

Functional description / User manual

5FA 009 768-40 / -70
5FA 010 007-30 / -40 / -50 / -60
5FA 010 381-30

Hella
Passive Entry Passive Start System (PEPS)
for General Motors
User Identification Device (UID)

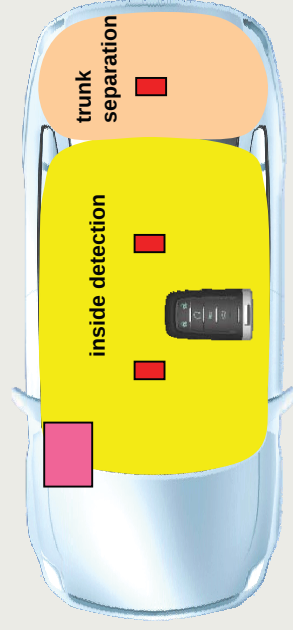
5FA 010 007-30 /-40 /-50 /-60

5FA 010 381-30

5FA 009 768-40 /-70

Hella PEPS for GM

Functional Description of Passive Start



■ PEPS ECU

■ 3 interior LF antennas

UID

Start:

A Person with the UID inside of the vehicle is pressing the Start-Stop-Switch. The Start-Stop-Switch activates the complete Passive Start protocol:

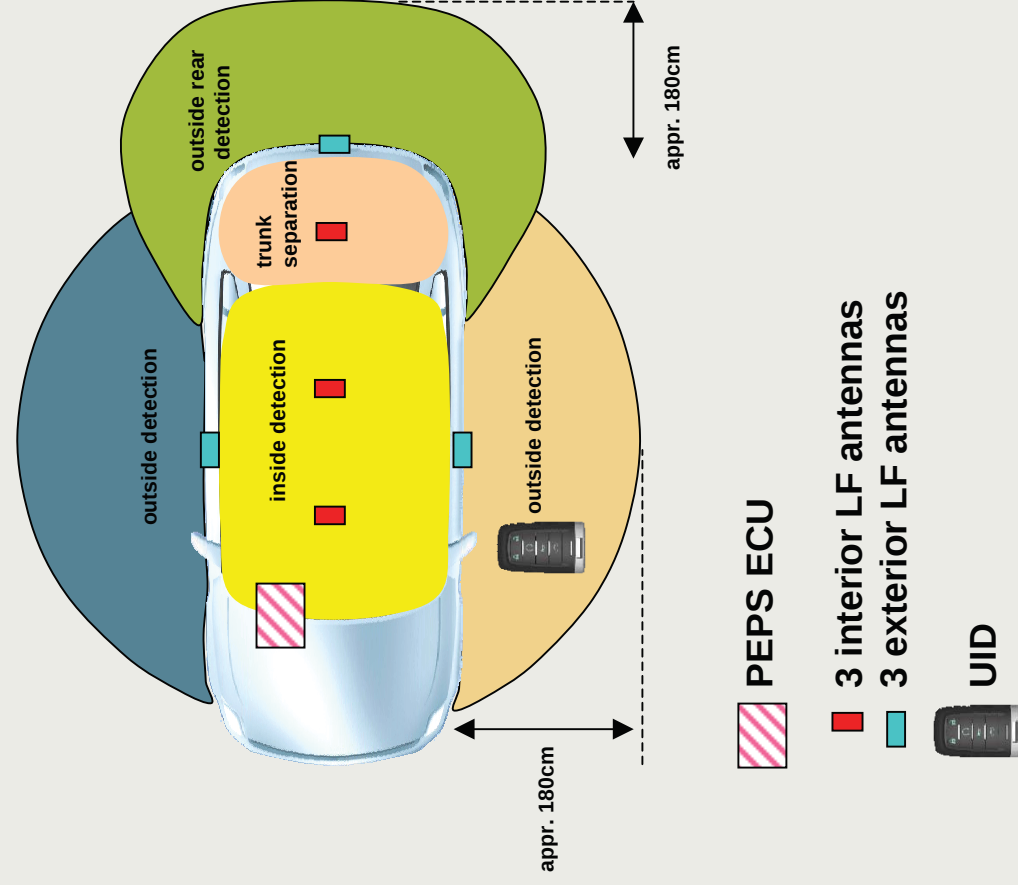
The interior antenna IN is transmitting the LF Data and a carrier signal, which can be recognized and evaluated by quantity (RSSI-measurement) by the UID. The other two interior antennas IN and TRUNK transmit two additional carrier signals sequential.

If the magnetic field strength of one of these transmits is high enough (a certain border is reached) then the UID authenticates the system to start the vehicle.

If the magnetic field strength of all antenna transmits are too low (the field strength border is not reached, maybe the UID is laying outside or is held 10 cm outside the vehicle) the car won't start.

