

# **STEEL MATE®**

*Automotive*

**888E**

## **2-Way PKE Car Alarm System**



**Manual**

# Contents

## User Manual

Disclaimer & Notes -----	01
Key features -----	01
Specifications -----	01
Brief look of the PKE transmitter -----	02
PKE transmitter button function -----	03
Transmitter charging -----	03
Transmitter Functions -----	04
PKE function -----	04
System function -----	05

## Installation Manual

Includes -----	09
Installation of ECU -----	09
Wiring diagram -----	10
Central locking system installation -----	11
Jump switch setting -----	12
Installation of antenna -----	12
ACC circuit -----	13
Footbrake (+) -----	13
Door trigger (+) -----	13
Trunk trigger (-)-----	14
Engine killer circuit-----	14
Fuel pump cut (-)-----	14
Trunk release circuit -----	14
Siren installation -----	15
LED indicator and PKE antenna -----	15
Shock sensor installation -----	15
Troubleshooting -----	16

## Disclaimer & Notes

1. This system is for vehicles with  $12V \pm 3V$  DC only.
2. System should be installed by a professional auto technician.
3. Using the insulated sticker to bind the opened end of wire.
4. The installation position of ECU should be away from water and dust.
5. All components should be fixed tightly and the wires must be long enough to avoid disconnection from heavy vibration during driving.
6. This system will help to reduce the possibility of losing the vehicle by discouraging theft. It is not a substitute of owner's vigilance. Please take out the valuables when leaving the vehicle.
7. When the transmitter operating distance is shorter or its indicator light turns dark, please recharge the transmitter.
8. It is highly recommended to read this manual before using this system.
9. Perform a test after installation.

## Key features

- Passive keyless entry
- Water resistant transmitter
- Automatically lock/ unlock the door when the driver is leaving/ approaching the car
- Intelligent anti-hijack function with ID detection
- Keyless rearming function
- Power saving design, long lifespan of the transmitter battery
- Remote trunk release

## Specifications

### **System:**

Operating frequency:  $433.92\text{MHz} \pm 0.05\text{MHz}$

Operating voltage:  $12V \pm 3V$

Static current:  $<20\text{mA}$

Siren SPL:  $105\sim 125\text{dB}$

### **PKE Transmitter:**

Operating voltage:  $3.7V$

Static current:  $<35\mu\text{A}$

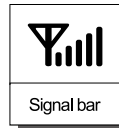
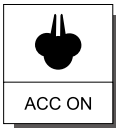
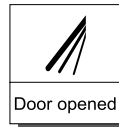
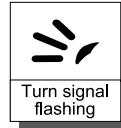
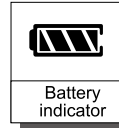
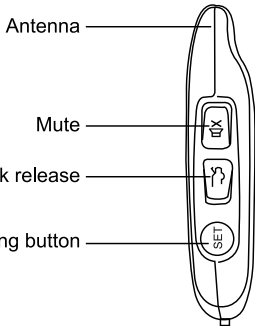
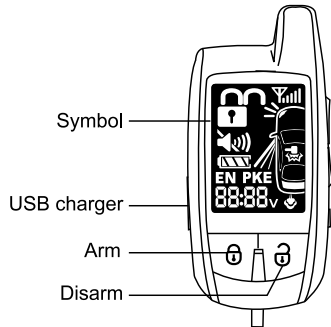
### **USB charger:**

Operating voltage:  $12 \pm 3V$

Static current:  $\leq 5\text{mA}$

Output voltage:  $5 \pm 0.5V$

## Brief look of the PKE transmitter



\* The above graphics are for reference only

## PKE transmitter button function

### Ⓜ Arm

To arm in alarm arming mode and lock the doors.

### Ⓜ Disarm

To disarm the system and unlock the doors.

### 🔇 Mute

To arm in mute arming mode and lock the doors.

