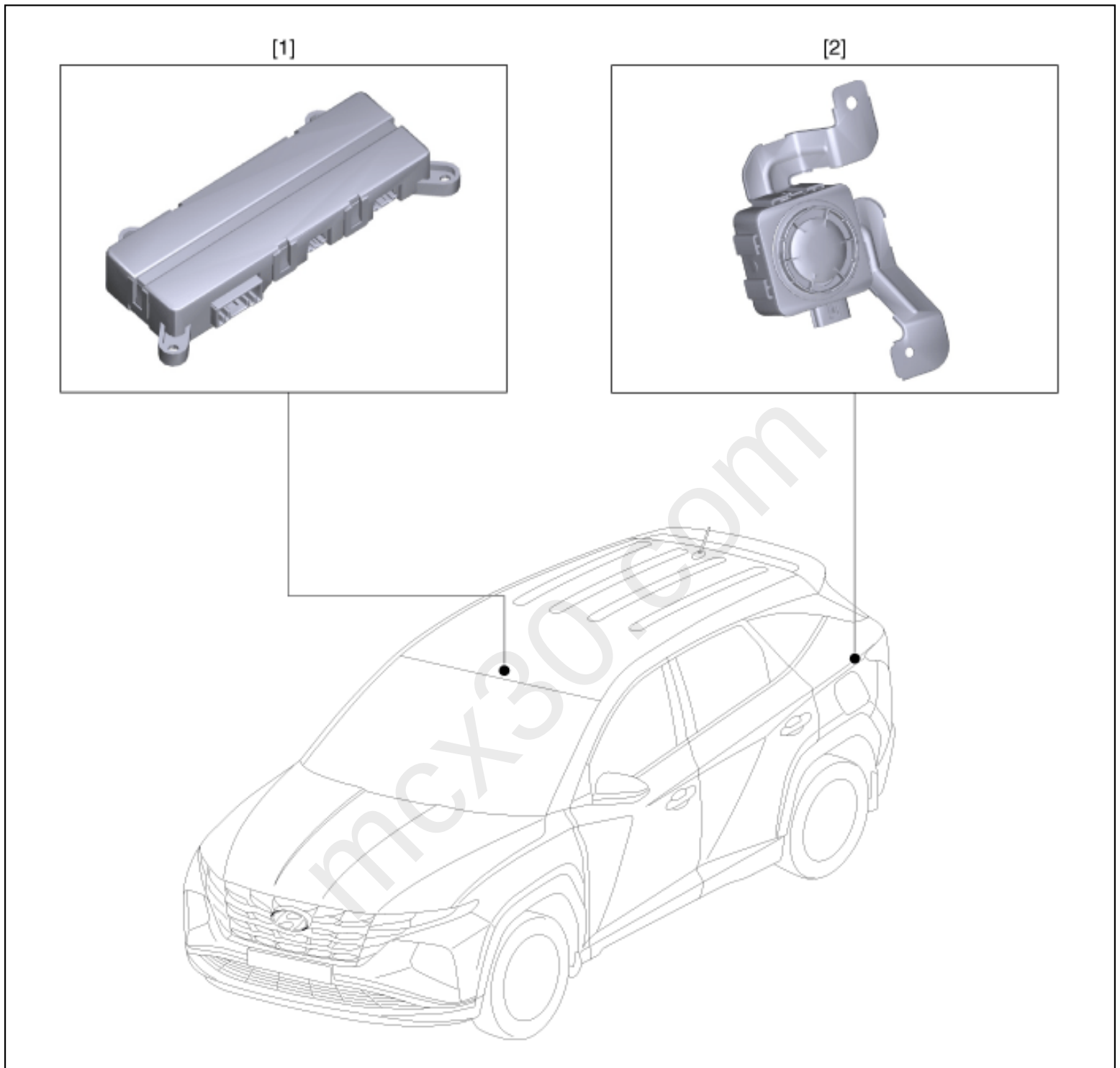


Components
Location



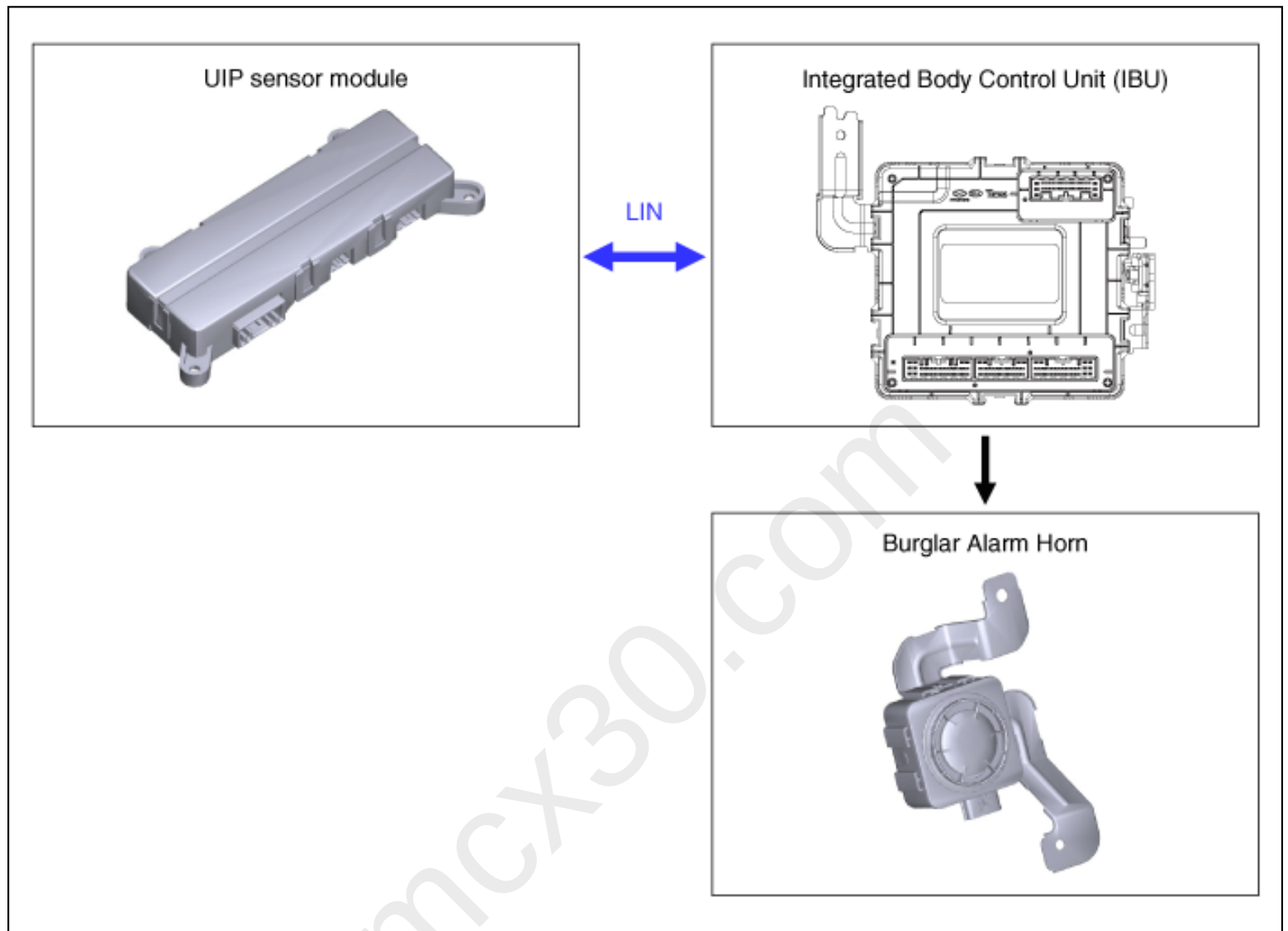
1. UIP(Ultrasonic Intrusion Protection) Sensor

2. UIP(Ultrasonic Intrusion Protection) Siren

Description

Anti Theft Device

Block Diagram



This system is designed to provide protection from unauthorised entry into the vehicle.

This system is operated in three stages :

the first is the "Armed" stage, the second is the "Theft-alarm" stage, and the third is the "Disarmed" stage.

If triggered, the system provides an audible alarm with blinking of the hazard warning lights.

System Overview

1. UIP sensor Module (UIP sensor & G sensor)

- Monitors vehicle interior for intrusion with ultrasonic wave.
- Monitored area is limited to interior of the vehicle.
- Monitors vehicle tilt with tilt sensor.
- Tilt is monitored on all 4 tires as well as the entire vehicle.

