



P0CC3

Drive Motor A Coolant Pump Control Circuit Low

P0CC3 indicates that the powertrain control module has detected a low-voltage condition on the control circuit for the coolant pump that serves Drive Motor A, which is the electric traction motor in a hybrid or electric vehicle. The circuit is monitored for expected voltage, and a value below the calibrated threshold triggers this code, typically because the pump is not receiving the command signal or feedback it should.

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
- Reduced power or limp mode if the motor coolant pump is not circulating fluid and the controller derates the drive motor
- Overheating warning for the drive motor or inverter, sometimes accompanied by a burning or hot coolant smell
- Coolant pump not running when the vehicle is powered up, which may be noticed as silence where a pump hum is normally heard
- Intermittent warning light that appears after the vehicle sits overnight or in cold weather and clears after a restart
- Possible no-start or ready-light failure if the motor coolant pump circuit fault prevents the high-voltage system from enabling

Common causes, most likely first

- 1 Damaged, corroded, or disconnected electrical connector at the drive motor coolant pump
- 2 Open or shorted wire in the pump control circuit, often from chafing or rodent damage
- 3 Failed drive motor coolant pump, such as a seized impeller or burned-out pump motor
- 4 Blown fuse or faulty relay that supplies power to the coolant pump control circuit
- 5 Poor ground connection for the pump or its control module, causing a low-voltage reading
- 6 Faulty powertrain control module or pump driver, though this is less common than wiring or pump failure
- 7 Low coolant level or air lock in the system that causes the pump to draw excessive current and set a circuit code



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in the motor coolant pump or hybrid control systems
- 2 Inspect the coolant pump connector and harness for corrosion, loose pins, or physical damage, and repair as needed
- 3 Check the fuse and relay that supply power to the coolant pump circuit, replacing any failed components
- 4 Measure voltage and resistance on the pump control circuit at the pump connector to confirm an open or short, then trace the wire
- 5 Test the coolant pump directly by applying power and ground to confirm it runs, and replace the pump if it does not
- 6 Check the coolant level and bleed the system if air is present, since air locks can cause the pump to set a low-circuit code
- 7 Clear the code and perform a road test or actuator test to confirm the pump operates and the code does not return

What a low pump circuit really means

- A low circuit code does not always mean the pump has failed; a poor ground or a corroded connector pin can drop the voltage seen by the controller and set the same code.
- On many hybrid and electric vehicles, the drive motor coolant pump runs whenever the vehicle is in ready mode, so a pump that is silent at key-on is a strong clue before any meter is used.
- Technicians sometimes replace the pump only to find the new pump sets the same code because the original fault was a chafed wire behind the battery tray or near a sharp body seam.
- A weak 12-volt battery or low charging system voltage can cause the pump control circuit to read low intermittently, so always check system voltage before condemning the pump.
- The code can be set by a pump that runs but draws excessive current due to a failing bearing or debris in the impeller, which a simple continuity test will not reveal.

Can I keep driving with P0CC3?

You can usually drive a short distance to a repair shop if the only symptom is the warning light, but avoid heavy acceleration or long trips because a failed motor coolant pump can overheat the drive motor and trigger a derate or shutdown. If the vehicle enters limp mode or shows an overheating warning, stop safely and have it towed.



Tools that help

- OBD-II scan tool with hybrid or EV capability
- Digital multimeter
- Fuse puller and test light
- Wire piercing probes or back-probe kit
- Service information for connector pinouts and pump activation tests

Reading P0CC3

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
C3	The exact fault within that area.

Often seen with

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 · **P0CC4** Drive Motor A Coolant Pump Control Circuit High

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/p0cc3/>