### 🔓 Trunk release

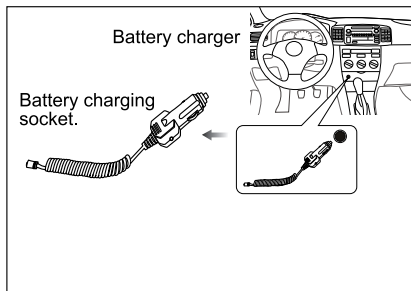
To release the trunk

### SET button

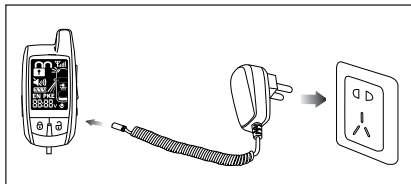
Setting the PKE function

## Transmitter charging

- **Charging:** Insert the charger's plug into transmitter's battery charging socket, and then insert the charger into the vehicle's cigarette lighter. The transmitter's battery can be charged discontinuously.



- Insert the charger's plug into transmitter's battery charging socket, insert the charger's other terminal into the socket



## Transmitter Functions

### 1. Time setting

- 1). Press the "SET" button for 2 seconds to enter the setting mode.
- 2). Press "⌚" button to adjust the hour and press "⌚" save the data.
- 3). Press "⌚" button again to adjust the minute.
- 4). Press the "SET" button for 3 seconds to save and exit the setting mode

### 2. Low battery warning

When battery is low, the transmitter will send out warning sound after the button is pressed, the battery indicator will show the battery status.

When the battery indicator is empty, please charged the transmitter immediately.

## PKE function

### 1. PKE function ON/ OFF

- 1). Press the "SET" button for 2 seconds to enter the setting mode.
- 2). Press "⌚" button twice to enter the PKE function setting mode. Then press "⌚" button choose ON or OFF PEK function.
- 3). Press the "SET" button for 3 seconds to save and exit the setting mode.

### 2. Auto arming & disarming

When the PKE function is ON, the system will be disarmed automatically in the distance within 2 meters. The system can be armed automatically you leave the vehicle more than 3 meters.

**Note:** Please turn off the PKE function if long time no use the vehicle.

## System function

### 1. Alarm arming & Locking the doors (Active arming)

Press "Ⓜ" button once on the transmitter, the doors will be locked with a chirp and turn signals flash once. The LED light flashes to indicate that the system is armed in alarm arming mode.

The transmitter will "Bee" once with the ➤ icon flashes once, and the 🚗 and 🔊 icon will show on the screen.

### 2. Mute arming & locking the doors (Active arming)

Press 🔇 button once, the doors will be locked with turn signals flash once and the siren will not chirp. The LED light flashes to indicate that the system is armed in mute arming mode.

The transmitter will "Bee" once with the ➤ icon flashes once, and the 🚗 and 🔊 icon will show on the screen.

### 3. Disarming & unlock the doors

In alarm arming mode, press the 🗑 button once, the doors will be unlocked, the siren will beep twice with turn signals flashing, then the system will be disarmed. The transmitter will "Bee" twice with the ➤ & 🗑 icon flashes twice, and the 🚗 icon will show on the screen.

In mute arming mode, press 🗑 button once, the doors will be unlocked, the siren will not chirp, turn signals will flash twice. Then the system will be disarmed. The transmitter will "Bee" twice with the ➤ & 🗑 icon flashes twice, and the 🚗 icon will show on the screen.

### 4. Shock sensor triggering

In alarm arming mode, the first impact to vehicle will trigger the system, the siren will chirp for 5 times with turn signals flash for 7 times. The transmitter will "Bee" with vibrations, and the 🚗 and ➤ icon will be flashing on the screen,

If the system is triggered again within 15 seconds, the siren will chirp sharply and turn signals will flash for 30 seconds, the engine will be immobilized. The transmitter will "Bee" with vibrations, and the 🚗 and ➤ icon will be flashing on the screen,



In mute arming mode, the shock impact will trigger the system. The siren will not chirp, other actions are the same as that in alarm arming mode.

