



P2CAA

DC/DC Converter Temperature Sensor F Circuit Low

P2CAA indicates that the powertrain control module has detected a low-voltage condition on the signal circuit of the DC/DC converter temperature sensor F. The sensor monitors the temperature of a specific DC/DC converter, and the circuit voltage has fallen below the expected range, which can be caused by a short to ground, a faulty sensor, or a wiring issue.

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
- Possible reduced charging system performance or battery warning light
- Intermittent electrical accessory operation or power loss
- Overheating of the DC/DC converter in severe cases, leading to shutdown

Common causes, most likely first

- 1 Faulty DC/DC converter temperature sensor F
- 2 Short to ground in the sensor signal circuit
- 3 Damaged or corroded wiring harness or connector at the sensor
- 4 Poor electrical connection at the powertrain control module
- 5 Internal failure in the DC/DC converter assembly affecting the sensor circuit
- 6 Water intrusion or contamination in the sensor connector

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in other modules
- 2 Inspect the sensor and its connector for physical damage, corrosion, or loose pins
- 3 Measure the sensor signal circuit voltage with a multimeter and compare to specifications
- 4 Check for a short to ground in the signal circuit by isolating the sensor and testing continuity to ground
- 5 Test the sensor resistance or voltage output according to the manufacturer's procedure
- 6 Repair or replace damaged wiring or connectors as needed
- 7 Replace the DC/DC converter temperature sensor if testing confirms it is faulty, then clear codes and verify the repair



Don't overlook the converter itself

- A shorted sensor can mimic a wiring fault, so always disconnect the sensor before testing the circuit to avoid false readings.
- The DC/DC converter temperature sensor is often integrated into the converter assembly, making replacement more involved than a stand-alone sensor.
- This code can set intermittently due to vibration or heat cycles, so wiggle-test the harness while monitoring live data.
- A low signal circuit voltage can also be caused by a poor ground connection at the converter housing, which is frequently missed.
- Do not assume the converter is failing; the sensor circuit is a separate low-voltage circuit that can fail independently.

Can I keep driving with P2CAA?

You can usually continue driving with this code, but avoid heavy electrical loads and long trips until it is diagnosed, as a failing DC/DC converter could eventually affect charging system operation and leave you stranded.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools for connector and sensor access
- Back probe pins or breakout box

Reading P2CAA

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

Often seen with

P0562 System Voltage Low · **P0A94** DC/DC Converter A Performance · **P0A95** High Voltage Fuse A · **P2CA9** DC/DC Converter Temperature Sensor F Circuit · **P2CAB** DC/DC Converter Temperature Sensor F Circuit High



See it working

Watch the animated explainer [Helicopter Simulator: Take Off, Hover and Land](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2caa/>

