"WE'VE GOT THE EDGE ON SECURITY"

INSTALLATION MANUAL

AL-700^{ATV} / AL-900^{ATV} / AL-1000^{ATV}

Contents

Installation Considerations

Mounting The Main Control Module: The Main Control Module contains the electronics necessary for the security system's operation. Always mount this module in the vehicle's interior compartment, in a secure location that is not easily accessible. Ensure that moisture, vibration and temperature extremes are minimized. Acceptable locations may include mounting behind the dash, behind the glove box or other interior panels.

Wiring Connections: The security system's wires should be securely connected to the appropriate vehicle wires with the proper terminals, connectors, or by soldering and insulating with quality vinyl electrical tape or heat shrink tubing. All wiring should be carefully routed to avoid the possibility of chaffing or otherwise being damaged.

Chassis Ground **Black Wire**

The Black wire's function is to supply Negative chassis ground for the security system's operation.

CONNECTION: Using the correctly sized crimp-on ring terminal, connect the Black wire to the metal frame of the vehicle, preferably using an existing machine-threaded fastener. Make sure that the ring terminal attached to the Black wire has contact with bright, clean metal. If necessary, scrape any paint, rust or grease away from the connection point until the metal is bright and clean. If the control module has an insufficient ground connection, the security system can find partial ground through the wires that are connected to other circuits, but the alarm will not function correctly, giving the impression of a defective control

module. The alarm can partially work, so a bad ground wire connection would be suspected. In some cases the alarm could arm and disarm properly -but not function correctly otherwise. When power or ground is first applied the alarm will trigger "on" instantly.

Note: The Black wire attached to the control module is the antenna wire. <u>Do not connect this wire to anything or the transmitter's range will be reduced or eliminated.</u> Stretch the Black antenna wire out and as high as possible for the best operating range.

Constant Power Red Wire

The Red wire's function is to supply Constant Positive 12 Volts for security system's operation. When 12 Volts is first applied to the Red wire, the system will activate, sounding the siren, flashing the lights and locking the doors (if equipped with an optional doorlock interface). In Valet Mode with the ignition switch "on", this function will not work, allowing vehicle to be serviced without the system being activated if the battery is disconnected and reconnected. The Red wire also supplies 12 Volt Positive to the built-in relay for flashing the parking lights.

<u>CONNECTION:</u> Connect the Red wire to a Constant Positive 12 Volt source. This source should have Positive 12 Volt, 15 Amp at all times and in all ignition key positions. Connection locations can be at the supply wire at the ignition switch, the supply wire *behind* the fuse block or the fuse/junction block. *Never* just insert the Red wire or any other security system wire behind a fuse. Also, please note that connecting directly to the battery's Positive terminal will expose this connection to failure due to a corrosive environment.

Ignition Power Yellow Wire

The Yellow wire is an ignition "on" input to the security system. This connection is critical to the proper operation of many of the security system's features.

CONNECTION: This wire supplies Positive 12 Volts to the control module whenever the ignition switch is "on". This connection should be made at the ignition switch harness, to the primary ignition circuit. Primary ignition has 0 Volts when the ignition key is in the "Lock", "Off" and "Accessory" positions; and Positive 12 Volts in the "Run" and "Start" positions. Locate the correct wire at the ignition switch harness and securely splice the Yellow wire to it.

Grounded Output for Starter Interrupt Orange Wire

The Orange wire is for an optional starter disable socket and relay. The function of this wire is to provide a Constant 500ma Ground Output whenever the security system is in an armed state. This output supplies Negative Ground to one side of the relay's coil. The other side of the relay coil will be supplied with Positive Voltage from the ignition switch, but only if the ignition switch is turned to the "start" position. If this occurs, the coil will energize, activating the relay,
which in turn will open the starter circuit. The starter interrupt prevents the vehicle from starting only if the alarm is armed (including while the alarm is activated), and will draw current from the vehicle's electrical system only if an attempt is made to start the vehicle.

CONNECTION: To interrupt the vehicle's starter circuit, the starter wire must be located

and cut. It is recommended that this connection be done as close to the ignition switch as possible. Use a voltmeter, not a test light, to find the correct wire, which is the wire from the ignition switch to the starter solenoid. ***CAUTION!*** *Avoid the airbag circuit! Improper*

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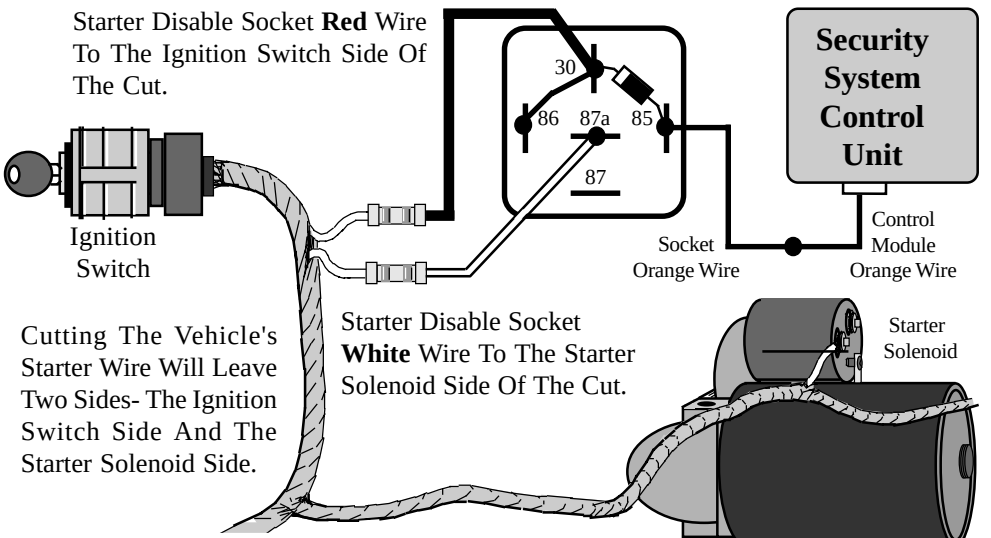

Configuring A Starter Disable Using The AU-SOCKET And One SPDT Relay.

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use of a test light can cause deployment of the airbag, which may result in bodily injury! Test lights can also damage on-board computers and associated sensors. The starter wire will read Positive 12 Volts only when ignition key is in "start" position (cranking the engine). Cut this wire at a suitable location. Confirm that this is the correct wire by turning the ignition switch to the "start" position. The starter should not engage.

