

Operational Description

The EUT, IM850, is an immobilizer intended to provide additional theft deterrence to the vehicle in which it is installed and to prevent it from being driven by unauthorized users. The verification of the user authorization is done by using an ignition key with integrated transponder. The EUT transmits radio signals within one second only when a key is inserted in key barrel.

Immobilizing Function

Ignition ON Immobilizer:

Turning on the ignition triggers the Immobilizer to read out the transponder data and to compare the read code with the valid key codes stored in the Immobilizer EEPROM, 93LC56B.

- In case of using a valid key, the internal relay is activated (cranking is possible) and the release message communication with the ECM takes place. The LED displays the Immobilizer status 'valid key'.
- In case of receiving no ECM request within the defined time-window the internal relay is deactivated (cranking is not possible). The LED displays the Immobilizer status 'valid key'.
- At the end of the TMPVDOUT delay the immobilization communication is stopped and the internal relay is deactivated and then the Immobilizer waits for a diagnosis request from the tester.
- In case of using an invalid key, 'no release answer' communication with the ECM takes place. The LED displays the Immobilizer status 'invalid key'.

Ignition ON ECM:

After turning on the ignition the ECM will control the engine in a normal way for starting and running while waiting for a valid release response message from the Immobilizer (release time period).

- After receiving a response message including the information 'ICU in learnt mode' and the correct system VIN-code the ECM enters the release state, which allows continuing the running of the engine.
- After receiving a response message including the information 'ICU in learnt mode' and a wrong system VIN-cod, the ECM does not send a new request and enters the blocked state, which causes the activation of the immobilization actions of the engine.
- If the ECM doesn't receive a response message within a defined time from beginning of the release time period and the ECM receives a no release answer, it enters the blocked state, which causes the activation of the immobilization actions of the engine.

Ignition OFF Immobilizer:

The inactive state of the Immobilizer (valid key / invalid key) ends with turning off the ignition.

Ignition OFF ECM:

The immobilizing state of the ECM (released / blocked) ends with turning off the ignition or with removing the battery voltage.

For further information, consult the attached instruction manual.