

INSTALLATION GUIDE



Intelligent Unit Series (AK – 101, 102, 103)

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Attention :

- 1) Please ensure the target vehicle has proper grounding and no electrical shorts.
- 2) The manufacturer will not be responsible for any electrical damage resulting from improper installation of the product, be that either damage to the vehicle itself or to the product.
- 3) This product must be installed by a certified technician using all safety devices supplied. Please note that this guide has been written for properly trained technicians, a certain level of skill and knowledge is therefore assumed.
- 4) Please review the Installation Guide carefully before beginning any work.

The following is a list of components included in the kit:

Included Contents:

- 1 – Control Unit
- 2 – Access Key
- 1 – Main Harness (8-Pin)
- 1 – Accessory Harness (7-Pin)
- 1 – Dual Colour LED Indicator
- 1 – Front Antenna Loop
- 1 – Back Antenna Loop
- 1 – Starter Disable Relay
- 1 – User Manual/Installation Guide

Optional Contents:

- 1 – Push-Start Ignition Module
- 1 – Push-Start Ignition Harness
- 1 – Push-Start Ignition Button
- 2 – Starter Ignition Relay
- 1 – Windows Closer Module
- 1 – Windows Closer Harness

INDUSTRY CANADA USER NOTICE (Canada)

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

FCC USER NOTICE (U.S.A.):

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- 2.1 Carefully read the User Manual, Installation Guide and the Vehicle's Electrical Service Manual. Plan every action and ensure understanding of the location/position for which the control unit, antenna and LED indicator will be installed before beginning work.
- 2.2 Install in a well-lit, dry, covered area away from the elements and keep at least one window open all time during installation. Do not leave key inside and/or in the ignition switch. Prepare all tools that will be required for the installation. Special tools and/or special requirements maybe necessary depending on type of system.
- 2.3 Verify the vehicle's electrical functions and disconnect the ground wire (- terminal) from the vehicle's battery when working with wiring. To avoid accidents, it is recommended to pull out related fuses from sockets before installation, and put them back during the very last steps. Do not begin work if unsure of the vehicle's state and/or condition.
- 2.4 Only locate necessary wires related to the installation (most required wiring are under driver dash/kick panel areas) and connect to the unit according to the included wiring diagram. Use a multimeter to verify and confirm signal wires before connecting or disconnecting. We strictly prohibit testing or modifying the vehicle's ECU, airbag and ABS system.
- 2.5 Once the control unit is connected, begin function tests only after verifying and ensuring all wires have been connected correctly and insulated properly. Do not power up the module before it is properly grounded. Should the unit be powered before being grounded, serious damage to internal components might occur.
- 2.6 Advanced Keys will not accept any damage or injury resulting from the installation of this system. Installation of this product is acceptance of this statement and releases Advanced Keys from any liability.

3.1 Main Harness (8-Pin) – Connect the following wires

GREY(2 Wires): (+) Turn Signal Lights

- Connect to positive side of the Front/Rear indicator lights. Could optionally connect to hazard light wiring for same effect.

RED: (+) 12V Battery

- Connect to the 12V supply wire at the IGNITION switch. Ensure that the OEM power wire is fused for more than 30A. **Note:** When no suitable 12-Volt source at the IGNITION switch (where the 12-Volt wire is a small ignition signal wire or current capacity is less than 15A). In this case, vehicle's interior fuse junction box or the B+ connection on the battery is recommended.

GREEN: (-) Lock

- If you have a negative-trigger central locking system, directly connect this wire to the door lock signal wire.
- Please refer to section 4 for more information on central locking system trigger type.

BLUE: (-) Unlock

- If you have a negative-trigger central locking system, directly connect this wire to the door unlock signal wire.
- Please refer to section 4 for more information on central locking system trigger type.

BLACK: (-) Ground

- This wire must be connected to bare, unpainted metal (to Chassis or true body-ground). It is preferable to use a factory ground bolt rather than a self-tapping screw. Screws tend to get loose or rusted over time and lead to erratic electrical problems.