Note: press the 🚗 or 🔇 button can pause the alarm status.


### 5. Ignition on, opening door/trunk, footbrake trigger

When the system is triggered by ignition, door/ trunk/ hood opened, footbrake pressed in arming mode, the siren will chirp for 30 seconds with turns signals keep flashing and engine will be immobilized.


If the system is triggered by ignition on, the transmitter will "Bee" with vibrations, the ➤ and 🗑 icon will be flashing on the screen. If the system is triggered by footbrake pressed or doors opened, the transmitter will "Bee" with vibrations, the ➤ and 🗑 icon will be flashing on the screen. If the system

is triggered by trunk released, the transmitter will "Bee" with vibrations, the  and  will be flashing on the screen.

### 6. Car locating



Press  for 2 seconds, the siren will chirp for 10 seconds with turn signals flashing for 10 seconds to locating the car. (in mute arming mode, the siren will not chirp)

### 7. Remote trunk release

Press  button to release trunk. In arming mode, after trunk release, the shock sensor will be bypassed, if detected ignition on, opening door or footbrake is pressed, the system will alarm with turn signals flashing.


If the trunk is not closed completely after 2 minutes, the trunk signals will flashing for 3 times and the transmitter will "Bee" with vibrations for 3 times. If the trunk is not closed completely after 3 minutes, the trunk signals will flashing for 3 times and the transmitter will "Bee" with vibrations for 3 times again.

### 8. Door closing reminder

When the system is armed in alarm mode and the door or trunk didn't be closed properly in 8 seconds, the siren will beep 3 times with turning signals flashing. The transmitter will "Bee" with vibrations, the  icon or the  will flash on the screen.

The doors should be closed properly, or 16 seconds later, the siren will chirp sharply for 4 minutes.

### 9. Re-arming automatically



Press  button once, the system will be disarmed with the doors unlocked. If the door is not opened in 25 seconds, the system will re-arm automatically. For the car with dome light function, the system will re-arm automatically after the dome light turned OFF.

### 10. Dome light delay

The function is designed for the vehicle with dome light function specially. the system will enter the arming mode automatically once the dome light turned OFF.

### 11. Central door lock/ unlock

The doors will be locked by pressing the footbrake after the engine is running 15 seconds later. The doors will be unlocked automatically after engine OFF.

**Note:** During driving, press  button to lock the doors; press  button to unlock the doors for in case.

### 12. Staus preserving

The system will return to the former status when the power is on again, whenever the power is cut off.



### 13. Warning for triggered system

If the system has been triggered in armed status, the siren will alarm when the system is disarmed and the door is opened:

- 1). The siren will chirp twice when shock sensor is triggered.
- 2). The siren will chirp 4 times when door/ trunk/ hood is opened, or ACC is ON, or footbrake is pressed.
- 3). In mute arming mode, the LED indicator will flash continuously to indicate that the vehicle has been triggered.

### 14. Warning for roadside stop

When stopping by the roadside with the door opened, the turn signals will flash for 18 seconds to warning the approaching vehicles.

### 15. Anti-hijack

This feature provides anti-hijack protection through the remote control. When the ignition is on (vehicle is running), press and hold the  $\text{ⓧ}$  button for 2 seconds, the turn signals will flash quickly with the siren chirping sharply, Press  $\text{⓪}$  button to exit the anti-hijack function.

### 16. LED indicator

In armed status: It will flash twice quickly every 2 seconds.

In shock sensor triggered status: It will flash quickly 4 times every 2 seconds until the system is disarmed

and the doors are opened.

In opening door/ trunk/ hood, turning ACC ON, or pressing footbrake triggered status: It will flash quickly and continuously until the system is disarmed and the doors are opened.

