

GENERIC · POWERTRAIN

P0D2F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0D2F

Drive Motor A Inverter Voltage Sensor A Circuit Low

P0D2F means the voltage signal from sensor A inside the inverter that feeds drive motor A has dropped below the range the control module expects for the present operating conditions. The computer compares this signal against its internal plausibility model and flags the circuit as low when the reported voltage stays under the calibrated minimum.

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 service warning lamp
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced power or a limp-home mode that limits motor output
- The vehicle may refuse to start or shift into drive if the inverter is derated
- Intermittent stalling or sudden loss of propulsion while driving
- A message on the dash indicating a high-voltage system fault

Common causes, most likely first

- 1 A chafed, corroded, or loose ground connection at the inverter housing or chassis
- 2 A damaged or pinched wire in the sensor A signal or reference circuit
- 3 Water intrusion or contamination inside the inverter connector causing low signal voltage
- 4 A failing voltage sensor A internal to the inverter assembly
- 5 A weak or unstable low-voltage reference supply from the inverter control board
- 6 A faulty inverter control module or internal circuit board fault
- 7 Extreme cold or heat affecting sensor calibration, though this is less common



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data for P0D2F before clearing anything
- 2 Visually inspect the inverter connectors, harness routing, and ground straps for corrosion, chafing, or loose fasteners
- 3 Measure resistance from the inverter ground terminal to the chassis and repair any ground with more than a fraction of an ohm
- 4 Back-probe the sensor A signal wire at the inverter connector and compare its voltage to the scan-tool data parameter
- 5 Check the sensor reference voltage at the connector with the key on and confirm it matches the service specification
- 6 Perform a wiggle test on the harness while watching live data to expose an intermittent low signal
- 7 If wiring and grounds pass, replace the inverter assembly or sensor as directed by the manufacturer's diagnostic flow

What a low inverter sensor signal really means

- A low signal code frequently comes from a bad ground rather than a failed sensor, so inspect and clean every inverter ground before condemning the assembly.
- Water intrusion into the inverter connector is a common hidden cause on vehicles that have been through deep puddles or pressure washing, and the pins can look fine until the connector is opened.
- The code can set intermittently from a harness that rubs only during certain suspension or motor movements, so a static voltage check at idle may show nothing wrong.
- Do not assume the inverter itself has failed; a weak 5-volt reference from the control board will drag the sensor signal low and mimic a bad sensor.
- Clearing the code without repairing the circuit often leads to a repeat failure and can mask a developing high-voltage insulation problem.

Can I keep driving with P0D2F?

Limit driving to a short distance to a safe repair location and avoid heavy acceleration or high-speed operation, because a low inverter sensor signal can cause sudden loss of propulsion or a high-voltage shutdown. If the vehicle enters limp mode or refuses to move, have it towed rather than forcing it.

Tools that help

- OBD-II scan tool with hybrid/EV manufacturer-level live data capability
- Digital multimeter with min/max recording
- Back-probe kit and wiring diagram for the inverter connector
- Insulation tester for high-voltage cable checks
- Hand tools for connector and ground-strap access



Reading P0D2F

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
D	Hybrid propulsion.
2F	The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A94** DC/DC Converter A Performance · **P0D2E** Drive Motor A Inverter Voltage Sensor A Circuit Range/Perfor · **P0D30** Drive Motor A Inverter Voltage Sensor A 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/p0d2f/>

