

F10 General Vehicle Electronics

8. Glass Sunroof

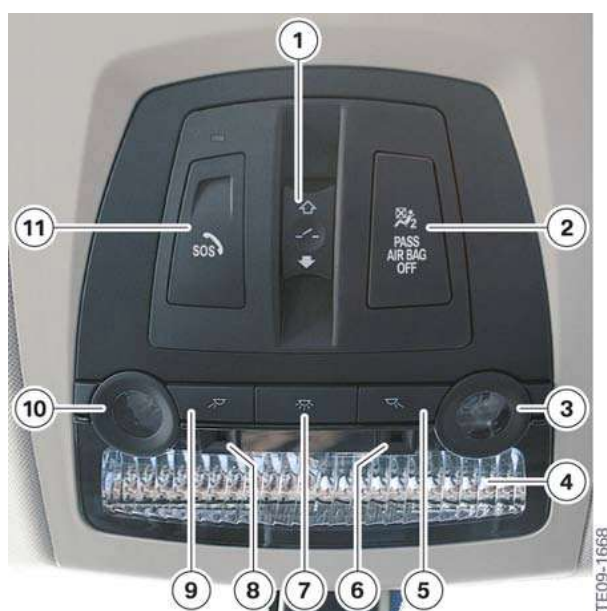
The glass sunroof is standard equipment on all F10 models. Several control units are involved in operating the glass sunroof.

For example, the roof function center (FZD) is linked with the Car Access System (CAS), which enables or disables operation of the glass sunroof.

The footwell module (FRM) supplies the signal from the door contacts. The Junction Box electronics provide the power supply for the motors via terminal 30.

The roof function center controls and monitors the motors of the glass sunroof. The function is identical to that of the slide/tilt sunroof of the F01/F02.

For more information on the operating principle of the glass sunroof, refer to the F01/F02 "Slide/tilting sunroof" training information available on TIS and ICP.



F10 Roof function center

Index	Explanation
1	Glass sunroof switch
2	Indicator lamp for front passenger airbag deactivation
3	Right reading light
4	Interior light
5	Right reading light button
6	Ambient lighting
7	Interior light button
8	Ambient lighting
9	Left reading light button
10	Left reading light
11	Emergency call button

F10 General Vehicle Electronics

8. Glass Sunroof

Index	Explanation
1	Hall sensors, driver's door lock barrel
2	Footwell module (FRM)
3	Car Access System (CAS)
4	Glass sunroof motor
5	Front distribution box
6	Roof function center (FZD) with button for glass sunroof
7	Sliding trim motor
8	Aerial diversity module with antenna amplifier
K-CAN2	Body controller area network 2
LIN-Bus	Local Interconnect Network bus
Kl. 30	Terminal 30

F10 General Vehicle Electronics

9. Anti-theft Alarm System

The anti-theft alarm system is standard equipment on all F10 models. As on previous models, the alarm system must be activated. When activated, the alarm monitors the whole of the vehicle interior.

The alarm system monitors the engine compartment and the vehicle's rest position. So that nothing can be stolen from the luggage compartment, the alarm system monitors opening of the trunk lid.

The alarm system also signals an attempt to tamper with the vehicle, e.g. cutting the supply line to the emergency power siren.

An Ultrasonic interior movement detector is integrated in the roof function center.