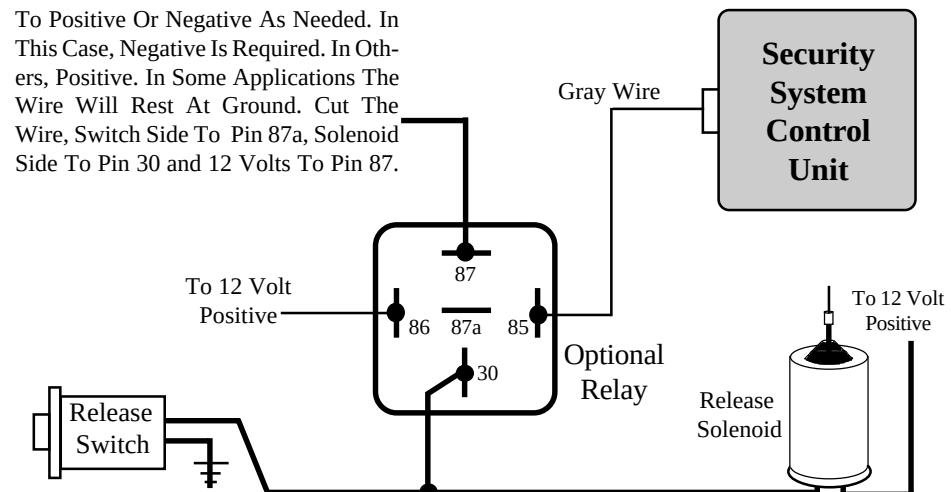
Connect the optional starter disable socket's Red wire to the ignition switch side, and its White wire to the starter solenoid side. Be sure that good, solid electrical connections are made as this generally is a high amperage circuit. Connect the security system's Orange wire to the Orange wire of the starter disable socket. **Note:** If the Orange wire touches 12 volts positive directly or has more than a 500ma ground load, the circuit will be damaged.

Trunk Release Output GRAY WIRE

The function of the Gray wire is to provide an optional output, the primary use being trunk release. Press and hold the transmitter's small button for two seconds to activate this output. When activated the horn will honk (or the siren will chirp) twice and the Gray wire will provide a 250mA Negative Ground pulse for 1 second; or, stay grounded for as long as the small transmitter button is depressed, for up to 15 seconds.

Also, the security system will automatically disarm, unlock the doors and illuminate the exterior lights on for 30 seconds (unless a door is opened or the ignition switch is turned "on"). **Note:** The trunk release feature can be operated anytime with the ignition switch "off", or, it may also be operated while ignition key is "on" provided a door is open at the same time. This prevents the trunk or rear hatch from being opened from the transmitter

while driving. Unless the vehicle's trunk release switch negatively triggers a release relay which draws no more than 250mA, an optional relay must be used. Connect the Gray wire to optional relay pin (85), and connect Constant Positive 12 Volts to relay pin (86). Connect pins 87, 87a & 30 as indicated in the following typical diagram:



Wiring An Optional Relay For Trunk Release.

Negative Horn / Siren Output **Brown Wire**

The Brown wire is a 1 Amp Negative output designed to operate the vehicle's existing horn relay, which in turn will sound the horn for audible confirmations, and also to sound the horn intermittently if the alarm is triggered. The alarm is already programmed to pulse this output to operate the vehicle's horn relay.

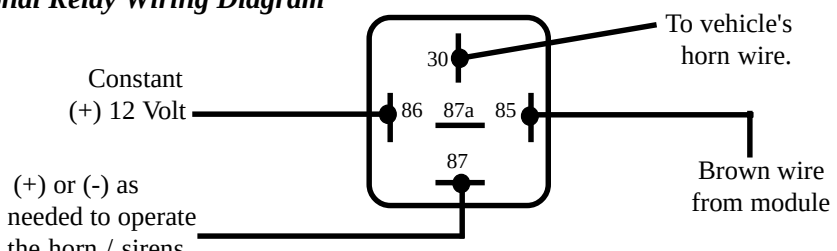
An alternative to sounding the horn is to utilize an optional electronic siren. This would require changing Programmable Feature #18 from the preset pulsed output to a steady output to properly sound the siren.

HORN CONNECTION: The Brown wire may be connected directly to the vehicle's existing horn switch wire, which is typically found at the steering column. The correct wire will show Positive 12 Volts normally, and no voltage when the horn is honked. Direct connection of the Brown wire is to an existing horn switch-to-relay wire only. Once the vehicle's horn wire is identified, probe the wire with a standard test light connected to Negative chassis ground. If the horn honks when probed, a direct connection may be made. If not, use the following diagram to configure an optional relay. **CAUTION!** This is one of the few uses left for a standard test light in a modern vehicle! Use a digital multimeter (DMM) to identify the horn wire first. **Probing an Airbag circuit with a standard test light can cause the Airbag to deploy!** One alternative is to disconnect the horns, then operate the horn switch. A clicking sound from the vehicle will confirm the presence of a horn relay. Another alternative is to check a wiring schematic of the vehicle in question.

OPTIONAL SIREN CONNECTION: The Brown wire may be connected directly to the siren's Black wire, and the siren's Red wire is connected to Constant Positive Voltage.

Mounting The Optional Siren: Find a location in the engine compartment away from the extreme heat of the engine and manifold. A suitable location will offer a firm mounting surface, will also allow sound dispersion out of the engine compartment, and not be accessible to a thief. The siren must be pointed downward to avoid moisture collecting inside it and to enhance sound dispersal.

Optional Relay Wiring Diagram



Configuring An Optional Relay: The Brown Horn / Siren output wire has a 1 Amp capacity, which, if exceeded, can damage the security system control module. Certain situations, among them multiple optional sirens or a vehicle which lacks a horn relay, an optional SPDT relay is required.

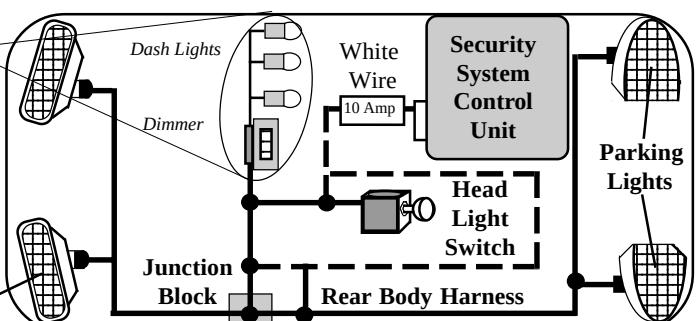
Positive Flashing Parking Light Output White Wire

This is a Positive 12 Volt out- put for exterior flashing light confirmation and to attract attention to the vehicle if the security system is activated. Also, upon disarming, this circuit will stay on for 30 seconds to confirm disarming and to illuminate the way to the vehicle. This feature gives added security when approaching the vehicle at night.

