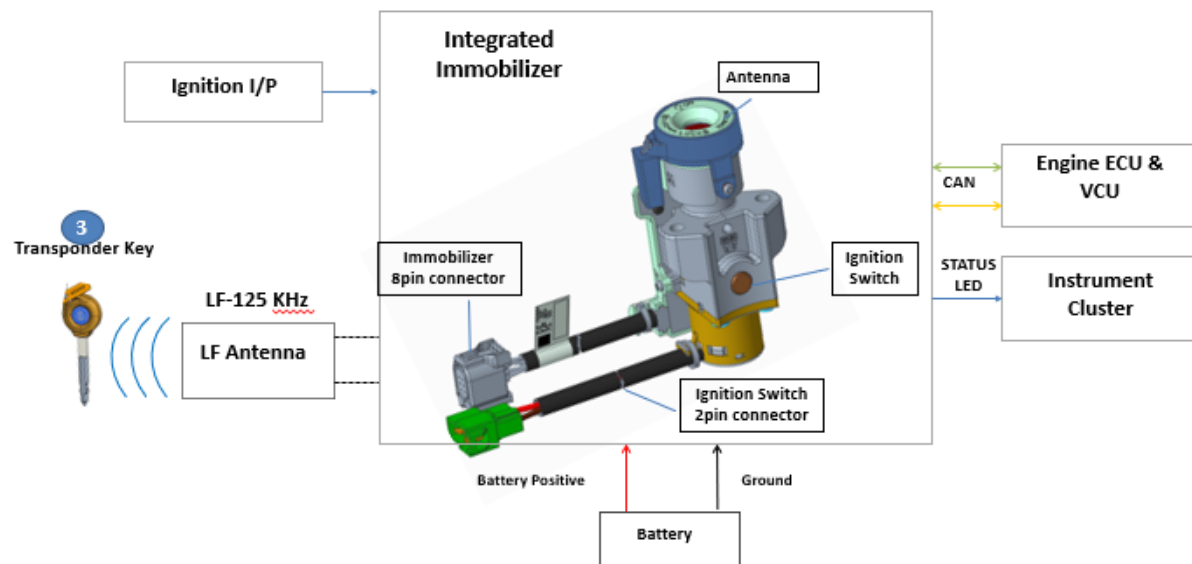
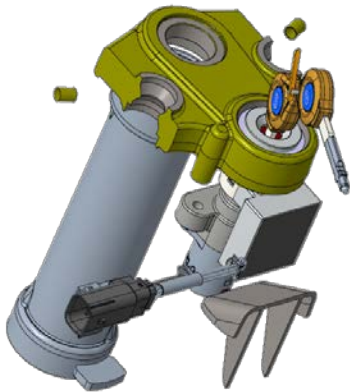


IMMOBILIZER (SMIT002):

IMMOBILIZER User manual:



Technical Specifications:

1. Operating voltage shall be 8 V to 18 V.
2. Operating temperature shall be -20°C to +60°C.
3. Rated voltage shall be 12V.
4. Authentication between Immo and key transponder shall happen within 250 ms of IGN ON. And maximum up to 1 sec with 5-retries.
5. Immo shall send random number RNimmo of 7 Bytes after receiving RNvcu and retries up to 3-retries.
6. Immo shall send random number R7vcu of 7Bytes after receiving R7immo and retries up to 3-retries.

Features and Functions:

1. Mutual Authentication of the genuine Mechanical key embedded with Transponder and Immo.
 - a. IMMOBILIZER shall authenticate the Transponder embedded inside the Mechanical key(PCF7938X) using HITAG-3 encryption.
2. Mutual Authentication of the vehicle EMS.

After successful authentication of IMMOBILIZER and Transponder, Immo shall perform authentication between the vehicle EMS using AES- 128 encryption.

- IMMOBILIZER that incorporates additional element of security in classic mechanical lock with transponder chip embedded in the Mechanical key.
- The IMMOBILIZER will communicate with Key transponder chip through LF coil Antenna embedded in the lockset.
- NXP HITAG3 encryption algorithm is used between key transponder chip & IMMOBILIZER for authentication.

❑ Transponder:

- Transponder is a wireless communication, monitoring or control device that picks up and automatically responds to an incoming LF signal.
- The primary purpose of automotive transponder is to prevent unauthorized access and theft.

Working:

- Transponder functions on inductive coupling, when the transponder key is near to the LF coil antenna embedded in the mechanical lock set, generates LF field and energise the transponder key which send a unique code to the vehicle IMMOBILIZER.
- After successful pairing between transponder and IMMOBILIZER, further vehicle authentication shall be allowed.

❑ IMMOBILIZER:

- An IMMOBILIZER is a security device connected to the lock set of a vehicle that prevents the engine from starting unless the correct transponder key is present.
- IMMOBILIZER system is an antitheft system significantly enhances vehicle security by making it much more difficult for thieves to start the vehicle without authorization.
- IMMOBILIZER shall authenticate the Transponder embedded inside the Mechanical key using HITAG-3 encryption.

FCC Caution:

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

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.

IMPORTANT NOTE:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IC Caution:

This device complies with Innovation, Science, and Economic Development 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 présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC/IC Radiation Exposure Statement:

This equipment complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

L'appareil est conforme aux limites d'exposition aux rayonnements spécifiées par la FCC/ISED pour les environnements non contrôlés. La distance entre le radiateur et le corps doit être d'au moins 20 cm lors de l'installation et du fonctionnement de l'appareil.

Manufacturer

Company: Minda Corporation Limited

Address: D-6-11, Sector 59, Noida, U.P.- 201301

For UKCA

Frequency/ Power:

125 kHz(28.71dBμA/m@3m)