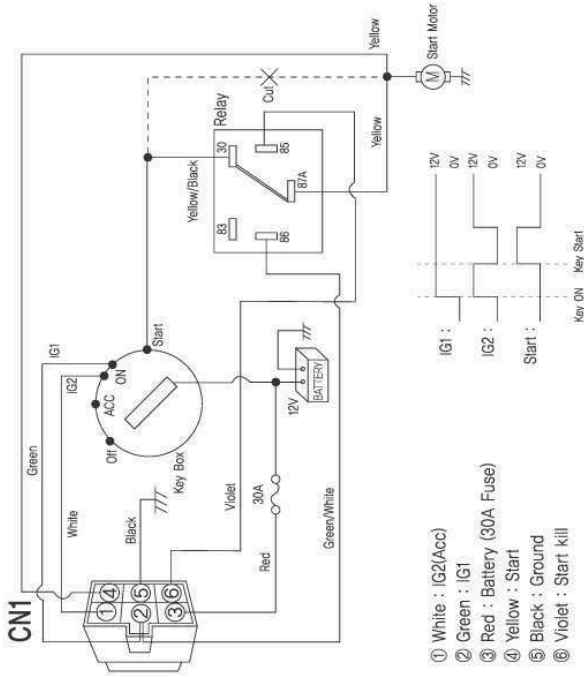


Note for Installation

- 1 Take the time to read the manuals that come with the system you will be installing, and read over the information included.
- 2 If there is evidence to have cut off jumper wire inside the cover of main controller unit, this system can not be used for Manual Transmission.
- 3 For your safety from Theft and Auto start, please search for unified door sensing wire and connect.
- 4 Please connect with the cranking wire that is near Key Box.
- 5 Please install our system in safe place and avoid places where a lot of people and cars are and slant streets.
- 6 Please check the status of the vehicle with the car owner before installation.
- 7 Please disconnect the Air bag fuse or the related connector when you install our system to the vehicles that contain Air bag.
Connect the fuse or connector again after you complete the installation of our system.

1. Usage of each wire

CN1 Jack on the main controller for cranking



- (+) Ignition 2((ACC)white)** : Search for a wire that is 0V with the key Off, 12V with the key ON and 0V in the START position.
This wire supplies power to subsidiary accessories such as Car Audio, Lights and to climate control such as Air conditioner, Heater.
In case that certain vehicles don't contain this wire, please do not connect this wire.
(These kinds of vehicles supply power to the accessories with Ignition wire.)
- (+) Ignition 1(green)** : Search for a wire that is 0V with the key ACC, +12V with the key ON and +12V in the START position.
This wire supplies power to spark plug, ignition coil and other electrical systems related to engine.

- (+12V)Power(red)** : This is the thick wire from the Key Box and (+)power of vehicles' battery.
- (+)Starter(yellow)** : This is output wire(+) of starter motor.
This is a wire to supply power to the Starter Motor Output that is +12V with the key in the crank position only and 0V in other positions.
- (-)Ground(black)** : This is a grounding wire to connect to bare metal of the vehicle and most important between all the connections of Car Alarm System.
Bad grounding on this wire will make a lot of troubles in the future.
Connect the wire to sash strongly and check, if it is connected to (-)terminal of car battery.
- (-)Start-kill(violet)** : (-250mA) Output wire.
This wire intercepts Starter to prevent from cranking during Arming.
This is connected to Relay with starter wire.
Yellow wire(engine) and Yellow/Black wire(Key Holder wire) must be connected to the both side of Starter wire of key holder after cutting off the starter wire of key holder.
* Anti-grinding function : it prevents Starter Motor from running, even though driver starts the car by remote starting and inserts the key in the key box and turn it to Start position, during remote starting period.

