

GENERIC · POWERTRAIN

P0A89

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0A89

14 Volt Power Module Current Sensor A Circuit High

P0A89 indicates that the 14-volt power module has detected an abnormally high current reading on its 'A' current sensor circuit, which monitors current flow through the DC-to-DC converter that steps high-voltage battery power down to charge the 12-volt system. The module compares the sensor signal against expected limits and sets this code when the voltage on the signal circuit exceeds the calibrated threshold, indicating a short to voltage, an open ground reference, or an internal sensor fault.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or a dedicated hybrid system warning lamp
- The 12-volt battery may not charge properly, leading to a no-start or dead battery condition
- Reduced power or a forced limp-home mode as the hybrid control system limits DC-to-DC converter operation
- Accessory systems such as lights, radio, and climate control may dim or behave erratically
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 A short to voltage on the current sensor signal circuit, often from chafed wiring near the power module connector
- 2 An open or high-resistance ground on the current sensor reference circuit, causing the signal to float high
- 3 A failed current sensor internal to the 14-volt power module, which is not serviceable separately on many units
- 4 Corrosion or loose pins in the power module harness connector allowing intermittent high signal voltage
- 5 A faulty 14-volt power module itself, where the internal current sensing circuit has drifted or failed
- 6 Water intrusion into the power module housing or connector, creating a conductive path that skews the sensor reading



How to diagnose and fix it

- 1 Clear the code and road-test the vehicle to confirm whether the fault is hard or intermittent before replacing any parts
- 2 Inspect the 14-volt power module harness connector for corrosion, loose terminals, or pushed-out pins and repair as needed
- 3 Back-probe the current sensor signal circuit at the module connector and compare the voltage to the manufacturer's specification with the key on and the converter commanded on
- 4 Check the sensor ground circuit for excessive resistance to chassis ground, repairing any open or high-resistance connection
- 5 Perform a wiggle test on the harness while monitoring the sensor signal on a scan tool to expose intermittent shorts
- 6 If the wiring and grounds test good, substitute a known-good 14-volt power module and retest to confirm the internal sensor fault
- 7 After repair, clear codes and verify the current sensor reading is within normal range during a complete drive cycle

What the current sensor reading really tells you

- A high current sensor reading does not always mean excessive current is flowing; an open ground reference can drive the signal voltage high and set this code with normal actual current.
- Technicians often replace the 14-volt power module only to find a chafed signal wire shorted to a nearby 12-volt feed, so always ohm-test the harness before condemning the module.
- Intermittent P0A89 codes that appear only in wet weather frequently trace to water intrusion at the power module connector, which is easy to overlook during a dry-bay inspection.
- The 14-volt power module shares cooling and electrical architecture with the hybrid inverter on many vehicles, so a failing converter can set companion codes that point away from the current sensor circuit.
- A weak or failing 12-volt battery can cause the power module to command unusually high output current, which may push the sensor reading toward the high threshold and mimic a sensor fault.

Can I keep driving with P0A89?

You can drive the vehicle short distances to a repair shop, but avoid long trips or heavy electrical loads because the 12-volt battery may not charge and the vehicle could enter a reduced-power mode without warning. If the battery warning lamp is on or the engine will not restart after shutting off, stop driving and arrange a tow.



Tools that help

- OBD-II scan tool with hybrid or manufacturer-specific capability to read the current sensor data
- Digital multimeter with back-probe pins for circuit voltage and resistance checks
- Wiring diagram for the 14-volt power module current sensor circuit
- Insulated hand tools and terminal removal tools for connector repair
- Battery charger or power supply to maintain 12-volt system voltage during testing

Reading P0A89

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A88** 14 Volt Power Module Current Sensor A Circuit Low · **P0A8A** 14 Volt Power Module Current Sensor A Circuit Intermittent · **P0A8B** 14 Volt Power Module System Voltage · **P0A94** DC/DC Converter A Performance

See it working

Watch the animated explainer [How an EGR Valve Works: Exhaust Gas Recirculation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0a89/>

