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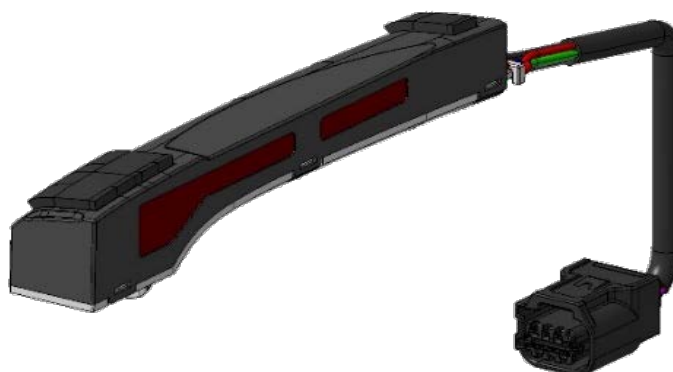
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SP2 PE(QX 23MY) NFC Touch Door Handle User Manual

V 1.0



Winnercom Co., Ltd.

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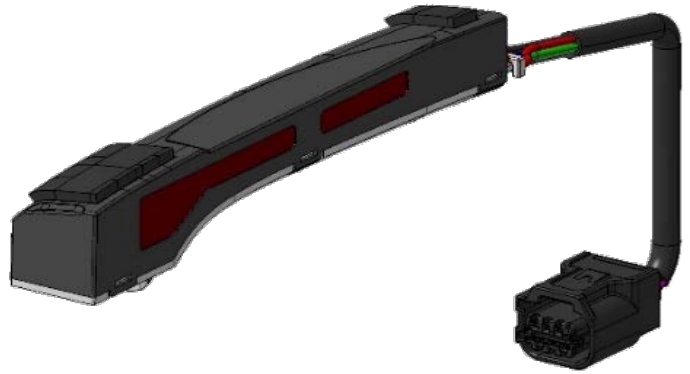
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1. Introduction

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- Door handle Module (DHS)
- NFC & Capacitive Touch
- Pocket Light LED
- Hi-Speed CAN

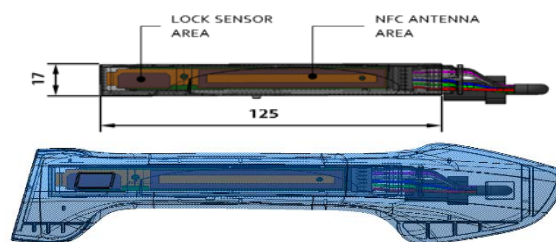


The door handle module for Automotive has a NFC Reader and lock/Unlock 2Channel Capacitive touch Sensor function.

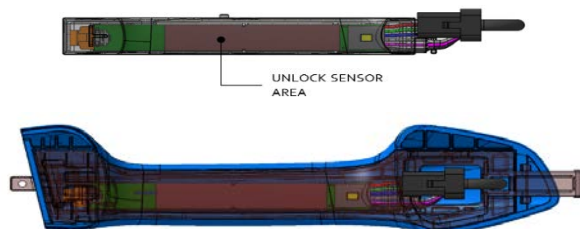
This module is installed inside of the door handle covers and will be attached to the outside door panel.

This module is communicated with CAN network which enables to connect to the car network to send the signal of lock and unlock of door and Pocket light LED On/Off control.

It receives DC power from car battery at all time.



[Door Handle Out-Side]



[Door Handle In-Side]

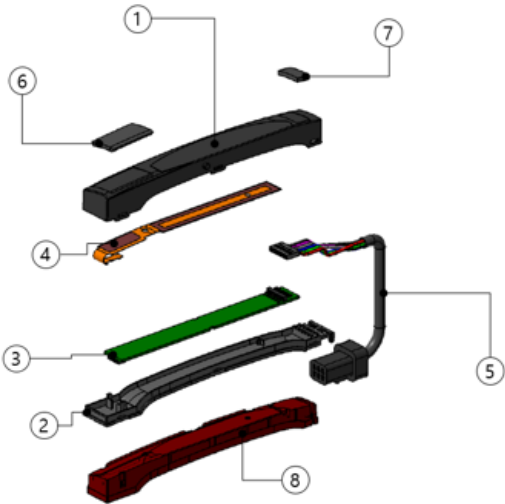
[Assembled cover and DHS]

