

GENERIC · POWERTRAIN

P2E4D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E4D

Battery Charger Coupler Temperature Sensor C Circuit High

P2E4D indicates that the powertrain control module has detected an abnormally high voltage on the signal circuit of the battery charger coupler temperature sensor C. This sensor monitors the temperature of the charging coupler to prevent overheating during high-voltage battery charging, and a high voltage reading typically means the circuit is open, shorted to voltage, or the sensor's internal resistance has shifted out of range.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light
- Charging system may default to a reduced power mode or stop charging altogether
- Inconsistent or failed high-voltage battery charging sessions
- Possible display of a charging system fault message on the instrument cluster

Common causes, most likely first

- 1 Open circuit or high resistance in the sensor signal circuit, such as a broken wire or corroded connector
- 2 Sensor signal circuit shorted to a voltage source, including chafed wiring harness
- 3 Faulty battery charger coupler temperature sensor C
- 4 Poor electrical connection at the sensor or powertrain control module connector
- 5 Internal failure within the powertrain control module affecting the sensor input
- 6 Damaged or degraded connector pins at the coupler assembly



How to diagnose and fix it

- 1 Perform a visual inspection of the sensor, its connector, and the wiring harness for damage, corrosion, or loose pins
- 2 Use a scan tool to read live data from the sensor and compare it to ambient temperature after a cold soak
- 3 Disconnect the sensor and measure its resistance with a multimeter, checking against the manufacturer's specification
- 4 Check the signal circuit for continuity to ground and for unintended voltage with the key on, engine off
- 5 Inspect the powertrain control module connector for corrosion or backed-out terminals and repair as needed
- 6 If the circuit tests good, substitute a known-good sensor and recheck the code
- 7 Clear the diagnostic trouble codes and verify the repair by performing a charging cycle and monitoring sensor data

What the coupler sensor code really means

- A high voltage on the signal circuit often indicates an open circuit rather than a failed sensor, so check wiring continuity before condemning the sensor.
- The sensor is part of the high-voltage charging safety system, and a fault can prevent charging entirely even though the vehicle may still drive normally.
- Corrosion at the coupler connector is a common cause that is frequently overlooked because the connector is exposed to the elements.
- Some vehicles will set this code only after a charging session is attempted, so a test drive alone may not reproduce the fault.
- The powertrain control module may substitute a default temperature value when the sensor signal is lost, masking the problem until charging is attempted.

Can I keep driving with P2E4D?

The vehicle may be safe to drive because the fault primarily affects the charging system, but avoid attempting to charge the high-voltage battery until the issue is repaired to prevent overheating or damage to the charging coupler.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Terminal pick and connector release tools
- Insulation resistance tester (megohmmeter) for high-voltage circuits



Reading P2E4D

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 4D** The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AA6** Hybrid/EV Battery Voltage System Isolation Fault
· **P2E4C** Battery Charger Coupler Temperature Sensor C Circuit Low · **P2E4E** Battery Charger Coupler Temperature C Too High · **P2E4F** Battery Charger Coupler Temperature Sensor D Circuit

See it working

Watch the animated explainer [How a Gyroscope Works: Gimbals and Precession](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2e4d/>

