

ELECTRONIC KIT-KEY LESS SYSTEM'S MANUAL



Smart Key System employs sophisticated technology provide convenience and peace of mind, coupled with maximum protection, and reliability to your vehicle.

The system incorporates two major components; control unit and key FOB. A microprocessor controlled, solid unit connected with in the vehicle.

LOCK / UNLOCK operation of the steering lock, fuel cap and seat opener and engine authorization, In addition it has a vehicle locator finder function development with necessary changes corresponding to the requirements of the particular vehicle model. It is proposed to develop a system CONTROL UNIT suitable for two wheelers for the smart key system.

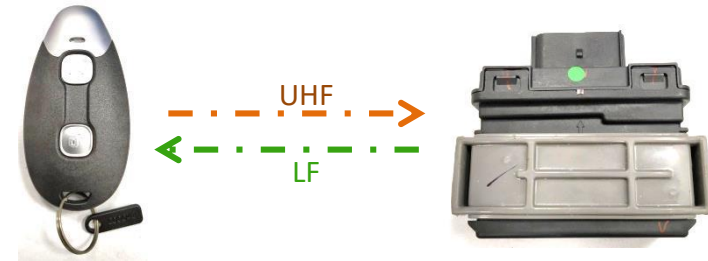
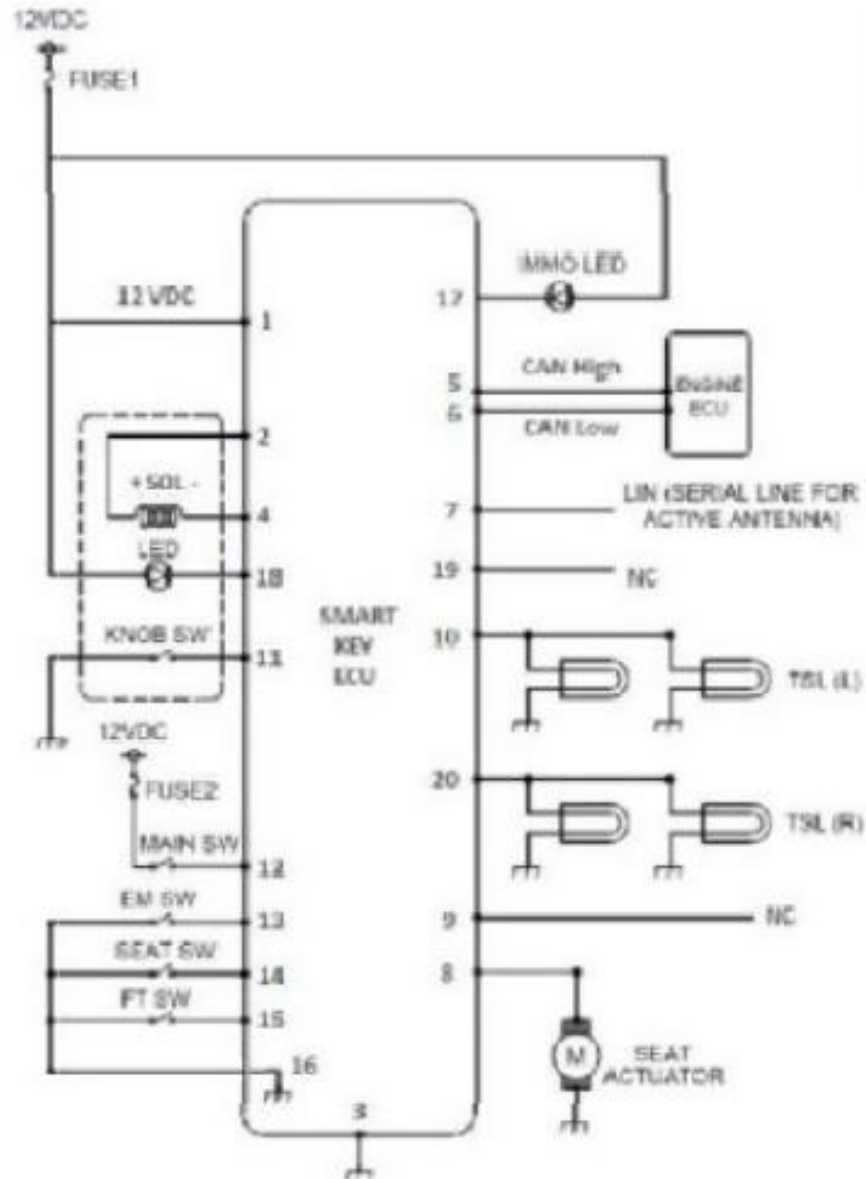


Features

1. IGN (Ignition) ON (Engine Start) from the unlocking operation of handle lock Output engine start permission to Engine ECU by IGN ON. In case of detecting the FOB at communication range when PUSH SW of knob is detected.
2. The locking operation of the handle lock from IGN OFF.
3. The locking operation of the handle lock from KNOB SW Press.
4. Detect and notify when the FOB dropped.
5. Detect and notify when the FOB dropped after 50M.
6. Notice of FOB battery voltage reduction.
7. Vehicle Finder.
8. Vehicle Seat function by Key FOB.
9. Vehicle Seat function by seat switch.
10. IGN ON at the emergency (In passive mode).