2. Intrusion Detection System Normal Operation Condition

- UIP Sensor Module Self-diagnosis: If DISARM signal is received from IBU, UIP Sensor Module performs self-diagnosis (UIP Sensor Module normal operation test), and the result of the diagnosis is sent to IBU for 1 second.
- UIP Sensor Module enters Intrusion Detection Mode if all of the following conditions are satisfied.
 - 1) If UIP Sensor Module self-diagnosis data sent to IBU is normal.
 - 2) UIP OFF Switch Status: Disabled
 - 3) ARM Mode signal is received from IBU
- If intrusion or tilt is detected while in Intrusion Detection Mode, UIP Sensor Module sends alarm signal to IBU, and IBU activates the alarm horn.

3. Alarm is deactivated with DISARM signal from IBU.

4. Intrusion Detection System Disable Conditions

- UIP Sensor Module does not enter Intrusion Detection Mode even if ARM Mode signal is received from IBU.
 - 1) If UIP Sensor Module self-diagnosis data sent to IBU is not normal.
 - 2) UIP OFF Switch Status : Enabled

Function

1. Siren

(1) Power On-Off

It is necessary to apply voltage to the SIREN to power-on the SIREN. The SIREN saves its status into the internal memory. Before removing the car battery supply or SIREN/Sensors connector. Take care that the system is in DISARM state otherwise it will start to sound using the internal battery.

(2) Arming-Disarming

The system is armed by IPM specific command on LIN BUS

Conditions to ARM the SIREN

- System in DISARM STATE
- IGN OFF

The system is disarmed by IPM specific command on LIN BUS

Conditions to ARM the SIREN

- System in ARM STATE
- System in ALARM STATE

(3) Arming Disarming signaling

The IPM manages the blinker activation during DISARM to ARM, ARM to DISARM and ALARM to DISARM transition.

(4) Functional States

- DISARM STATE

In this state the vehicle is not protected

- Pre ARM/ INHIBITION Time

The Pre ARM or INHIBITION TIME starts when the SIREN receives an ARM command by IPM.

If one or more protections are active during DISARM/ARM transition or during the inhibition time, the SIREN exclude it automatically(except for UIP and TILT sensor). It will be re-included in the protection when it will return in the correct condition A continuous low power sound indicated the exclusion during Pre Arm/INHIBITION time.

The INHIBITION Time duration is 30 sec starting from DISARM to ARM transition.

- ARM STATE

In this state the vehicle is fully protected

- Partical ARM STATE

In this state the vehicle is not fully protected : the UIP and TILT sensor are excluded.

- ALARM STATE

In this state the SIREN is sounding using vehicle battery if present, otherwise its internal.

- ALARM PAUSE STATE

The ALARM PAUSE STATE is a state among two consecutive ALARM STATE

(5) Stabilization Time

The Stabilization Time is the time that the external sensor(UIP and TILT) need to stabilize the function when system are armed. The Stabilization time duration for UIP and TILT sensor is 30 sec starting from DISARM to ARM transition.

(6) Alarm Causes

The SIREN activates the sound and send to the IPM a LIN BUS command to activate the blinker.

When an alarm condition is detected in ARM STATE

- PARAMETRIC by LIN BUS command
- IGN Key by LIN BUS command
- EXTERNAL SENSOR..... by COBRA BUS command
- VEHICLE BATTERY TAMPERING.....by POWER SUPPLY Monitoring
- COBRA BUS TAMPERING FUNCTION.....by heartbeat Monitoring

If the alarm cause is not removed, the ALARM CYCLE is repeated after an ALARM PAUSE.

The ALARM CYCLE duration is 27 ± 0.5 sec and ALARM PAUSE is 5 ± 0.5 sec.

During the ALARM CYCLE, it is possible to DISARM by IPM specific LIN BUS command.

(7) Protection

–PERIMETRIC – IGN KEY

The SIREN protects the vehicle against perimetric opening and ignition key activation attempts.

The IPM sends a specific command to the SIREN if a door/hood/tgate are opened or the ignition is turn-on.

