

Document : **User Manual for IBU1.0 non-SMK_ENG**

Project : **IBU1.0 non-SMK**

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1. System configuration

1.1 Scope of SK IBU System

IBU(Integrated Body control unit) System(-SMK) integrate BCM in one ECU

1.1.1 IBU(-SMK) system offer following feature

- LF communication
- immobilizer backup solution integrated into IBU
- communication to the engine management system via a single line interface
- communication to the ESCL via a single line interface
- block of the steering column by the ESCL device

1.1.2 BCM functions offer following feature

- BCM functions directly or indirectly control Lamps, Indicators, Rear curtain, Steering wheel heat and relay

1.2 short description of the SYSTEM

If insert the Immobilizer including trasponder to ignition switch and then power enter the IBU(-SMK)

After Receive the frequency of key, ECU decide the own's key and if same code ,starting a engine.

1.2.1 General Definition of IBU(-SMK)

IBU(-SMK) has a immobilizer function which enable the start up When Folding key approaching the Lock-body.

1.2.2 Wireless Communication

the Electromagnetic waves used for communication between Foldingkey and car. Therefore car and Folding key include the transmitter, receiver and Immobilizer Antenna.

1.2.3 concept Description

magnetic field with a frequency of 125 kHz and ASK modulation is used

Technical aspects of 125 kHz – magnetic field:

- high penetration,
- less sensitive for detuning compared to higher frequency.

For the down-link from the SMART KEY FOB to the vehicle, the standard radio frequency (RF) is used (similar to the classic remote control functions) with FSK modulation.

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2. SK IBU(-SMK) ECU

The main functional blocks of the IBU ECU are:

- Power supply
- Microcontroller with FLASH Memory
- Single Line Interface to ESCL
- Single Line Interface to EMS
- Input stage
- LF antenna amplifier/driver
- Immobilizer Antenna output
- ESCL power supply
- Terminal Control(ACC, IGN1/2, Start Rly)
- CAN communication with Other
- ECU Internal receiver(433Mhz)
- Rear curtain control
- Steering wheel heat control
- Head lamp wahser relay control
- Indicators control
- Lamps control
- High speed CAN communication
- LIN communication

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3. Homologation

FCC Compliance Statement.

**This device complies with part 15 of the FCC Rules.
 Operation is subject to the following two conditions :**

- (1) This device may not cause harmful interference, and**
- (2) This device must accept any interference received, including interference that may cause undesired operation.**

This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.

Do Not



Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.

IC Compliance Statement.

**This device complies with Industry Canada licence-exempt RSS standard(s).
 Operation is subject to the following two conditions:**

- (1) this device may not cause interference, and**
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.**

Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisee aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioelectrique subi, meme si le brouillage est susceptible d'en compromettre le fonctionnement.

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