CN2 Door Selection Jack

Installation Essentiality Matters

▶ Connection Without Door Motor

INT

▶ Connection With Door Motor

EXT

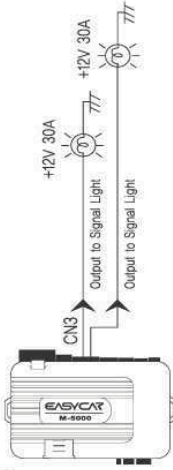
Door Connection(CN2)

- INT** : This is the Jack that is connected 1 and 5(green).
This Jack is used for centralized vehicles and an additional motor is not needed.
* Centralized Vehicle : It is a vehicle that the door lock/unlock function for 4 doors operates by a button of the door beside handle and/or automatically when the vehicles reach certain speed.
The wires for door lock/unlock control are placed in wires from door to inside the car.
- EXT** : This is the Jack that is connected 1 and 4(violet), 2 and 5(green), 3 and 6(yellow).
This jack is available for the vehicles which don't have the electrical control system

for centralized door lock/unlock function.
Fasten the axis of door controller and motor wire horizontally.

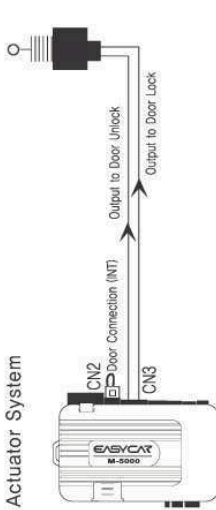
CN3 Door Output Jack

- 1, 2 (+)Signal Light(violet)** : This wire is for left/right direction lights. Connect to a wire that outputs (+)power, when direction lights operate with the key ON. Pay attention to the wire which outputs power at both right and left direction light it is for emergency light.

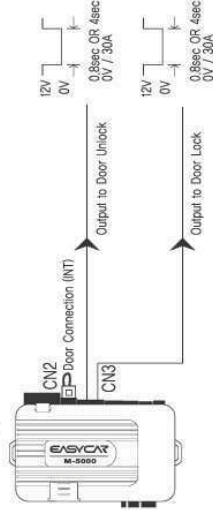


- 3 Door Unlock(yellow)** : This wire is for Door Unlock Output. This wire is usually connected to a wire that outputs (-)power, when doors unlocked.
- 4 Door Lock(green)** : This wire is for Door Lock Output. This wire is usually connected to a wire that outputs (-)power, when doors locked.