PURPLE: (-) OEM Horn Control Wire

- Connect to negative side of vehicle's OEM horn for sound warning. If desire to use siren, change the jumper and alarm setting according to the main controller wiring diagram. If siren control is positive input type, add additional relay according to the wiring diagram to convert output to a positive type.

3.2 Accessory Harness (7-Pin) – Connect the following wires

WHITE: (-) Starter Control Relay

- This output is enabled only if a valid access key is detected. This output can provide Ignition/Starter Control protection or act as an auxiliary output when valid key is in range. Connect the Starter Control Relay according to the main controller wiring diagram.

PURPLE: (-) Push-Start Module Control Output

- Connect this output wire to the “PKE Controller Enable Input” on the Engine Push-Start Ignition Controller. This output continuously send out encrypted enable signal to the Push-Start Ignition controller when a valid access key is detected.

BROWN: (+) Brake

- Connect to Brake Switch wire. (+12V when brake depressed, grounded or float when released)

BLUE: (-) Windows Close Signal

- Connect to the optional auto window closer module directly.

GREEN: (-) / (+) Door Switch

- This wire connects to the vehicle’s “door open” signal wire. If you have a negative-triggered door switch system, directly connect this wire to the door switch signal wire.
- If you have a positive-triggered door switch, change the jumper setting in the main controller. (refer to main controller wiring diagram)

RED: (+) ACC

- Connect to a +12V wire when ignition key is in the ACC and ON (RUN) positions.

ABOUT YOUR DOOR LOCKING SYSTEM

All power door locking systems have switches to activate doors. These switches are usually located on the door or center console. Your door lock switch will have at least 2 trigger wires, one for locking your doors called the LOCK wire, and one for unlocking your doors called the UNLOCK wire.

You can refer to your vehicle's electrical service manual for details on location and color coding of Locking/Unlocking wires or you can find them by tracing the wires from the door switches.

When you push your door lock switch to "lock", your LOCK wire establishes a connection to either a negative or a positive source, this will be the signal to your vehicle's ECU to trigger locking signal to the door lock actuator to lock. Vice versa when you push "unlock" door switch.

Negative and Positive triggers are the two main types of door locking systems. On a negative trigger system your LOCK and UNLOCK wire uses (-) negative sources to signal the vehicle when you activate unlock or lock. In a positive trigger system, your LOCK and UNLOCK wire uses (+) positive sources to signal the vehicle when you activate unlock or lock.

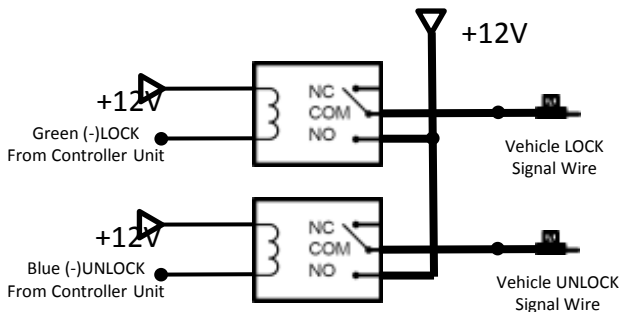
There are various types of central locking systems, please verify and confirm the type of door locking system either by multimeter testing and/or through your vehicle's dealer technical support department. Advanced keys holds no responsibility for damage to your vehicle by incorrect electrical connections.

4.1 Negative Triggered Door Locking System

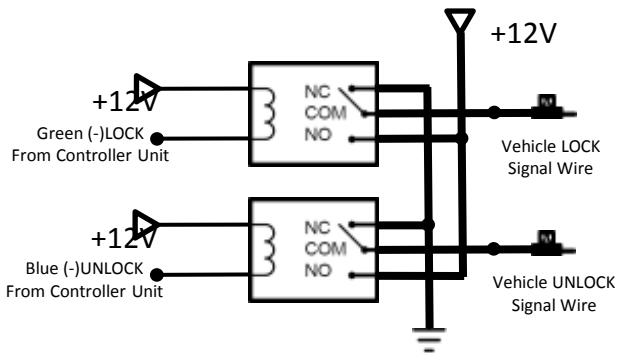
You can directly connect the (-)LOCK and (-)UNLOCK wires from the unit to your door locking system's LOCK/UNLOCK signal wires.

