

F10 General Vehicle Electronics

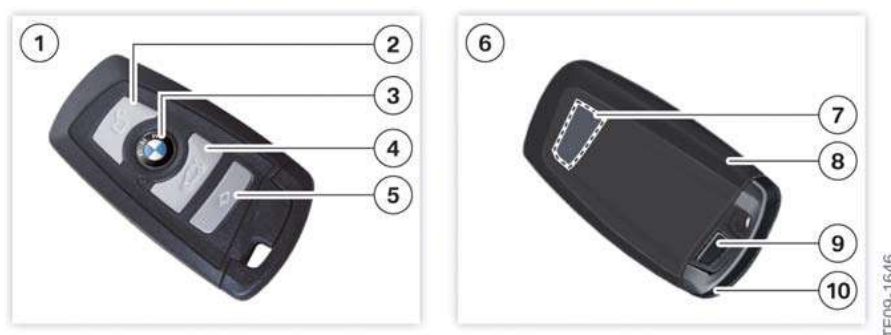
3. Car Access System

The Car Access System used in the F10 is the fourth generation of the control unit and the same type as in the F01. The Comfort Access functions are completely integrated into the Car Access System.

All F10 models are equipped with “Passive Go” (drive authorization system) as standard equipment. Drive authorization allows the driver to start the engine without actively using the ID transmitter. Due to the drive authorization (Passive Go), the vehicle does not require any key insertion slot. The ID transmitter only needs to be somewhere inside the passenger compartment for the engine to be started.

The ID transmitter has a battery with a service life of approximately four years.

Up to eight ID transmitters can be used for a particular vehicle.



F10 ID transmitter

Index	Explanation
1	ID transmitter top view
2	Unlock Vehicle button
3	Lock Vehicle button
4	Tailgate unlock button
5	Headlight courtesy delay feature or open luggage compartment lid (automatic operation of tailgate, option 316)
6	ID transmitter rear view
7	Area for ring antenna (transponder coil for emergency start)
8	Battery compartment
9	ID transmitter release button
10	ID transmitter

F10 General Vehicle Electronics

3. Car Access System

Index	Explanation
1	Engine compartment lid contact switch
2	Dynamic Stability Control (DSC)
3	Central Gateway Module (ZGM)
4	Electronic transmission control (EGS)
5	Starter
6	Digital Motor Electronics (DME)
7	Integrated Chassis Management (ICM)
8	Junction box electronics (JBE) and front power distribution box
9	Luggage compartment junction box
10	Tailgate central double-locking button
11	Telematics Control Unit (TCU)
12	Interior tailgate button, A-pillar
13	Instrument cluster (KOMBI)
14	Steering column switch cluster (SZL)
15	Central locking button/hazard warning switch
16	Brake light switch (BLS)
17	Footwell module (FRM)
18	Crash safety module (ACSM)
19	Comfort Access interior antenna
20	Remote control receiver in the diversity module DIV
21	Hotel position switch
22	Comfort Access interior antenna
23	Electric steering lock (not for US)
24	START/STOP button
25	Ring antenna (transponder coil)
26	Car Access System (CAS)
Kl. 15_1	Terminal 15 (output 1)
Kl. 15_3	Terminal 15 (output 3)
Kl. 15 WUP	Terminal 15, wake-up
Term. 15N	Terminal 15 after-run
Kl. 30	Terminal 30
Term. 30B	Terminal 30B, switched
Kl. 50L	Terminal 50 load
CAS bus.	Car Access System bus

F10 General Vehicle Electronics

3. Car Access System

Index	Explanation
LIN-Bus	Local Interconnect Network bus
K-CAN2	Body controller area network 2
PT-CAN	Powertrain CAN
AS_ START	Start/start termination DME

3.2. Function overview

The Car Access System provides, among other things, the central control unit for accessing and locking the vehicle. Therefore, the Car Access System has full responsibility for central locking.