CONNECTION: Connect this wire to the vehicle's Positive 12 Volt parking light circuit. This wire can usually be found at the following locations: at the headlight switch, at the fuse/ junction block, or in the rear body harness in the driver kick panel. **Note:** Some vehicles, notably Toyotas, have a parking light relay which is triggered by a Negative Ground circuit

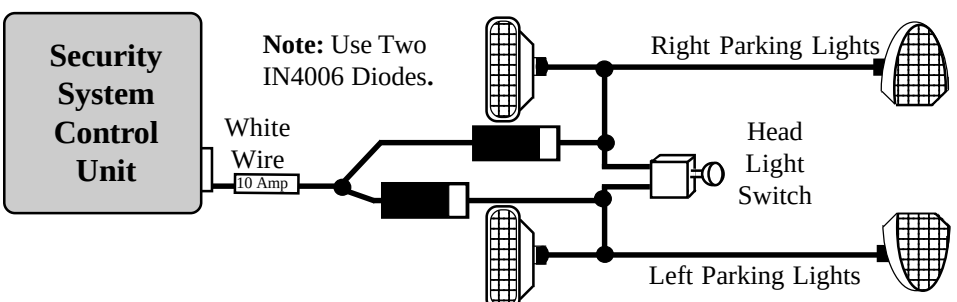
3 Suggested Parking Light Connections

Caution:
Do not connect to the dimmer circuit! Damage to the control unit or vehicle can occur!



from the headlight switch. These cars can still be connected directly to the White wire by finding the parking light circuit after the relay, usually at the Fuse/Junction Block.

The correct wire will show Positive 12 Volts when the headlight switch is in the "Parking Light" and "Head Light" positions. When such a wire is located, be sure to also test that it is non-rheostated: while metering the wire, operate the dash light dimmer control. The correct wire will show no change in voltage when the dimmer is operated. **Note:** Do not attempt to flash the parking lights by connecting the White wire to a rheostated (dimmer) circuit! This will backfeed the parking lights through the rheostat or illumination control module, and possibly cause damage to the vehicle or alarm control unit. Also, if the White wire touches chassis ground, the Printed Circuit Board and on-board relay may be damaged.



Connecting Left And Right Parking Lights Using Two Diodes.

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Many European imports have separate left and right side parking lights. When left & right parking lights are on separate circuits, the Black/White Domelight Illumination circuit (Page 20), or a pair of 6 to 10 amp diodes must be used to connect the White wire to each parking light side. **Note:** Flashing the headlights is not recommended. The halogen headlights found in modern vehicles are not designed to be rapidly turned on and off. If connected to the security system, a reduction of their useful life may be noticed. If flashing the headlights is still desired, a relay must be used, since the headlight's current draw exceeds the 7 amp rating of the built-in relay. If flashing headlights and parking lights are desired, use two relays - one relay will supply the parking lights and the other relay will supply the headlights.

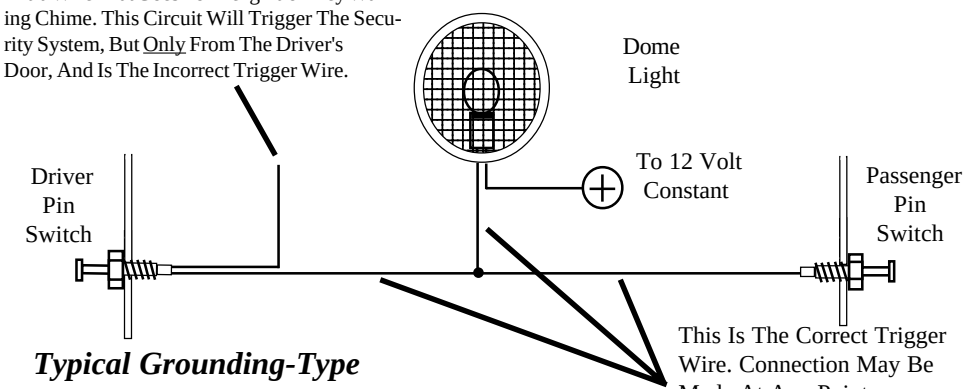
Negative Door Trigger Wire Green Wire

The Green wire's function is an open door input to the control module for vehicles having *Negative switching* door pin switches. This circuit has effects on many security system operations, the primary being the activation of the system (sounding the siren and flashing the exterior and interior lights) if in an armed state. If the Last Door Arming and Automatic Rearming features are utilized, after turning "off" the ignition switch and closing the door, the Last Door Arming sequence will begin, and be suspended if a door is reopened. Opening a door during Automatic Rearming will also suspend that feature. Opening a door while the exterior lights are on after disarming the security system will cause the exterior lights to turn

off 10 seconds after the opening of the door. If the system has been programmed to lock and unlock the doors with the ignition switch being turned "on" and "off", an open door bypass of this feature may also be programmed. If a door is opened while the ignition switch is "on", the trunk release via the transmitter will operate.

CONNECTION: Connect the Green wire to a wire in the vehicle which is common to all the door pin switches. The correct wire in this type of dome light/door jamb pin switch system

Note: The Driver Pin Switch Often Will Have An Extra Wire That Goes To The Ignition Key Warning Chime. This Circuit Will Trigger The Security System, But Only From The Driver's Door, And Is The Incorrect Trigger Wire.



Typical Grounding-Type Dome Light System.

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will have no voltage present and will also show chassis ground when the doors are opened, and up to 12 volts when the doors are closed. **Note:** The correct wire will show this change when any of the doors are opened. If the vehicle has delay dome lights, remember to take this into account when testing the wire. **Note:** If the car has a delay dome light the Circuit Bypass feature will allow the system to be armed from the transmitter instantly and will start protecting the Green wire circuit when the dome light turns off. In Last Door Arming mode, the system arms 30 seconds after the delay dome light turns off. The diagram below illustrates a basic negative courtesy light system.

If the pin switch is mounted in the metal structure of the vehicle, and the dome light goes out when the switch is removed, suspect a grounding-type dome light system. If the switch is mounted in plastic, a constant ground wire will also be present. While the traditional pin switch is mounted in the front door jamb area, also be aware that many vehicles utilize other types of switch devices to operate the interior lights. Some imports have a sliding type of switch and many have the pin or sliding switches in the rear door jamb area. In addition, some vehicles utilize switches in the doors, either connected to the exterior door handles or to the latching mechanism. A car that features the dome lights illuminating when the exterior door handle is lifted is an example of this type of switching system.

Also be aware of vehicles which diode-isolate each door. Typically, this is usually encountered with dash displays that indicate individual doors being ajar. The proper wire to connect to in this type of system is the common wire which is routed to the dome light itself.

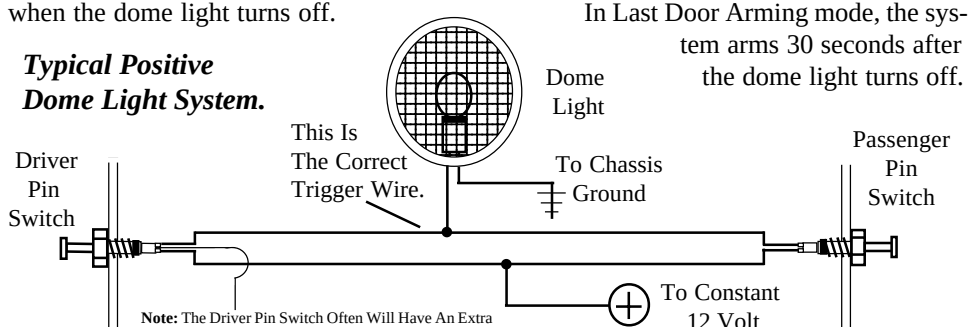
If the optional Domelight Supervision output will be utilized, see the information on Page 20 concerning how this feature can affect the system's operation regarding parking light confirmation and power doorlocks.

