

GENERIC · POWERTRAIN

P0B78

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0B78

Hybrid/EV Battery Voltage Sense M Circuit Range/Performance

P0B78 indicates that the hybrid or electric vehicle battery pack monitoring system has detected an out-of-range or performance fault in the voltage sensing circuit for cell group 'M'. The computer compares the voltage reported by this sense line against the voltages of other cell groups and the overall pack, and it sets the code when the signal is implausible, stuck, or inconsistent with expected values.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

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, with the vehicle continuing to drive normally
- Reduced electric-only range or a switch to gasoline engine power earlier than usual
- Intermittent loss of hybrid battery assist or a sudden drop in state of charge
- A message on the dash advising that the hybrid system is unavailable or needs service
- Possible limp-home mode or refusal to start in some vehicles if the fault escalates

Common causes, most likely first

- 1 A faulty voltage sense wire or connector at the battery pack, often due to corrosion or vibration
- 2 A failed or degraded battery cell group 'M' causing the sense circuit to read out of range
- 3 A defective battery monitoring module or voltage sensing harness internal to the pack
- 4 Loose or improperly torqued terminal fasteners on the sense circuit
- 5 Water intrusion or contamination in the battery pack connector or wiring harness
- 6 A software or calibration issue in the battery control module requiring an update
- 7 Rarely, a failure within the battery energy control module itself



How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data with a scan tool capable of accessing hybrid battery modules
- 2 Inspect the battery pack sense wiring and connectors for corrosion, looseness, or damage
- 3 Measure the voltage of cell group 'M' directly at the sense terminals and compare with scan tool data
- 4 Check service information for any technical service bulletins or software updates for the battery control module
- 5 Perform a battery pack voltage balance test to identify a weak or failing cell group
- 6 Repair or replace the faulty sense wire, connector, or terminal as needed
- 7 If the cell group itself is faulty, replace the affected battery module or pack according to manufacturer procedures

What a voltage sense code really means

- A P0B78 is often caused by a simple wiring fault rather than a failed battery pack, so always inspect the sense harness before condemning the pack.
- The code can be set by a cell group that is only slightly out of balance, which may not yet cause noticeable driving symptoms.
- On many vehicles, the battery monitoring module must be reinitialized or calibrated after any sense circuit repair to prevent the code from returning.
- A weak 12-volt auxiliary battery can cause erratic behavior in hybrid control modules and lead to false voltage sense codes, so always check it first.
- Do not assume the code points to a specific cell group without verifying the voltage directly at the sense terminals, as the scan tool data can be misleading.

Can I keep driving with P0B78?

The vehicle is usually safe to drive to a service location, but avoid heavy acceleration or long trips until the fault is diagnosed. If the hybrid system warning light is accompanied by a loss of power or a message to stop driving, pull over and seek professional assistance.

Tools that help

- Hybrid-capable scan tool with battery module access
- Digital multimeter with high-voltage safety rating
- Insulated hand tools and personal protective equipment for high-voltage work
- Service information for the specific vehicle's battery pack layout
- Battery pack voltage balance tester or equivalent diagnostic software



Reading P0B78

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

Often seen with

P0A09 DC/DC Converter Status Circuit Low Input · **P0A0D** High Voltage System Interlock Circuit A High · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B77** Hybrid/EV Battery Voltage Sense M Circuit · **P0B79** Hybrid/EV Battery Voltage Sense M Circuit 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/p0b78/>

