



P1600 · Mazda

Loss Of KAM Power Circuit Open

P1600 on Mazda vehicles means the engine control module (ECM) has detected an open circuit in the Keep Alive Memory (KAM) power supply, which is the constant battery feed that preserves learned values and adaptive strategies when the ignition is off. The ECM monitors the KAM voltage and sets this code when the circuit is open, indicating it has lost or is at risk of losing its memory backup power.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- The check engine light may be the only noticeable symptom, with no drivability complaints.
- The engine may idle roughly or run with poor fuel economy for the first few drive cycles after a battery disconnect or KAM reset.
- The radio and clock may lose their preset stations and time, indicating a broader constant-power issue.
- The engine may crank but fail to start if the KAM circuit is completely open and the ECM cannot retain its learned immobilizer or fuel strategy.
- Intermittent no-start conditions that clear after a few minutes or after cycling the key.
- The transmission may shift harshly for a short period as adaptive shift memory is relearned.

Common causes, most likely first

- 1 Blown fuse in the KAM or room fuse circuit, often caused by a shorted accessory or aftermarket device.
- 2 Corroded or loose battery terminal connections, especially the positive terminal and its constant-power feed.
- 3 Damaged or chafed wiring in the KAM power circuit between the battery, fuse box, and ECM.
- 4 Failed ECM internal power supply, though this is less common than external circuit faults.
- 5 Aftermarket alarm or remote start installation that tapped into the KAM circuit incorrectly.
- 6 Water intrusion into the engine bay fuse box or ECM connector causing corrosion and an open circuit.



How to diagnose and fix it

- 1 Check the KAM and room fuses in the engine bay and interior fuse boxes, replacing any blown fuse and inspecting for why it blew.
- 2 Inspect and clean the battery terminals and the constant-power feed at the fuse box, tightening any loose connections.
- 3 Measure voltage at the ECM KAM pin with the ignition off using a wiring diagram; it should read battery voltage, and if not, trace the circuit back to the fuse.
- 4 Perform a voltage drop test on the KAM circuit while wiggling the harness to find intermittent opens.
- 5 Disconnect any aftermarket accessories tapped into the KAM circuit and retest.
- 6 If the external circuit is intact and the ECM still sets P1600, substitute a known-good ECM and verify the code clears.
- 7 After repair, clear the code and perform a relearn drive cycle so the ECM can rebuild its adaptive memory.

KAM power faults that mimic other codes

- A weak or failing battery can cause P1600 without any open circuit, because the ECM sees low KAM voltage during cranking and misinterprets it as an open circuit.
- Many technicians replace the ECM first when the real fault is a corroded fuse box terminal that only opens when the engine bay heats up.
- P1600 often appears alongside P0601 or P0606 after a battery replacement if the KAM circuit was not properly reconnected, leading to unnecessary module replacement.
- Aftermarket stereos or alarm systems that backfeed the KAM circuit can set P1600 intermittently, and the code may not return until the accessory is used.
- On some Mazda models, the KAM circuit shares a fuse with the interior dome light, so a blown dome light fuse is a quick clue that the KAM fuse is also open.

Can I keep driving with P1600?

You can usually drive the vehicle with P1600 set, but avoid long trips or shutting off the engine in remote areas until the fault is repaired, because a complete KAM power loss can cause a no-start or poor running condition. If the engine cranks but does not start, do not keep cranking; have the vehicle towed to a repair shop.

Tools that help

- Digital multimeter
- Test light
- Fuse puller
- Wiring diagram for the specific Mazda model
- Battery terminal cleaner
- Scan tool capable of clearing codes and viewing live data



Reading P1600

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Mazda): its meaning depends on the make.
- 6** Computer and output circuits.
- 00** The exact fault within that area.

Often seen with

P0560 System Voltage Malfunction · **P0562** System Voltage Low · **P0601** Internal Control Module Memory Checksum Error · **P0606** PCM Processor Fault · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1600/>