Positive Door Trigger Wire — Violet Wire

The Violet wire's functions are identical to the Green Door Trigger wire, with the sole exception that it is an open door input to the control module for vehicles having *Positive 12 volt* door pin switches.

CONNECTION: Connect the Violet wire to a wire in the vehicle which is common to all the door pin switches. The correct wire for this type of dome light/door jamb pin switch system will have 12 volts present when the doors are opened, and chassis ground when the doors are closed. The correct wire will show this change when any of the doors are opened. **Note:** If the car has a delay dome light the Circuit Bypass feature will allow the system to be armed from the transmitter instantly and will start protecting the Violet wire circuit when the dome light turns off. In Last Door Arming mode, the system arms 30 seconds after the dome light turns off.

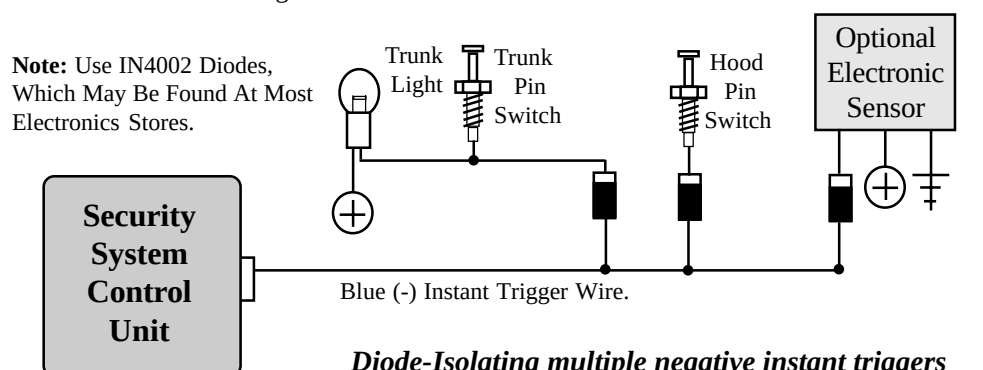
Typical Positive Dome Light System.



Note: The Driver Pin Switch Often Will Have An Extra Wire . This Circuit Will Trigger The Security System, But Only From The Driver's Door, And Is The Incorrect Trigger Wire.

Negative Instant Trigger BLUE WIRE

The Blue wire is a Negative instant trigger used primarily to detect entry into the hood or trunk area of a vehicle. The primary function of this circuit is to activate the security system (sounding the siren and flashing the exterior and interior lights) if in an armed state. If the Last Door Arming and Automatic Rearming features are utilized, after turning "off" the ignition switch and closing the door, the Last Door Arming sequence will begin, provided the Blue wire is not grounded. If the Blue wire is grounded during Automatic Rearming, the process will be interrupted. When the Last Door Arming feature is utilized, if the Blue wire is grounded when the last door is closed, the Last Door Arming process will not start until the Blue wire is ungrounded.



Diode-Isolating multiple negative instant triggers

CONNECTION: The included pin switches may be installed to provide this trigger circuit Or, if there are existing switches (example: a light in the luggage compartment or a "Trunk Ajar" light in the dash), the Blue wire may be connected directly, provided this is a negative ground switching circuit. An indication of such a circuit is the wire having no voltage present when the hood or trunk is open, and up to 12 volts when the hood or trunk is closed. This circuit cannot be used with mercury switch types of hood or trunk lights. If the vehicle is equipped with a usable trunk or hood circuit, locate the proper wire and splice the Blue wire directly to the vehicle's wire.

When wiring more than one of the vehicle's circuits and/or additional circuits to this wire, diode-isolation may be required to maintain each circuit's proper operation. An example would be wiring a hood pin switch and trunk light switch together. Without isolating, the trunk light will turn illuminate whenever the hood is raised. Also, diode-isolation is necessary when combining electronic sensors together ,or, in the same circuit with pin switches:

3rd Channel Output PINK WIRE

The function of the Pink wire is to provide an optional output similar to the Gray trunk release wire. Press both transmitter buttons for two seconds to activate this output. Once activated, this output will last for one second, or, for as long as the transmitter buttons are held down, until the transmitter battery-saver feature turns the transmitter off. This feature can be used to activate other optional modules (Example: car starting equipment or power window roll up units).

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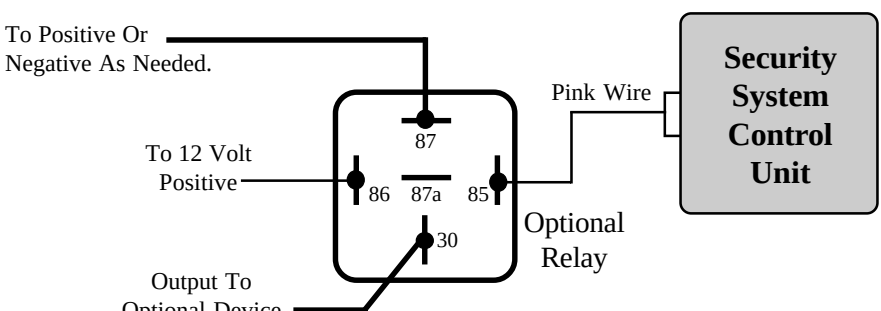
Please note that a Programmable Feature, the 3rd Channel Output Activates Anti-Carjacking Feature (#21), when turned ON, will add activation of the Anti-Carjacking Feature to the operation of the 3rd Channel Output, but only when the ignition switch is "on". The 3rd Channel Output will operate regardless of whether the ignition switch is "on", or "off". This output will not disarm the security system when activated.

CONNECTION: For most applications an optional relay will be required (Use the following diagram).

