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	Subject(제목) <b>SMART KEY TAG User's Manual</b>		Version(이력) <b>Rev A</b>	Date(작성일) <b>2013.03.29</b>
Part No(품번) <b>A232</b>	Name of Product(제품명) <b>SMART KEY TAG</b>	Prepared(작성) <b>배원식</b>	Reviewed(검토) <b>박승수</b>	Approved(승인) <b>CSK 3/29</b>

### <Revision History>

Rev	Date	Page	Before Change	After Change	Composition	Approval
	2009.10.28		First Release			
A	2013.03.29	3		1) TAG Design changes 2) LABEL added	BWS	CSK


Distributed(배포처)

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## 1. Synopsis

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

SMART KEY TAG is defined as following: it receives signals with RFID 125 KHz and wakes up. After then, it transmits password-secured information to SMART KEY READER by using 2.4 GHz Zigbee wireless signals.

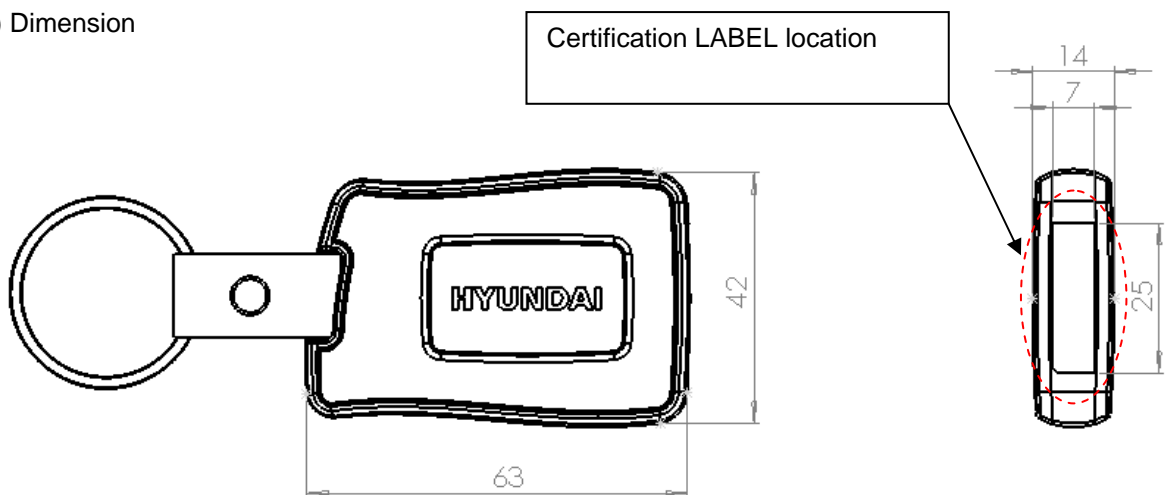
 <b>WARNNIG</b>
<b>Exchanging batteries in incorrect way, It may cause explosion</b> <b>Discard used batteries according to manufacturer's instructions</b>

