

BMW · POWERTRAIN

P1622

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1622 · BMW

MAP Cooling Control Circuit Electrical

P1622 on a BMW means the engine control module (DME) has detected an electrical fault in the circuit that controls the map-controlled thermostat, which is the cooling system component that regulates engine temperature. The DME monitors the control wire for opens, shorts, or implausible feedback and sets this code when the expected current or voltage is outside the valid range.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Engine temperature gauge reading lower or higher than normal, or fluctuating
- Poor heater performance because the thermostat may stay open or closed
- Increased fuel consumption or reduced fuel economy due to incorrect engine temperature
- Possible cooling fan running constantly or not engaging as expected
- In rare cases, the engine may enter a reduced-power limp mode if the DME cannot control coolant temperature

Common causes, most likely first

- 1 Failed map-controlled thermostat (the heating element inside the thermostat has an open circuit)
- 2 Damaged or corroded wiring harness between the DME and the thermostat connector
- 3 Loose, backed-out, or corroded pins at the thermostat electrical connector
- 4 Short to ground or short to power in the thermostat control wire
- 5 Faulty engine control module (DME) driver circuit, though this is less common
- 6 Coolant contamination or debris causing the thermostat to seize and draw incorrect current



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P1622 is the only cooling-related fault
- 2 Visually inspect the thermostat connector and wiring for corrosion, chafing, or loose pins
- 3 Measure resistance of the thermostat heating element and compare to BMW specifications
- 4 Check for voltage and ground signals at the thermostat connector with the key on and engine off
- 5 Perform a wiggle test on the harness while monitoring live data for the thermostat control circuit
- 6 If wiring and connector are good, replace the map-controlled thermostat and clear the code
- 7 After repair, clear adaptations and verify the code does not return during a road test with live temperature monitoring

What BMW Technicians Check Before Replacing the Thermostat

- A P1622 code can be set by a thermostat that is mechanically stuck open, even when the electrical element tests good, because the DME expects a specific temperature change within a time window.
- Corrosion inside the thermostat connector is a frequent cause on older BMW engines, and simply cleaning the pins often resolves the fault without parts replacement.
- The DME may set P1622 as a secondary code when the coolant temperature sensor is faulty, so always check sensor plausibility before condemning the thermostat circuit.
- After replacing the thermostat, some BMW models require a coolant bleed procedure and thermostat adaptation reset to prevent the code from reappearing.
- A shorted thermostat control wire can damage the DME driver, so always ohm-test the circuit before installing a new thermostat to avoid repeat failures.

Can I keep driving with P1622?

You can usually drive the vehicle short distances to a repair shop, but avoid sustained high-speed driving or heavy loads because the engine may overheat if the thermostat fails closed. Monitor the temperature gauge closely and stop if it climbs into the red zone.

Tools that help

- OBD-II scan tool with BMW-specific software
- Digital multimeter
- Wire piercing probes or back-probe kit
- Socket set and torx bits for thermostat replacement
- Coolant vacuum fill tool



Reading P1622

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

Often seen with

P0128 Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P0597** Thermostat Heater Control Circuit/Open · **P0598** Thermostat Heater Control Circuit Low · **P0599** Thermostat Heater Control Circuit High · **P2183** Engine Coolant Temperature Sensor 2 Circuit Range/Performanc

See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1622/>

