

GENERIC · POWERTRAIN

P2C6A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C6A

Drive Motor "A" Phase X Current Low

P2C6A indicates that the inverter controller has detected an abnormally low current in one specific phase winding of drive motor 'A', which is the primary traction motor in a hybrid or electric vehicle. The controller compares commanded current against measured feedback and sets this code when the actual phase current falls below the expected threshold during operation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	Hybrid propulsion

Symptoms you may notice

- Illumination of the hybrid or electric vehicle warning light, often accompanied by a reduced power message
- The vehicle may enter a fail-safe mode that limits motor output or prevents electric-only propulsion
- A noticeable hesitation or lack of power during acceleration, especially from a stop
- In some cases, the vehicle may refuse to start or shift into gear if the fault is severe
- Often no symptoms besides the warning light, particularly if the low current is intermittent

Common causes, most likely first

- 1 Damaged or chafed wiring in the motor phase harness, especially at connectors or where the harness passes near sharp edges
- 2 A poor electrical connection at the motor phase terminals or inverter output studs, often due to loose fasteners or corrosion
- 3 Internal failure in the inverter's current sensor or gate driver circuit for that phase
- 4 A shorted or open phase winding inside the drive motor itself, though this is less common than wiring issues
- 5 Faulty inverter control module software or hardware that misinterprets current feedback
- 6 Contamination such as coolant or debris in the motor or inverter connectors causing signal degradation



How to diagnose and fix it

- 1 Inspect the motor phase cables and connectors for physical damage, corrosion, or loose terminals, and repair or replace as needed
- 2 Perform a resistance check on each phase winding and compare readings to specifications to rule out an internal motor fault
- 3 Use a scan tool to monitor live current feedback for the affected phase while commanding motor operation, looking for dropouts or implausible values
- 4 Check for technical service bulletins (TSBs) or software updates for the inverter controller that address current sensing errors
- 5 If wiring and motor check out, test the inverter's current sensor circuit with an oscilloscope or substitute a known-good inverter for diagnosis
- 6 Clear the code and perform a road test to verify the repair, ensuring the fault does not return under load

Phase current faults often misdiagnosed

- A low current reading does not automatically mean the motor is failing; a loose ground or a damaged connector pin can cause the same code and is far cheaper to fix.
- The inverter's current sensor can drift out of calibration over time, producing a low current code without any actual wiring or motor problem.
- On some vehicles, this code can be set by a low 12-volt battery or a voltage drop in the inverter's power supply, so always check system voltage first.
- After any repair involving the high-voltage system, the code may need to be cleared with a factory-level scan tool before the vehicle will exit fail-safe mode.
- Intermittent phase current faults often appear only under high load or during regenerative braking, so a gentle test drive may not reproduce the condition.

Can I keep driving with P2C6A?

Do not continue driving with this code active, as the vehicle may enter a reduced-power mode without warning and high-voltage system faults can pose a safety risk. Have the vehicle towed to a qualified service facility for diagnosis.

Tools that help

- Factory-level scan tool capable of reading hybrid/EV-specific codes and live data
- Digital multimeter with high-voltage safety rating
- Oscilloscope for capturing current sensor waveforms
- Insulation resistance tester (megohmmeter)
- High-voltage safety gloves and insulated tools



Reading P2C6A

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- 6A** The exact fault within that area.

Often seen with

- P0A3F** Drive Motor A Position Sensor Circuit · **P0A40** Drive Motor A Position Sensor Circuit Range/Performance
- **P2C6B** Drive Motor "A" Phase X Current High · **P2C6C** Drive Motor "A" Phase Y Current

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2c6a/>