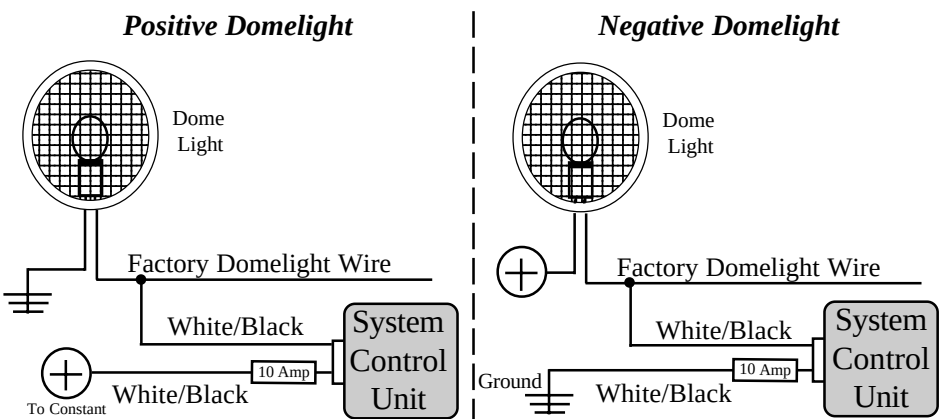


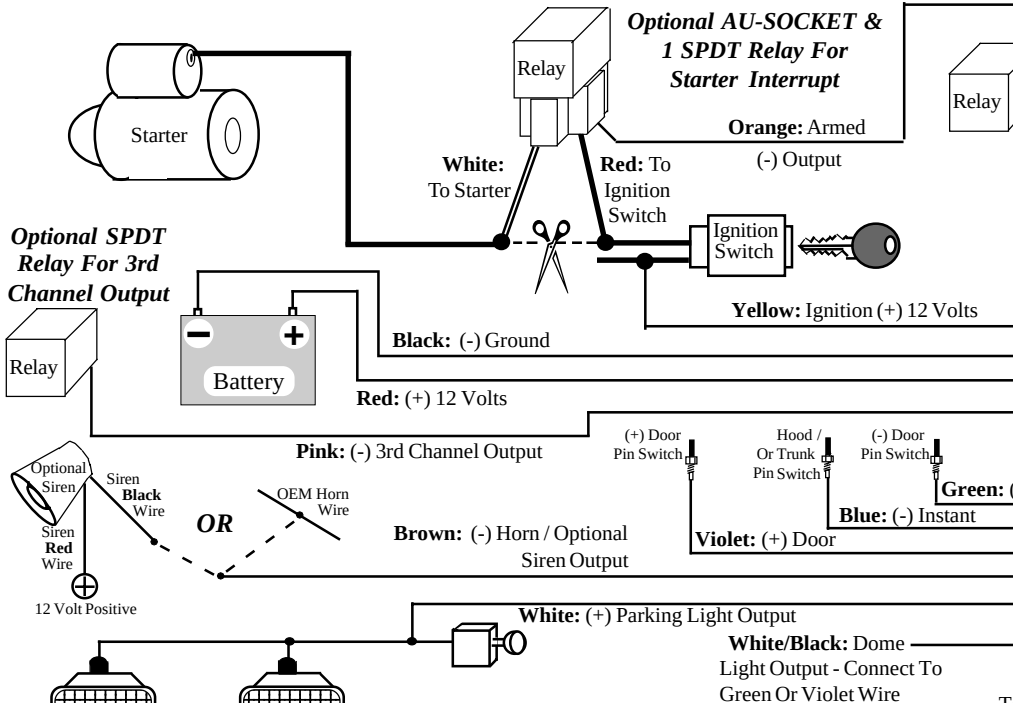
Optional Relay Wiring Diagram

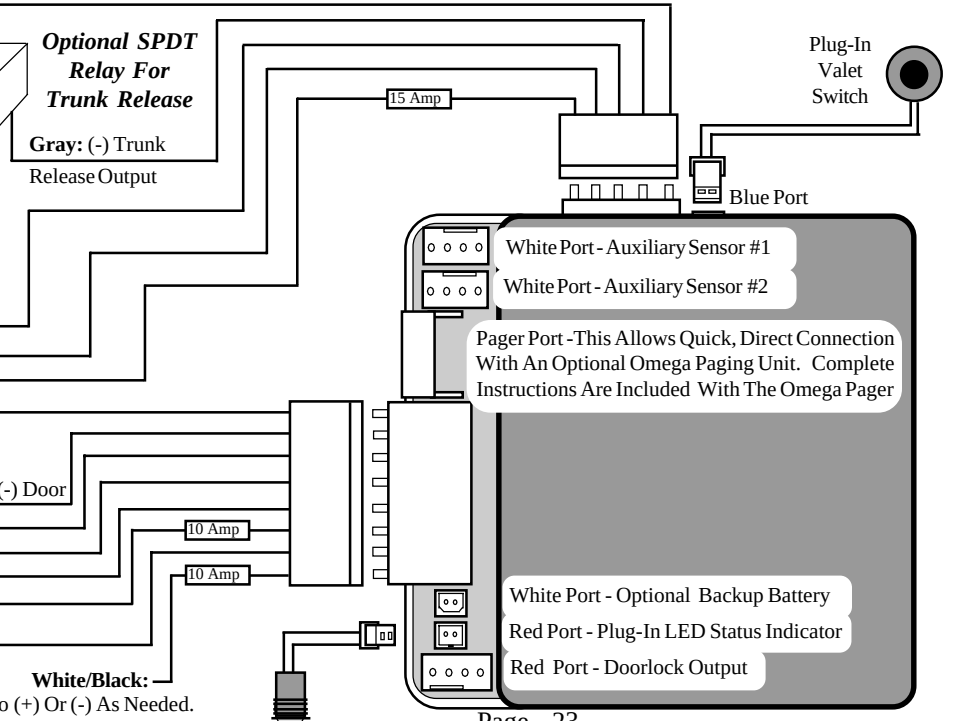
Domelight Supervision Output WHITE/BLACK WIRES

The two White/Black wires are intended for domelight supervision. This feature will turn on the domelight of the vehicle upon disarming to illuminate the interior. This output is very similar to the White wire output except the polarity is selectable to be Positive or Negative.

CONNECTION: Connect the non-fused White/Black wire to the vehicle's domelight trigger wire. The fused wire will be connected to 12 volts Positive or Negative, whichever polarity is required to activate the vehicle's domelight.




Starter
Relay
Optional AU-SOCKET & 1 SPDT Relay For Starter Interrupt
Relay
Orange: Armed (-) Output
White: To Starter
Red: To Ignition Switch
Ignition Switch
Optional SPDT Relay For 3rd Channel Output
Relay
Battery
Yellow: Ignition (+) 12 Volts
Black: (-) Ground
Red: (+) 12 Volts
Pink: (-) 3rd Channel Output
(+) Door Pin Switch
Hood / Or Trunk Pin Switch
(-) Door Pin Switch
Green: (
Blue: (-) Instant
Violet: (+) Door
Optional Siren
Siren Black Wire
Siren Red Wire
OR
OEM Horn Wire
Brown: (-) Horn / Optional Siren Output
12 Volt Positive
White: (+) Parking Light Output
White/Black: Dome Light Output - Connect To Green Or Violet Wire


Optional SPDT Relay For Trunk Release
Gray: (-) Trunk Release Output
15 Amp
Plug-In Valet Switch
Blue Port
White Port - Auxiliary Sensor #1
White Port - Auxiliary Sensor #2
Pager Port -This Allows Quick, Direct Connection With An Optional Omega Paging Unit. Complete Instructions Are Included With The Omega Pager
(-) Door
10 Amp
10 Amp
White Port - Optional Backup Battery
Red Port - Plug-In LED Status Indicator
Red Port - Doorlock Output
White/Black:
o (+) Or (-) As Needed.

Plug-In Accessories And Options

Plug-In Red LED Status Light: The Red LED Status Light may be mounted in the included combination LED Status Light and Valet Switch holder. Or, if desired, the LED Status Light may mounted in a hole (9/32") drilled into one of the vehicle's existing interior panels. Mount the holder or LED Status Light in a location where it can easily be seen by the driver, and preferably where it can be seen from outside, as the LED Status Light provides a level of visual deterrence. After mounting the combination holder, route the Red connector to the security system control module and insert it into the Red port on the control module. For a complete description of the LED Status Light's operation, please see the Owner's Manual.

