

GM · POWERTRAIN

P1800

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1800 · GM

TCM Power Control Relay Circuit Open

P1800 on a GM vehicle means the transmission control module (TCM) has detected an open circuit in the power control relay circuit, so the relay is not delivering voltage to the TCM or its controlled loads. The TCM monitors the relay control and feedback circuits and sets this code when the expected voltage is missing or the circuit is electrically open.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Transmission

Symptoms you may notice

- The check engine light or transmission warning light is illuminated, often with no other symptoms besides the warning light
- The transmission may default to a limp-home mode with harsh or delayed shifts
- The vehicle may not crank or may stall intermittently if the relay also supplies ignition power
- Erratic transmission behavior such as slipping, flaring, or failure to engage a gear
- No communication with the TCM when a scan tool tries to read transmission codes
- Intermittent electrical symptoms that change with temperature or vibration

Common causes, most likely first

- Failed TCM power control relay (open coil or burned contacts)
- Blown fuse or fusible link feeding the relay or TCM power circuit
- Open or corroded wiring between the relay, fuse block, and TCM
- Loose or damaged relay socket terminals in the underhood fuse block
- Poor ground connection for the relay or TCM
- Faulty TCM internal power supply circuit
- Water intrusion or corrosion in the fuse block or TCM connector



How to diagnose and fix it

- 1 Check all fuses and fusible links related to the TCM and transmission power circuits with a test light or multimeter
- 2 Swap the TCM power control relay with an identical known-good relay and clear the code to see if it returns
- 3 Inspect the relay socket and TCM connectors for corrosion, loose terminals, or pushed-out pins
- 4 Measure voltage at the relay control circuit and at the TCM power input with the key on and engine cranking
- 5 Perform a voltage drop test on the ground circuit for the relay and TCM
- 6 Check for continuity and resistance on the wiring between the relay, fuse block, and TCM, wiggle-testing the harness
- 7 If all circuits test good, follow the GM diagnostic flow chart for P1800, which may require testing the TCM or replacing it after confirming power and ground

Relay circuit opens that fool good technicians

- A relay that clicks does not guarantee good contacts; the coil can energize while the power contacts are burned open, so always load-test the relay circuit.
- The TCM power control relay often shares its feed with other circuits, so a blown fuse may be caused by a short in an unrelated component on the same circuit.
- Corrosion inside the underhood fuse block is a common hidden cause on older GM trucks and SUVs, even when the relay and fuses test good.
- P1800 can set intermittently from vibration or temperature changes, so a wiggle test of the harness and relay while monitoring live data is essential.
- Do not replace the TCM until you have verified power and ground at the TCM connector under load; a poor ground can mimic a failed TCM.

Can I keep driving with P1800?

If the transmission is in limp-home mode or shifting harshly, avoid highway driving and seek repair promptly; if the only symptom is the warning light and the vehicle drives normally, you can drive cautiously to a shop but should not ignore the code.

Tools that help

- Digital multimeter
- Test light
- Scan tool with GM-specific capabilities
- Relay puller or small pick
- Wiring diagram for the specific GM vehicle



Reading P1800

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 8** Transmission.
- 00** The exact fault within that area.

Often seen with

P1860 Kick Down Switch Error Message From Engine Control · **P1810** ATF Pressure Manual Valve Position Switch Malfunction · **P1860** TCC PWM Solenoid Circuit Electrical · **P1810** TFP Valve Position Switch Circuit Transmission 4-Wheel Drive · **P0562** System Voltage Low · **P0700** Transmission Control System Malfunction · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1800/>