If the SIREN is in ARM state or PARTIAL ARM state, it goes to ALARM state. If the alarm condition remains the SIREN will go again to the ALARM state until the alarm counter is rolled off(total 9 ALARM cycles of 27.5sec and 8 ALARM pause of 5sec, internal memory default)

–Cobra BUS Tampering

If the communication is interrupted during ARM State, the SIREN goes to ALARM state. If the alarm condition remains, the SIREN will go again to ALARM state until the alarm counter is rolled off(total 9 ALARM cycles of 27.5sec and 8 ALARM pause of 5sec, internal memory default)

–Vehicle Battery Tampering

If one or both power supply wire(B+ and/or GND) are removed during ARM state or PARTIAL ARM state, the SIREN goes to ALARM state.

If the alarm condition remains, the SIREN will go again to ALARM state until the alarm counter is rolled off (total 8 ALARM cycles of 26sec and 7 ALARM pause of 14sec, internal memory default)

–Internal Battery Connection

The SIREN is a self-powered system with internal back-up battery(primary lithium type Typical capacity 1400mAh)

The external power supply is always monitored and the behaviour of the system will change According to the following table.

(8) Protections exclusion

Protection	Exclusion modes	RE-inclusion modes
Parametrical (doors, hood, and Tailgate)	Automatic EXCLUSION	RE-INCLUSION AFTER Automatic
	The SIREN is able to exclude only the protection found to be opened, leaving the others enabled	EXCLUSION
	When a door or hood is found to be opened during DISARM to ARM transition or during inhibition time	When the door and hood are closed again
	A continuous low power sound indicate exclusion during inhibition time	
	When the power supply voltage fall below $7.5 \pm 0.5V$	When the power supply voltage rises above $7.5 \pm 0.5V$
	When the maximum number of alarms has been reached	Next ARM

Protection	Exclusion modes	RE-inclusion modes
IGN KEY	Automatic EXCLUSION	RE-INCLUSION AFTER Automatic
		EXCLUSION
	When the power supply voltage fall below 7.5+/-0.5V	When the power supply voltage rises above 7.5+/-0.5V
	When the maximum number of alarms has been reached	Next ARM

Protection	Exclusion modes	RE-inclusion modes
UIP and TILT sensor	MANUAL EXCLUSION	RE-INCLUSION AFTER Automatic
	When the UIP and TILT SENSORS exclusion button (OFF SW) is pressed for more than 100ms with the ignition key turn off Exclusion is visually signaled by the activation of the UIP and TILT SENSORS exclusion light	Press again the UIP and TILT SENSORS exclusion button(OFF SW) for more than 100ms with the ignition key turn off. Or Elapsed 5 minutes after activation without receiving any ARM command by LIN BUS Or Inanition Key turned ON
		The re-inclusion is visually signaled by the de-activation of the UIP and TILT SENSORS exclusion light.
	Automatic EXCLUSION	RE-INCLUSION AFTER Automatic
		EXCLUSION
	When a door or hood is found to be opened during DISARM to ARM transition or during inhibition time A continuous low power sound indicate exclusion during inhibition time	When the door and hood are closed again
	When the power supply voltage fall below 7.5+/-0.5V	When the power supply voltage rises above 7.5+/-0.5V
	When the maximum number of alarms has been reached	

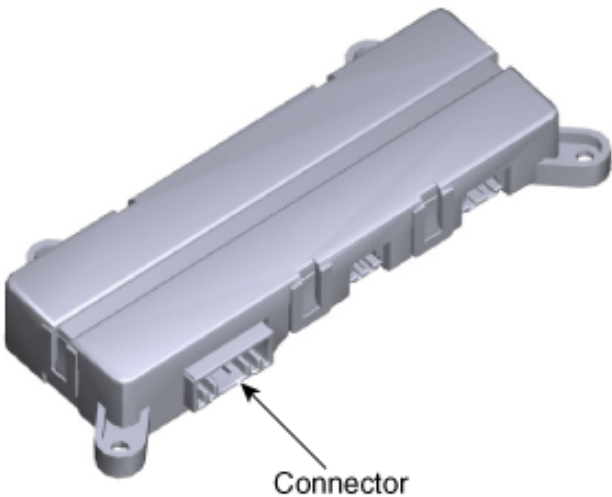
Protection	Exclusion modes	RE-inclusion modes
COBRA BUS tamper	Automatic EXCLUSION	RE-INCLUSION AFTER Automatic
		EXCLUSION
	When the power supply voltage fall below 7.5+/-0.5V	When the power supply voltage rises above 7.5+/-0.5V
	When the maximum number of alarms has been reached	Next ARM

