

GENERIC · POWERTRAIN

P0CA0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0CA0

14 Volt Power Module Current Sensor B Circuit Intermittent

P0CA0 indicates that the 14-volt power module has detected an intermittent fault in the current sensor circuit for its 'B' channel, meaning the sensor signal drops out or becomes erratic rather than failing completely. The module logs this code when the current sensor's electrical signal falls outside expected limits for a brief period, often due to a loose connection or internal sensor 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, especially if the intermittent fault is brief.
- Intermittent electrical glitches such as flickering interior lights or radio resets.
- Possible reduced charging system performance if the fault affects voltage regulation.
- In rare cases, a no-start condition if the power module disables the circuit.
- Inconsistent operation of accessories powered by the 14-volt module.

Common causes, most likely first

- 1 Loose or corroded electrical connector at the current sensor or power module.
- 2 Damaged or chafed wiring in the sensor circuit, causing intermittent shorts or opens.
- 3 Faulty current sensor 'B' itself, with internal intermittent failure.
- 4 Poor ground connection for the power module or sensor circuit.
- 5 Water intrusion or contamination in the connector or sensor housing.
- 6 Internal fault in the 14-volt power module affecting sensor signal processing.

How to diagnose and fix it

- 1 Inspect and clean the current sensor connector and power module connector for corrosion or looseness.
- 2 Perform a wiggle test on the wiring harness while monitoring live data for the current sensor signal.
- 3 Check the sensor circuit wiring for continuity and shorts to ground or power using a multimeter.
- 4 Verify the sensor's ground circuit has low resistance to the chassis ground.
- 5 If wiring and connectors are good, test the current sensor with a known-good unit or oscilloscope.
- 6 If the sensor tests good, diagnose the power module for internal faults, consulting factory service information.
- 7 Clear the code and road test to confirm the repair, monitoring for recurrence.



Intermittent faults demand careful circuit inspection

- Intermittent current sensor codes often stem from connector fretting corrosion that only acts up under vibration or temperature changes.
- A faulty sensor can pass a static resistance test but fail intermittently when heated or subjected to vibration, so dynamic testing is essential.
- The 14-volt power module may be part of the charging system on some vehicles, so a failing sensor can affect battery charging without obvious symptoms.
- Technicians sometimes replace the power module unnecessarily when the real issue is a chafed wire hidden inside a harness loom.
- Related codes for voltage regulation or sensor circuits may be stored alongside P0CA0, giving clues to the root cause.

Can I keep driving with P0CA0?

The vehicle is generally safe to drive with this code because the fault is intermittent and often does not affect immediate operation, but avoid long trips or heavy electrical loads until diagnosed. If the check engine light starts flashing or you notice charging system warnings, stop driving and seek service.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope for signal analysis
- Electrical contact cleaner
- Wiring diagram for the specific vehicle

Reading P0CA0

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
A0	The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P0A0D** High Voltage System Interlock Circuit A High · **P0CA1** Drive Motor Control Module Requested MIL Illumination · **P0CA2** DC/DC Converter Step Down Voltage Performance



See it working

Watch the animated explainer [Readiness Monitors and the OBD-II Drive Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0ca0/>