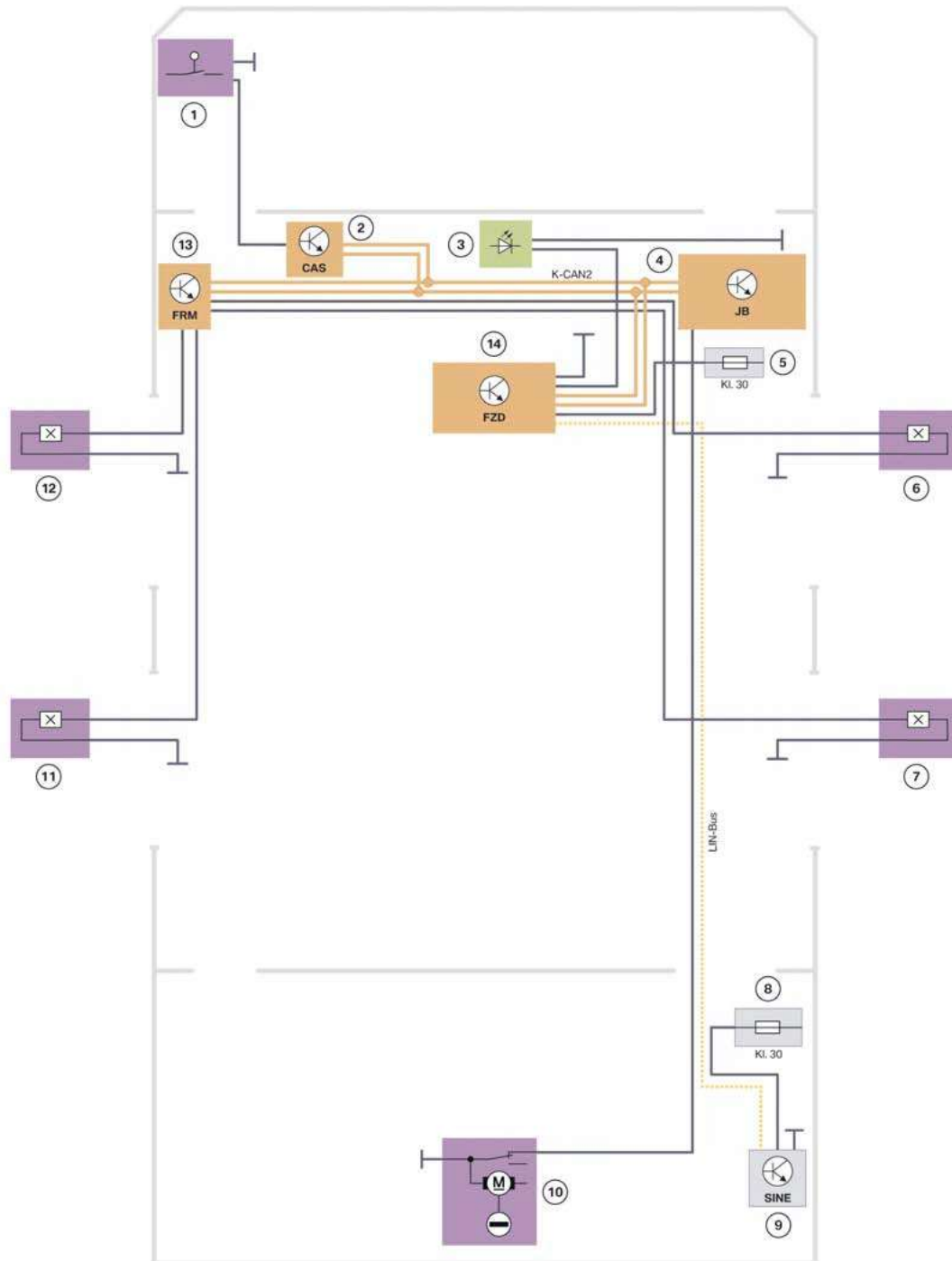
The ultrasonic signal passes into the inside of vehicle through apertures in the grille of the roof function center. The emergency power siren with tilt sensor is located near the rear wheel arch.

For more information on the operating principle of the alarm system, refer to the F01/F02 "Anti theft System" training material available on TIS and ICP.

F10 General Vehicle Electronics

9. Anti-theft Alarm System

9.1. System wiring diagram



F10 Alarm system

TE09-2343

F10 General Vehicle Electronics

9. Anti-theft Alarm System

Index	Explanation
1	Hood contact switch
2	Car Access System (CAS)
3	LED alarm system
4	Junction box electronics (JBE)
5	Front distribution box
6	Door contact, passenger's door
7	Door switch, passenger side, rear
8	Luggage compartment junction box
9	Emergency power siren with integrated tilt sensor (SINE)
10	Trunk lock with trunk-lid switch
11	Door switch, driver's side, rear
12	Door switch, driver's door
13	Footwell module (FRM)
14	Roof function center (FZD) with ultrasonic interior movement detector (USIS)
LIN-Bus	Local Interconnect Network bus
K-CAN2	Body controller area network 2
Kl. 30	Terminal 30

The Hall sensors in the doors (6, 7, 11, 12) are monitored by the footwell module (13). As soon as the status of a Hall sensor changes, the ultrasonic interior movement detector (14) receives that information via the K-CAN2. If the anti-theft alarm system is activated, an alarm is triggered.