(9) Blinker

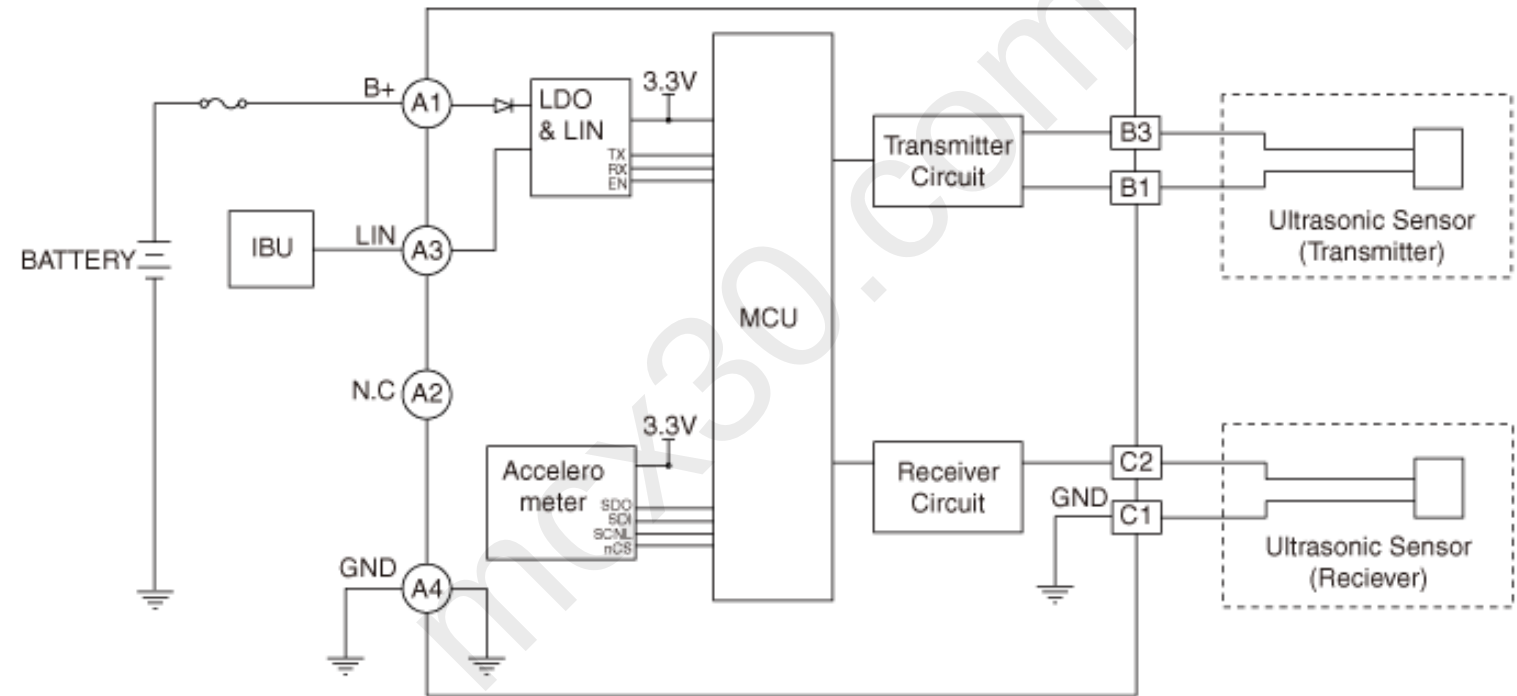
The SIREN drives the blinker during ALARM state by a specific LIN BUS command