### 17. Valet mode

This is very useful when valet parking, washing the vehicle or having it serviced. In valet mode, the system will not arm even triggered. When ACC ON, press the footbrake and  $\text{⓪}$  button for 3 seconds, LED indicator will turn on, the siren will chirp once to indicate the system has entered the valet mode. In valet mode, when ACC OFF press  $\text{⓪}$  button for 2 seconds, LED indicator will turn off and the transmitter "Bee" once to indicate the system is in normal alarm mode again.

### 18. Transmitter programming

Press the learning button in the ECU, the LED indicator will turn on and the system will enter the code learning mode:

- 1). Press any button on the first transmitter once, the LED indicator will flash twice, then turn ON to indicate that the first transmitter is programmed successfully.
- 2). Press any button on second transmitter once, the LED indicator will flash for 3 times to indicate that the second transmitter is programmed successfully.

**Note:** Only 2 transmitter can function with the same system.


### **19. Comfor window closure (optional)**

The window closer function is only for the vehicle with convenient system (turn key to lock position and hold until the roof/ windows are closed), such as BORA, PASSAT, GOLF etc.

Please jump the J1 to "ON" position to active this function. The windows and roofs will be closed when arming the system. (Default setting is in "OFF" position)

### **20. Emergency override**

If the transimtter becomes lost or fails to operate, the system can be disarmed by the emergency override.

Press footbrake and turn ACC ON to OFF for 10 times, and stay in "ON" position, the LED indicator will turn on to indicate the system will be disarmed. Press  button will deactivate the emergency override function.