The hood contact switch (1) is monitored by the Car Access System (2). If the status changes, an alarm is triggered in the same way.

Opening of the trunk is monitored by the junction box electronics (4). If the status of the trunk lid contact switch (10) changes, it triggers an alarm.

F10 General Vehicle Electronics

10. Automatic Trunk Lid

The "Power Tailgate" option is offered in the F10 as part of the ZCV Convenience Package, which also includes Comfort Access keyless entry and Soft-close automatic doors.

The automatic operation of the trunk lid improves vehicle access by enabling the luggage compartment lid to be opened or closed automatically at the press of a button. A spindle-driven system is used in the F10 for automatic opening or closing of the luggage compartment lid.

With Comfort Access, it is even possible to open the luggage compartment lid while the vehicle is locked.

Pressing the outer trunk lid button opens the luggage compartment lid automatically. The only requirement is that a vehicle-specific ID transmitter must be present in the immediate vicinity of the rear end of the vehicle. The trunk lid can also be opened by pressing the button on the ID transmitter.

An open luggage compartment lid can be closed by pressing the "close trunk lid" button.



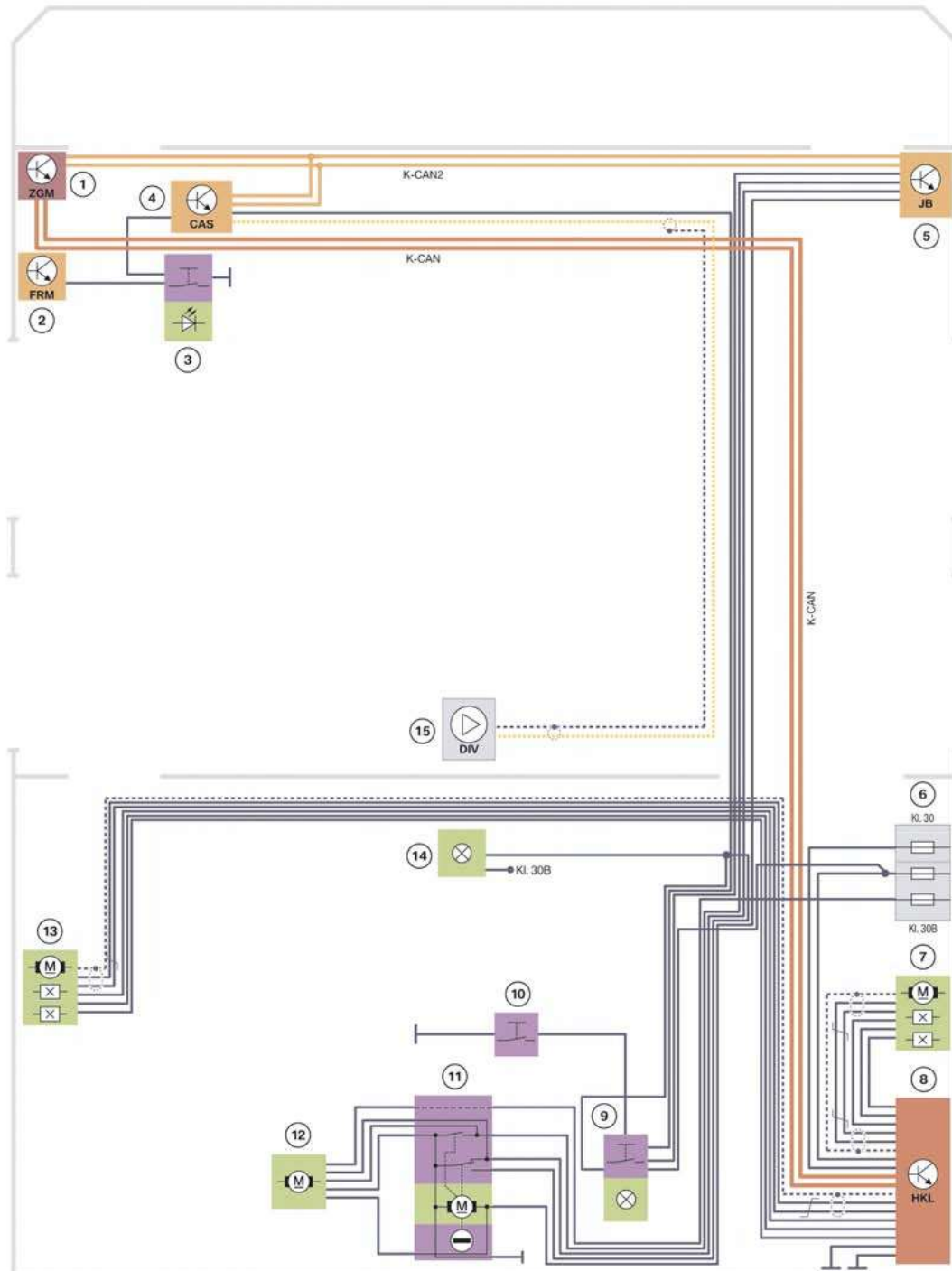
Index	Explanation
1	Close trunk lid button
2	Close and lock trunk lid button (deadlocking)