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Schematic
Diagram



Connector



Connector	Pin.NO	Description
	1	Battery (+)
	2	-
	3	LIN
	4	Ground

Removal

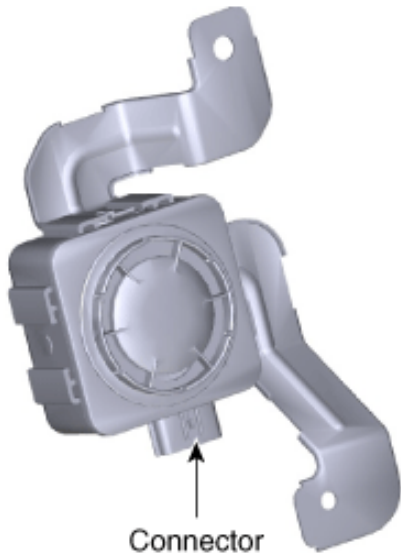
1. Disconnect the negative (-) battery terminal.
2. Remove the overhead console.
(Refer to Lighting System - "Overhead Console Lamp")



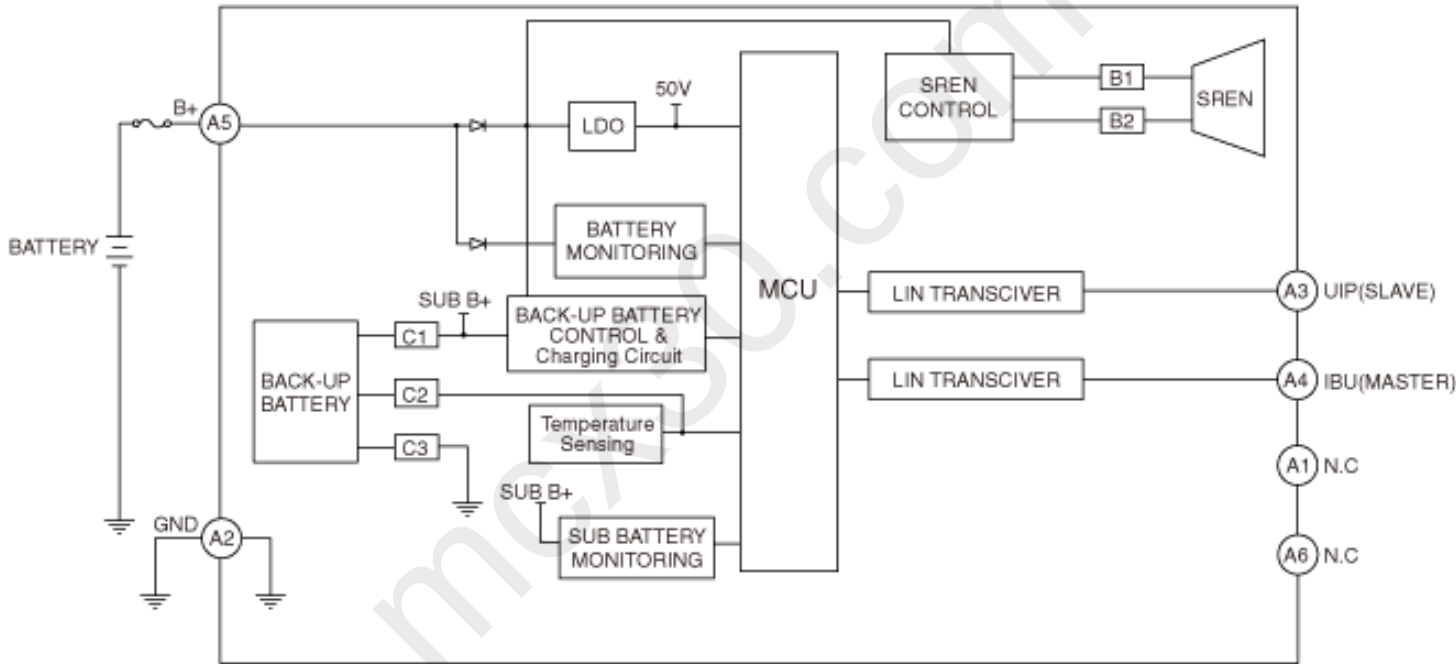
- Be careful not to get object or debris on the ultrasonic sensor.
- Do NOT place object in front of the sensor.
- If UIP Sensor Module OFF Switch is pressed, then the UIP Sensor Module is turned OFF, and intrusion and tilt monitoring are disabled
- To enable to monitoring functions, you must first Unlock with Remote Keyless Entry (RKE), then activate via OFF SW (Indicator OFF), or by switching to IGN Key ON.
- If you leave the vehicle with moving pet or object in the vehicle, be sure to turn the UIP Sensor Module OFF, then Lock with Remote Keyless Entry (RKE).