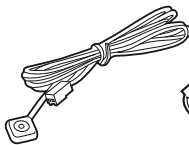
## Includes



TransmitterX2



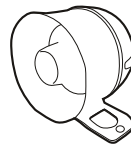
ECU



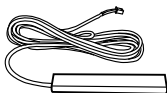
LED indicator



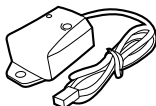
Cables



Siren



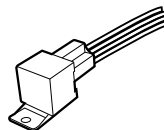
PKE antenna



Shock sensor



Ribbon



Relay



Manual

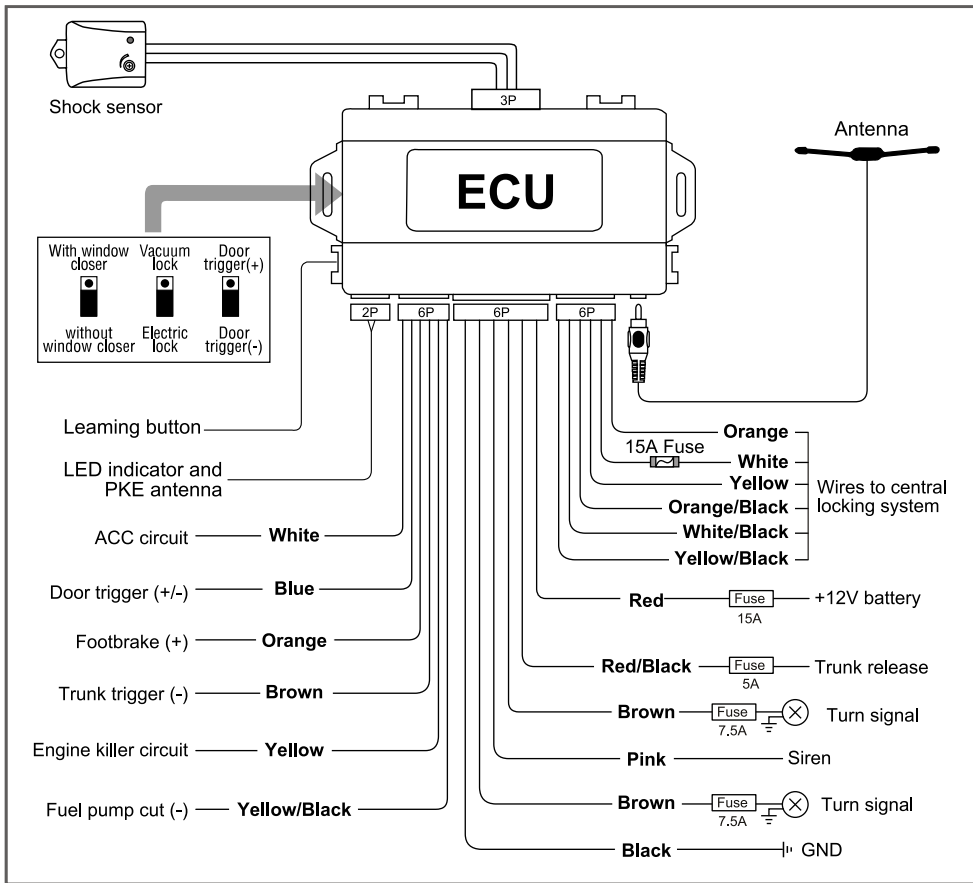


Antenna

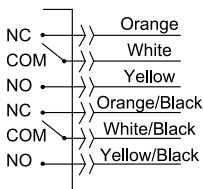
## Installation of ECU

1. The ECU should be fixed at a concealed place under dashboard.
2. The ECU should be installed in a place away from water.
3. Connect wires according to the wiring diagram properly.
4. Binding all wires after installation

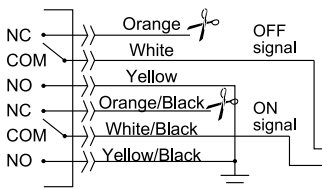
# Wiring diagram



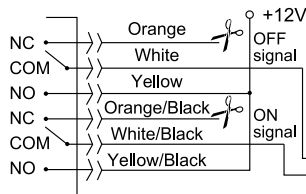
# Central locking system installation



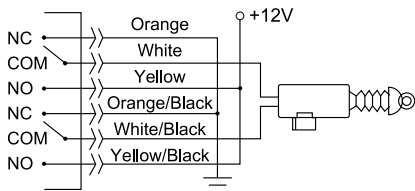
1. Principle



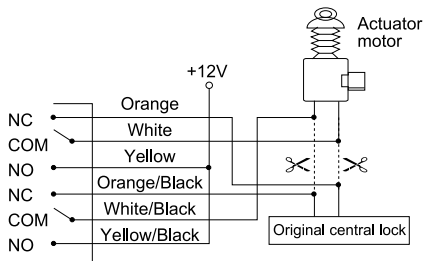
2. Negative trigger



3. Positive trigger



4. Positive/Negative trigger






5. Vacuum-lock circuit

1. For the vehicle with original electric central door lock, check its triggering type (negative or positive), then connect wires as per wiring diagrams Fig.2 or Fig.3.
2. For the vehicle with central locking system, the driver's door does not have a motor, the other doors have motors. A new motor for driver's door is needed. Fig. 4.
3. For the vehicle with vacuum-lock, please change the jumper J2 to "vacuum-lock" position of the ECU. Fig. 5.
4. For the vehicle without central locking system, please install one set of central locking system to match with the car alarm system.

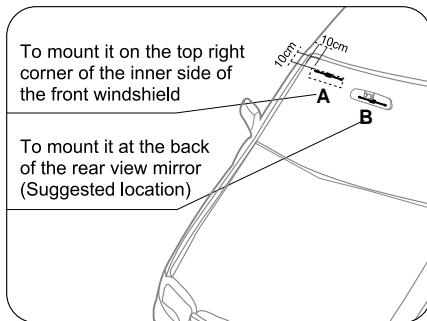
## Jump switch setting

Jump switch No	Function	Default setting
J1	window closer	
	No window closer	No window closer
J2	Vacuum lock	
	Electric lock	Electric lock
J3	Door trigger(+)	
	Door trigger(-)	Door trigger(-)

