SMART KEY READER

User' Manual

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Revision History

Rev.	날짜	수정 내용	담당
1.0	2009.10.28	First Release	Bae wonsik
2.0	2017.11.17	1) LABEL Change 2) Rated Voltage: 12V (Max 45mA) / 24V (Max 25mA) both available	Bae wonsik

– Contents –

Revision History

1. **Synopsis**
2. **Product Image**
3. **Block Diagram**
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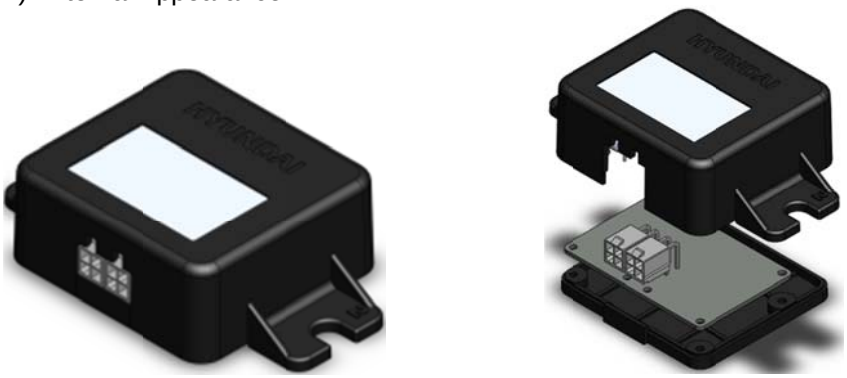
1. Synopsis

This do cument is specifi cally-written manual for SMART KEY READER which is receiver and transmitter of wireless communication, which is to confirm user identifications under engine-start limiting function in heavy equipments.

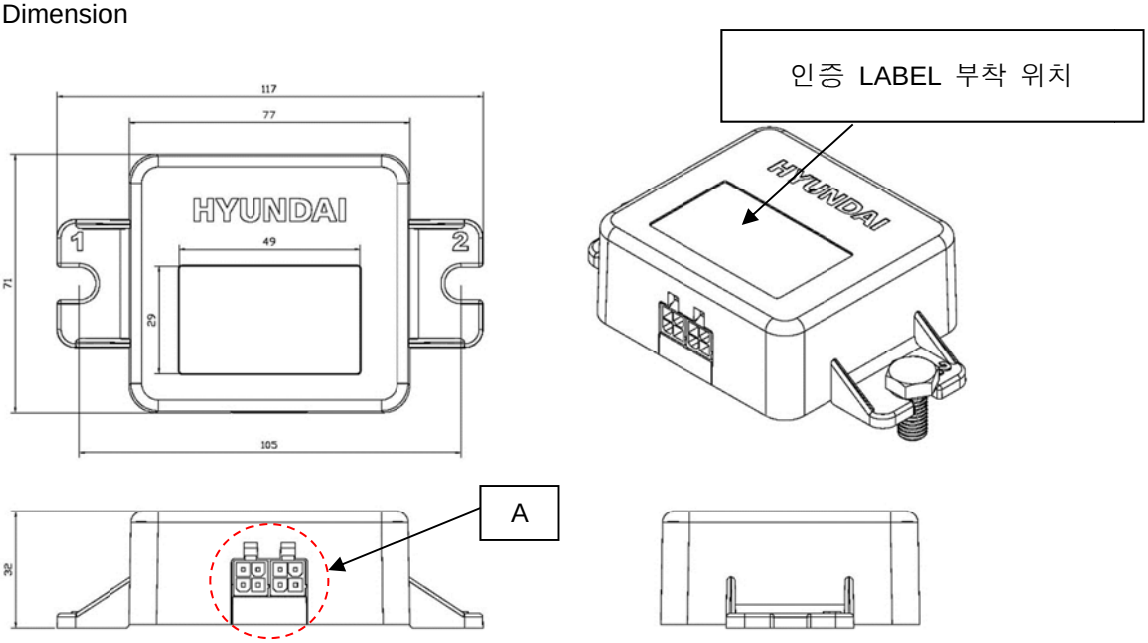
SMART KEY READER is defined as followings; SMART KEY READER transmits a signal pattern by RFID 125 KHz in order to wake up SMK TAG. And then SMART KEY READER communicates with SMK T AG by 2.4 GHz Zig bee wireless signal. SMART KEY READER decodes password-secured signals and transfer identification information to certification device which has a function of engine-start limiting, such as Cluster, MCU or ECU, with using CAN protocol

