



P0CC1

Drive Motor A Coolant Pump Control Circuit/Open

P0CC1 indicates that the powertrain control module has detected an open circuit or control fault in the wiring that operates the coolant pump for drive motor A, which is the electric traction motor in a hybrid or electric vehicle. The computer monitors the pump control circuit for expected voltage or current feedback and sets this code when the signal is missing or out of range, meaning the pump may not be receiving its command to run.

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 with no other symptoms besides the warning light
- Reduced power or limp mode as the vehicle limits motor output to protect against overheating
- Overheating warning message or gauge indication for the drive motor system
- Audible whine or lack of pump noise when the vehicle is in ready mode, compared to normal operation
- Intermittent loss of propulsion or hesitation during acceleration if the pump circuit opens under load

Common causes, most likely first

- 1 Damaged or corroded wiring harness between the control module and the coolant pump, including chafed insulation or broken conductors
- 2 Failed coolant pump motor or internal pump electronics that create an open circuit
- 3 Loose, corroded, or disconnected electrical connector at the pump or at the control module
- 4 Blown fuse or failed relay in the coolant pump power supply circuit
- 5 Faulty powertrain control module driver circuit, though this is less common than wiring or pump failure
- 6 Coolant contamination or debris causing pump seizure, which can overload the circuit and lead to an open condition



How to diagnose and fix it

- 1 Perform a visual inspection of the coolant pump, its connector, and the wiring harness for damage, corrosion, or loose pins
- 2 Check the fuse and relay that supply power to the coolant pump circuit and replace any that are faulty
- 3 Disconnect the pump connector and measure resistance across the pump motor terminals to verify the pump is not open internally
- 4 With the key on and the pump commanded on, measure voltage and ground at the pump connector to confirm the control module is sending power and ground
- 5 Perform a wiggle test on the harness while monitoring pump command or voltage to reveal intermittent opens
- 6 If the circuit tests good but the pump does not run, substitute a known-good pump or command the pump with a scan tool to confirm pump operation
- 7 Repair or replace the faulty wiring, connector, or pump as needed, then clear the code and verify the pump runs with the scan tool bidirectional control

What the pump circuit test reveals

- A common mistake is replacing the coolant pump before checking the connector pins, because a backed-out or corroded terminal at the pump will set an open circuit code even with a perfectly good pump.
- The code can be set by a pump that runs but draws no current feedback, so a pump that spins freely by hand does not guarantee the control circuit is intact.
- Some vehicles set P0CC1 when the coolant pump relay fails open, and the relay is often located in a fuse box that is not obvious from the pump location, so consult the power distribution diagram.
- An open circuit can be intermittent and only set the code after a cold start or during a specific drive cycle, so a simple key-on test may not reveal the fault without a wiggle test.
- The drive motor coolant pump is separate from the engine coolant pump on hybrids, and technicians sometimes inspect the wrong pump when diagnosing this code.

Can I keep driving with P0CC1?

You can drive the vehicle a short distance to a repair shop if the only symptom is the warning light, but avoid heavy acceleration or long trips because the drive motor may overheat if the pump is not running. If the vehicle enters limp mode or shows an overheating warning, stop driving and have it towed to prevent damage.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with resistance and voltage measurement
- Wiring diagram or service information for the specific vehicle
- Test light or jumper wires for circuit testing
- Socket set and trim removal tools for accessing the pump and harness



Reading P0CC1

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- C1** The exact fault within that area.

Often seen with

P0A01 Motor Electronics Coolant Temperature Sensor Circuit Range/P · **P0A93** Inverter A Cooling System Performance · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P0CC2** Drive Motor A Coolant Pump Control Circuit Range/Performance · **P0CC3** Drive Motor A Coolant Pump Control Circuit Low

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/p0cc1/>