4.2 Positive & Positive/Negative Triggered Door Locking System

Use two additional relays and connect the wires according to the following figure:



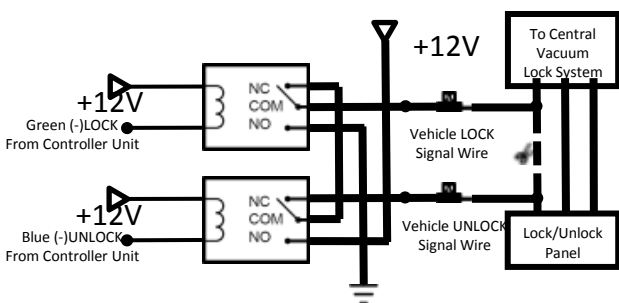
Positive Triggered



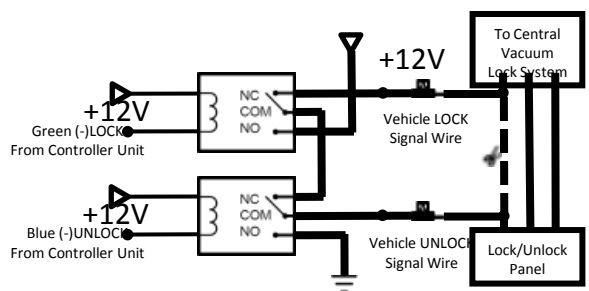
Positive and Negative Triggered

4.4 Vacuum Type Door Locking System

If vehicle has vacuum type door locks, use two additional relays and connect the wires according to the following figures:



