

Faults in the central locking system

This document contains a list of all known faults in the central locking system and reference information.

The following faults are described (the specified numbers correspond to the fault numbers in BMW DIS):

- 3 Driver's door is not locked and/or unlocked
- 4 Passenger's door is not locked and/or unlocked
- 6 Vehicle can only be locked but not arrested
- 7 Driver's door is always set to arrested
- 8 Passenger's door is always set to arrested
- 9 Rear door is always set to arrested
- 10 Rear door cannot be set to arrested
- 11 Central locking cannot be operated via driver's door lock
- 19 Central locking cannot be operated via passenger's door lock
- 12 Operation of central locking system via trunk lid lock faulty
- 13 Central locking operation via buttons in vehicle faulty
- 14 Fuel filler flap is not locked or unlocked
- 15 Central locking is first unlocked before locking
- 16 Vehicle unlocks of its own accord
- 17 Complete central locking system failed (all drives via all operating points)
- 18 Trunk lid cannot be opened when vehicle is unlocked
- Faults in radio remote control system

Note

All specified faults and causes are featured in the test modules.

Troubleshooting in the BMW DIS must proceed via the selection "1 Fault symptoms".

Do not carry out diagnosis via expert mode!

Since no fault can be found in a great number of central locking (ZV) drives, door modules and general modules as part of warranty testing, when replacing one of the parts, the following information must be entered in detail on the warranty tag:

- Customer complaint
- Under what conditions did the fault occur (ambient temperature, humidity etc.)
- What checks or test modules have been carried out

The test code must be additionally sent in when replacing a control unit.

Faults in the central locking system

The fault symptoms listed in the following can be selected directly in the BMW DIS. The specified fault numbers correspond to the fault numbers in the BMW DIS.

After selecting a fault symptom, the fault code memory of the control unit is evaluated automatically and taken into consideration within the test modules!

3 Driver's door is not locked and/or unlocked

4 Passenger's door is not locked and/or unlocked

The fault may be attributed to following causes:

- Plug connection to central locking (ZV) drive not plugged in correctly and not locked in position.
- Line from ZV drive to door module faulty.
- Linkage of locking button bent or stiff. Lock mechanism stiff.
- Central locking (ZV) drive faulty.
- Door module faulty.
- If, in addition, the mirror adjustment is inoperable on the corresponding door, there may be a short-circuit in the mirror drive or in the ZV drive.

- If the fault only occurs when the vehicle is unlocked using the remote control there may be a software error in the door module. However, the software error only occurs when:
 - No seat memory is installed
 - A general module with software lower than 1.2 is installed
 - A door module with software number lower than 0.5 is installed

Replace the general module in the case of fault. It is not necessary to replace the door modules.

The following fault may occur on door modules with software number lower than 0.5:

After the transition from operation mode to sleep mode, the door module occasionally does not recognize the instruction to unlock the central locking system. It only recognizes the instruction when it is sent a second time.

This fault does not occur if a seat memory is installed in the vehicle as this control unit activates the door module.

A change on the software of the **basic module** (as of software version 1.2) has the effect that the basic module will then transmit a command via the P-bus to the door module to unlock the central locking system. This fault now no longer occurs.

The fault has also been eliminated in the door module software (as of software 0.5).

Note on "selective central locking":

The "selective central locking" function is coded on US version vehicles (see service function - coding data). With selective central locking, only the driver's door is unlocked on a locked and arrested vehicle with the first unlock instruction via the door lock or remote control. All other doors are unlocked after the second unlock instruction or via the ZV button.

5 Rear door is not locked and/or unlocked

The fault may be attributed to following causes:

- Plug connection to central locking (ZV) drive not plugged in correctly and not locked in position.
- Line from ZV drive to general module faulty.
- Linkage of locking button bent or stiff. Lock mechanism stiff.
- Central locking (ZV) drive faulty.
- Relay in general module faulty. Only if a relay fault code is stored in the fault code memory.

6 the vehicle can only be locked, but not secured

The following fault symptom occurs:

- All doors can be opened from the inside by means of the door handle although the vehicle has been locked via the door lock or remote control.

The fault may be attributed to following causes:

- Door contact of a front door not recognized.
- Terminal R is not recognized with "OFF".
- Incorrect operation due to ignorance of function.

The "arrest" function is only carried out when the ignition lock is in position 0 and the driver's or passenger's door is then opened and closed.

The "arrest" function is only carried out by operating the central locking system via the remote control, the door lock or the trunk lid lock. The vehicle cannot be arrested but rather only locked by means of the central locking (ZV) button.

7 Driver's door is always secured

8 Passenger's door is always secured

The following fault symptom occurs:

- The door cannot be opened by means of the door handle although the vehicle was only locked with the ZV button.

The fault may be attributed to following causes:

- Incorrect operation. When the door is locked, the door handle must be pulled twice in order to open the

door.

- Break in line from door module to ZV drive.
- Central locking (ZV) drive faulty.

A further signal line is provided in addition to the two load lines from the door module to the electric motor of the ZV drive. This line signals the "locked" position to the door module. If there is a break in this line or if the microswitch in the ZV drive is faulty, power is applied to the electric motor until the maximum activation time is reached. The drive is then in the "arrested" position.

9 rear door is always secured

The following fault symptom occurs:

- The door cannot be opened by means of the door handle although the vehicle was only locked with the ZV button.

