

To read codes for an OBD I car, you start by turning the ignition key on (do not start the engine) and pressing the gas pedal to the floor five times within a period of five seconds. If you proceeded correctly, then the 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. 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 computer 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).

Here is a table that represents all of the possible fault codes that can be read using this method:

Code Error	Notes / Corrective Action
1000	End of output - no more fault codes This code shows the end of the stream of error codes, and tell you that the computer is finished showing them to you.
1444	No more faults This code shows that all faults have been fixed. Required to erase the computer's memory.
1211	DME Motronic Computer Fault This may indicate a problem with the DME computer. Most problems result in a dead computer that cannot give out codes, so this particular code is not seen too commonly. If the code does appear, start and rerun the test for about one minute. If the code reappears, then chances are that you need to replace your DME computer.
1215	Mass Air Flow Sensor Fault The mass air flow sensor measures the amount of air that is currently being drawn into the engine. A big hole in one of your fuel injection intake boots may cause the car to stall and generate this code.
1216	Throttle Position Switch Fault The later model Motronic systems used a potentiometer to measure throttle position and adjust fuel levels appropriately. If the 'pot' is not giving off the proper values, it will produce this code.
1218	DME Computer Output, Group #1 These two codes can be generated when there is a ground fault short circuit from B+ at one of the two DME Output Amplifier Stages. This code is not typically seen by itself, and is usually generated with a host of other codes. Possible problems may be O2 sensor heater relay, fuel evap system problem, EKP relay, ignition coil problem, a faulty idle speed actuator, etc. If you get this code, disconnect the DME and let it sit for 15 minutes, then recheck the codes. If it persists, and no other problems are found, then it is probably an internal DME problem. If the code goes away, then ignore it and call it an intermittent error.
1219	DME Computer Output, Group #2
1221	Oxygen Sensor (primary) The O2 sensor measures the mixture of the car. This code is generated if the sensor is unplugged or broken. Sensor values are read when the engine warmer than 70°C, and should be within 0.02 and 0.85 volts. Negative values indicate that the sensor needs to be replaced, and slow fluctuation indicate that the sensor is clogged with soot. Cars with catalytic converters that have been removed may push this code.
1212	Oxygen Sensor (secondary)
1222	Oxygen Sensor Lean/Rich Detect (primary) If the signal from the O2 sensor indicates a very lean or very rich mixture for more than 10 seconds, then the computer generates this code. It could mean a faulty O2 sensor, or a problem with another component.
1213	Oxygen Sensor Lean/Rich Detect (secondary)

1223	Coolant Temperature Sensor Measures the temperature of the coolant inside the engine block. Used to determine if the engine is warm or cold. Check the wiring and the expected resistance value of the sensor.
1224	Intake Air Temperature Sensor Measures the temperature of air entering into the engine's fuel injection system, and adjusts the mixture accordingly. Colder air is more dense than warmer air and needs to be compensated for.
1225	Knock Sensor #1 The knock sensor is used to detect pre-ignition that can damage the engine. If the knock sensor is triggered, it will back off the timing of the car, reducing the 'pinging.' A fault is generated if there is an open circuit, a ground fault, or if the sensor sends multiple signals that don't correspond to proper engine operation.
1226	Knock Sensor #2
1227	Knock Sensor #3
1228	Knock Sensor #4
1231	Battery Voltage / DME Relay Monitor Monitors the condition of the battery and charging system, and produces a fault if a component goes out of specification or fail.
1232	Throttle Idle Position Switch On older Motronic systems, this switch was used along with the wide open position switch as a primitive throttle position switch.
1233	Throttle Wide Open Switch See above.
1234	Speedometer "A" Signal This code is generated when the engine is under load, over 2500 RPM and no discernible speedometer signal can be detected for more than 10 seconds. Check the wiring harness, and also the instrument console.
1237	A/C Compressor cutoff The compressor is automatically turned off when accelerating from low speed under full throttle. This code indicates a fault in the cut-out circuit or its wiring.
1241	Mass Airflow Sensor Codes 1241 and 2241 can be incorrectly generated on 1992 and later models. The actual fault is a improperly operating idle air valve, and the need for an updated EPROM. See BMW bulletins for more details.
1242	A/C Compressor Signal This code is generated if there is a ground fault (short circuit) or if the system detects that the compressor unit is disconnected.
1243	Crankshaft Position Sensor This code is triggered when the crank angle sensor is disconnected, or generates a signal that is not accurate when compared to the other engine sensors.
1244	Camshaft Position Sensor Displayed when the signal from the camshaft pulse generator is out of spec or absent. May indicate a problem with the injector side of the DME output stage.
1245	AEGS Intervention - Electronic Transmission Many BMWs are equipped with electronic transmissions. If the transmission encounters a major problem, it will generate an emergency message, and your on-board computer should show "TRANSMISSION EMERGENCY PROGRAM." Ignition timing will retard when this program is run.
1247	Ignition Secondary Monitor
1251	Fuel Injector #1 (single or group) Check the injector or injector group for proper wire harness connectivity. Also check the injectors for a clear, wide stream pattern. Code 1283 (Fuel Injector Output Stage) may also be triggered in conjunction with this code.
1252	Fuel Injector #2 (single or group)
1253	Fuel Injector #3
1254	Fuel Injector #4
1255	Fuel Injector #5
1256	Fuel Injector #6
1257	Fuel Injector #7
1258	Fuel Injector #8

1261	Fuel Pump Relay Control This code is generated when there is a break or ground fault in the circuitry associated with the DME fuel pump relay. Check pin #3 of the DME or the output stage in the DME (DME version M1.3 only).
1262	Idle Speed Control This shows up if the idle speed actuator shows a ground fault, or if the car stalls from an idle above 600 RPM.
1263	Fuel Tank Evaporative System (EVAP) The fuel tank evaporative system has a purge control valve that generates this code if there is a short circuit or open connection (DME version M1.3 only).
1264	Oxygen Sensor Heating Element This code is triggered if there is an open circuit or a short within the oxygen heating element circuit. Check the O2 heating element relay and also the air pump relay.
1265	Check Engine Lamp If the lamp in the dashboard burns out or shorts to ground, then this code is generated.
1266	VANOS System Check the wiring or the relay associated with the VANOS system (variable camshaft adjustment).
1267	Air Pump Relay Control Check the air pump relay and wiring (were applicable).
1271	Ignition Coil #1-8 An open-circuit or ground fault in the ignition wiring has occurred with an ignition coil. Place a timing light on the ignition wires and check for a signal. Also check the wires for faults, and check the spark plugs too.
1281	DME Memory Unit Supply This indicates a fault with the internal memory of the DME computer. This is sometimes caused by low battery voltage. Delete the codes, and disconnect the DME for 15 minutes. Then reconnect, let the car idle for five minutes, and then drive over 30 mph for more than five minutes. Recheck the codes - if it occurs again, the DME is faulty and should be replaced.
1282	Fault Code Memory This code occurs when the DME generates a set of conflicting codes. Disconnect the DME for 15 minutes, reconnect, and then simulate a fault code, like unplugging the air flow sensor or idle actuator. If the code reoccurs, then you will need to replace the DME.
1283	Fuel Injector Output Stage This code is generated when there is a short circuit or open connection between the wiring from the DME to an injector or injector stage.
1284	Knock Control Test Pulse The ECU periodically checks the knock sensor circuitry by sending a test pulse through the system. This code indicates that a test was performed, but no pulse was registered. Check the wiring and knock sensors.