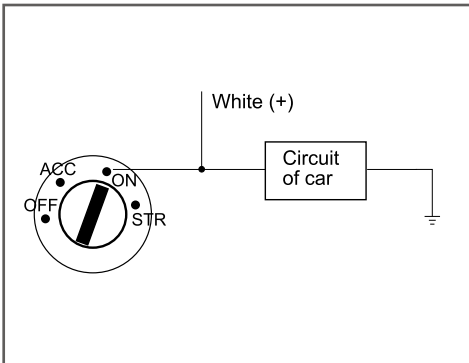
With window closer	Vacuum lock	Door trigger(+)
		
1	2	3
without window closer	Electric lock	Door trigger(-)

## Installation of antenna

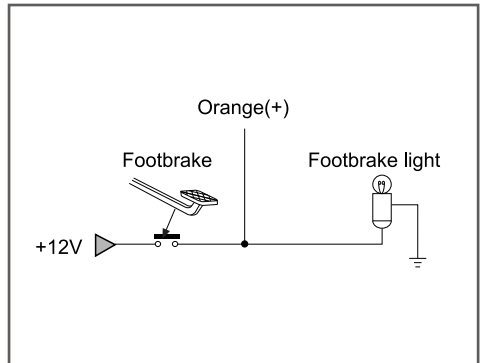
1. The antenna can be mounted at position "A" or "B" if there's no solar film on the front windshield.
2. If the front windshield is covered with solar film, please remove the solar film within the dotted line before installing it at position "A".
3. If all the windshield are covered with film, please mount it at position "B".
4. The antenna must be kept away from any metal parts.



## ACC circuit

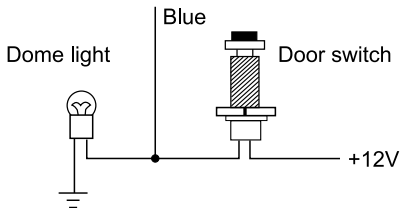


## Footbrake (+)

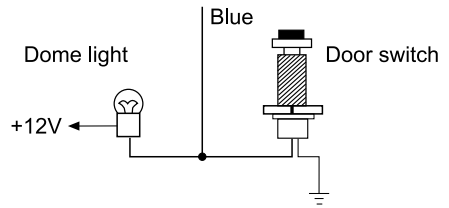


## Door trigger (+)/(-)

### Positive door trigger circuit (+)

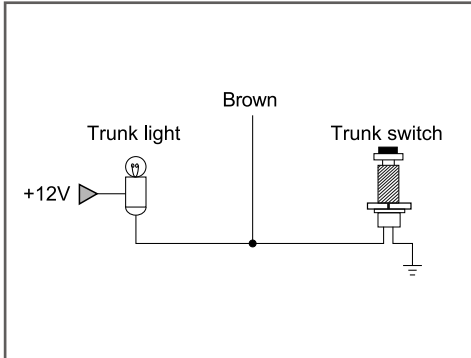


### Negative door trigger circuit (-)

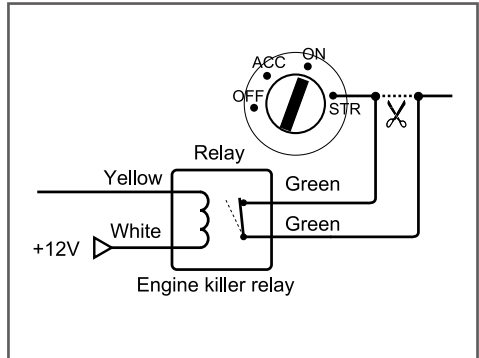


Notes: Default setting is Door trigger(-)

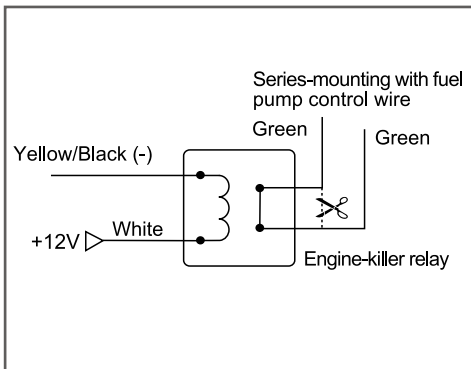
## Trunk trigger (-)



