



P0CC0

Drive Motor A Coolant Temperature Sensor Circuit Intermittent

P0CC0 indicates that the powertrain control module has detected an intermittent fault in the coolant temperature sensor circuit for drive motor A, which is the main traction motor in a hybrid or electric vehicle. The circuit works by sending a voltage signal that varies with coolant temperature, and an intermittent condition means the signal drops out or jumps erratically rather than failing completely.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light, especially if the intermittent fault is brief
- Reduced power or limp mode if the motor controller cannot trust the coolant temperature reading
- Inconsistent cabin heating or cooling performance because the climate system shares coolant data
- In rare cases, a brief overheating warning that appears and disappears without actual overheating
- Poor fuel economy or increased energy consumption if the controller defaults to a conservative strategy

Common causes, most likely first

- 1 A loose, corroded, or partially unseated electrical connector at the coolant temperature sensor
- 2 Chafed or broken wiring in the sensor harness, often near sharp edges or hot components
- 3 A failing coolant temperature sensor that intermittently opens or shorts internally when hot or cold
- 4 Water or coolant intrusion into the sensor connector causing intermittent signal loss
- 5 A poor ground connection for the sensor circuit, leading to a floating reference voltage
- 6 Rarely, an intermittent internal fault in the powertrain control module or motor controller



How to diagnose and fix it

- 1 Inspect the sensor connector and harness for corrosion, looseness, or chafing, and clean or repair as needed
- 2 Perform a wiggle test on the sensor wiring while watching live coolant temperature data to reproduce the intermittent fault
- 3 Measure the sensor resistance with a multimeter and compare it to the manufacturer's temperature-resistance chart
- 4 Backprobe the sensor signal and ground wires at the controller to check for voltage drops or intermittent opens
- 5 Replace the coolant temperature sensor if resistance readings are erratic or out of specification
- 6 Repair or replace damaged sections of the sensor harness and verify good ground continuity
- 7 Clear the diagnostic trouble code and perform a road test to confirm the fault does not return

Intermittent faults hide in connectors and harnesses

- Intermittent coolant sensor codes are more often caused by a poor connection or damaged wire than by a failed sensor, so a thorough visual and wiggle test is essential before replacing parts.

The code can set during cold starts or after the engine bay heat-soaks, because thermal expansion temporarily opens a marginal connection or a cracked sensor element.

- A coolant temperature sensor that reads erratically can cause the motor controller to misjudge thermal protection needs, leading to unexpected power reduction even when the motor is not actually hot.
- Some vehicles use the same coolant circuit for the traction motor and the cabin heater, so an intermittent sensor fault may also produce climate control symptoms that seem unrelated to the drivetrain.

Clearing the code without reproducing the fault often leads to a comeback, so technicians should always capture freeze-frame data and perform a wiggle test before returning the vehicle.

Can I keep driving with P0CC0?

The vehicle is generally safe to drive short distances because the fault is intermittent, but avoid sustained high-speed driving or heavy loads until the circuit is repaired. If the warning light begins flashing or the vehicle enters limp mode, stop driving and have it diagnosed promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with backprobe pins
- Wiring diagram for the specific vehicle
- Contact cleaner and dielectric grease
- Heat gun or hair dryer for thermal testing of the sensor



Reading P0CC0

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- C0** The exact fault within that area.

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A93** Inverter A Cooling System Performance · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P0CC1** Drive Motor A Coolant Pump Control Circuit/Open · **P0CC2** Drive Motor A Coolant Pump Control Circuit Range/Performance

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0cc0/>

