

BMW MOTRONIC 'PEDAL' FAULT CODES (Bosch DME 1.3)

Diagnosis code read procedure:

1. Turn the ignition key on (do not start the engine), check engine lamp lights
2. Press the gas pedal to the floor five times within a period of five seconds
3. Check engine lamp will light on for five seconds, then blink off, then blink on for 2.5 seconds, and then go off for another 2.5 seconds
4. After this, the computer will start to show you the trouble fault codes that are stored

The codes are given by short flashes of the check engine light, followed by short pauses. The codes are all four digit numbers. For example, the trouble fault code for monitoring the battery voltage level is 1231.

This would show up flashing as "flash - pause - flash - flash - pause - flash - flash - flash - pause - flash."

I suggest having a pen and paper handy when you do this, as the codes have a tendency to flash faster than you would think.

If there is more than one fault code stored, then each code will be separated by a 2.5 second pause. When there are no more codes to be read, the DME will give the code 1000, which is one short flash, and then the light will remain off. Then the check engine light will flash a half-second and then turn off. To read the codes again, simply turn the ignition key off and on again and repeat the procedure with the gas pedal (five times within five seconds).

CODE	MALFUNCTION SYSTEM	EXPLANATION
1211	DME Control Unit	This code is stored when the DME self-test fails. Delete any stored codes. Start and run the car for 30 seconds. Turn off the ignition for 30 seconds. Rerun the diagnosis. If the same fault recurs, the DME control unit must be replaced.
1212	Lambda (O2) Sensor 2	This code is stored when the engine temperature is >70°C and the Oxygen Sensor value is out of range or not present. Check the Oxygen Sensor wiring and the operation of the sensor. The value should fluctuate between 0.02 and 0.85V. Slow fluctuation indicates a polluted Oxygen sensor and negative values indicate a damaged sensor. Note: Cars without Catalytic Convertors will incorrectly store this code.
1213	Lambda Control 2	This code is stored when the DME detects excessive deviations in the air-fuel mixture (too rich or too lean) for longer than 10 seconds. Possible causes: Fuel tank ran empty, Incorrect Fuel Pressure, Injector valve defective or coked, Engine Temperature Sensor defective, Secondary air leak, Fuel evaporation control system defective, Air Flow Meter defective and/or the combustion is being disturbed by mechanical failure (Spark plugs, compression, intake/exhaust valves, ...etc.)
1215	Air Mass/Volume Sensor	This code is stored if there is a break or short-circuit at: Air Mass Flow Meter or its supply wires or the voltage supply to Air Mass Flow Meter insufficient. Cable damage is the most common cause of this trouble code, or air / vacuum leak (check air intake hose - big L-shaped one)
1216	Throttle Potentiometer	This code is stored if a break or short-circuit occurs in the wiring to the Throttle Potentiometer or the potentiometer is defective. Damage at the throttle potentiometer connection is the most common cause of this fault.
1218-1219	Output Stage, Group 1-2	This code is stored if there is a short to B+ or Ground at the Output Amplifier Stage (Bank 1-2). Generally this code occurs with other defects. Causes may be a faulty Idle Speed Actuator, Injector Valves, Ignition Coil on Plug, Oxygen Sensor Heating Relay, Fuel Evaporation, Control Valve, Malfunction Indicator Lamp (MIL) and/or EKP Relay. Delete the code after examining for other faults. If the code recurs, delete code, then disconnect the DME for a minimum of 5 minutes to initiate a reset. Rerun car. If code recurs and no other defects are found the DME is most likely damaged and must be replaced. If the code does not recur and the engine runs properly, ignore.
1221	Lambda (O2) Sensor 1	This code is stored when the engine temperature is >70°C and the Oxygen Sensor value is out of range or not present. Check the Oxygen Sensor wiring and the operation of the sensor. The value should fluctuate between 0.02 and 0.85V. Slow fluctuation indicates a polluted Oxygen sensor and negative values indicate a damaged sensor. Note: Cars without Catalytic Convertors will incorrectly store this code.

