## ▶ Contact us

**Zhongshan Easyguard Electronics Co.,ltd**

**Add:** 2nd floor, building 3, NO. 77 Cai Hong Road, west district, Zhongshan city, Guangdong, China

**Phone:** 86-760-22113597

**Web:** www.ieasyguard.com

**Email:** sales@ieasyguard.com

FC CE

# User Manual & Wiring Diagram of EC004

V1.3

## ▶ User Manual & Wiring Diagram of EC004

**Dear Customer,**

Thank you for purchasing our products. This is a simple and easy to use RFID Car Alarm with Push Engine Start Stop Button and transponder immobilizer. This item is easy to use and can start or stop your vehicle much easier once properly installed. Please read the user manual and wiring diagram carefully before you start installation. Once the device is properly installed, it can improve your vehicle safety level.

The item is fit for DC12V petrol vehicles only.

If your vehicle is diesel vehicle which require more than 3 seconds for engine cranking/starting time, you can turn ON to pre-warm the spark plug or add an extra timer delay switch when installing this item. Please consult with your alarm installer or contact EASYGUARD electronics directly for advice before you start the installation.

**Important:**

This product is intended to be installed by a professional car alarm installer only! Any attempt to install this product by any person but not a trained professional car alarm installer may result in severe damage to the vehicle or the components.

If you want to do the DIY installation, please study all the user manual and wiring diagram carefully before you start installation and only make sure you understand everything then start the installation. You may need to search on the internet for your vehicle wiring diagram if necessary, and learn how to find the related wires and how to connect them properly.

Please solder or use crimp connectors to connect the wires once they are correctly connected in order to avoid any wires loosing up when the vehicle is running and cause the device failed to work. If there is any questions, please contact EASYGUARD authorized dealer or contact EASYGUARD directly for help.

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## ▶ Installation Guide

**Before Starting the Installation**

Please read all the installation guide before starting the installation. The installation of this item requires interfacing with many of the vehicle's systems. Many new vehicles use low-voltage or multiplexed systems that can be damaged by low resistance testing devices, such as test lights and logic probes (computer safe test lights). Test all circuits with a high quality digital multi-meter before making connections.

Do not disconnect the battery if the vehicle has an anti-theft coded radio. If equipped with an air bag, avoid disconnecting the battery if possible. Many airbag systems will display a diagnostic code through their warning lights after they lose power. Disconnecting the battery requires this code to be erased, which can require a trip to the car dealer.

To avoid accidental battery drainage, turn off the interior lights or remove the dome light fuse.

**Deciding on control module locations**

Some things to remember about where to mount the control module:

Never put the control module in the engine compartment!

The first step in hot-wiring a vehicle is removing the driver's side under-dash panel to access the starter and ignition wires. If the control module is placed just behind the driver's side dash it can easily be disconnected.

When mounting the control module, try to find a secure location that will not require you to extend the harnesses' wires. Keep it away from the heater core (or any other heat sources) and any obvious leaks.

Some good control module locations are: Above the glove box, inside the center console, above the under-dash fuse box, or above the radio.

**Making Your Wiring Connections**

Before making your connections, plan how your wires will be routed through the vehicle. For instance, the red 12V constant input wire and the ignition wires will often be routed together to the ignition switch harness. In order to keep the wiring neat and make it harder to find, you may wish to wrap these wires together in electrical tape or conceal them in tubing similar to what the manufacturer used.

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There are two acceptable ways of making a wire connection - solder connections and crimp connector connection. When properly performed, either type of connection is reliable and trouble free. Regardless of whether you solder your connections or you use mechanical type crimp on connections, ensure that all connections are mechanically sound and that they are insulated.

Cheap electrical tape, especially when poorly applied, is not a reliable insulator. It often falls off in hot weather. Use good-quality electrical tape or heat shrink.

Never twist and tape the wires together without soldering.

Never use “fuse taps”, as they can damage fuse box terminals.

## ▶ Function description:

**1.Arm/lock**

Once the vehicle is stopped & the engine is shut off, the system will enter into arm mode after 50 seconds automatically. The control module beeps “Di” once to indicate the device is in arm status.

Put the responder tags close to (about 2-5cm) the black loop antenna to lock/arm the vehicle in 50 seconds once the engine is shut off, the control module beeps “Di” once to indicate the device is in arm status.