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Functional Description of Passive Entry



Entry:

A Person with the UID approaches the locked vehicle. If he grasps the door handle a micro switch is activated and the complete Passive Entry Protocol is started:

The door handle antenna is transmitting LF data and a carrier signal, which can be recognized and evaluated by quantity (RSSI-measurement) by the UID.

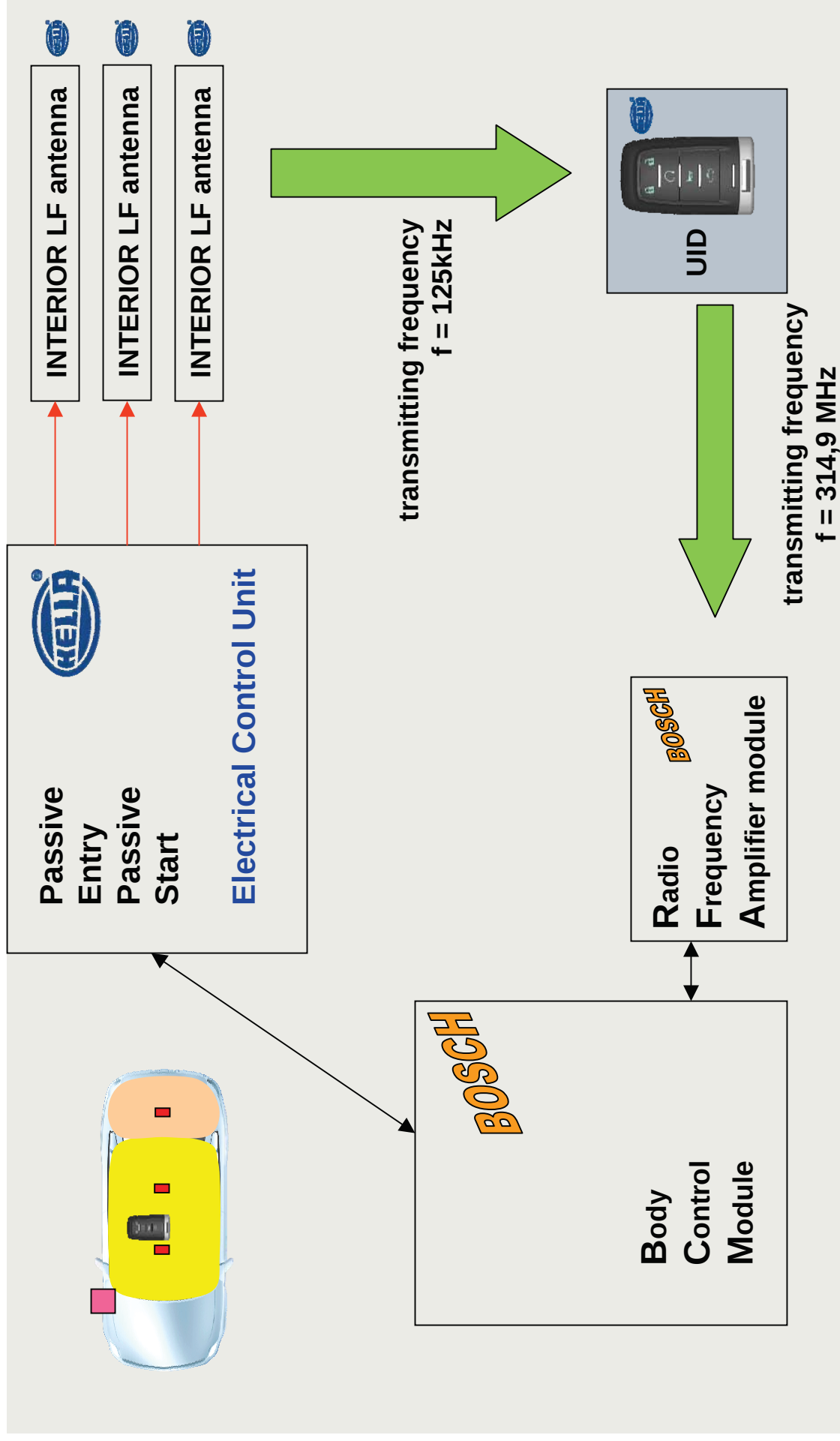
If the magnetic field strength is high enough (a certain border is reached) the UID stays "awake" for additional LF communication by the other antennas driven sequentially.

The additional LF communication guarantees the functionality, that only the valid key OUTSIDE the vehicle authenticates the system to unlock the car passively.

If the magnetic field strength is not high enough (e.g. the UID is too far away from the vehicle, the border is not reached), the UID shuts down again and waits for the next LF Data. The vehicle is still locked.

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Functional Description of Procedure, Hella Devices for Passive Start



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Functional Description of Procedure, Hella Devices for Start

