converter A Performance · **P0C38** DC/DC Converter Temperature Sensor A Circuit · **P0C3A** DC/DC Converter Temperature Sensor A Low · **U0111** Lost Communication With Battery Energy Control Module 'A'

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0c39/>

