

# SMART KEY FOB

## User' Manual

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## Revision History

Rev.	날짜	수정 내용	담당
1.0	2018.12.26	First Release	Bae wonsik
2.0	2022.08.10	Correct Frequency (433MHz -> 433.92MHz, 134KHz -> 133KHz)	Park jeguk

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## 1. Synopsis

This document is specifically-written manual for receiver and transmitter (SMART KEY FOB) of wireless communication, which is to confirm user identifications under engine-start limiting function in heavy equipments.

SMART KEY FOB is defined as following: it receives signals with RFID 133 KHz and wakes up. After then, it transmits password-secured information to SMART KEY CONTROLLER by using 433.92MHz wireless signals.



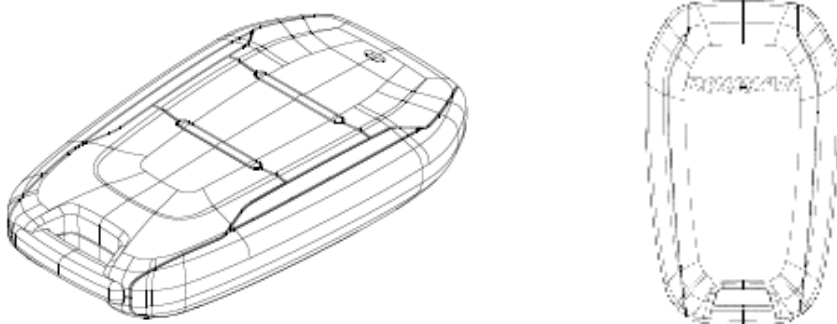
### WARNNIG

**Exchanging batteries in incorrect way, It may cause explosion**

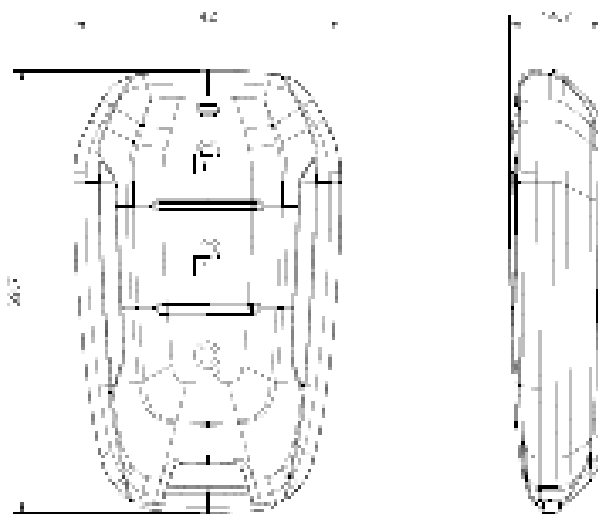
**Discard used batteries according to manufacturer's instructions**

## 2. Product Image

### 1) External Appearance



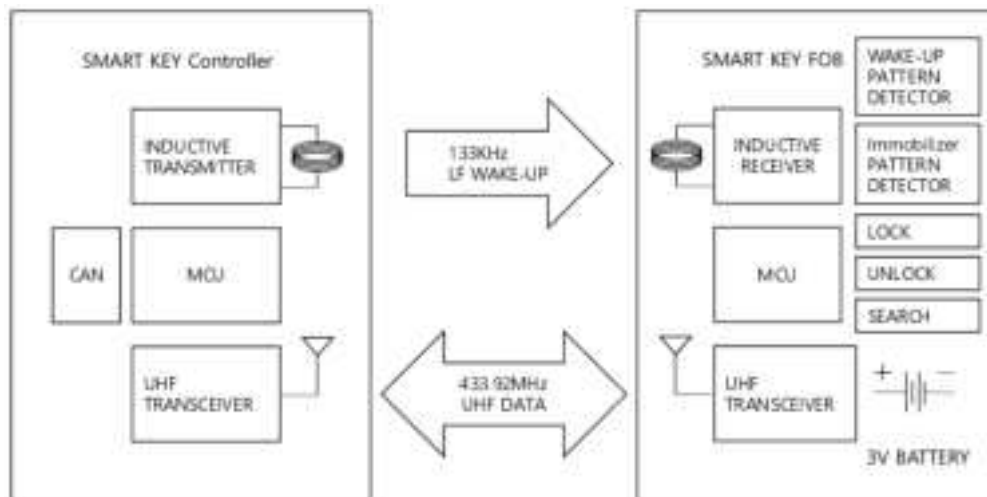
### 2) Dimension



### 3) Certification LABEL location



### 4) Block Diagram



## 4. Specification

### 4.1. Operating Specification


- Must wake up the remote control by providing electricity with RFID 133 KHz.
- Must be operating with CR2032 battery.
- Must be able to transfer password-secured signals.
- Must be able to use Single channels band of 433.92MHz.

### 4.2. Power Specification

- 3 V d.c. (CR 2032 Lithium Battery)
- Notice : Inserting opposite polarity of battery may cause explosion or damage to product (Please match battery polarity with battery holder)

#### 4.3. General Specification





- . Storage Temperature: -30℃ ~ 80℃
- . Operating Temperature: -20℃ ~ 60℃
- . Wireless Tested Temperature : -20℃ ~ 60℃
- . Water-Proof Specification: IP54 (Living Water-Proof)
- . Material of Device : PC (Material: 1220r, Flame Class : V2, Manufacturer : Lotte Chemical)  
PC&ABS (Substance : LUPOY GN-5001RF BLACK, Flame Class : V0, Manufacturer : LG CHEMICAL)  
TPE (Material: TC5MGA-S340)  
ZNP (Material: 하급아연괴 DC2, Manufacturer : ㈜영풍)
- . PCB Material :

object/part No.	manufacturer/ trademark	Layer /Thickness	Flame Class	standard	mark(s) of conformity <sup>1)</sup>
SMK TAG B/D PCB	JM ELECTRONICS CO LTD	2Layer /0.8T	V-0	UL 796	

#### 4.4 RF Specification

Item		Specification
<b>Wireless Data Communication System</b>	<b>Frequency</b>	433.92MHz (Single Channel)
	<b>RF Power</b>	Under 1 mW
	<b>Modulation Method</b>	GFSK
	<b>Tested Temperature</b>	-20℃ ~ +60℃
<b>Magnetic Induction System</b>	<b>Frequency</b>	133KHz (Single Channel)
	<b>RF Power</b>	Receive Only
	<b>Modulation Method</b>	ASK

#### 4.5. Product label Explanation of graphic symbols used

Symbol	Description
	Korea Certification Marking
	Communaute Europeenne Marking
	Electrical waste and electronics equipment
	Direct current

**5. Postal address:**

Kyungwoo Systech Inc. Office: +82-2-985-8085

#401, Daeryung Post Tower 5, 68, Digital-ro 9, Geumcheon-gu, Seoul, South Korea

E-mail: [Webmaster@kyungwoo.com](mailto:Webmaster@kyungwoo.com)

This equipment is not suitable for use in locations where children are likely to be present.

**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.

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

**RED Compliance Statement**

This product is CE marked according to the provision of the RED (2014/53/EU). Hereby Kyungwoo Systech Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU