

Title :

Information Document

NO.

Date

SHT/SHTS : 2/11

0. GENERAL

0.1. Make

SEOYON ELECTRONICS Co.,Ltd.

0.2. Model No.

- **Transmitter** :FOB - SMART KEY
- **Receiver** : **SMART KEY SYSTEM**

SYEC4FOB1611

0.3. Name and address of manufacturer

SEOYON ELECTRONICS Co.,Ltd.
424, Sinwon-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea

0.4. Address of assembly plant

SEOYON ELECTRONICS Co.,Ltd.
424, Sinwon-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea

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SHT/SHTS : 3/11

2. PRODUCT SPECIFICATION

2.1 Scope of RKE, passive entry control, passive start control in SMART Key system.

2.1.1 FOB KEY : It has the functions for passive entry and passive start including RKE functions. It also has the TP for emergency authentication for passive start

2.1.2 SMART Key system : It is an ECU to control the whole smart key system. It has the functions such as passive entry control, passive start control, RKE functions.

2.2 SPECIFICATIONS

2.2.1 FOB KEY

| ITEM | SPECIFICATION |
|-----------------------------|-------------------------------------|
| Rated supply voltage | DC 3V |
| Operating voltage range | DC 2.5 ~ 3.2V |
| Operating temperature range | - 10 ~ + 60 with Battery |
| Storage temperature range | - 40 ~ + 85 without Battery |
| Modulation | FSK |
| Frequency | 433.92MHz |
| Code | Rolling Code(Hopping Algorithm) |
| Electric field strength | 10mW (433.92MHz) |
| Battery life | 2 Year(10Times/Day)(Lithium 3V 1EA) |

2.2.2 RECEIVER

| Item | Specification |
|-----------------------|--|
| Rated Supply Voltage | DC 12V |
| Operating Voltage | DC 9 ~ 16V |
| Operating Temperature | - 35 ~ + 75 |
| Max Humidity | 95% |
| Standby Current | Below than 5.5mA (in alarm setting condition) |

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2.3 Operating summary

-RKE

TRANSMITTER's button is pushed.

TRANSMITTER sends the code by radio frequency.

RECEIVER gets the code and decodes it.

RECEIVER judges the code whether it is right code or not.

RECEIVER checks door lock or unlock, trunk state.

RECEIVER drives the actuator.

- Passive Start

~~the SSP button of SMK is pressed to start the engine~~

The indoor ANT of the car transmits the code via the Low Frequency.

Fob(receiver) decrypts the received code from SMK.

Fob transmits the code via radio frequency.

SMK should check the boot state.

SMK controls a start-up operation and the transition of supply power.

2.3.1 LOCK & UNLOCK

If LOCK or UNLOCK button is pushed for less than 1 sec,
then TRANSMITTER sends the LOCK or UNLOCK DATA.

If TRUNK button is pushed for more than 1 sec, then
TRANSMITTER sends the TRUNK DATA.

2.4 Caution

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Dispose of used batteries according to the manufacturer's instructions.

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3. USER MANUAL

3.1 ITEM : SMK system

- This system is SMK and includes RKE.
- RKE in SMK system is intended for auto door lock or unlock or TRUNK in vehicle.
- This SMK system is to be installed on motor vehicles as *OE item.

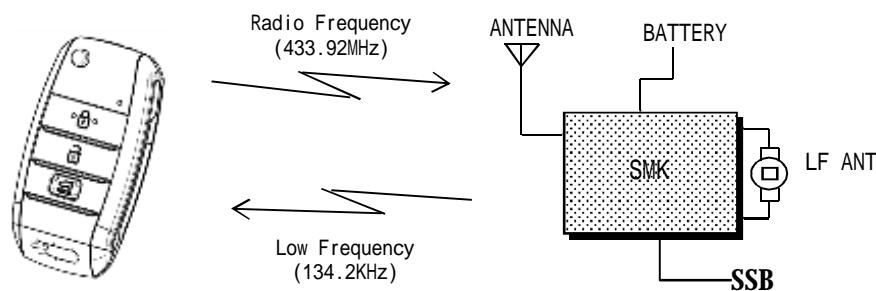
*OE : Original Equipment.

*SMK : Smart Key System

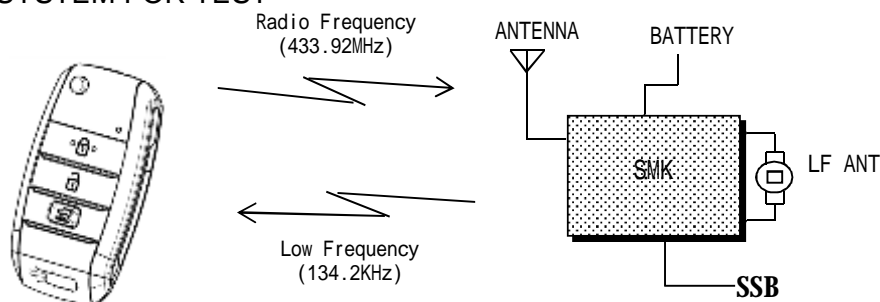
*RKE : Remote Keyless Entry.

3.2 SYSTEM CONSTRUCTION

3.2.1 SYSTEM IN VEHICLE



3.2.2 SYSTEM FOR TEST



Connect the 12V power supply and turn on the switch

Pressing the white tact switch, LF signal is transmitted and FOB LED and SMK LED is fla
When the tact switch is pressed repeatively, FOB LED and SMK LED is flahes, repeatively.

* It shows the status of operation through the LED used.

FCC Information

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.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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 correct the interference by one or more of the following measures:

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

WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

"CAUTION : Exposure to Radio Frequency Radiation.

Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit.

"ATTENTION: L'exposition aux rayonnements à fréquence radioélectrique.

Antenne doit être montée de telle manière à minimiser le risque de contact humain pendant l'utilisation normale. L'antenne ne doit pas être contacté pendant le fonctionnement pour éviter la possibilité de dépasser la limite de l'exposition aux fréquences radio de la FCC.

IC Information

This device complies with Industry Canada license-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'Industrie 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;
- 2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.