Plug-In Easy Valet™ Switch: The Valet Switch may also be mounted in the included combination LED Status Light and Valet Switch holder, or it can be mounted to an existing surface in the vehicle using double-sided adhesive tape. The Valet Switch allows the operator access to Easy Valet™ and Valet Override modes. The Valet Switch is also part of the programming operations for learning transmitters and changing the 21 Programmable Features. All of these operations are explained in detail in the Owner's Manual. After mounting the combination holder, route the Blue connector to the security system control module and insert it into the Blue port on the side of the control module.

Optional Plug-In Dual Zone Sensor Ports: The security system features two plug-in Auxiliary ports for electronic sensor devices, which enhances the effectiveness of the system (some models include a sensor, while it is optional with others). Each of the ports is dual-zoned: the first zone will respond by honking the horn (or chirping the optional siren) only; and the second zone will fully activate, or trigger, the system. These ports supply constant 12 volt power, grounded output when the system is armed, a negative instant trigger, and a negative prewarn trigger. Most Omega Research and Development, Inc. sensors will plug directly into the alarm control module. Sensors are available which include those that monitor shock to the vehicle, detect changes in atmospheric pressure within the vehicle, and radar sensors that can detect moving objects inside and outside the vehicle. When adding a sensor, follow the installation instructions included with the sensor. After installing, route the harness and connector from the sensor to the security system control module. Plug the sensor's connector into one of the module's White ports marked "Aux. 1" or "Aux. 2". It should be noted that when arming the system with the transmitter, the user has the ability to bypass the sensor, if desired. When bypassed, the Aux. 1 port will not respond to either a prewarn nor an activation trigger, while the Aux. 2 port will not have the prewarn trigger, but will respond to an activation trigger. If multiple sensors operating from the same Auxiliary port are desired, an Omega AU-EXP Sensor Multiplexer allows plug-in connection of up to three sensors from a single Auxiliary port.

Optional Plug-In Backup Battery Port: This port allows the plug-in addition of an optional 9 volt alkaline battery (not included) to provide alternative power to operate the system if power to the control module is disconnected. A built-in protection circuit will

Continued Next Page

not allow the 9 volt battery to back feed voltage into the vehicle's electrical system. While on backup battery power, to conserve the backup battery, the system will not have some functions - the Parking Light output, LED Status Light output, the Doorlock outputs, Auxiliary Sensor output and Current Sensing input. The Starter Interrupt, however, will operate, when the system is armed, from battery backup, along with the following: Aux. output and Aux. Trigger input, Negative Horn / Siren output, Negative Instant Trigger Input, Negative and Positive Door Trigger input, Domelight output and the Remote Panic feature. Please note that due to the exact configuration of the security system in a particular vehicle, the operating parameters of the system while on backup battery power will vary.

Omega part numbers for the optional parts needed are: BAT-9 (9 volt alkaline battery); AU-BAT-CLIP (battery holder and plug-in harness).

Optional Plug-In Omega Pager Port: This port allows direct connection of the Omega Pager to the security system control module. Please note that in most installations Programmable Feature #5, Current Sensing, must be turned off to prevent false alarms of the security system. The Current Sensing Feature, depending upon the equipment configuration in the vehicle, may activate the system by detecting the Pager's operation.

The Omega Pager unit features include the identification of which zone activated the system, and the replication of the system's confirmation horn honks (or siren chirps). The Omega Pager includes the wiring harness for direct connection to the security system, and complete installation and operating instructions.

Optional Plug-In Power Doorlock Interface Port: The security system features a plug-in port for an optional doorlock interface. The 4 pin port on the system's control module produces a negative pulse output for locking the doors, a constant 12 volt pin *for the optional relay coils only*, a first negative unlock pulse output which coincides with disarming the system, and a second negative unlock pulse output, which, if desired, is obtained by pressing the transmitter's large button again within 5 seconds of disarming. These unlock outputs may be configured to automatically unlock all of the doors upon disarming, or, only the driver's door, with the user having the option of unlocking all of the doors upon demand, within the 5 second period after disarming. Additionally, the system may be programmed to lock the doors when the ignition switch is turned "on", and unlock the doors when the ignition switch is turned "off". If the system is configured with the "driver's door priority" unlocking option, only the driver's door, or all of the doors, may be programmed to unlock when the ignition is turned "off". Programmable Features #6, #7, and #8 control these functions.

The doorlock interface needed will depend upon the type of power doorlocks the vehicle has. The vehicle must have existing power doorlocks. The addition of a power doorlock interface to a vehicle with non-power locks will not allow the security system to operate the doorlocks. However, power doorlocks may be added to the vehicle in the form of adding a model DS-2 Electric Door Lock Actuator to each of the doors. This will allow the security system only to operate the doorlocks.

The vast majority of power doorlocks are found as three system types: 3 wire negative pulse, 3 wire positive pulse and 5 wire reversal, rest at ground. Other power doorlock systems which may be encountered are the vacuum pump types found in most Mercedes vehicles and

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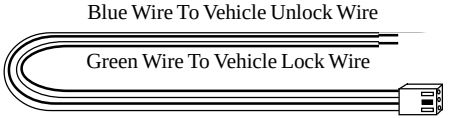
the single wire, dual-voltage which has appeared in some late model vehicles. The best way to identify a doorlock system is to examine the doorlock switch's wiring. The following sections will discuss the types of doorlock systems found and the available optional interfaces.

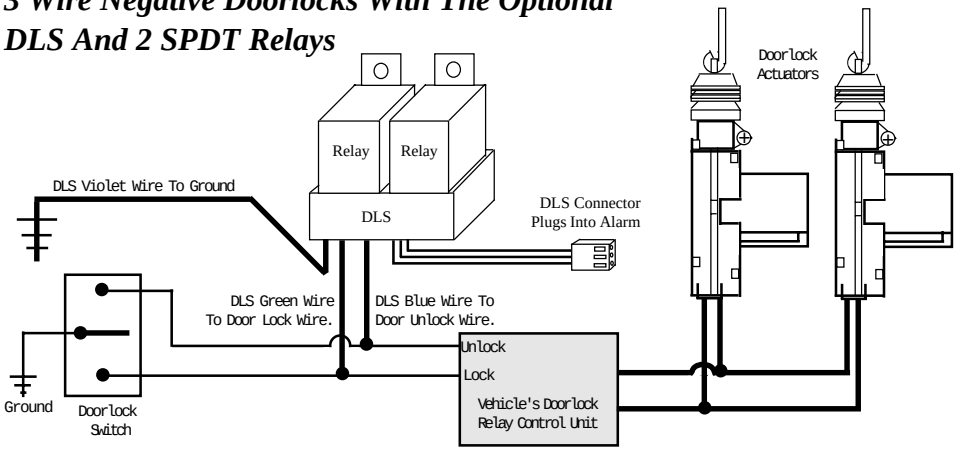
3 Wire Negative Pulse Systems: This power doorlock system is indicated by the presence of three wires at the switch. Of these, one will show constant ground, regardless of whether the switch is being operated or not (at rest). Of the remaining two wires, one will show ground when the switch is pushed to the "lock" position, and the other wire will show ground when the switch is pushed to the "unlock" position. With the switch at rest, these two wires will read voltage, usually 12 volt positive but in some cases less. The wires from the switches operate doorlock relays or a doorlock control unit with built-in relays. The correct connection point is between the switches and the relays.

