

GENERIC · POWERTRAIN

P0A66

OBD-II TROUBLE CODE

## P0A66

## Drive Motor B Phase U Current

P0A66 indicates that the hybrid or electric vehicle controller has detected an abnormal current reading on the U phase of drive motor B, which is the second traction motor in a multi-motor system. The computer compares the commanded current with the actual current reported by the phase current sensor and sets this code when the two disagree beyond a calibrated threshold.

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

## Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced power or limp-home mode because the controller limits motor torque to protect the inverter
- Rough running or shuddering during acceleration or regenerative braking
- Inability to start the vehicle or engage drive if the fault is severe
- Audible whine or click from the inverter area in rare cases of a failing current sensor

## Common causes, most likely first

- 1 Faulty phase current sensor inside the inverter or motor controller for motor B
- 2 Damaged or corroded wiring and connector pins between the current sensor and the controller
- 3 Internal short or open circuit in the motor B stator winding for the U phase
- 4 Failed inverter power module or gate driver affecting current regulation
- 5 Low or unstable 12-volt supply to the hybrid control module causing false current readings
- 6 Software calibration error in the motor control module requiring a reflash



## How to diagnose and fix it

- 1 Connect a scan tool and record all hybrid system freeze-frame data, then clear the code and test-drive to see if it returns immediately or only under load
- 2 Inspect the motor B phase cables and current sensor connectors for chafing, corrosion, or loose pins, and perform a wiggle test while monitoring live current data
- 3 Measure the resistance of the U phase winding and compare it with the V and W phases to rule out a stator fault
- 4 Check the 12-volt battery and charging system, as low voltage can corrupt current sensor signals
- 5 Back-probe the current sensor signal wire at the controller and compare its voltage with the commanded current under known loads
- 6 If the sensor signal is erratic or absent, replace the current sensor or the inverter assembly as required by the manufacturer's procedure
- 7 After repair, clear the codes and perform a hybrid system relearn or calibration drive cycle to confirm the fix

## Current sensor faults mimic motor failures

- A failing phase current sensor often produces a clean, repeatable code with no drivability complaint, leading many technicians to replace an expensive motor when only the sensor is at fault.
- Corroded connector pins at the inverter are a common cause that is missed because the harness looks fine until the connector is disassembled and the green crust is visible.
- This code can be set by a weak 12-volt battery during cranking, so always check supply voltage before condemning hybrid components.
- The U phase designation refers to one of three motor phases, and a fault here does not automatically mean the entire motor is bad; phase-to-phase resistance testing is essential.
- Some vehicles set P0A66 as a companion code to a more specific inverter or resolver code, so always scan all modules before starting diagnosis.

## Can I keep driving with P0A66?

Do not continue driving with this code active because the controller may suddenly limit power or shut down the hybrid system, leaving you without propulsion. Have the vehicle towed to a qualified hybrid repair facility for diagnosis.

## Tools that help

- Hybrid-capable scan tool with live current and voltage data
- Digital multimeter with low-ohm and diode test functions
- Insulation tester or megohmmeter for motor winding checks
- Oscilloscope for capturing current sensor waveforms
- Manufacturer service information for wiring diagrams and torque specs
- Personal protective equipment including high-voltage gloves and insulated tools



## Reading P0A66

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

## Often seen with

**P0A65** Drive Motor A Phase W Current High · **P0A67** Drive Motor B Phase U Current Low · **P0A68** Drive Motor B Phase U Current High · **P0A69** Drive Motor B Phase V Current · **P0A6A** Drive Motor B Phase V 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/p0a66/>