Once the device is set to arm status, take the responder tags away from the black loop antenna immediately.

**2.Disarm/unlock**

In arm mode, put the responder tags close to (about 2-5cm) the black loop antenna, the system will chirp "Di, Di", twice, which indicates the system is disarm.

Once the device is disarmed, take the responder tags away from the black loop antenna immediately.

**3. Valet mode**

In arm status, put the responder tags close to (about 2-5cm) the black loop antenna, the control module beeps “di di” to disarm the device. Keep holding the responder close to (about 2-5cm) the black loop antenna for another 8 seconds, the control module will beep “di di” twice again. This means the device is entering into valet mode.

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Once the device set to valet mode, user can use the vehicle (like turn on ACC, ON or START the vehicle) without presenting the responder tags to the black loop antenna.

**IMPORTANT:**

When user wants to enter into valet mode, hold the responder tags close to (about 2-5cm) the black loop antenna for 8 seconds after disarming the device. Please do not take the responder tags away from the black loop antenna until the device is entering into valet mode.

**4. Exit valet mode**

When the device is in valet mode, put the responder tag close to (about 2-5cm) the black loop antenna and control module beeps “di” once or “di di” twice will exit valet mode.

Please remember to take the responder tags away from the black loop antenna immediately once exit valet mode.

When user exits valet mode and the control module beeps “di di” twice, if put the responder tags close to (about 2-5cm) the black loop antenna once again, the control module will beep “di” once to lock/arm the device.

**5.Engine start button start/stop**

**A.When step on foot brake pedal**

In disarm status, stepping on foot brake pedal and short press the engine start button once, the car will be started. Car starting time is around 0.7 second. The LED indicator on engine start button will keep lighting on once the car is started.

Once the car is started, stepping on foot brake pedal and short press the engine start button once will shut off the engine.

**B.When do not step on foot brake pedal**

In disarm status, don’t step on foot brake pedal and short press the engine start button once will turn on ACC. Press the engine start button once again will turn on ON dashboard and press it one more time will turn OFF the vehicle.

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The engine start button will keep flashing when turn on ACC, ON.

Once the car is stopped for more than 50 seconds, please disarm the device first before using the car.

Once the vehicle is started, stepping on foot brake pedal and short press the engine start button once will shut off the vehicle. At the same time, the led indicator on the engine start button will turn off.

**6.Keep pressing the engine start button to start the car**

In cold winter or other special situation, keep stepping on foot brake pedal and keep pressing the engine start button to start the vehicle till the vehicle is started. The maximum time user can keep pressing the engine start button is 3 seconds. If user pressing 3 seconds but still unable to start the vehicle, please try once again.

**Notes:**

a.Once the vehicle is armed for more than 50 seconds, user is unable to start the vehicle by the engine start button but need to disarm the device first then press the engine start button to start the car.

b.When the vehicle is running and responder tag was taken away, the vehicle can keep running. However, once the vehicle is stopped & the engine is cut off for more than 50 seconds, user is unable to start it unless disarm the device first or use emergency override method to override the device.

When user stepping on foot brake pedal and pressing the engine start button to start the car, the led indictor on the engine start button is keep flashing but the car is unable to start, need to check whether the yellow starter wire in 6 pin ignition wire harness & green foot brake wires are well connected or not.

**7.Programing method:**

If the responder tags were lost or broken, user can program new responder tags to work with the device.

To program the responder tags, you probably need to open the control module with a screw driver if it's difficult for you to press the programming switch on the control module without opening it. See programming switch pic as below:

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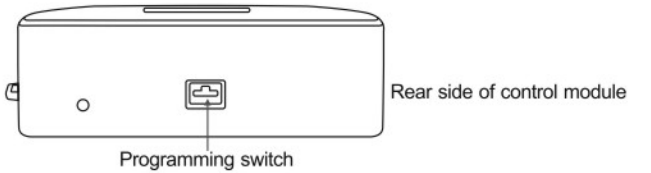


Here is the programming method:

In disarm status, continue to press the programming switch 3 times and keep holding on the programming switch at the third time pressing , the control module will beep 2 times and this means the device is entering into programming status. Put the 1st responder tag close to (about 2-5cm) the black loop antenna and control module beeps "di" once then take away the 1st responder tag, this means the first tag is successfully programmed.