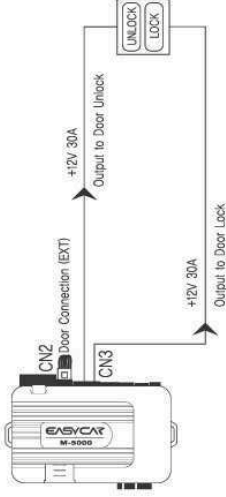
▶After-market Actuator System



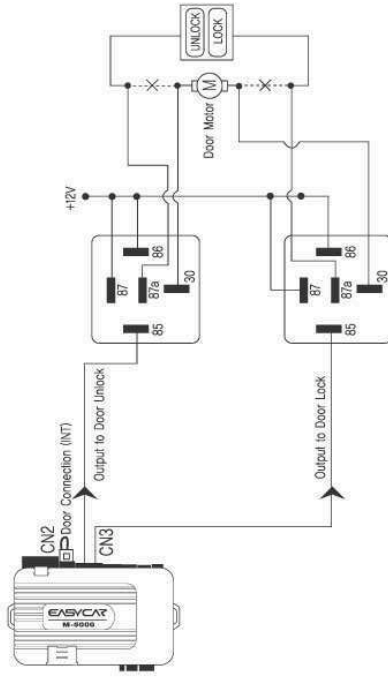
▶Negative Door Lock System



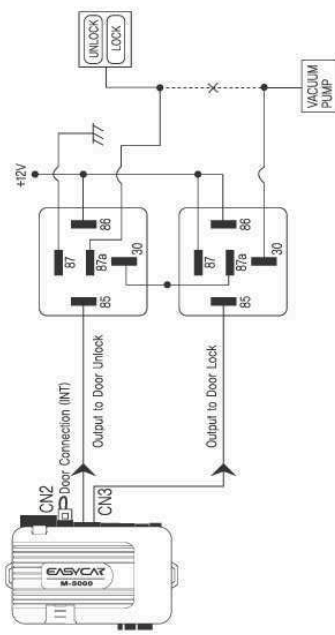
▶Positive Door Lock System



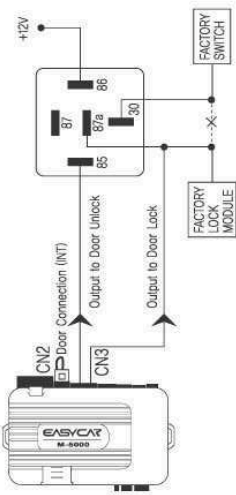
▶Reverse Polarity System



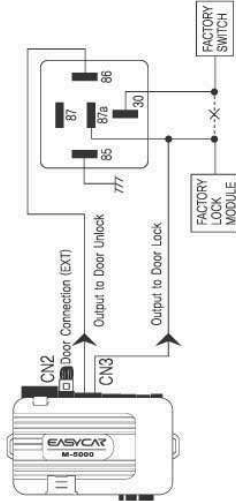
▶Vacuum Door Lock System



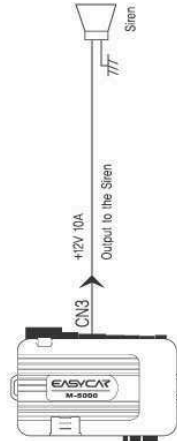
▶ Negative One_way System



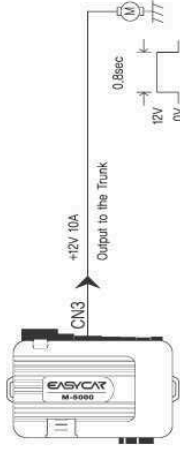
▶ Positive One_way System



⑤ (+)Siren(white) : Fix the siren near engine firmly, ground the black wire(-) to car body and the brown wire(+) to the white wire of main controller of car alarm. When the wire is connected from inside the car, to engine room please be careful to prevent the wire from stripping the coating.

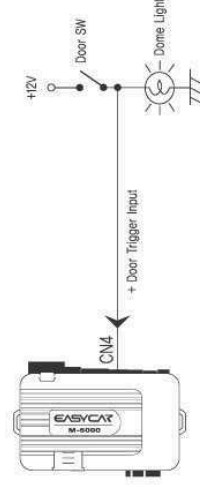
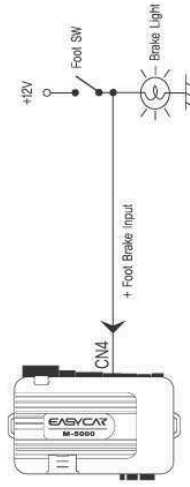


⑥ (+)Trunk(black) : This wire is available for the vehicles that open the Trunk by electrical controls. Connect this wire to the wires that output (+)power, when trunk opens. Use an additional Relay for the vehicles with the wires that output (-)power.

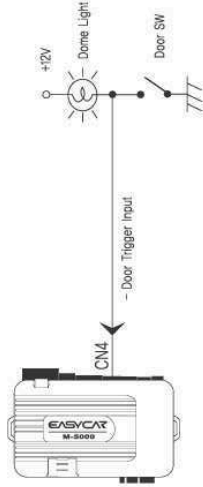


CN4 Sensing Jack

- ① (+)Alternate(green) : This wire is to monitor engine running. When a small gauge wire from the alternator is tested with your tester, it will show lower than 5V with the key ON and without engine running, and show 7V – 14V with engine running.
- ② (+)Foot Brake(brown) : This wire senses Foot Brake and intercepts Remote Start.
- ③ (-)Glow Plug(brown/black) : This wire is used for Diesel Vehicle only (Not necessary for Gasoline vehicle) and senses preheating plug at diesel engine. When Remote Start is made, it starts Start Motor after preheating time ends. The preheating time can be changed to 10 seconds by option setting without installing the preheating sensing wire.
- ④ (+)Door Trigger(red) : It makes sure opening/closing the doors(+).



⑤ (-)Door Trigger(red/black) : It makes sure opening/closing the doors(-).

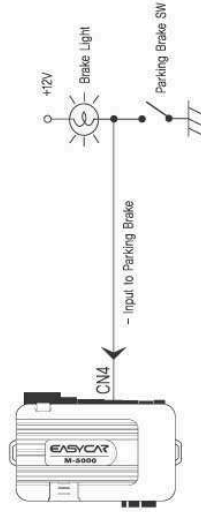


⑥ (-)Hood Trigger(white/black) : Install the separate switch under the Hood. It senses as interception signal during remote starting, and as their signal during arming.