2. NFC DHS Design(BOM) & Application

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CE - NFC Touch Door Handle

Category	Feature	
System	Micom	ATSAMC21E18A-MZT Cortex M0 @48MHz RAM 32kB, ROM 256kB
	NFC Processor	3A LOGICS, TNR100
	CAN Transceiver	NXP, TJA1044GTK/3,High Speed CAN 500kpbs
Mechanical Size	125 x 17 x 15.5(h) [mm] (Length x Width x Height)	
Weight	TBD(g)	
System Interface	NFC 13.56MHz NFC-A Type 4, Digital key 2.0	
	CAN Ver. 2.0 High Speed	
	Lock: direct contact Unlock: Handle Grip contact	
진단 기능 Diagnostics	Battery Voltage : Under Voltage & Over Voltage	
	Internal Temperature : Over Heating	
Pocket Lighting	N/A	



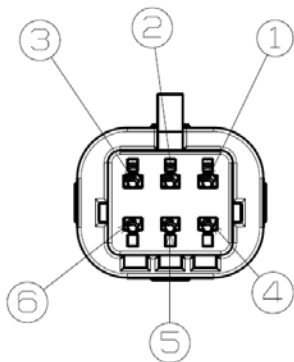
NO	Lev	SUB 부품명	협력사	재질
1	1	CASE UPPER	성신화학	PBT+GF30%
2	1	CASE LOWER	성신화학	PBT+GF30%
3	1	PCB ASSY	TBD	FR-4
4	1	FPCB	TBD	
5	2	CABLE ASSY	화성일렉컴	AVSS 0.3SQ
6	1	FOAM PAD A	한성산업	발포 EPDM
7	1	FOAM PAD B	한성산업	발포 EPDM
8	1	ANT POTTING	ESP 케미칼	UE-917 A,B



3. Attentions

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- Please always mount the Door handle Module before power on the device to avoid circuit damage
- Before power on the Module, check the power supply(Fig. 1)
- Module Input Power connect to the connector(Fig. 1)



Pin #.	Name	Description	In/Out	Wire Color	I/O Level
1	V Bat(+Vcc)	Power Supply	Power	RED	Battery +
2	L_CAN(L)	CAN Low Signal	I/O	GREEN	2.5±TBD V
3	TOUCH_1	LOCK	O	GRAY	
4	TOUCH_2	UNLOCK	O	PINK	
5	L_CAN(H)	CAN High Signal	I/O	BLUE	2.5±TBD V
6	GND	Electric Ground	Power	BLACK	Gnd

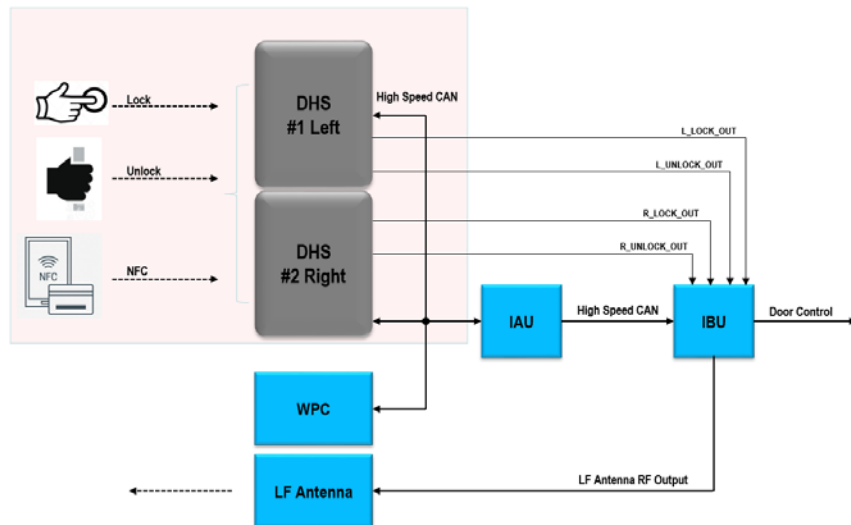
Fig. 1 Connector

4. Specifications

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NFC Touch Data

Frequency Range	13.56MHz for NFC
Operating Voltage	9.0 ~ 16.0 [Vdc], Typical 12.0 [Vdc]
Current	Max 400mA @ Operation Mode
Operating Temp.	-30°C ~ 75°C
Storage Temp.	-40°C ~ 85°C



[System Block Diagram]

5. User Information and Instructions

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FCC Part 15 Compliance 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.

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi,
même si le brouillage est susceptible d'en compromettre le fonctionnement.

Manufacturer information

Manufacturer name	WINNERCOM Co., Ltd.
Address, City:	HUMAX Village, 216, Hwangsaeul-ro, Bundang-Gu, Seongnam-si, Gyeonggi-do, South KOREA 13595
Product name (type) :	Vehicle active antenna & Touch door

