

GENERIC · POWERTRAIN

P0BFB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BFB

Drive Motor B Phase W Current Sensor Circuit Low

P0BFB means the computer that controls the drive motor inverter has detected an abnormally low voltage signal from the current sensor that monitors the W phase of the three-phase drive motor. The sensor is supposed to report how much current is flowing through that motor phase, and a low signal tells the controller that either the sensor circuit is compromised or the sensor itself is not reporting correctly.

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

Symptoms you may notice

- Illumination of the check engine light or a dedicated hybrid/EV system warning lamp
- Reduced power or a limp-home mode that limits motor output
- The vehicle may refuse to start or shift into drive if the fault is active at key-on
- Intermittent stalling or sudden loss of propulsion while driving
- Often no symptoms besides the warning light when the fault is stored but not currently active

Common causes, most likely first

- 1 A damaged or corroded current sensor connector or terminal at the motor phase W sensor
- 2 An open or shorted wire in the sensor signal or reference circuit between the sensor and the inverter controller
- 3 A failed current sensor on the W phase of the drive motor
- 4 A poor ground connection shared by the current sensor circuit
- 5 Internal fault in the inverter or motor control module that reads the sensor signal
- 6 Physical damage to the sensor or its wiring from heat, vibration, or debris intrusion

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm when and under what conditions P0BFB set
- 2 Visually inspect the W phase current sensor connector and harness for corrosion, chafing, or loose pins
- 3 Measure sensor reference voltage and signal voltage at the connector with a multimeter and compare to manufacturer specifications
- 4 Perform a wiggle test on the harness while watching live sensor data to catch intermittent opens
- 5 Check sensor ground circuit resistance to the controller ground point
- 6 If the circuit checks out, substitute a known-good sensor or perform a resistance check on the sensor itself
- 7 Clear the code and verify the repair with a road test that exercises the motor under load



What the W phase sensor code really tells you

- A low signal does not always mean the sensor has failed; a poor ground or a chafed signal wire can pull the voltage down and mimic a dead sensor.
- On many hybrid and EV platforms the current sensor is integrated into the motor phase busbar or inverter assembly, so a simple sensor swap may not be possible without replacing a larger component.
- Technicians often overlook the shared reference voltage circuit because a fault there can affect multiple phase sensors, yet only the W phase code may set first.
- The code can set intermittently from vibration or heat cycles, so a static multimeter check at room temperature may pass while the fault only appears under load or after warm-up.
- Do not condemn the inverter or motor controller until the sensor circuit has been load-tested and the ground integrity confirmed, because controller replacement is expensive and rarely the actual cause.

Can I keep driving with P0BFB?

If the warning light is on and the vehicle has entered a reduced-power mode, avoid highway driving and heavy acceleration because the motor may cut out unexpectedly. Have the fault diagnosed promptly, and do not continue driving if the vehicle refuses to start or repeatedly loses propulsion.

Tools that help

- OBD-II scan tool with live data and hybrid/EV module access
- Digital multimeter with min/max recording
- Back probe pins or breakout harness
- Manufacturer service information for connector pinouts and voltage specifications
- Insulated hand tools and personal protective equipment for high-voltage systems

Reading P0BFB

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

Often seen with

P0A0A High Voltage System Interlock Circuit A · **P0A3F** Drive Motor A Position Sensor Circuit · **P0BFA** Drive Motor B Phase W Current Sensor Circuit Range/Performan · **P0BFC** Drive Motor B Phase W Current Sensor Circuit High · **P0BFD** Drive Motor A Phase U-V-W Current Sensor Correlation



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/p0bfb/>

