



P0C16

Drive Motor B Inverter Phase W Over Temperature

P0C16 means the inverter that drives traction motor B has reported an over-temperature condition on its phase W output circuit. The computer has detected that the temperature sensor inside the inverter, or the calculated thermal model for that phase, has exceeded a safe threshold, so it sets this code and typically limits or disables motor B output to protect the hardware.

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

Symptoms you may notice

- Illumination of the hybrid or electric vehicle warning light, often with a message to reduce power or stop safely
- Reduced or zero drive torque from motor B, which may feel like a loss of acceleration or a sudden limp mode
- A noticeable drop in electric range or performance after sustained high-load driving
- Audible cooling fan running at high speed after the vehicle is parked, as the inverter tries to shed heat
- Often no symptoms besides the warning light if the fault is intermittent or triggered during a brief over-temperature event
- In some cases the vehicle may refuse to start or shift into gear until the inverter cools down

Common causes, most likely first

- 1 Low or contaminated inverter coolant, or air trapped in the cooling loop, reducing heat transfer from the inverter
- 2 A failing coolant pump or restricted radiator that prevents adequate flow through the inverter cooling circuit
- 3 A faulty temperature sensor inside the inverter or a damaged sensor wiring harness causing false over-temperature readings
- 4 A clogged or degraded thermal interface between the inverter power module and its heat sink
- 5 High electrical resistance in the phase W output circuit, such as a loose or corroded terminal, causing excess heat generation
- 6 Internal inverter hardware degradation, such as failing power semiconductors or gate driver circuits, leading to increased losses
- 7 Software or calibration issues in the inverter control module that misjudge thermal load under certain driving conditions



How to diagnose and fix it

- 1 Check the inverter coolant level and condition, and pressure-test the cooling system for leaks or air pockets
- 2 Verify coolant pump operation and confirm adequate flow through the inverter circuit using a scan tool or manual inspection
- 3 Inspect the phase W cable and connectors for tightness, corrosion, or heat damage, and perform a voltage drop test under load
- 4 Use a scan tool to read live inverter temperature data and compare it with actual component temperature after a cold soak
- 5 Test the inverter temperature sensor and its wiring for resistance and continuity according to the manufacturer's procedure
- 6 Inspect and clean the thermal interface between the inverter and heat sink if accessible, replacing thermal pads if degraded
- 7 If all external checks pass, follow the manufacturer's diagnostic flow for internal inverter faults, which may require module replacement or reprogramming

Cooling system faults mimic inverter failure

- A significant number of P0C16 cases are caused by cooling system problems rather than a failed inverter, so always verify coolant flow and pump operation before condemning the module.
- The code can be set by a false temperature reading from a damaged sensor or chafed wiring, so live data comparison against actual temperature is essential to avoid unnecessary replacement.
- Inverter over-temperature codes often appear after repeated hard acceleration or during hot weather, and may not recur in normal driving, making intermittent diagnosis challenging.
- Some vehicles use a calculated thermal model rather than a direct sensor for phase W, so software updates or recalibration can resolve the code without any hardware replacement.
- A loose or corroded phase W terminal can create localised heating that the inverter interprets as an over-temperature event, so always inspect connections before replacing the inverter.

Can I keep driving with P0C16?

Do not continue driving under high load once this code is set, because the inverter may already be limiting power and further operation can cause permanent damage. If the vehicle is still driveable, proceed gently to a safe location or workshop, and avoid sustained acceleration or uphill grades until the fault is repaired.

Tools that help

- OBD-II scan tool with live data and manufacturer-specific capabilities
- Digital multimeter with temperature probe
- Coolant pressure tester and refractometer
- Insulation resistance tester
- Thermal imaging camera



Reading P0C16

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A93** Inverter A Cooling System Performance · **P0C15** Drive Motor B Inverter Phase V Over Temperature · **P0C17** Drive Motor A Position Sensor Not Learned · **P0C18** Drive Motor B Position Sensor Not Learned

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/p0c16/>