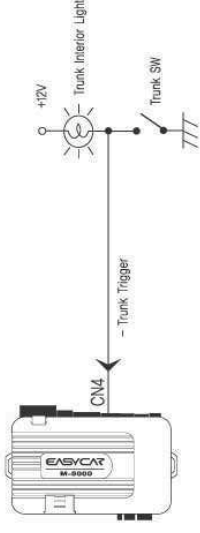


⑦ (-)Parking Light(orange/black) : This wire is connected to prevent vehicles from discharging. When tail lights are ON at rearming, it sends warning signal to driver.

⑧ (-)Parking Brake(blue) : This wire is for sensing Emergency Brake and it operates in case that emergency brake is put.(This can change by option setting.) This is necessary to prevent vehicles from moving by wrong position of manual Gear.



⑨ (-)Trunk Trigger(violet/black) : It senses Theft during Arming and prevents vehicles from rearming in case that Trunk is open.



CN5 Easy Door Lock Sensor or Knock Sensor

• **Easy Door Lock Sensor** : The door can be locked or unlocked without Remote or Car Key, if the password(4 digits) is inputted, it disarms or arms by password too.

The 10 blue LED's display various functions such as Arming, Disarming, Valet Mode and Emergency Status(Shocked & Theft). In case that you knock 2 times softly at the LED's on window, Remote receives the call signal.

• **Knock Sensor** : In case that you knock 2 times during arming, Remote receives the call signal. It doesn't operate when Key is ON or Engine is ON.

CN6 Dual Shock Sensor

• Install this sensor in the middle place of the vehicles and adjust its sensitivity after opening the door in accordance with different shocks and status of LED's on the shock sensor.

• It senses shocks by 2 steps (strong and weak shock).



CN7 Antenna Module

• Stick the Antenna horizontally at the left or right-top corner of the windshield.

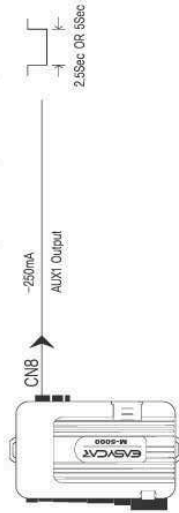
The transmitting distance may be



shorter in case that the vehicle has protective cover against solar heat.

CN8 Other Jack

- 1 (-250mA) AUX1 Output(yellow) : This is output wire(-250mA) to control external Relay.
This can be used as following examples by AUX1 output :
(The operating time of this wire can be changed by optional setting.)
examples) Control of convertible vehicle, Sunroof, Window, Car Audio etc.



- 2 (-)AUX2 Output(yellow/black) : This wire has same usage as AUX1.

- 3 (-)Status or Gas Output(violet) : This wire can be used to control Gas valve of Gas Vehicles by Remote programming mode.
It can be also used for status and 2ND IG1.

Status is ON during remote start and OFF after remote start.
It is used to kill the other systems.
• It is used to **Bypass Module**.
• Refer to the "4. Remote Controller's registration"

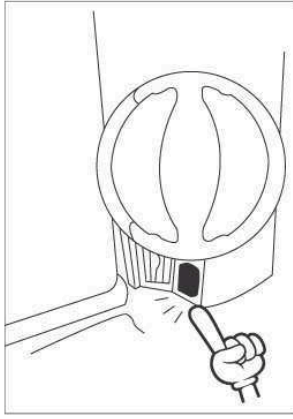
- 4 (-)Optional 1 Sensor (grey) : This wire is used, when an additional sensor is needed.
Shock sensing or Theft sensing can be selected by option.
(If shock sensing, it operates weak shock.)

- 5 (-)Optional 2 sensor(grey/black) : This wire has the same usage as optional 1.

If there's shock sensing, it operates strong shock.

CN9 Approaching sensor

- 1 It senses when the car owner approaches to the vehicle while Auto door function is set.
- 2 Install it at the left-windshield side of driver seat, that can be shown from outside.
- 3 After connecting all the Jacks, adjust it seeing LED flicking status of approaching sensor.
- 4 The sensing distance is getting further if you turn the volume to (+) direction and the sensing distance is getting closer if you turn to (-) direction.