The fault may be attributed to following causes:

- Incorrect operation. When the door is locked, the door handle must be pulled twice in order to open the door.
- Line from general module to ZV drive has short to ground.
- Central locking (ZV) drive faulty.

Control of the rear central locking (ZV) drives differs from the control of the front ZV drives. In contrast to the front drives, when the ZV drive is activated, the power circuit is interrupted by a microswitch in the ZV drive when the "locked" position is reached. A sticking microswitch in the drive or a short in the relevant line to the general module prevents this switching function. In this case, the ZV drive is activated until the maximum drive time is reached. The drive is then in the "arrest" position.

10 Rear door cannot be secured

The following fault symptom occurs:

- One or both of the rear doors can be opened from the inside by means of the door handle although the vehicle has been locked via the door lock or remote control. However, the front doors cannot be opened.

The fault may be attributed to following causes:

- ZV relay for setting arrest function in general module faulty.
- Central locking (ZV) drive faulty.
- Line from general module to ZV drive faulty.

11 Operation of ZV from the driver's door lock not possible

19 Operation of ZV from the passenger's door lock not possible

12 Operation of ZV from the boot lid lock faulty

Note on fault symptom 19: This door lock is only fitted in the passenger's door when no remote control is installed in the vehicle. Fault symptom 19 is not indicated in the BMW DIS for vehicles with remote control.

The fault may be attributed to following causes:

- Microswitch on lock cylinder or corresponding lines are faulty.

As of software version 1.4 of the general module, the "lock/arrest" function is only carried out via the locks when the ignition lock is in position 0.

13 Operation of ZV from the button inside the vehicle faulty

The fault may be attributed to following causes:

- Operation of central locking (ZV) button with driver's or passenger's door open. The ZV button is inoperable when the driver's or passenger's door is open. This prevents unintentional locking when entering or exiting the vehicle.
- ZV button or corresponding lines are faulty.

It is possible to lock and unlock the central locking system with the passenger's door open up to software number 1.0 of the general module.

14 Fuel filler flap is not locked or unlocked

The fault may be attributed to following causes:

- ZV drive for fuel filler flap or corresponding lines are faulty.

On US version vehicles, the fuel filler flap is only locked when the vehicle is arrested. The fuel filler flap is not locked when the vehicle is locked with the central locking (ZV) button. In this case, the fuel filler flap is controlled by means of an external relay (K121). This relay must also be checked in the case of fault.

15 Central locking is first unlocked before locking

This is not a malfunction!

The lock mechanism and ZV drive are asynchronous if the vehicle was locked by means of the ZV button and a door was opened from the inside by means of the door handle when the vehicle was locked.

If the vehicle is locked in this condition (e.g. via remote control), the door module or general module recognizes this situation and carries out an unlock function automatically before locking in order to re-synchronize the electrical and mechanical systems.

16 Vehicle unlocks automatically

The fault may be attributed to following causes:

- There could be a loose contact in the ZV button if the central locking system alternately locks and unlocks while driving.
- If the central locking system unlocks while driving and the hazard warning indicator system also switches on, this indicates that the external impact switch (crash sensor) is faulty or has been installed incorrectly. Test module "9 Crash sensor" shows whether the switch has triggered an unlock function.
- If the central locking system unlocks of its own accord in a parked, arrested vehicle, the cause may be attributed to a faulty microswitch on the door or trunk lid lock (lock contact). In this case, check the lock contacts for loose contacts and corrosion. Check the corresponding lines for short to positive.
- On vehicles from 9/1995 to 9/1996, a short to B+ on the line from the EWS control unit pin 6 to the passenger's door module plug connector X1131 pin 9 can cause an unlock function to be triggered.

20 Vehicle locks automatically

The fault may be attributed to following causes:

- If the central locking always locks as soon as the vehicle drives faster than 10 km/h, the "automatic lock" coding is active in the general module. This coding is only intended for US version vehicles. ECE version vehicles must be recoded.
- There could be a loose contact in the ZV button if the central locking system alternately locks and unlocks while driving.
- If the central locking system locks of its own accord in a parked vehicle, the cause may be attributed to a faulty microswitch on the door or trunk lid lock (lock contact). In this case, check the lock contacts for loose contacts and corrosion. Check the corresponding lines for short to positive.

17 Central locking completely failed (all drives from all control points)

- The repeat inhibit is active if the central locking system is temporarily inoperable after being operated several times.
The repeat inhibit is activated when the central locking system is operated more than 32 times within 2 minutes. The repeat inhibit protects the ZV drives from overheating.
- Several faults occurring simultaneously.

This fault is very improbable since the central locking is controlled both by the door modules (front doors) as well as by the general modules (rear doors). As a rule, exact analysis only indicates operation via the door or trunk lid lock or the remote control is faulty.

In order to precisely locate the fault, a function test (2 Function test) can be carried out on the BMW DIS for the central locking system and the remote control.

18 Boot lid cannot be opened when the vehicle is unlocked

Carry out test program for trunk lid control.

Faults in radio remote control system

The radio remote control system can be checked with a separate test program.

If faults only occur intermittently, it should be borne in mind that the radio remote control can also be disturbed by other radio signals.

Disturbance of the radio remote control by other radio signals is indicated when the remote control is regularly inoperable in certain locations. Possible interference sources may be: Radio modems, control systems for construction machinery, radio-controlled garage doors, radio telephony systems, paging systems and alarm systems. No corrective measures are available at present.