The Car Access System incorporates the following functions on the F10:

- Comfort Access
- Central locking system
- Power window regulator
- Glass sunroof
- Terminal control
- Electronic immobilizer

Other functions of the Car Access System include:

- Vehicle data storage
- Data transmission for Conditioned Based Service (CBS)
- Checking plausibility of ID transmitter signals

The Car Access System enables or disables the execution of a number of functions. However, other control units may be involved in the execution of the function:

- Junction box electronics
- Footwell module
- Roof function center
- Central locking system
- Power window regulator
- Glass sunroof

For the purposes of communication with other bus users in the vehicle electrical system, the Car Access System is connected via the K-CAN2, the CAS bus and the LIN-Bus.

The Car Access System analyzes the status of the trunk lid contact switch and broadcasts it for use by the alarm system.

The Car Access System also analyzes the status of the following buttons and initiates the central locking function:

F10 General Vehicle Electronics

3. Car Access System

- Central locking system button
- Open large trunk button on the A-pillar
- Complete locking of the vehicle with the button in the underside of the open luggage compartment lid.

The Car Access System provides the power supply for the brake light switch and also analyzes its status.

For a more detailed description of the Car Access System functions, refer to the F01/F02 "Car Access System" training material available on TIS and ICP.

F10 General Vehicle Electronics

4. Comfort Access

Using Comfort Access, the customer can unlock and open the vehicle without active use of the ID transmitter. Access to the vehicle can be gained from any point. It is important that the ID transmitter be located in the vehicle's immediate vicinity (approx. 1.5 m). It is sufficient to have the ID transmitter somewhere on your person.

Comfort Access was first introduced on the E65 (03/2002). The system was then gradually introduced on different BMW models. Comfort Access can be ordered as optional equipment (option 322) as part of ZCV Convenience Package (which also includes 316 Power tailgate 323 Soft-close automatic doors.

The benefits of Comfort Access are:

- High level of convenience when unlocking and locking the vehicle
- Convenient and fast access to the vehicle
- Simple engine start/stop procedure
- Maximum comfort for the driver.

Comfort Access in the F10 is based on predecessor systems and is adapted to the F10. However, the complete function continues to be in the Car Access System, just as in the F01. That is why the F10 also has no separate Comfort Access control unit.

The vehicle is unlocked when your hand touches the handle recess of the outer door handle and is opened when you pull the door handle.

The vehicle can be locked simply by touching sensitive surfaces of the outer door handle.

