<Revision History>

Rev	Date	Page	Before Change	After Change	Composi -tion	Approval
	2009.10.28		First Release			

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1. Synopsis

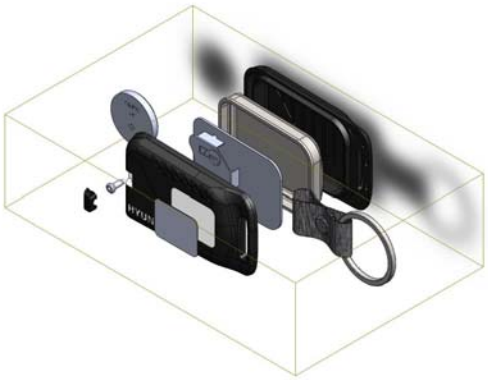
This document is specifically-written manual for receiver and transmitter (SMART KEY TAG) of wireless communication, which is to confirm user identifications under engine-start limiting function in heavy equipments.

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..

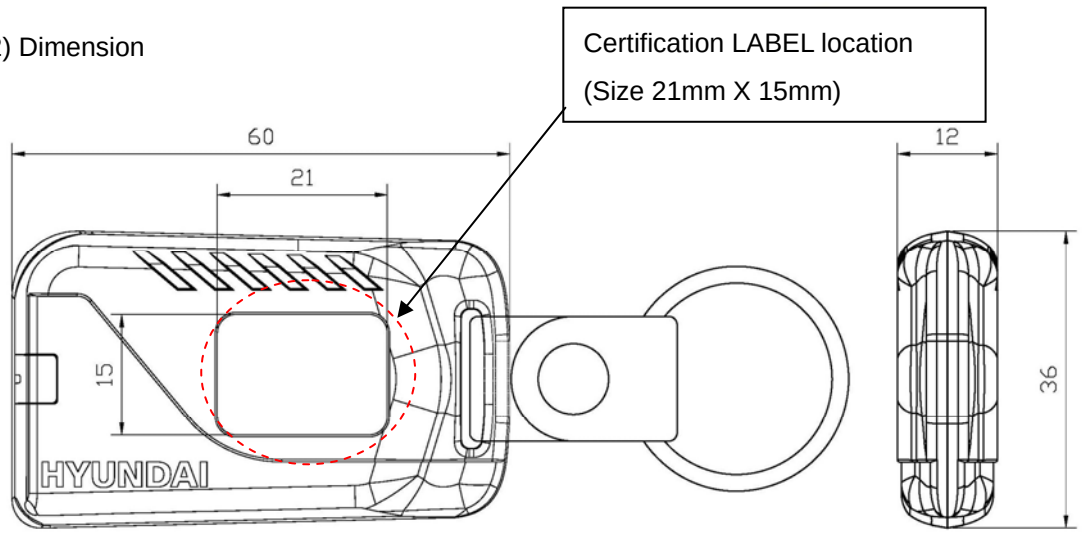
⚠ **WARNNIG**
Exchanging batteries in incorrect way, It may cause explosion **Discard used batteries according to manufacturer's instructions**

2. Product Image

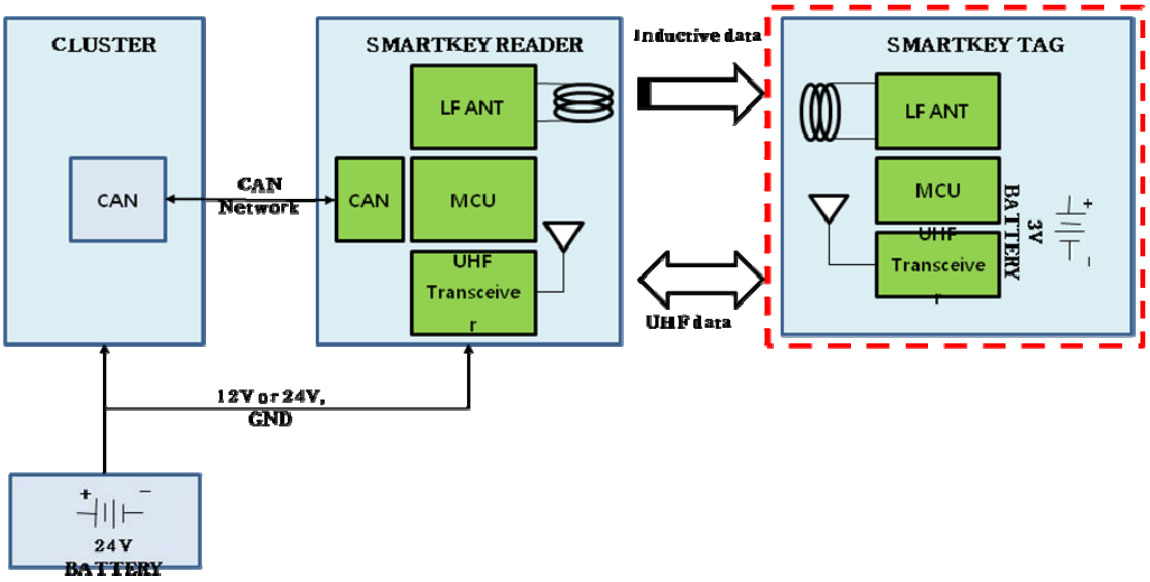
1) External Appearance



2) Dimension



3. 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: V2, Manufacturer : SABIC Innovative Plastics)

-. PCB material

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

4.4. RF Specification

Item		Specification
Wireless Data Communication System	**Operating Frequency**	2405 ~ 2480MHz (16 Channals)
	RF Power	Under 10mW
	Modulation Method	QQPSK
	Tested Temperature	-20 ~ 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.

EC Declaration of Conformity

Manufacturer KYUNGWOO SYSTECH INC.

Address 229-10, Beon-dong, Gangbuk-gu, Seoul 142-705, 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)	**Health**	EN 50371:2002
Article 3.1(a)	**Safety**	EN 60950-1:2001+A11:2004
Article 3.1(b)	**EMC**	EN 301 489-1 V1.8.1 (2008-04) EN 301 489-3 V1.4.1 (2002-08) EN 301 489-17 V1.3.2 (2008-04)
Article 3.2	**Radio**	EN 300 330-1 V1.5.1 (2006-04) EN 300 330-2 V1.3.1 (2006-04) 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 UNDERWRITERS LABORATORIES(UL)
Pfingston Rd.333
60062 Northbrook. IL
United States
EU Identification Number: 0983

CE 0983

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

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(Name, telephone and fax number)

South Korea, December 3, 2009
(Place, date of issue)

(Signature)
Jeon, Jae-il
R&D Team / Research Engineer
(Name and title in block letters)