GENERIC · POWERTRAIN

P0B13

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0B13

Hybrid/EV Battery Pack Current Sensor A/B Correlation

P0B13 indicates that the hybrid or electric vehicle battery pack current sensor A and sensor B signals do not agree within the expected tolerance. The battery energy control module compares the two independent current measurements and sets this code when the correlation between them falls outside the calibrated range, which can affect state-of-charge estimation and power limiting.

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
- Reduced electric propulsion power or a transition to limp-home mode
- Inaccurate or fluctuating state-of-charge display on the dashboard
- Possible failure to enter or maintain EV drive mode
- Often no symptoms besides the warning light, especially during low-load driving

Common causes, most likely first

1. Faulty battery pack current sensor A or B, including internal drift or signal offset
2. Damaged or corroded wiring or connector terminals in the current sensor circuit
3. High-voltage battery pack degradation causing abnormal current ripple that confuses correlation logic
4. Software calibration issue in the battery energy control module or current sensor interface
5. Loose or improper battery pack ground connection affecting sensor reference voltage
6. Failed current sensor interface module or signal conditioning circuit within the battery pack

How to diagnose and fix it

1. Retrieve all stored and pending codes with a scan tool capable of reading hybrid/EV battery data and record freeze-frame information
2. Visually inspect the battery pack current sensor connectors, harness routing, and ground points for damage, corrosion, or looseness
3. Measure reference voltage and signal return at each current sensor connector and compare with manufacturer specifications
4. Perform a battery pack current sensor correlation test using the scan tool live data to see which sensor deviates under load
5. Check for and install any available battery energy control module software updates or calibrations
6. Replace the faulty current sensor or sensor harness as indicated by test results, then clear codes and verify correlation returns to normal
7. If correlation still fails after sensor replacement, perform a high-voltage battery pack insulation and internal resistance test to rule out pack degradation

Current sensor correlation traps to check first

- A weak or aging 12-volt auxiliary battery can cause erratic module communication and false correlation codes, so always load-test it before condemning high-voltage components.
- The correlation code often sets during regenerative braking or rapid acceleration when current changes quickly, so a road test with live data is more revealing than a idle check.
- Aftermarket high-voltage battery chargers or improper jump-starting procedures can induce current spikes that temporarily set this code without a hard sensor failure.
- Some vehicles require a battery pack current sensor learn or recalibration procedure after replacement, and skipping it will cause the code to return immediately.
- A failing cell group within the pack can create current imbalances that mimic sensor correlation faults, so pack block voltage analysis should accompany sensor diagnostics.

Can I keep driving with P0B13?

Do not continue driving under heavy loads or at high speeds because the battery management system may misjudge current and reduce power unexpectedly. Have the vehicle inspected promptly by a qualified hybrid/EV technician, and avoid using public DC fast chargers until the fault is resolved.

Tools that help

- Hybrid/EV-capable scan tool with live battery current data
- Digital multimeter with high-voltage safety rating
- Insulation tester for high-voltage circuit checks
- Battery pack lifting or support equipment as required by the vehicle design
- Manufacturer service information for current sensor calibration procedures

Reading P0B13

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B12** Hybrid/EV Battery Pack Current Sensor B Circuit Intermittent · **P0B14** Hybrid/EV Battery Pack Voltage Sense B Circuit · **P0B15** Hybrid/EV Battery Pack Voltage Sense B Circuit Range/Perform

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/p0b13/