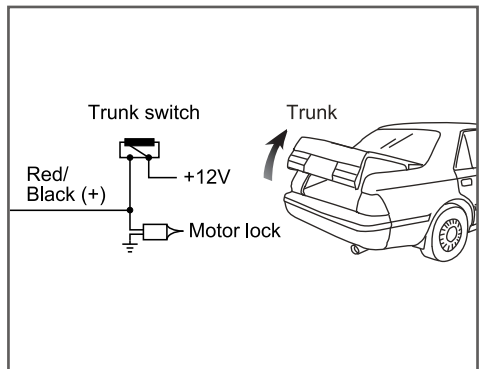
## Engine killer circuit



## Fuel pump cut (-)

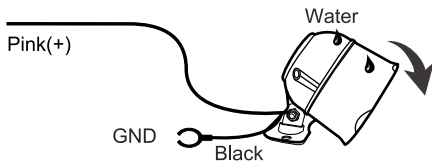


## Trunk release circuit



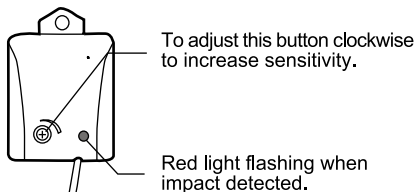


## Siren installation



*Please mount the siren downward to prevent water*

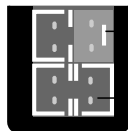
## Shock sensor installation



*(Default setting sensitivity is suggested)*

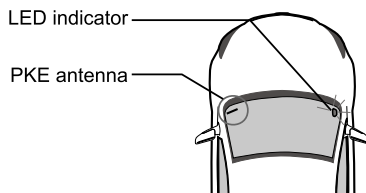
## LED indicator and PKE antenna

**PKE antenna must be keep away from any metal parts**



LED indicator should be installed on the dashboard

PKE antenna should be installed on the left of a pillar



## Troubleshooting

Problems	Causes
1.The continuous chirping of the siren cannot be stopped by transmitter after installation of ECU.	<ul style="list-style-type: none"> <li>● The plug is improperly inserted.</li> <li>● The wire is improperly connected.</li> <li>● The transmitter does not match the ECU.</li> <li>● The siren is damaged.</li> <li>● The fuse of the ECU is broken.</li> </ul>
2. Turn signals don't flash after disarming the system and opening the door, or the siren does not chirp when the door is opened without disarming.	<ul style="list-style-type: none"> <li>● Door trigger wire is not connected properly.</li> <li>● Door switch has problem.</li> <li>● The siren is damaged.</li> </ul>
3. When the car parks on roadside and armed, there is false alarm when the heavy vehicle is passing.	<ul style="list-style-type: none"> <li>● The sensitivity of the sensor is too high.</li> </ul>
4. The central door lock does not work normally or does not work at all.	<ul style="list-style-type: none"> <li>● The motor of central lock is damaged.</li> <li>● The wiring of central lock system is wrong.</li> <li>● Fuse is broken.</li> </ul>
5. The siren does not chirp when the alarm system is triggered.	<ul style="list-style-type: none"> <li>● The siren is damaged.</li> <li>● The wire connection between the siren and ECU has problem.</li> </ul>
6. The siren chirps sharply in 10 seconds after arming and the same situation happened after disarming and re-arming	<ul style="list-style-type: none"> <li>● The sensor is damaged.</li> <li>● The doors or trunk is not closed.</li> </ul>
7. Transmitter is ineffective or the control distance decreased significantly.	<ul style="list-style-type: none"> <li>● The installation location of the antenna is wrong.</li> <li>● The wiring of the antenna to ECU has problem.</li> <li>● Tall building, radio tower or high frequency electromagnetic wave may affect the control range.</li> <li>● Low power of the battery.</li> <li>● The frequency of the transmitter has been changed.</li> <li>● The transmitter is broken or damaged.</li> </ul>

## Installation Manual



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