An optional harness is available (model DLP-N3) which allows direct connection between the security system and . Some doorlock systems, however, require more than the 500ma ground output that the security system's control module can accommodate. In these cases the optional model DLS and two relays must be used. When driver's door unlock priority is desired, the correct interface is the DLS-3 (Pages XX).



Model DLP-N3 -Three pin connector with two 24" wires. Allows direct connection of the security system's negative pulse outputs directly to a vehicle's negative pulse doorlocks or to facilitate custom hard-wiring of optional relays.

3 Wire Negative Doorlocks With The Optional DLS And 2 SPDT Relays



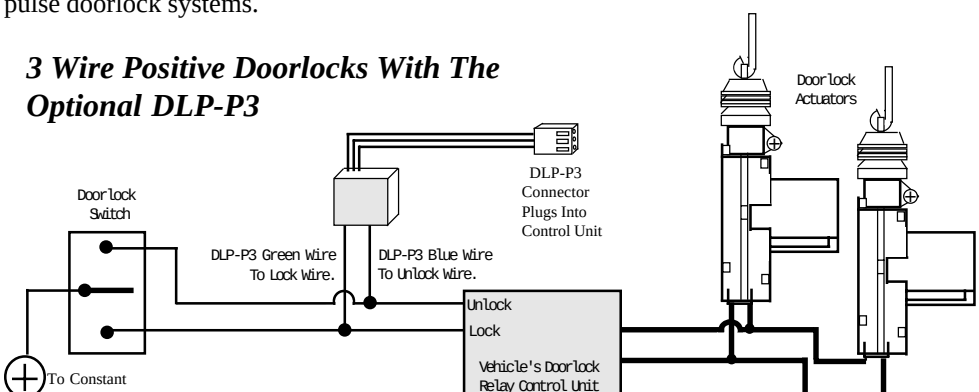
3 Wire Positive Pulse Systems: This power doorlock system is very similar to the three wire negative pulse system except the vehicle's doorlock switches use 12 volt positive pulses to operate the vehicle's doorlock relays or control unit. Examine the wires on the back of the switch. Of the three wires, one will be constant 12 volt positive, regardless of the switch's position. Of the two remaining wires, one will show 12 volt positive when the switch is pushed to "lock", and the other will show 12 volt positive when the switch is pushed to

Continued Next Page

"unlock". Since the security system's output polarity must be reversed from negative ground to 12 volts positive, an optional doorlock interface must be used. Three interfaces are available - the models DLP-P3, the DLS and the DLS-3 with optional SPDT relays. The DLS-3 is discussed in detail later.

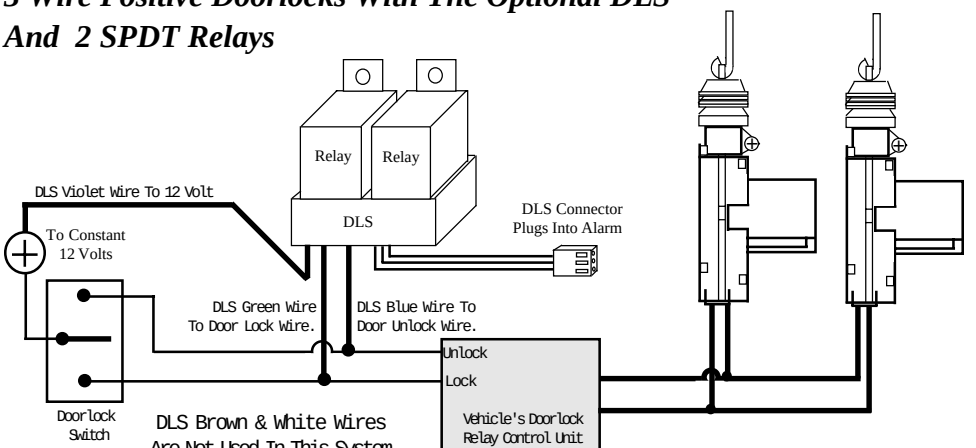
Model DLP-P3 - Three pin connector with a transistor converter network which changes the security system's negative pulse doorlock outputs to positive pulses. Allows direct connection of the security system's outputs directly to a vehicle with positive pulse doorlocks. Overall length 20". Easier and more efficient than using relays for vehicles that have positive pulse doorlock systems.

3 Wire Positive Doorlocks With The Optional DLP-P3



Model DLS- The DLS is a dual relay socket with a harness and connector to plug into the alarm control module and non-terminated wires to splice into the vehicle's wiring. The DLS and two relays are the most universal doorlock interface available. The relays used with it are standard 30 amp single pole, double throw (SPDT) automotive relays.

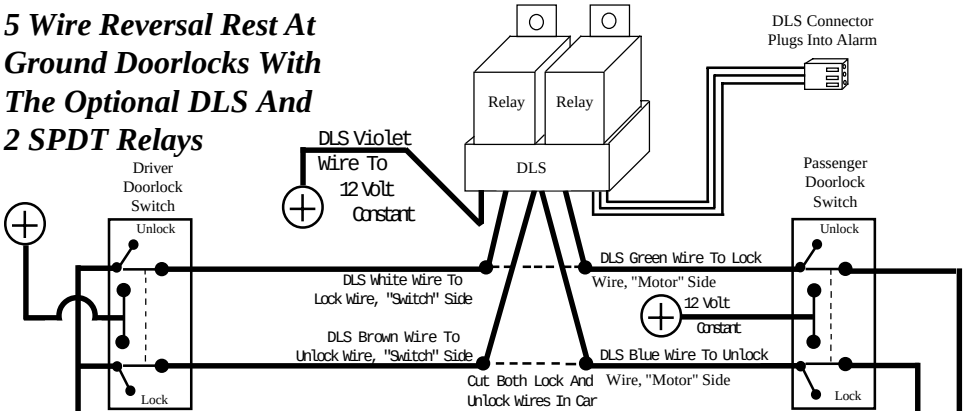
3 Wire Positive Doorlocks With The Optional DLS And 2 SPDT Relays



5 Wire Reversal Rest At Ground Systems: This power doorlock system differs from the negative and positive pulse systems in the fact that there are no relays or doorlock control unit. In this type of system, the switches themselves supply the positive voltage directly to the doorlock actuators, and, more importantly, provide the return ground path. The correct doorlock interface for this type of system is the optional DLS and 2 SPDT relays. The important thing to remember is that the wires in this system *rest at ground*, which means that the wires must be "opened", or cut, to make the connections.