In connection with Comfort Access, it is now also possible to deadlock the vehicle doors from the trunk lid. The "deadlock" button for this is located in the trunk lid.

F10 General Vehicle Electronics

10. Automatic Trunk Lid

10.1. System wiring diagram



TE09-2345

F10 System wiring diagram for automatic operation of trunk lid

F10 General Vehicle Electronics

10. Automatic Trunk Lid

Index	Explanation
1	Central gateway module (ZGM)
2	Footwell module (FRM)
3	Trunk lid button, A-pillar
4	Car Access System (CAS)
5	Junction Box (JB)
6	Luggage compartment junction box
7	Spindle drive motor, right
8	Control unit for automatic operation of trunk (HKL)
9	Interior trunk lid button and deadlocking button
10	Exterior trunk lid button
11	Trunk lock with trunk lid contact switch and lock barrel
12	Automatic Soft Close system for trunk lid
13	Spindle drive motor, left
14	Luggage compartment lighting
15	Antenna diversity module with antenna amplifier
K-CAN.	Body controller area network
K-CAN2	Body controller area network 2
Kl. 30	Terminal 30
Term. 30B	Terminal 30 basic operation
LIN-Bus	Local Interconnect Network bus

The radio signal from the ID transmitter is received by the rear window antenna. The remote control receiver in the antenna diversity module (15) forwards the signal to the Car Access System (4). The Car Access System is the master control unit for the central locking function.

Once the signal has been successfully verified, the Car Access System issues a command to activate the central locking in the trunk lid.

The junction box electronics (5) execute the command to activate the central locking system in the trunk lid. The junction box electronics detect the status of the trunk lid contact switch (11) for the automatic operation of trunk lid function. The status of the trunk lid contact switch is sent via the K-CAN to the automatic operation of trunk (8). The status is one of the triggering criteria for trunk lid operation.

The sensors (13) and (7) in the spindle drives monitor the movement of the trunk lid. If the trunk lid is blocked while being closed, the automatic operation of trunk reverses a little if necessary to remove the obstacle.

An obstruction to luggage compartment lid movement during the opening procedure causes the trunk lid to stop and it is not reversed.

F10 General Vehicle Electronics

10. Automatic Trunk Lid

The control unit for the automatic operation of trunk lid monitors the power consumption of the spindle drive. A rise in current from the trunk lid being blocked results in the lid movement being stopped or reversed.