



P0CDC

Drive Motor A Position Sensor Circuit C Circuit Low

P0CDC indicates that the powertrain control module has detected a low-voltage condition on the 'C' signal circuit of the position sensor for drive motor 'A', which is typically the main traction motor in a hybrid or electric vehicle. The sensor's output voltage has fallen below the expected range for the current motor position, so the controller cannot reliably determine the rotor's angle and may limit motor operation.

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 with no other noticeable symptoms
- Reduced power or a limp-home mode that limits vehicle speed
- The vehicle may refuse to start or shift into gear if the motor position is unknown
- Intermittent stalling or sudden loss of propulsion while driving
- A warning message on the dashboard indicating a hybrid or electric system fault
- Rough operation or shuddering from the drive motor under acceleration

Common causes, most likely first

- 1 A damaged or chafed wire in the sensor 'C' signal circuit, often due to vibration or heat
- 2 A poor electrical connection at the sensor connector or the control module, such as corrosion or loose pins
- 3 A failed motor position sensor, where the internal sensing element no longer produces a valid signal
- 4 An open or high-resistance fault in the sensor's ground or reference voltage circuit
- 5 A faulty powertrain control module or inverter controller that misreads the sensor signal
- 6 Contamination or debris on the sensor tip or reluctor wheel, disrupting the magnetic field
- 7 Internal damage to the motor assembly that affects sensor alignment or wiring routing



How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P0CDC is current and not history
- 2 Visually inspect the sensor wiring harness and connector for chafing, corrosion, or loose pins, and repair as needed
- 3 Measure resistance and voltage on the sensor 'C' signal circuit at the sensor and at the controller to check for opens or shorts
- 4 Perform a wiggle test on the harness while monitoring sensor signal voltage to reveal intermittent faults
- 5 Compare the 'C' signal with the 'A' and 'B' signals using a scan tool to see if one channel is skewed or dead
- 6 Replace the motor position sensor if circuit tests pass but the signal remains out of range
- 7 Clear codes and perform a road test to verify the repair, reprogramming the controller if required

What the 'C' circuit really tells you

- The 'C' designation refers to one of three redundant position signals, so a low fault on 'C' alone often leaves the motor running on the remaining channels, which is why many vehicles show no drivability symptoms.
A common misdiagnosis is replacing the motor position sensor when the actual fault is a rubbed-through wire behind the motor mount or near a heat shield, so always inspect the harness before condemning the sensor.
 - Low signal voltage can also be set by a failing controller reference voltage, so verify the 5-volt supply at the sensor connector before assuming the sensor is bad.
 - After sensor replacement, some vehicles require a position offset relearn or a full hybrid system calibration, and skipping this step will cause the code to return immediately.
- This code is frequently stored alongside misfire or motor performance codes because the controller uses position data to synchronize current delivery, so diagnose the position circuit first before chasing other faults.

Can I keep driving with P0CDC?

You can usually drive the vehicle if the only symptom is the warning light, but avoid heavy acceleration and long trips until the fault is repaired. If the vehicle enters limp mode or loses power, stop driving and have it towed to prevent a sudden loss of propulsion.

Tools that help

- OBD-II scan tool with hybrid/EV capability and live data graphing
- Digital multimeter with min/max recording
- Back probe pins and a wiring diagram for the sensor circuit
- Insulated hand tools and a torque wrench for sensor replacement
- Oscilloscope for waveform analysis of the position signals



Reading P0CDC

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0C00** Drive Motor A Current Low · **P0CDA** Drive Motor A Position Sensor Circuit C Circuit · **P0CDB** Drive Motor A Position Sensor Circuit C Range/Performance · **P0CDD** Drive Motor A Position Sensor Circuit C Circuit High

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/p0cdc/>

