

GENERIC · POWERTRAIN

P2C69

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C69

Drive Motor "A" Phase X Current

P2C69 indicates that the inverter controller for drive motor 'A' has detected an abnormal current level on one specific electrical phase (Phase X) of the three-phase motor circuit. The computer compares commanded current to measured feedback and sets this code when the phase current deviates outside the expected range, pointing to a problem in the motor windings, phase cabling, or inverter output stage.

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 with a reduced power message
- The vehicle may enter a fail-safe mode that limits motor torque or prevents further acceleration
- Intermittent shuddering or hesitation during acceleration as the inverter limits current to protect the motor
- A sudden loss of propulsion or inability to restart after the code sets, depending on the safety strategy
- Often no symptoms besides the warning light if the fault is stored but not currently active

Common causes, most likely first

- 1 Damaged or chafed phase cable between the inverter and the motor, causing a short to ground or to another phase
- 2 Loose or corroded terminal at the motor or inverter phase connection, creating high resistance and current imbalance
- 3 Internal fault in the drive motor 'A' stator windings, such as a shorted turn or insulation breakdown
- 4 Failed current sensor or signal circuit inside the inverter that misreports phase current
- 5 Faulty inverter power module or gate driver affecting one phase output
- 6 Coolant contamination or overheating of the inverter or motor that alters current characteristics



How to diagnose and fix it

- 1 Retrieve all stored and pending codes with a scan tool capable of reading hybrid/EV-specific modules, then record freeze-frame data
- 2 Visually inspect the phase cables and connectors between the inverter and motor for chafing, corrosion, or loose fasteners
- 3 Perform an insulation resistance test on each phase cable and motor winding using a megohmmeter rated for the system voltage
- 4 Check the motor winding resistance across phases with a precision milliohm meter and compare to specifications
- 5 Verify the inverter current sensor signal with an oscilloscope or manufacturer-specific diagnostic software while commanding a known load
- 6 If the inverter is suspect, follow the manufacturer's guided diagnostic procedure for the power module and current sensor circuit
- 7 After repair, clear codes and perform a road test with a scan tool monitoring phase current values to confirm the fault does not return

Phase current faults that fool good technicians

- A loose phase cable terminal often produces a current imbalance only under high load, so a static resistance check can pass while the code still sets during a test drive.
- The code can be set by a failing 12-volt auxiliary battery causing low-voltage glitches in the inverter controller, so always check system voltage and grounds before condemning the motor.
- Phase X is a placeholder in the generic definition; the actual phase (A, B, or C) is identified only by the manufacturer's enhanced diagnostic data, so do not assume a physical layout without that information.
- Coolant leaks into the inverter housing can cause intermittent phase current faults that disappear after the unit dries out, leading to a misdiagnosis of a motor winding problem.
- A motor that passes a static insulation test can still have an intermittent short that only appears when the windings are hot, so a cold test alone is not conclusive.

Can I keep driving with P2C69?

Do not continue driving with an active P2C69 code because the vehicle may enter a reduced-power or shutdown mode without warning. Have the vehicle towed to a qualified hybrid/EV service facility for diagnosis, and avoid any attempt to clear the code and resume normal driving.



Tools that help

- Hybrid/EV-capable scan tool with manufacturer-specific software
- Digital multimeter with high-voltage safety rating
- Insulation resistance tester (megohmmeter)
- Precision milliohmmeter for winding resistance
- Oscilloscope with high-voltage differential probe
- Personal protective equipment including insulated gloves and safety glasses

Reading P2C69

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A78** Drive Motor A Inverter Performance · **P2C68** Hybrid/EV Electronics Coolant Pump A Stuck/Stalled · **P2C6A** Drive Motor "A" Phase X Current Low

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/p2c69/>