**Vacuum Type: Lock(-),
Unlock(+)**

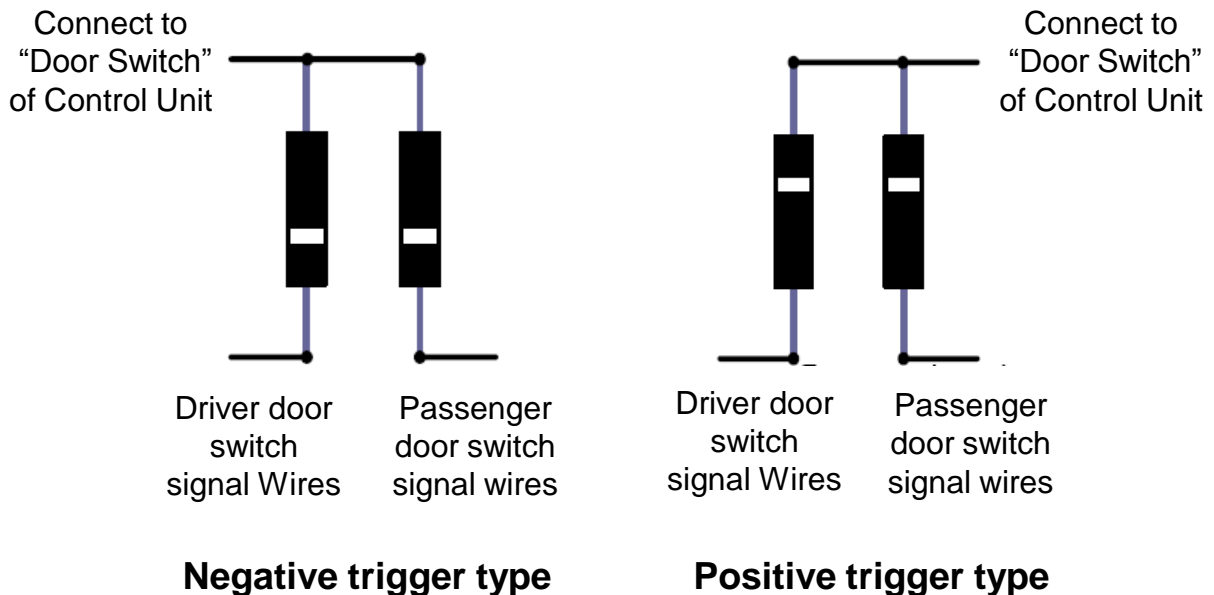


**Vacuum Type: Lock(+),
Unlock(-)**

About Door Switch

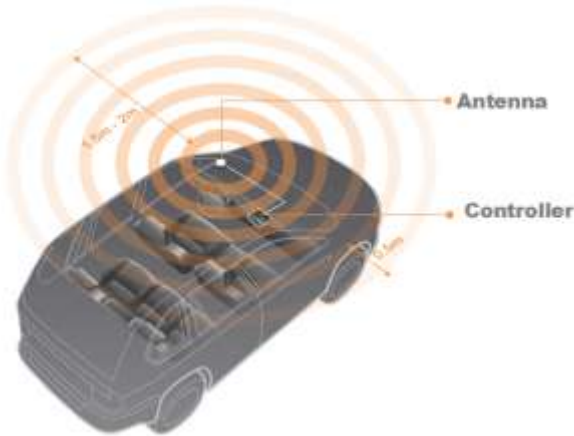
These switches are used to check to see if the doors are open or closed. To verify the type of door switches for your vehicle, shut off the interior lights first, then open the driver side's door, keeping the other doors closed; Then check the voltage, firstly if the voltage is ground and becomes positive voltage when the door is closed, then it should be negative trigger type. Conversely, if the voltage is positive with the door open and ground when closed, then the door should be a positive trigger type. If the system is positive trigger type, use a flat head screwdriver and carefully pry the control unit open and change the jumper set in the control unit according the Wiring Diagram.

Generally, most vehicles have an overall signal wire which will trigger a signal no matter which door is opened. Some vehicle's doors have separate signals (one wire per door) therefore it's needed to connect the signal wires through diodes (Like model: 1N4001) according to the following figures:



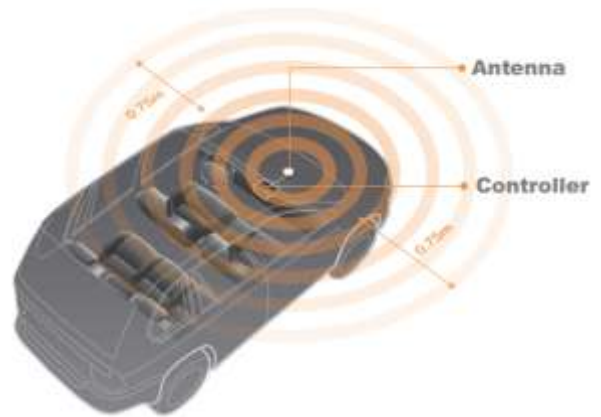
Recommended locations for installing the main antennas are under the front glass or either above or below the instrument panel, depending on customer's preference. (See diagrams below) Please note the antenna should be as far away as possible from any metallic material to achieve the best reception in all directions. Test for the distance coverage and range after installation to determine the optimal location for the antenna. You may adjust the position depending you preference. Use double sided tape or paste to secure the antenna after the position is confirmed.