Installation

1. To install, reverse removal procedure.



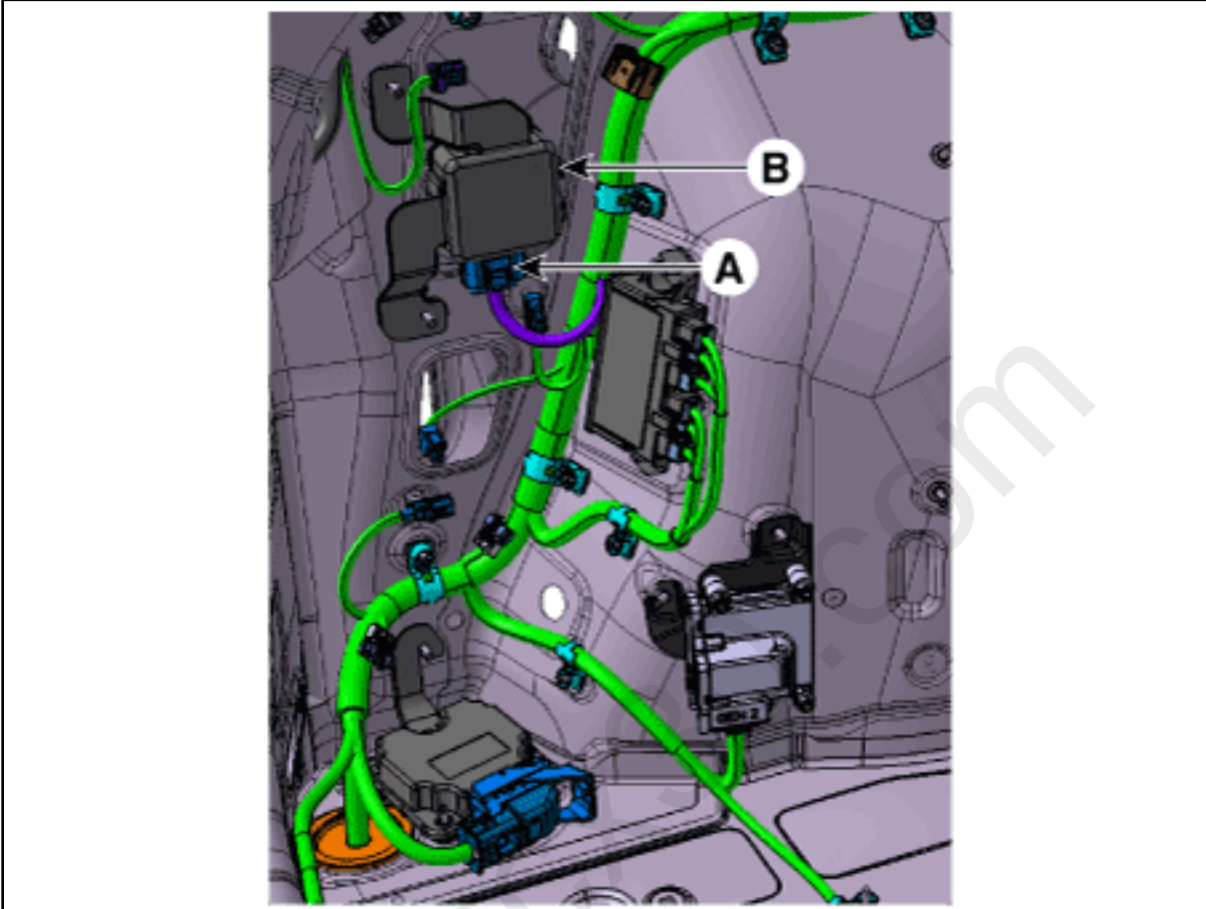
Connector



Connector	Pin.NO	Description
	1	-
	2	Ground
	3	LIN-UIP (Slave)
	4	LIN-UIP (Master)
	5	Battery (+)
	6	-

Removal

1. Disconnect the negative (-) battery terminal.
2. Remove the luggage side trim [LH]
(Refer to Body - "Luggage Side Trim")
3. Disconnect the UIP siren connector (A)
4. Loosen the mounting nuts and remove the UIP siren (B).



Installation

1. To install, reverse removal procedure.