1222	Lambda Control 1	This code is stored when the DME detects excessive deviations in the air-fuel mixture (too rich or too lean) for longer than 10 seconds. Possible causes: Fuel tank ran empty, Incorrect Fuel Pressure, Injector valve defective or coked, Engine Temperature Sensor defective, Secondary air leak, Fuel evaporation control system defective, Air Flow Meter defective and/or the combustion is being disturbed by mechanical failure (Spark plugs, compression, intake/exhaust valves, ...etc.)
1223	Coolant Temp. Sensor	This code is stored when a short to plus or a break in the wiring at the Coolant Temperature Sensor or its supply wires may exist. Check the wiring and the value of the sensor. 8.26-10.56 kOhms at -10°C, 2.2-2.7 kOhms at 20°C, 290-364 Ohms at 80°C
1224	Intake Air Temp. Sensor	This code is stored when a short to plus or a break in the wiring at the Intake Air Temperature Sensor or its supply wires exists. Check the value of the sensor. 2.2-2.7 kOhms at 20°C, 760-910 Ohms at 50°C
1225-1228	Knock Sensor 1-4	This code is set when Knock Sensor #1-4 has sent multiple signals or a break or short has occurred in the sensor or its wiring. Check the Knock Sensor and its wiring for defects. Check with customer about the grade of fuel being used (RON>91). Increase octane if necessary. (Caution customer about carbon build up.)
1231	Battery Voltage/DME Main Relay	Either the battery was disconnected or the voltage of the battery is too low or too high. Check the battery and charging system.
1232	Throttle Idle Switch	Error associated with "idle" portion of Throttle Position Switch. Test TPS for proper operation.
1233	Throttle WOT Switch	Error associated with "WOT" (Wide Open Throttle) portion of Throttle Position Switch. Test TPS for proper operation
1234	Vehicle Speed Sensor (Speedometer A Signal)	This code is stored when no plausible speed signal is detected while driving. The requirements are an engine speed >2500 rpm and under load for more than 10 seconds. Check the speedometer function and the wire to the DME. Also check for codes in the Combi Unit (Instrument Cluster).
1237	A/C Compressor cut off	This code is stored if there is a short to B+ or Ground. In the case of a short to ground, the A/C compressor is not switched off at a speed below 5 mph (8 km/h) when accelerating under full load. The A/C compressor does not operate when shorted to B+. Check the A/C compressor cut-out relay and its wiring.
1241	Air Mass Sensor (See note 1)	
1242	A/C Compressor	Check A/C compressor signal wire to the DME control unit for a short-circuit to power, ground or for disconnection. Check refrigerant level and condition of A/C pulley drive belt.
1243	Crankshaft Pulse Sensor	This code is stored when signal from the Crankshaft Pulse Generator is implausible (absent or out of range). Check the Crankshaft Pulse Generator and the wiring.
1244	Camshaft Sensor	This code is stored when the Camshaft Pulse Generator signal is interrupted or defective. Also check the spark plugs and the ignition coil(s) output. Check the pulse signal with an oscilloscope (50Hz, 25ms sweep). Measure with a break-out box. If a coil is found to be defective the DME control unit may also be damaged. Failure of the injector side of the output stage is the most common symptom.
1245	Intervention EGS	This code is stored when a short to ground occurs on the wire from the EGS to the DME control unit, for more than 2.5 seconds. The on-board computer should display the message TRANSMISSION EMERGENCY PROGRAM. Ignition timing will be retarded only once and then the DME will substitute the original value until this code is cleared. Check the wire and connection to the EGS.
1247	Ignition Secondary Monitor	
1251-1258	Fuel Injector n (or group n)	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is intermittent.

1261	Fuel Pump Relay Control	There is a break or short circuit in the wiring to the Fuel Pump Relay, pin 3, of the DME or the output stage in the DME is damaged (M1.3 only).
1262	Idle Speed Actuator	There is a break or short circuit in the wiring to the idle actuator or the wire from the DME is defective or the output stage of the DME is damaged. This code will also be stored if the engine stalls at over 600 rpm.
1263	Purge Valve (Tankentlüftung)	This code is stored if there is a break or short-circuit at: Evaporative control valve, wire from the DME control unit or the output stage of the DME control unit is defective (M1.3 only).
1264	Lambda (O2) Sensor Heater	This code is stored if there is a break or short-circuit at: - Oxygen Sensor Heater, - Sensor heating relay, - Wire from the DME control unit. Check the Oxygen Sensor Heater Relay and Air Pump Relay and the supply wires.
1265	Fault Lamp (check engine)	This code is stored if a break or short-circuit occurs in the wiring to the Malfunction Indicator Lamp (MIL) or the lamp is burned out.
1266	VANOS Relay	Check the wires and the connections of the VANOS relay (Variable camshaft adjustment). The relay could also be defective.
1267	Air Pump Relay Control	
1271-1278	Ignition Coil 1-8	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.
1281	Control Unit Memory Supply	This code is stored when a defect is detected in the RAM or in the ROM/EPROM. This is most often the result of low battery voltage. Delete the stored codes and disconnect the DME for at least 5 minutes in order to trigger a reset. Reconnect the DME and run the engine at idle for 3 minutes then drive the car at over 30 mph for more than 5 minutes. If the code recurs the DME must be replaced.
1282	Fault Code Memory	This code is set if there is illogical data stored in the trouble code memory. Delete the stored codes. Simulate a defect (i.e. start engine and then disconnect the Idle Actuator) If the code recurs, the DME control unit must be replaced!
1283	Fuel Injector Output Stage	This code is stored when a break or short-circuit occurs temporarily at: an injector valve, wiring from the DME to an injector or the injector stage of the DME is damaged.
1286	Knock Control test Pulse	The ECU internally generated pulse was not detected. It is used to verify electrical integrity (shorts or disconnection) of the knock control circuitry both internally and externally. Check wiring and Knock Sensors.
1444	No Failures	

Note 1) Code 41, 1241 and 2241 can be false Air Mass Flow Meter codes on 1992 and later models. The actual cause of the code is a faulty Idle Air Valve and the need for an updated EPROM. See all applicable service bulletins for further information.

Note 2) Errors above in grey are not relevant for BMW E30

Clear Fault Memory

When you are finished reading the codes, you can reset the DME and clear them all out:

1. Make sure that the last code (1000) has occurred
2. press down on the gas pedal for more than 10 seconds

This should clear out the memory of the DME. Repeat the fault code reading process, and the computer should generate code 1444, which means that there are no faults stored.

The fault memory is cleared automatically by

- The vehicle battery or the ECU is disconnected
- The engine is started 60 times with no recurrence of the fault