Repeat same operation to do programming on all other responder tags.

Once you finish all the tags programming, release the pressing on the programming switch.

The device can program 4 responder tags maximum.

If there are more than 4 responder tags being programmed, the device only keep memory of the last 4 programmed responder tags and eliminate all the previous one. User can use this method to eliminate lost responder tags.

**8.Emergency override**

If the responder tag is lost or broken, please use emergency override method as below to disarm the device:

In arm status, continue to press the programming switch 8 times in 5 seconds, control module beeps "di di" twice to disarm the device, user can turn on ACC or start the vehicle now.

Important:

If user overrides the device but doesn't turn on ACC, ON or start the vehicle in 50 seconds, the device will enter into arm status after 50 seconds automatically.

If user finds out the lost responder tags after overriding the device, put the responder tags close to (about 2-5cm) the black loop antenna to arm/lock the device, the control module will beep "di" once to confirm when the device is in arm status.

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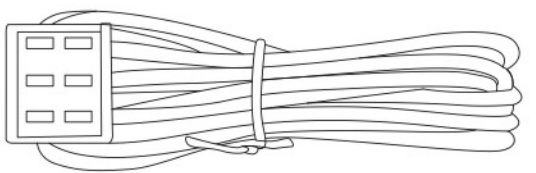
**Engine start button color changes explanation**

| Operation / status | Engine start button color |
|---|---|
| In arm/disarm/engine cut off status | Turn off |
| While stepping on foot brake pedal | Flashes once |
| When Turn on ACC, ON | Keep flashing |
| When Engine started | Keep lighting on |

**Main Wiring Harness Introduction**
**1.6-Pin ignition wire harness**



| Wire colors | Wire usage | Remark |
|---|---|---|
| Yellow | Connect with starter wire | See note 6 |
| Brown | Connect with ignition 2 wire | See note 3,4 |
| Red | Connect with constant +12V | See note 1 |
| White | Connect with ignition 1 wire | See note 2,4 |
| Blue | Connect with Accessory(ACC) | See note 5,7 |
| Black | Connect with chassis ground | See note 9 |

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**NOTE (1-8):**

1. Connect all the +12V wires in your vehicle ignition wire harness with the +12v red wire in Ec004;

2.White ignition 1 wire: When turn the key to ACC or ON, this wire with electricity, when starting the car, this wire still with electricity;

3.Brown ignition 2 wire: When turn the key to ACC or ON, this wire with electricity, when starting the car, this wire will cut off power suddenly at the moment of starting the vehicle;

Once the vehicle is started, both white & brown wire are with electricity.

4.If there is only one ignition wire in your ignition wire harness, connect it with the white ignition 1 wire in ec004, no need to connect the brown ignition 2 wire

5.If there are 2 ACC wires in your ignition harness, connect both ACC wires with blue ACC wire in ec004

6.If there are 2 starter wires in your ignition harness, connect both starter wire with yellow starter wire in ec004.

7.If your car is newer cars without ACC (only ON and OFF), connect the ACC (accessory) wire and ignition 1 wires from your vehicle with the White ignition 1 wire in ec004.

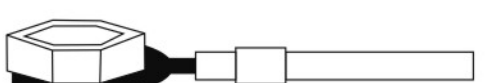
8.The green wire is connected with foot brake wire, once connected and when user stepping on foot brake, this wire should have +12V electricity. Or the engine start button will unable to start the vehicle.

**Note 9**

**Wiring method of black chassis ground wire**

We recommend that you do not use a factory ground. Ground all your components including the siren, to the same point in the vehicle, (preferably the kick panel). Scrape away any paint and use a factory bolt or make your own ground with a self-tapping screw and a star washer.