System Diagram



KEY FOB

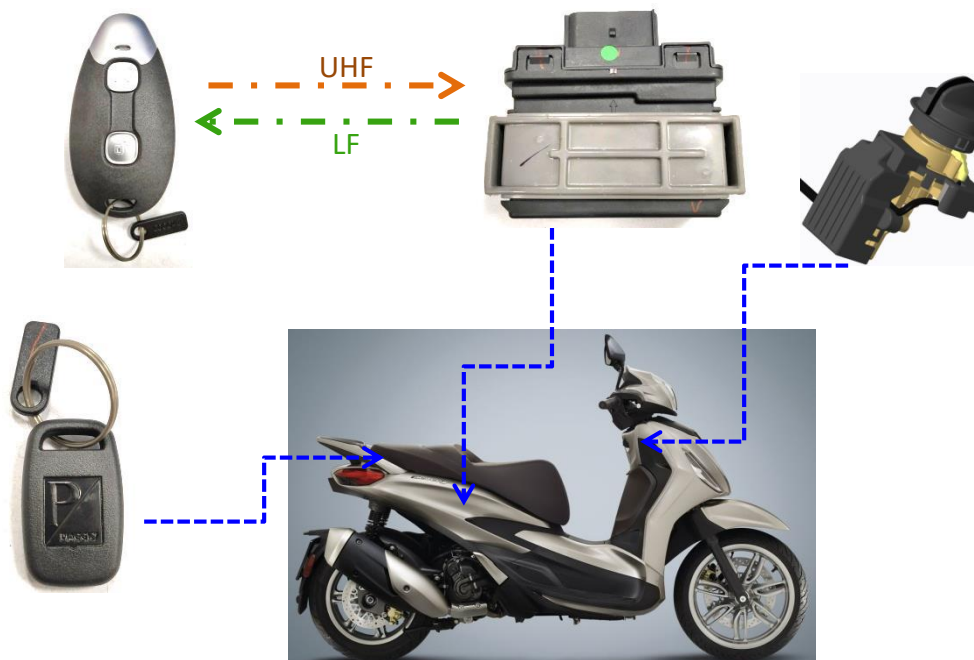
- IP67 level sealing of FOB
- FOB sensing distance of $1.5 \pm 0.3\text{m}$
- Layered Architecture with Modular HW and Software development
- Answerback function
- Seat opening

FCC ID: 2A29L-365001C
IC : 23641-365001C

SUPERVISORY CONTROL UNIT

- IP67 protection level for SCU
- Layered Architecture with Modular HW and Software development
- Withstand automotive harsh environment
- Ultra low quiescent current
- KEY FOB drop indication

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SMART IGNITION SWITCH

- Knob operated function no key required
- Solenoid based system – to lock & unlock steering
- User authorization (smart key) check by Electronic control unit
- Micro-switch based wake-up of Smart ignition switch

SCU MOUNTING: Select a mounting location behind the dash, and secure using cable ties and bracket. Be certain that the chosen location will not interfere with the proper operation of the vehicle. Avoid mounting the module to or routing the wiring around the steering column, as the module or wiring could wrap around or block the steering wheel preventing proper control of the vehicle.

Specification - SUPERVISORY CONTROL UNIT

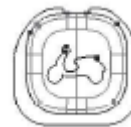
Model No.	: EC-360001C
Rated Voltage	: 12VDC
Rated Current	: 5.5A
Operating Current During Ignition ON Condition	: Less than 750mA
Operating Temperature	: -30°C - +80°C
IP Rating	: IP67
Protection Short Circuit	: Yes
Protection Over Voltage	: Yes
Protection in Vehicle	: Yes (Fuse Provided)
Operating Frequency	: 315MHz (UHF) : 125KHz (LF)

Note: SCU mounting at vehicle is rusticated, user can not access the SCU.



Specification - KEY FOB

Model No.	: ER-365001C
Key FOB Type	: Radio Frequency
Rated Voltage	: 3VDC
Battery Type	: Lithium (#CR2032)
Recommended Make	: Panasonic
Operating Temperature	: -20°C - +55°C
Operating Frequency	: 315MHz (UHF)
	: 125KHz (LF)
Battery Life	: 1 Year (Typical)
IP Rating	: IP67
Symbol Description	:



Vehicle Finder



Seat function

Specification - Sticker



Caution Marking :

KEY FOB product consists of Coin battery and product is accessible to children due to that product shall consists of caution symbol.

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FCC Regulatory Information (FCC ID is 2A29L-360001C) :

This device complies with Part 15 of the FCC rules. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation of this device.

Any changes or modifications not expressly approved by the party responsible for Compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and , if not



Specification - FCC Regulatory Information

installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution!!!
 - Any changes or modifications not expressly by the party Responsible for compliance could void the user's authority to operate this Equipment.
 - This equipment should be installed and operated with minimum distance 2.73 mm between the radiator and your body in SCU and with minimum distance 5.84 mm between the radiator and your body in KEY FOB.



Specification - IC Regulatory Information

IC Statement:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

This device may not cause interference.

This device must accept any interference, including interference that may cause undesired operation of the device.

"This equipment complies with Industry Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements Industry Canada limites établies pour un environnement non contrôlé."



Specification - IC Regulatory Information

IC Statement:

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Minimum separation distance used for NS Measurement 10CM.

Distance de séparation minimale utilisée pour la mesure NS 10CM.

