



P0CAA

Hybrid/EV Battery Temperature Sensor M Circuit Low

P0CAA indicates that the hybrid or electric vehicle battery pack's temperature sensor 'M' is reporting a voltage below the normal range, which the battery energy control module interprets as a low circuit condition. The computer has detected that the signal wire for this specific sensor is likely shorted to ground or the sensor's internal resistance has dropped abnormally.

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 hybrid system warning light
- Often no symptoms besides the warning light, especially in mild weather
- Reduced electric-only driving range or forced engine operation in hybrids
- A message on the dash indicating the hybrid battery is too hot or too cold
- Possible transition to limp mode if the fault escalates to a circuit high or open condition
- Inconsistent battery state-of-charge readings or unexpected charging behavior

Common causes, most likely first

- 1 A short to ground in the signal wire between sensor M and the battery energy control module
- 2 Internal failure of temperature sensor M causing abnormally low resistance
- 3 Corroded or loose connector pins at the sensor or module harness
- 4 Damage to the wire harness from chafing, rodent activity, or heat exposure
- 5 Moisture intrusion into the sensor connector or module connector
- 6 A faulty battery energy control module misreading the sensor voltage



How to diagnose and fix it

- 1 Use a scan tool to confirm P0CAA is current and check for related temperature sensor codes
- 2 Inspect the sensor M connector and module connector for corrosion, moisture, or loose pins
- 3 Disconnect the sensor and measure its resistance with a multimeter, comparing to the manufacturer's temperature-resistance chart
- 4 Check the signal wire for continuity to ground with the sensor disconnected to rule out a short
- 5 Perform a wiggle test on the harness while monitoring live sensor voltage to catch intermittent faults
- 6 Replace temperature sensor M if resistance is out of specification or the wire is confirmed good
- 7 Clear codes and verify the sensor voltage reads normally within the expected range during a test drive

Why sensor M shorts are often misdiagnosed

- A low voltage code for a temperature sensor frequently results from a chafed signal wire touching the battery pack frame rather than a failed sensor, so always inspect the harness routing before condemning the sensor.
- Technicians sometimes replace the battery energy control module when the real problem is a single corroded pin in the sensor connector, which costs far less to repair.
- Temperature sensor M is often one of several sensors in the pack, and a low circuit on one sensor can cause the module to substitute a default value, masking the fault until extreme temperatures occur.
- After replacing the sensor, the module may need a relearn or adaptation procedure to clear the default value and restore accurate temperature reporting.
- In some vehicles, a low temperature sensor circuit can be triggered by a weak 5-volt reference shared with other sensors, so check the reference voltage at the module before replacing parts.

Can I keep driving with P0CAA?

You can usually continue driving to a repair shop, but avoid aggressive acceleration, fast charging, or extreme temperature exposure until the fault is fixed. If the hybrid system warning light turns red or the vehicle enters limp mode, stop driving and seek professional service.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Manufacturer-specific wiring diagram
- Back probe pins or breakout box
- Insulated hand tools and trim removal tools



Reading P0CAA

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

Often seen with

P0CA8 Hybrid/EV Battery Temperature Sensor M Circuit · **P0CA9** Hybrid/EV Battery Temperature Sensor M Range/Performance · **P0CAB** Hybrid/EV Battery Temperature Sensor M Circuit High · **P0CAC** Hybrid/EV Battery Temperature Sensor M Circuit Intermittent/ · **P0CB0** DC/DC Converter Voltage Below Threshold

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/p0caa/>