Please use a factory bolt or screw to attach all the black chassis ground wires securely as the photo shows as below:

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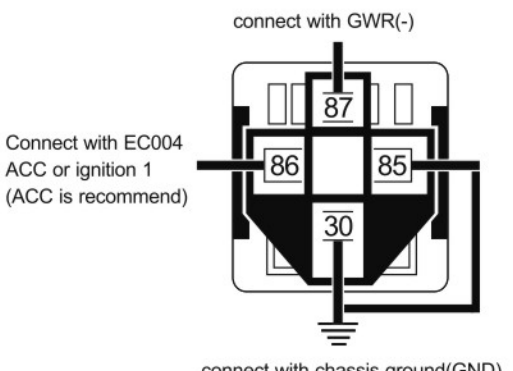
**Note 10:**

**GWR(-)( Ground while running) wire connection**

If there is a chip immobilizer in your factory OEM key fob, an extra bypass module is required in order to make this device work properly. For most bypass modules, which require a GWR(-) (ground while running) wire, and you can use an extra SPST relay to generate a GWR wire. Method is as below:




You can also use a SPDT relay to generate a GWR wire and wiring method is the same but no need to connect 87a on SPDT relay.

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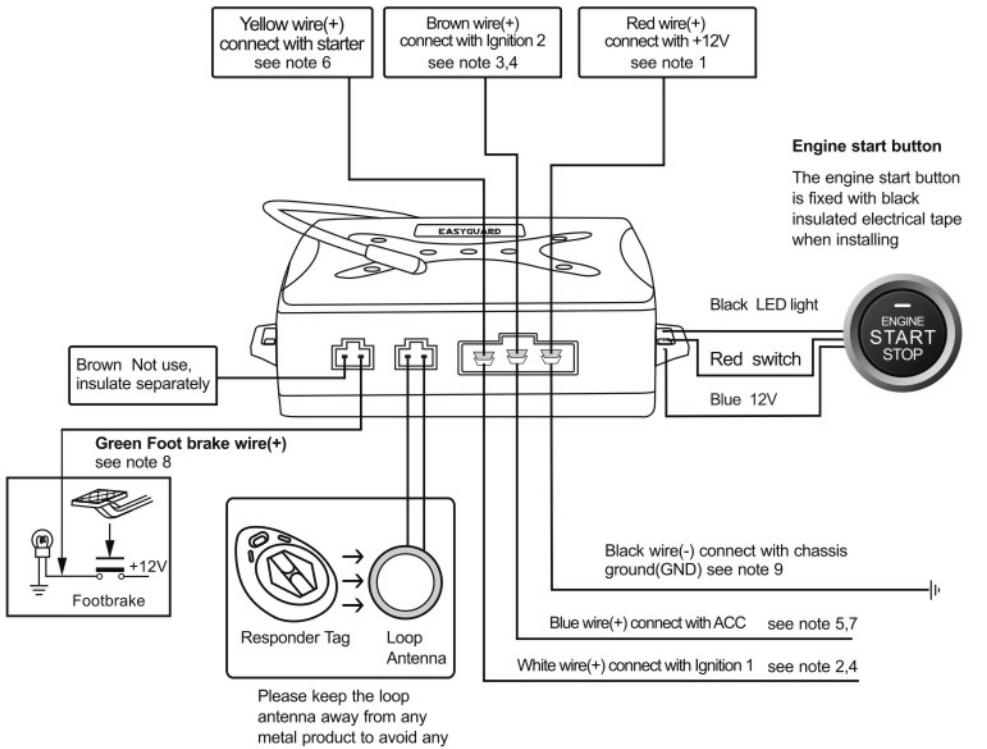
## ▶ Wiring Diagram of EC004

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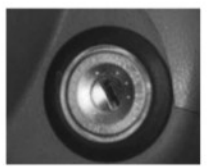
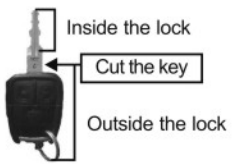
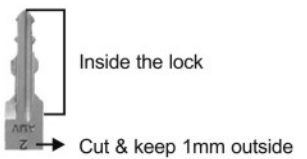
## ▶ Manual for Releasing Steering Lock

1. Please check whether there is steering lock in your vehicle or not, if yes, follow with the next step.
2. Copy a key blade with your factory original key blade and match them so that the copied key blade can start the car.
3. When finish matched, put the copied key blade into the ignition cylinder of car, as the picture shows:



turn the key to "ON" position.




So that the steering lock can be turn round. Then cut and keep 1mm length of the copied key outside of the lock. See the picture:

4. Stick the push start button on the lock.
(That is the reason for cutting the key.)

Stick on the lock

5. Attention: If there is chip immobilizer in factory original key or remote control, need to take out the chip immobilizer and hide it inside or near the ignition cylinder. Please refer to installation for chip immobilizer. If you can't find the chip by yourself. Just hide the original key or remote control in or near the ignition cylinder. (Please remember to take out the battery of the remote if you do so).