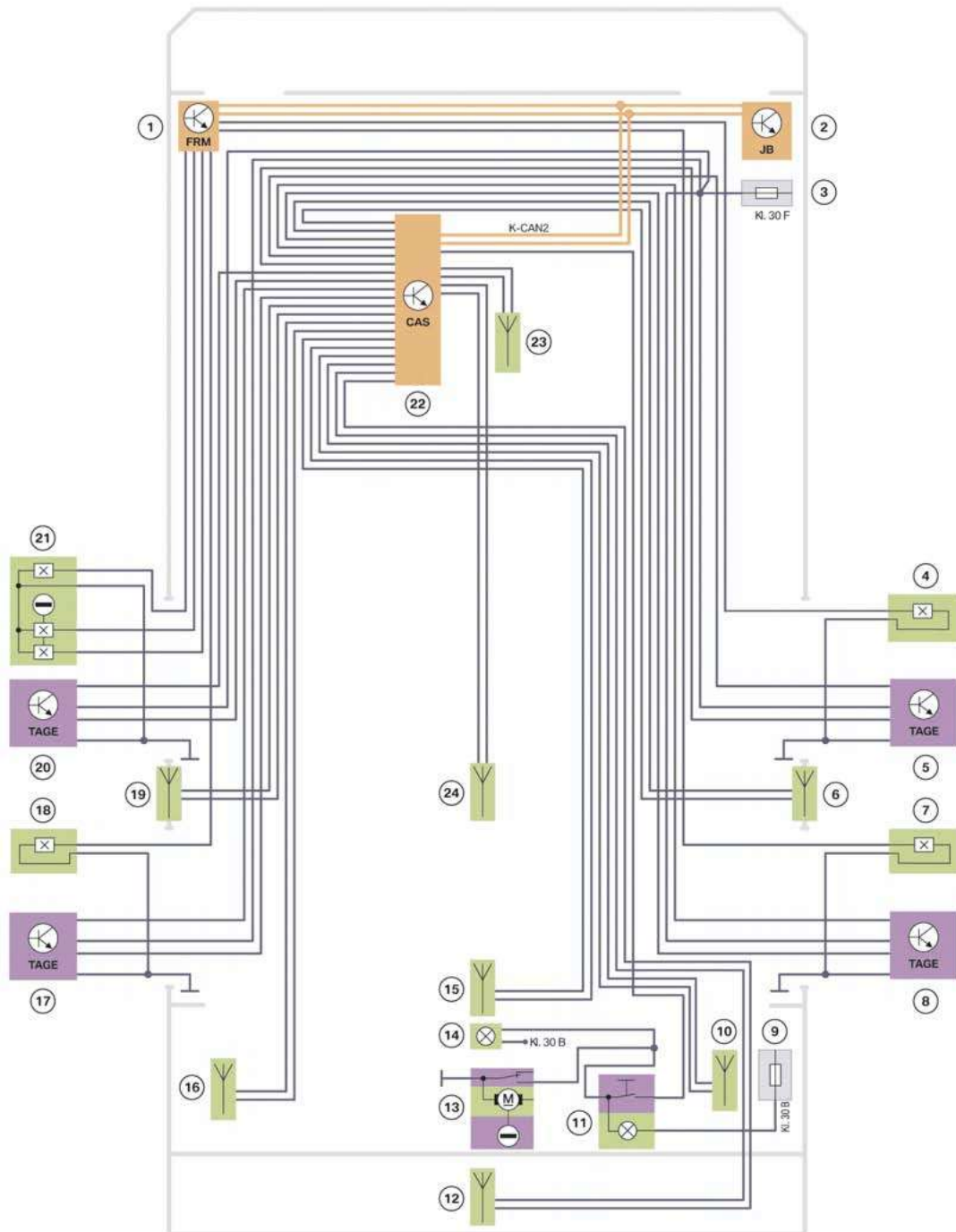
For vehicles fitted with the Automatic Soft Close system (option 323), the drive for the Automatic Soft Close system fully closes the vehicle door. You can then lock the vehicle again by subsequently pressing on the sensitive surface of the outer door handle.

The ID transmitter must be located in the vehicle interior in order for the engine to be started. The engine can now be started by pressing the START-STOP button when the brake pedal is operated and the vehicle is ready to be driven.

F10 General Vehicle Electronics

4. Comfort Access

4.1. System wiring diagram



F10 System wiring diagram for Comfort Access

TE09-2336

F10 General Vehicle Electronics

4. Comfort Access

Index	Explanation
1	Footwell module (FRM)
2	Junction Box (JB)
3	Front distribution box
4	Lock door contact, front-passenger side, front
5	Outside door handle electronics (TAGE), front passenger side
6	Antenna for Comfort Access, door sill, front-passenger side
7	Lock door contact, front-passenger side, rear
8	Outside door handle electronics (TAGE), rear passenger side
9	Luggage compartment junction box
10	Luggage compartment antenna, front-passenger side
11	Central locking system button
12	Antenna for Comfort Access, bumper
13	Tailgate lock
14	Luggage compartment lighting
15	Storage shelf antenna
16	Luggage compartment antenna, driver's side
17	Outside door handle electronics (TAGE), rear driver's side
18	Lock door contact, driver's side, rear
19	Antenna for Comfort Access, door sill, driver's side
20	Outside door handle electronics (TAGE), front driver's side
21	Lock door contact, driver's side, front and locking cylinder in driver's door
22	Car Access System (CAS) with Comfort Access function (CA)
23	Antenna for Comfort Access, interior, front
24	Antenna for Comfort Access, interior, rear
K-CAN2	Body controller area network 2

4.2. Function overview

Comfort Access is divided into the following functions:

- Access authorization (Passive Entry)
- Drive authorization (Passive Go)
- Locking authorization (Passive Exit).

ID transmitters are required for Comfort Access to function.

An ID transmitter incorporates the following:

F10 General Vehicle Electronics

4. Comfort Access

- A battery
- Remote control function
- Transponder coil for emergency start function
- Spare key
- Receiver unit.

The driver's door can also be unlocked and locked with the spare key.

For a more detailed description of the comfort access functions, refer to the F01/F02 "Comfort Access" training material available on TIS and ICP.