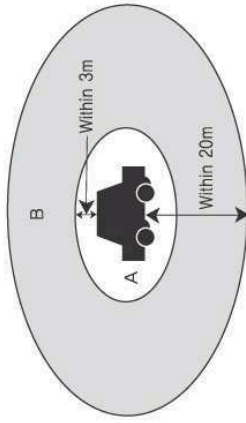
Note

Please be careful not to turn the volume beyond its limit.
The volume can be damaged.

[How to operate the Auto Door]

- (1) When car owner wants to open the door automatically.

- 1step : Car owner with remote comes near to the car.
- 2step : When car owner reaches with remote "A area", the approaching sensor installed in the car acts.
- 3step : Remote and antenna module in the car communicate by wireless
- 4step : Because car owner is in the communication distance "B area", they confirm password.
- 5step : In case of correct password, the doors are unlocked.



A: approaching sensor's act area
B: wireless communication distance area

- (2) When car owner wants to close the door automatically.

1step : Close the door of the car.

- 2step : Car owner goes out of "A area".
 3step : The doors are locked in 20seconds.

(3) In case that the doors are unlocked regardless of owner's intention

When car owner with remote is in communication distance "B area" and other car or person approaches to the approaching sensor "A area", the doors will be unlocked regardless of the owner's intention.

CN10 Temperature sensor

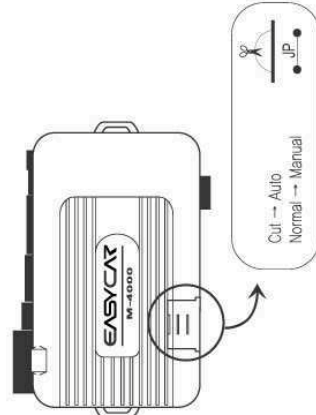
It senses inner temperature of the vehicle, so not to attach it on the floor or on the body.

2. Selection for Automatic and Manual Transmission

Jumper wire inside the cover of main controller unit is used for Manual transmission. If it is used for Automatic transmission, please cut it off.

▲ Warning

Please do not reconnect the Jumper wire to use for Manual transmission again. In case that you reconnect the Jumper wire to use for Manual transmission, our Warranty for A/S is invalid.



3. Selection of alternator sensing to monitor the engine running

1) Dip Switch

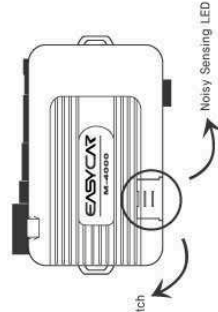
Noise sensing is to monitor electrical noise, when the vehicle starts, thereby to recognize, if the engine is running or not.

It is easy to install this sensing as there's no additional connection of wires.

The noise sensing is, however, a little bit unstable by comparison with alternator sensing, since the level of electrical noise of the same vehicle may be different in accordance with Dip Switch different circumstances.

Gas vehicles are not allowed to use noise sensing and Diesel vehicles are also recommended to use alternator sensing.

DIP SW	
1. On : Noise	① ON
Off : Alternator	② ON
2. On : High	③ ON
Off : Low	④ ON



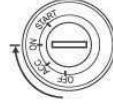
2) Noise Sensing LED

If LED inside the cover of main controller unit comes ON, it starts already and if OFF, the engine is not running.



4. Remote Controller's registration

① Cycle the key to ON position.



② Cycle the key from ON to ACC or ON to OFF position and back 4 times within 3 seconds per each time.



③ When the signal lights flash 1 time, press the buttons (I, II, III) 4 times

Gasolin & Diesel Vehicles, IV: Gas Vehicles) on the remote for 0.5 second (each button). Do like this 3 times.

If the signal lights flash 2 times, this programming is completed.

- One main controller accepts up to 3 remote controls. example)

- If you want to input 2 remote controls, you have to press 1 time for one and 2 times for another for 0.5 seconds each.
- If you want to input 3 remote controls, you have to press 1 time for one, 1 time for another and 1 time for the other for 0.5 second each.

5. Checking the errors for Remote Start

- If there are some errors, when you start the vehicles by remote, the siren chirps 3 times and inform you of the causes after 2 seconds by parking lights flashes.