## 2. Product Image

### 1) External Appearance




### 2) Dimension

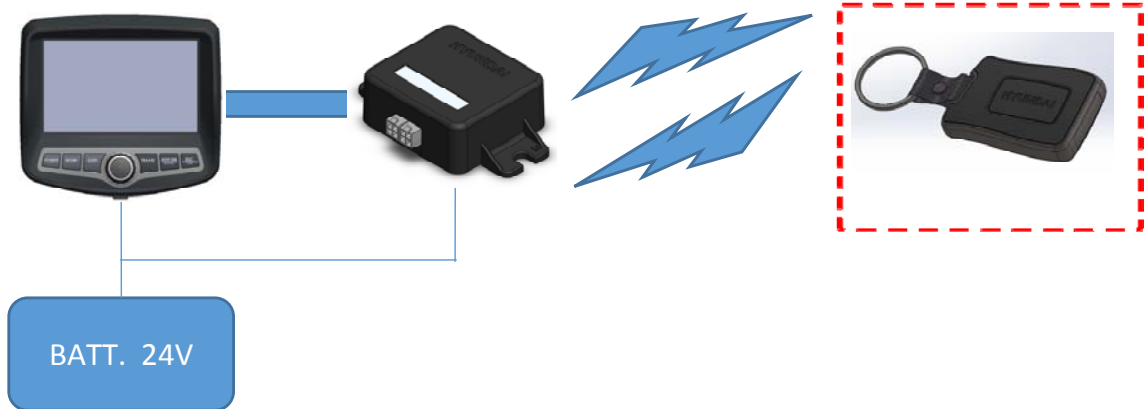


### 3) Certification LABEL location



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### 3. Block Diagram



### 4. Specification

#### 4.1. Operating Specification

- . Must wake up the remote control by providing electricity with RFID 125 KHz.
- . Must be operating with CR2032 battery.
- . Must be able to transfer password-secured signals.
- . Must be able to use all 16 channels with Zigbee band of 2405 to 2480MHz.


#### 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: -20℃ ~ 70℃
- . Operating Temperature: -10℃ ~ 60℃
- . Water-Proof Specification: IP54 (Living Water-Proof)
- . Material of Device: PC (Flame Class: V0, Manufacturer : SABIC Innovative Plastics)
- . PCB material

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity <sup>1)</sup>
SMK TAG B/D PCB	WOOMYUNG ELEC CO	SKD	V-0 ; 105 °C	UL 796	UL

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#### 4.4. RF Specification

Item		Specification
Wireless Data Communication System	Operating Frequency	2405 ~ 2480MHz (16 Channels)
	RF Power	Under 10mW
	Modulation Method	OQPSK
	Tested Temperature	-10℃ ~ +50℃


#### 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.

To comply with RF exposure compliance requirements, the antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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## EC Declaration of Conformity

**Manufacturer**      **KYUNGWOO SYSTECH INC.**

**Address**            #401, Daeryung Post Tower 5, Gasan-dong, Geumcheon-gu,  
Seoul, 153-702, South Korea

Declares that the following product

Product Name:    SMART KEY TAG  
Model Number:   A232

conforms to the technical regulations applicable to the product within the scope of Directives 2006/95/EC (LVD), 2004/108/EC (EMC), and 1999/5/EC (R&TTE):

- |                |               |  |
|----------------|---------------|--|
| Article 3.1(a) | <b>Health</b> | EN 62479: 2010   |
| Article 3.1(a) | <b>Safety</b> | EN 60950-1:2006+A11:2009+A1:2010+A12:2011  |
| Article 3.1(b) | <b>EMC</b>    | EN 301 489-1 V1.9.2 (2011-09)<br>EN 301 489-3 V1.4.1 (2002-08)<br>EN 301 489-17 V2.2.1 (2012-09) |
| Article 3.2    | <b>Radio</b>  | EN 300 330-1 V1.7.1 (2010-02)<br>EN 300 330-2 V1.5.1 (2010-02)<br>EN 300 328 V1.7.1 (2006-10)    |

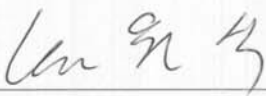
All essential radio test suites have been carried out. The relevant technical file is available for inspection.

**Notified Body**    EMCCert Dr. Rasek GmbH  
Stoernhofer Berg 15  
91364 Unterleinleiter  
Germany  
EU Identification Number: 0678

This declaration is issued under the sole responsibility of the manufacture and, if applicable, his authorized representative.

**Point of contact**    Bae, Won-Sik, TEL: +82-2-985-8085, FAX: +82-2-985-8087  
(Name, telephone and fax number)

South Korea, April 10, 2013  
(Place, date of issue)

  
 \_\_\_\_\_  
 (Signature)  
**Bae, Won-Sik**  
R&D Team / Research Engineer  
 \_\_\_\_\_  
 (Name and title in block letters)