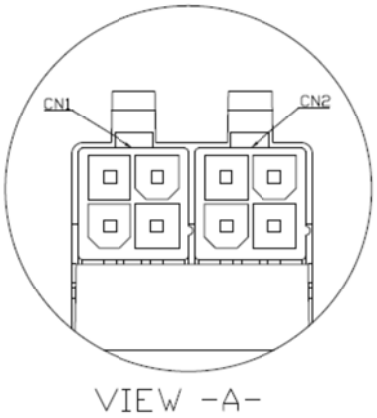
2. Product Image

1) External Appearance

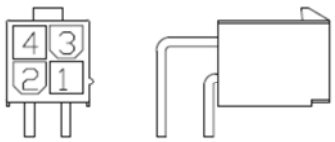


2) Dimension





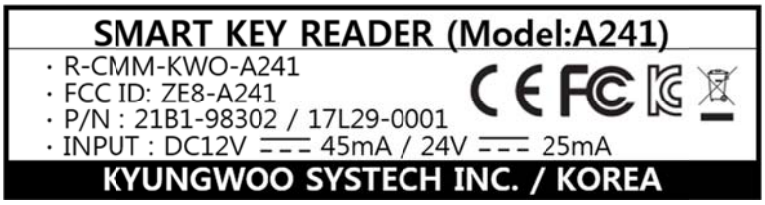
구분	NO.	NAME	신호
CN1 / CN2	1	IG	12Vdc / 24Vdc
	2	GND	-
	3	CAN	HI
	4	CAN	LOW



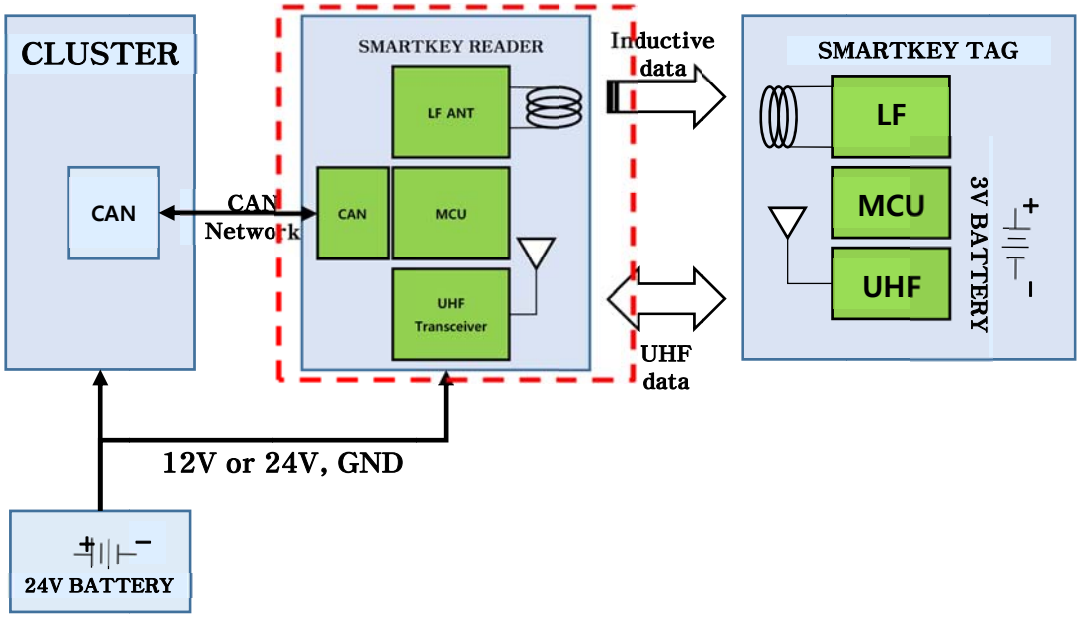
CONNECTOR SPEC.
- No: MOLEX-39300040

*Use only the CN1 Connector.

3) Certification LABEL location



3. Block Diagram



4. Specification

4.1. Operating Specification

-. Must transmit a signal of RFID 125 KHz as a wake up pattern signal.
-. Must be activated from 12 Vdc/24 Vdc external voltage supply.
-. Must be able to analyze the password-secured signal.
-. Must be able to use Single channels with Zigbee band of 2405MHz.

4.2. Power Specification

-. Rated Voltage: 12V⎓ (Max 45mA) / 24V⎓ (Max 25mA) both available

4.3. General Specification

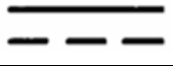
-. Storage Temperature: -40℃ ~ 85℃
-. Operating Temperature: -30℃ ~ 85℃
-. Water-Proof Specification: IP00
-. Communication with equipment: CAN2.0 250Kbps/500Kbps
(*It is recommended to use twist shield cable and should be connected through a short distance as possible.)
-. Material of Device: PC
(Substance : 3022IR, Flame Class : V2, Manufacturer : SAMYANG)
-. PCB Material

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

4.4 RF Specification

Item		Specification
Wireless Data Communication System	**Frequency**	2405MHz (Single Channels)
	RF Power	Under 10 mW
	Modulation Method	OQPSK
	Tested Temperature	-30 ~ +85℃
Magnetic Induction System	**Frequency**	125KHz (Single Channel)
	RF Power	Under 42 dBμA/m @ 10 meter
	Modulation Method	ASK

4.5. Product label Explanation of graphic symbols used

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

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.

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

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