



P0BEA

Drive Motor A Phase V Current Sensor Circuit Range/Performance

P0BEA indicates that the powertrain control module has detected an out-of-range or erratic signal from the phase V current sensor circuit for drive motor A, which is the sensor that monitors current flow in one phase of the electric motor's three-phase wiring. The computer compares this signal against expected values and flags the code when the voltage or current reading falls outside the normal operating window or behaves inconsistently.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Reduced power or limp mode, often with a warning to service the hybrid or electric system
- Intermittent hesitation or shudder during acceleration or regenerative braking
- No noticeable symptoms besides the warning light in many cases
- Possible stalling or failure to start if the fault escalates

Common causes, most likely first

- 1 Faulty phase V current sensor or its internal circuitry
- 2 Damaged or corroded wiring harness or connector at the sensor or motor
- 3 Poor electrical connection or ground at the sensor reference circuit
- 4 Failed inverter or motor control module affecting sensor supply voltage
- 5 Mechanical damage to the motor or phase cable causing abnormal current signatures
- 6 Software calibration issue in the control module requiring reprogramming



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear codes and test-drive to see if P0BEA returns
- 2 Visually inspect the phase V current sensor connector and wiring for chafing, corrosion, or loose pins
- 3 Measure sensor reference voltage and ground at the connector with a digital multimeter and compare to manufacturer specifications
- 4 Perform a resistance and continuity test on the sensor signal circuit from the sensor to the control module
- 5 Check for technical service bulletins or calibration updates for the motor control module
- 6 If wiring and connections are good, substitute a known-good sensor and retest
- 7 If the code persists after sensor replacement, diagnose the inverter or motor control module for internal faults

What the phase V sensor code really means

- A loose or corroded connector at the motor often mimics a failed current sensor, so always inspect and clean terminals before condemning the sensor.
The phase V current sensor is one of three phase sensors, and a fault in one phase can cause the system to disable the entire motor for safety.
- This code can set intermittently due to vibration or heat, so a wiggle test of the harness while monitoring live data is a valuable diagnostic step.
- Replacing the current sensor without checking the inverter's reference voltage can lead to repeat failures if the supply circuit is out of specification.
Some vehicles require a relearn or calibration procedure after sensor replacement, and skipping it may cause the code to reset immediately.

Can I keep driving with P0BEA?

It is not advisable to continue driving with P0BEA because the fault can cause reduced power or a sudden loss of propulsion, especially at higher speeds. Have the vehicle inspected by a qualified technician as soon as possible, and avoid heavy acceleration or long trips until repaired.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with min/max and duty cycle functions
- Oscilloscope for waveform analysis of the current sensor signal
- Factory service information for wiring diagrams and sensor specifications
- Insulated hand tools and terminal pick set for connector inspection



Reading P0BEA

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

Often seen with

P0A0A High Voltage System Interlock Circuit A · **P0BE8** Drive Motor A Phase U Current Sensor Circuit High · **P0BE9** Drive Motor A Phase V Current Sensor Circuit · **P0BEB** Drive Motor A Phase V Current Sensor Circuit Low · **P0BEC** Drive Motor A Phase V Current Sensor Circuit High

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/p0bea/>

