

GENERIC · POWERTRAIN

P0A82

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0A82

Hybrid/EV Battery Pack Cooling Fan 1 Performance/Stuck Off

P0A82 indicates that the hybrid or electric vehicle battery pack cooling fan 1 is not performing as expected or is stuck off, based on the battery energy control module monitoring fan speed and temperature response. The computer commands the fan on but sees no corresponding drop in battery temperature or no feedback from the fan circuit, so it flags a performance fault.

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

Symptoms you may notice

- Hybrid or EV battery warning light illuminated on the dashboard
- Reduced power output or limp mode due to battery overheating protection
- Audible cooling fan not running when the battery is hot or charging
- Battery temperature gauge reading higher than normal
- Often no symptoms besides the warning light, especially in mild climates or short trips

Common causes, most likely first

- Failed battery pack cooling fan 1 motor or seized fan bearing
- Blown fuse or faulty relay in the fan power circuit
- Damaged wiring or corroded connector between the control module and fan
- Faulty fan speed sensor or feedback circuit inside the fan assembly
- Battery energy control module software glitch or internal driver failure
- Restricted airflow to the battery pack due to blocked intake or debris
- Cooling fan 1 stuck off because of a command issue from the hybrid control module

How to diagnose and fix it

- Scan all modules for related codes and record freeze-frame data for P0A82
- Inspect the fan 1 fuse, relay, and power supply circuit with a multimeter
- Command the fan on with a scan tool and listen for operation while watching live data
- Check fan connector pins for corrosion, looseness, or pushed-back terminals
- Measure resistance and voltage drop on the fan motor and feedback signal wire
- Verify battery pack temperature sensor readings are plausible and not skewed
- Replace the fan assembly or repair wiring only after confirming the fault is not a command or power issue

Fan command versus fan feedback traps

- A scan tool that can command the fan on is essential because the code can set from a feedback circuit fault even when the fan motor itself spins freely.
- Technicians often replace the fan only to find a corroded ground or a relay that clicks but does not carry current under load.
- Battery pack cooling fan 1 may only run during charging or high-load events, so a stuck-off fan can go unnoticed until the battery overheats on a long climb.
- The code can be set by a software calibration issue in the battery energy control module that misinterprets normal fan current draw as a performance fault.
- Restricted airflow from a blocked battery intake or a collapsed duct can mimic a failed fan because the module sees no temperature drop despite the fan running.

Can I keep driving with P0A82?

You can usually drive short distances at moderate speeds, but avoid aggressive acceleration, long uphill grades, and fast charging until the fault is repaired because battery overheating can trigger a sudden power reduction. If the battery temperature warning appears, stop and let the pack cool before continuing.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with min/max and duty cycle functions
- Fuse puller and test light
- Socket set and trim removal tools for fan access
- Infrared thermometer to verify battery pack temperature

Reading P0A82

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

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0A81** Hybrid/EV Battery Pack Cooling Fan 1 Control Circuit/Open · **P0A83** Hybrid/EV Battery Pack Cooling Fan 1 Stuck On · **P0A84** Hybrid/EV Battery Pack Cooling Fan 1 Control Circuit Low · **P0A85** Hybrid/EV Battery Pack Cooling Fan 1 Control Circuit High



See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0a82/>