6.Everything finish like the picture:

7. If you don't want to cut the key for releasing the steering lock, you can drill a hole in the car which near the steering and install the push start button .Like the picture, but it will not convenient for you as you need to use the original key to release the steering lock every time you start the car.

8. Un-plug the factory ignition wire harness to avoid which consume the vehicle battery power.

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**Method 2:**

Use a screw driver and push it into the hole of the ignition cylinder (see photo on the left), turn the ignition key to ACC position, then pull out the key with force will take out the ignition cylinder.Then remove wires from ignition switch and put the push start button over the empty key cylinder slot.

**Important:**

Only a qualified staff can do this as there is risk to lock the steering lock again if the operation is not correct. If you are not a qualified staff, we recommend you to use the method 1 to release the steering lock.

## ▶ Installation for chip immobilizer

**If there is chip immobilizer in original key fobs, please follow below method**

**Method 1:**

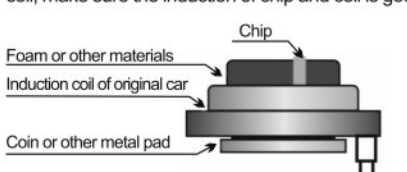
1.Take out the original induction coil from the ignition lock.

2.Put the car original remote control(include the chip immobilizer) into the coil, make sure the induction of the chip immobilizer and the coil is good.

**Method 2:**

1.Take out the chip immobilizer from the car OEM remote control.
2.Take out the original induction coil from the ignition lock.

3.Stick the chip immobilizer on the induction of car coil, make sure the induction of chip and coil is good.

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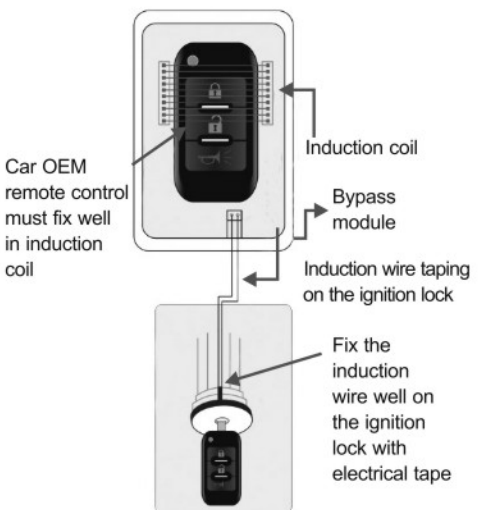
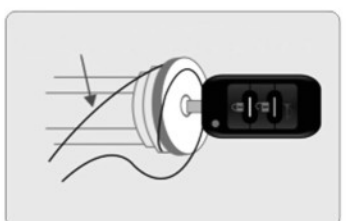
**Reminder:** Some chips with weak signal are hard to start the car when put on the car original coil.
Then need to add a coin or other metal pad underneath the chip to enlarge the signal of it (see above drawing)

**Method 3:**
**Use an extra bypass module to bypass it, installation steps as below:**

1. Put the whole remote control( please take out the battery from remote first) include the chip immobilizer into the bypass module.
**Note:** if size of remote control is big, user can put PCB or chip inside the bypass module.




2.Taping induction wires 2-3 circles on the ignition lock header



**Important:** Please fix the car OEM remote control and induction wire well around the ignition lock header to make sure that the car can be started.

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**Warranty information**

The quality of this product is strictly controlled before out of the factory, which ensure its well performance under normal utilization. EASYGUARD electronics provide 1 year quality guarantee. If there is any failure due to product quality issue, please contact us for free repair or replacement. Any incorrect operation/installation/using lead the product failed to work is not in cover of free quality guarantee service.

**Important:** This device can improve the vehicle safety level, but could not prevent the vehicle from being stolen or the occurrence of unexpected accidents. EASYGUARD Electronics will not be liable for any resulting from the damage of this product cause by direct or indirect losses.

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FCC Warning

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 inte rference received, including interference that may cause undesired operation.

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

NOTE: 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 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 interferenceto 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.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.