

GENERIC · POWERTRAIN

P0CEF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0CEF

Hybrid/EV Electronics Coolant Temperature Sensor A Circuit Range/Performance

P0CEF indicates that the hybrid or electric vehicle's electronics coolant temperature sensor A circuit is reporting a range or performance problem, meaning the voltage signal from the sensor does not correlate with expected values under current operating conditions. The computer has detected that the sensor's output is outside the plausible range or is not changing in a way that matches other temperature inputs, which can affect cooling system control and power electronics protection.

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 warning
- Reduced power output or limp mode due to overheating protection
- Coolant pump may run continuously or not at all
- Inaccurate or fluctuating coolant temperature gauge reading
- Often no symptoms besides the warning light, especially in early stages
- Possible overheating warning message on the dashboard

Common causes, most likely first

- 1 Faulty hybrid/EV electronics coolant temperature sensor A
- 2 Damaged or corroded wiring or connector at the sensor
- 3 Coolant level low or air pockets in the cooling system causing erratic sensor readings
- 4 Failed coolant pump or restriction in the cooling circuit leading to abnormal temperature behavior
- 5 Sensor signal circuit shorted to ground or power
- 6 Corrosion or damage inside the sensor housing from coolant intrusion
- 7 Software or calibration issue in the control module (less common)



How to diagnose and fix it

- 1 Verify coolant level and condition; top off or bleed the system if low or air is present
- 2 Inspect the sensor connector and wiring for corrosion, chafing, or loose pins
- 3 Measure sensor resistance or voltage output with a multimeter and compare to specifications
- 4 Check the coolant pump operation and flow to rule out cooling system faults
- 5 Backprobe the sensor signal circuit at the control module to check for voltage drops or shorts
- 6 Replace the coolant temperature sensor if testing confirms it is out of range
- 7 Clear the code and perform a road test to verify the repair and ensure the monitor completes

Coolant sensor faults that mimic other issues

- A low coolant level or trapped air can cause the sensor to read erratically and set P0CEF even when the sensor itself is good.
- The sensor's signal can be skewed by a failing coolant pump that causes localized hot spots, so always verify pump operation before replacing the sensor.
- Corroded pins in the connector are a common cause that is often overlooked because the sensor tests fine when probed directly.
- This code can be set by a control module software glitch; check for technical service bulletins before condemning hardware.
- A faulty sensor may not trigger overheating symptoms until the vehicle is under load, so a simple idle test may not reveal the issue.

Can I keep driving with P0CEF?

It is generally safe to drive with P0CEF as long as the coolant temperature gauge reads normal and no overheating warnings appear, but avoid heavy loads or aggressive driving until the fault is repaired. If the temperature gauge climbs above normal or a red overheating warning displays, stop safely and shut off the vehicle to prevent damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Coolant refractometer or hydrometer
- Socket set and trim removal tools
- Factory service information for sensor specifications



Reading P0CEF

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

Often seen with

P0CE8 Hybrid/EV Battery Pack Coolant Control Valve Position Sensor · **P0CE9** Hybrid/EV Electronics Coolant Pump A Control Circuit/Open · **P0CEA** Hybrid/EV Electronics Coolant Pump A Performance · **P0CEB** Hybrid/EV Electronics Coolant Pump A Control Circuit Low · **P0CEC** Hybrid/EV Electronics Coolant Pump A 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/p0cef/>