Number of parking lights flashes	Cause of Error
1	Engine On
2	key On
3	Door Open
4	Trunk open
5	Foot Brake On
6	Hood Open
7	Reservation Off(Manual vehicle)
8	Parking Brake(Emergency Brake) Off(Manual vehicle)

6. How to program the options

2WAY BUTTON ①→②	1WAY BUTTON ①→②	OPTIONS	BUTTON I BUTTON A	BUTTON II BUTTON A	2WAY BUTTON ①→② ③→②	1WAY BUTTON ③→②	OPTIONS	BUTTON I BUTTON A	BUTTON II BUTTON A
I → I	A → A	PREHEATING TIME	4sec	10sec	III → III	A → A	AUX1 OUTPUT	2.5sec	5sec
I → II	A → A	ENGINE RUNNING TIME	15min	25min	III → IV	A → A	AUX2 OUTPUT	2.5sec	5sec
I → III	A → A	KILL RELAY	Anti Grinding (start kill)	Anti Jacking (Ignition Kill)	IV → I	A → A	TIME TO ARM	0sec	15sec
I → IV	A → A	CRAWLING TIME	0.8sec	1.2sec	IV → II	A → A	KNOCK SENSOR	Easy Door Lock	Knock Sensor
II → I	A → A	EMERGENCY BRAKE	Not Used	Used	IV → III	A → A	Turbo Time	30sec	2min
II → II	A → A	START RESERVATION	Automatic	Manual	IV → IV	A → A	FACTORY	Button I	Button II
II → III	A → A	HOUR TIMER STARTS	24hour	3hour					
II → IV	A → A	DOOR OUTPUT TIME	0.8sec	4sec					
III → I	A → A	SIREN DURATION	30sec	60sec					
III → II	A → A	OPTIONAL1, 2	Shock	Thelt					

• Dark space : factory setting

- The options with underline can be used easily by Remote control like as MENU→OPTION→CHECK

Notes

1 I → I

This feature is needed for diesel engine when you don't use glow plug wires.

2 I → III

With this option, panic mode becomes Anti-Jacking mode.

The differences between Panic mode and Anti-Jacking mode are:

Button	Panic Mode	Anti-Jacking Mode
Siren	IV for 2 seconds	IV for 2 seconds
Installation required	1.5 minutes	1.5 minutes
Starter Kill	Starter-Kill	Ignition-Kill
Ignition Kill	Activated immediately	N/A
	N/A	Activated immediately if key is not on. If key is on, activated in 30 seconds after pressing 2 seconds the Button I.

③ IV → III

Turbo mode requires the connection of the emergency brake wire for either automatic or manual transmission vehicles. With this mode, engine will continue running for two minutes after key is turned off if the Parking brake(emergency brake) was ON before the key was turned off and the foot brake was not being pressed when the key was turned off.

1) Option Programming

- ①** Turn off the engine.
- ②** Press the buttons (H+V) for 2 seconds simultaneously, and then your car chirps once and flashes the parking lights once to indicate you that it is ready for option programming.
- ③** When you press the suitable buttons for the option, which you want, 2 times in the order within 3 seconds, your car will chirp and flash the parking lights each time.
example) I → III : Press button I for 0.5 second and button III for 0.5 second.
- ④** When you wait for 3 seconds, the same number of parking lights and chirps as the button pressed first time will operate and as the button pressed second time will operate after 2 seconds.
example) I → III : Chirp and Parking lights operate once and they operate 3 times after 2 seconds.
- ⑤** If you want factory setting(Off), press button I for 0.5 second (Chirp and Parking Lights operate once).
If you want On, press button II for 0.5 second (Chirp and Parking Lights operate 2 times and change of option is completed).

2) Incorrect Programming

If you pressed the buttons that are not related to option programming or didn't press the suitable buttons for the needed time, your car will chirp once to warn that option is not properly programmed.
In this case, start from option programming ②.

If you want to program more options, start from option programming ②.
If you are not sure of its programming, reprogram it after initializing.

3) How to initialize the options (factory setting)

- ①** Press the buttons (H+V) for 2 seconds simultaneously and then chirp and parking lights will operate once. (ready for option programming mode)
- ②** Press button IV for 0.5 second and press the same button for 0.5 second.
- ③** When you wait for 3 seconds, parking lights and chirps operate 4 times and 4 times again in 2 seconds.
- ④** All the options will be initialized through one time operating chirp and parking lights, if you press the button IV for 0.5 second.

Easycar alarm / remote starter

**Spare
LCD
remote**



[Color LCD displays]



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