Front Antenna Placement:



Under or Over Left Dashboard/Windshield

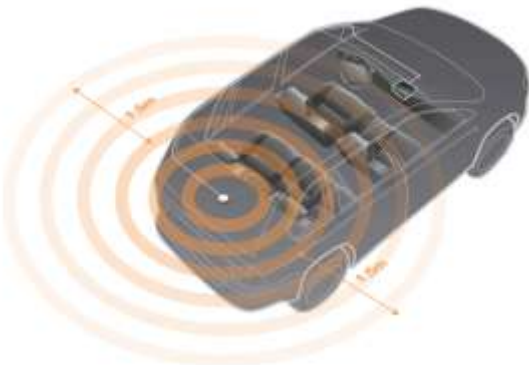
Driver side access range: 1.5 – 2 m
Passenger side access range: 0.5 m



Center on Dashboard/Windshield

Driver side access range: 1 m
Passenger side access range: 1 m

Rear Antenna Placement:

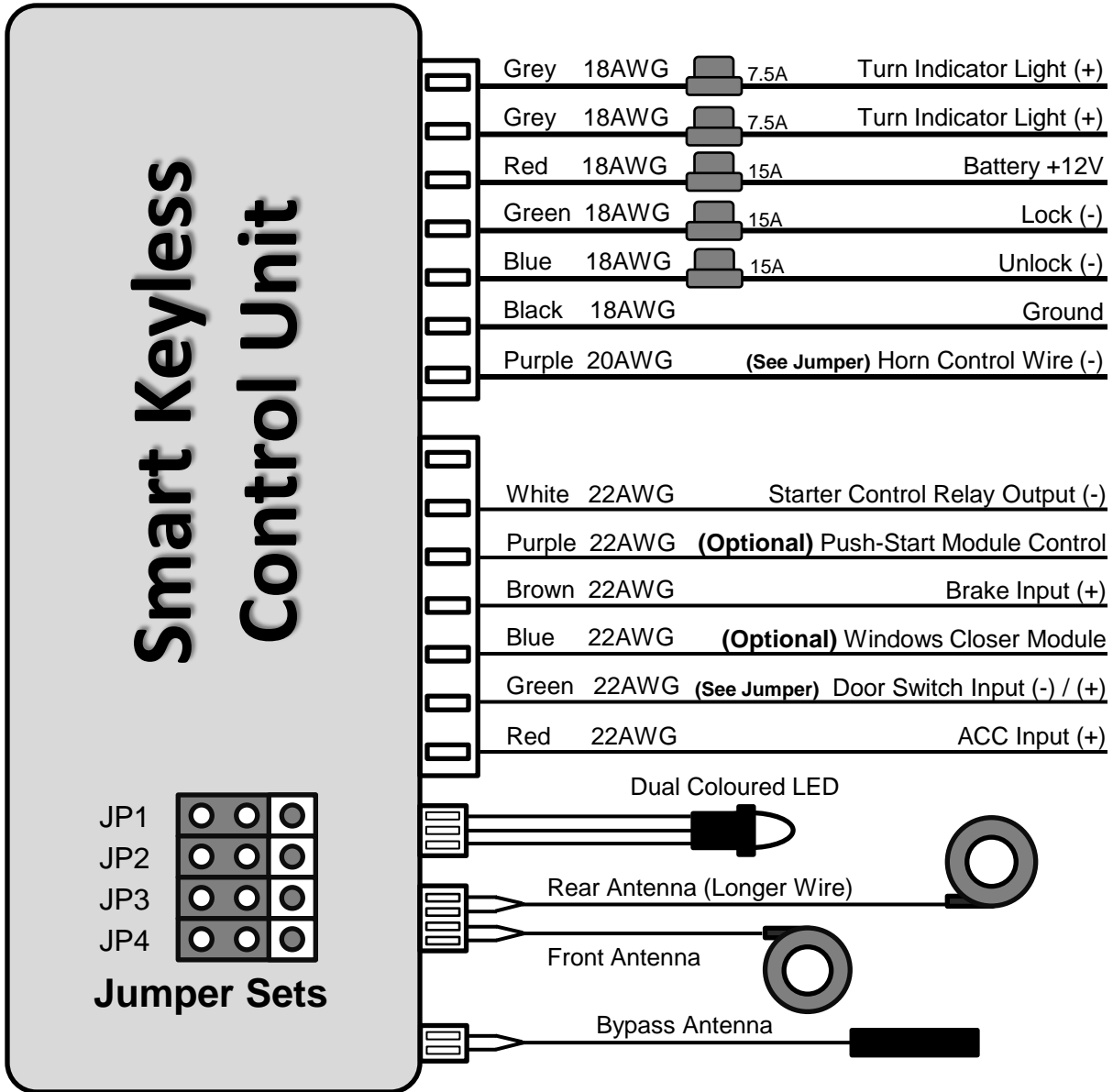


Place antenna to the top or bottom of the rear glass to cover trunk and back doors

Driver side rear access range: 1 m
Passenger side rear access range: 1 m

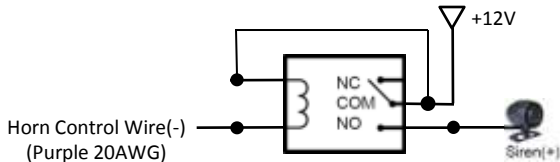
Bypass Antenna Placement:

The bypass antenna can be placed anywhere that can sense the RFID bypass card within 5cm away from outside of the vehicle. Recommended locations are the along the edge of the front/rear glasses. Test to ensure it can sense the RFID card before double tap it down.

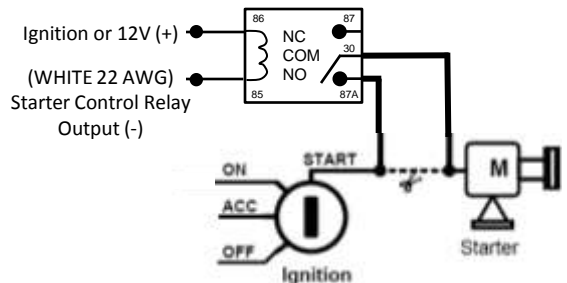


Siren Connection

Use a relay to convert Negative (-) to Positive (+12v) Output



Starter Relay Installation



1. Jumper Settings:

JP1: Door Switch

Positive  Negative (Default)

JP2: Central Lock Type

Vacuum  Power (Default)

JP3: Unlock Pulse

Double Pulses  Single Pulse (Default)

JP4: Sound Output Type

Siren  Horn (Default)

Note:

JP4: Sound Output Type is a dual function jumper setting. The default setting is OEM Horn. Under OEM Horn setting there will be no sound when Passively Locking/Unlocking. Only Turn Indicator Lights flash as notification.

If need sound notification and/or using siren as output, change the jumper setting to siren. When Locking Passively, horn/siren output will sound 1 time and turn indicator light will flash 1 time. When Unlocking Passively, horn/siren will sound 2 times and turn indicator will flash 2 times as well.

You may use both horn-siren together. When wiring siren, please follow the wiring diagram in the previous page and make sure to use an extra relay.

2. Minimum Installation Without Alarm Function

For vehicles already equipped with factory/existing anti-theft alarm system, you may install this system without the alarm function. Connect **BATTERY, GROUND, LOCK, UNLOCK, BRAKE, ACC** and **ATENNAS** for smart keyless entry function only.

Ensure the **ACC** input is connected. It is needed to conserve the access key's battery while vehicle is in ACC/ON state. Note: do not leave your access key in the vehicle for extended periods of time when not operating (Control unit will continue to authenticate with the access key unless vehicle is in ACC/ON state)

BRAKE input is optional however it is used for **Ignition Lock** functions (See User Manual for more information).

- 7.1 Before connecting the wire harness and power on the units, check and confirm all functions of the vehicle are in working order. Make sure taps and wiring connection are insulated properly and pay extra attention to the door panel wiring as it could be exposed to water. Place and secure control units to locations inside trim panels and bundle all loose wiring.
- 7.2 Connect the main wire harness to the controller unit and power up to confirm system operations (Please Refer to User Manual). Put back all trim panels
- 7.3 Explain all functions of the system to customers and show them how to use it.