Examine the wires on the back of the switch. Normally 5 wires will be found. Of the wires, one will be constant 12 volt positive, regardless of the switch's position. Two wires will be grounded regardless of the switch's position. Of the two remaining wires, one will show 12 volt positive when the switch is pushed to "lock", and the other will show 12 volt positive when the switch is pushed to "unlock". When the correct wires are found, they must be cut. Notice in the diagram that the driver's switch is the primary switch and referred to as the "switch" wires. The wires that go to the secondary switch are referred to as the "motor" wires. Even though the cut is made between the switches, the two sides are still correctly called the "switch" and the "motor" sides.

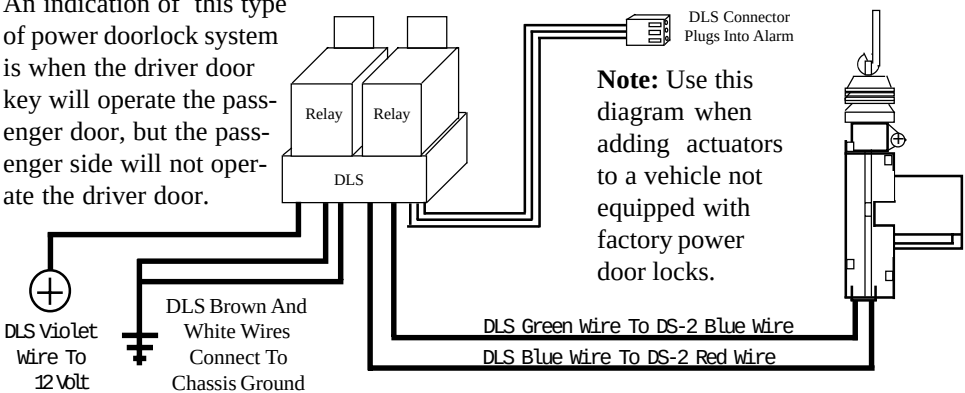
5 Wire Reversal Rest At Ground Doorlocks With The Optional DLS And 2 SPDT Relays



Examine the wires on the back of the switch. Normally 5 wires will be found. Of the wires, one will be constant 12 volts positive, regardless of the switch's position. Two wires will be grounded regardless of the switch's position. Of the two remaining wires, one will show 12 volts positive when the switch is pushed to "lock", and the other will show 12 volts positive when the switch is pushed to "unlock". When the correct wires are found, they must be cut. Notice in the diagram that the driver's switch is the primary switch and referred to as the "switch" wires. The wires that go to the secondary switch are referred to as the "motor" wires. Even though the cut is made between the switches, the two sides are still correctly called the "switch" and the "motor" sides.

Adding The Optional DS-2 Actuator And The DLS And 2 Relays:

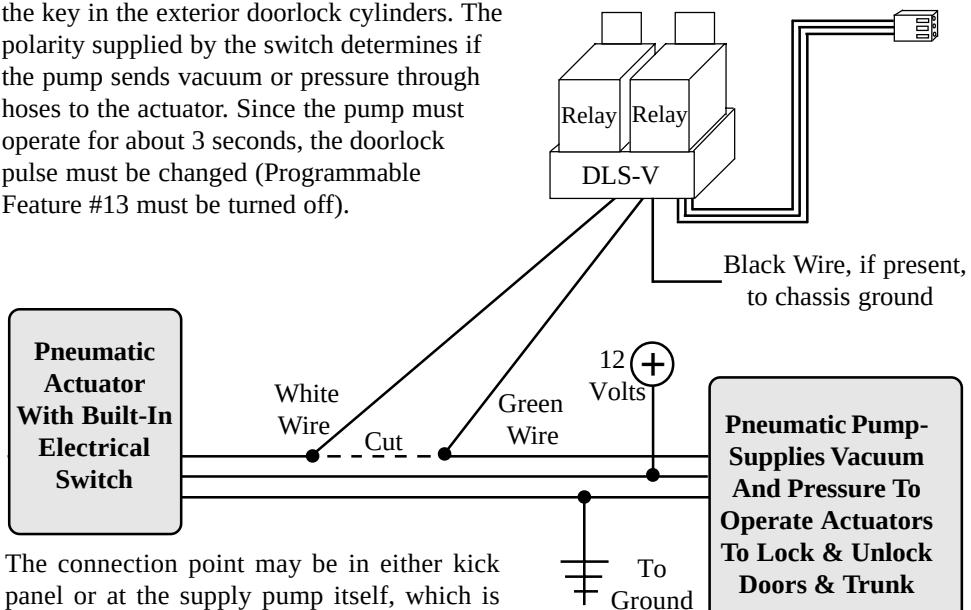
Some vehicles have a type of power doorlock system in which mechanically locking and unlocking the driver's door will operate an electrical switch in the door which supplies voltage to actuators in the other doors. There is no actuator in the driver's door, only a switch. An indication of this type of power doorlock system is when the driver door key will operate the passenger door, but the passenger side will not operate the driver door.



Mercedes Vacuum Doorlocks And Optional DLS-V And Two SPDT Relays:

Relays: This doorlock system is used on older Mercedes Benz vehicles and consists of electrical switches (built into pneumatic actuators) which supply 12 volts or ground to a

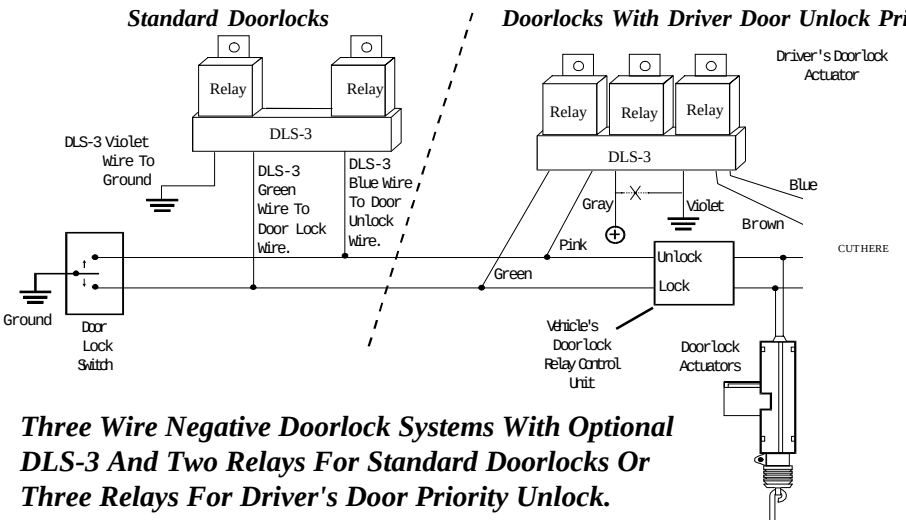
pneumatic pump. The switches are operated when the doors are locked or unlocked by the inside doorlock knob or the key in the exterior doorlock cylinders. The polarity supplied by the switch determines if the pump sends vacuum or pressure through hoses to the actuator. Since the pump must operate for about 3 seconds, the doorlock pulse must be changed (Programmable Feature #13 must be turned off).



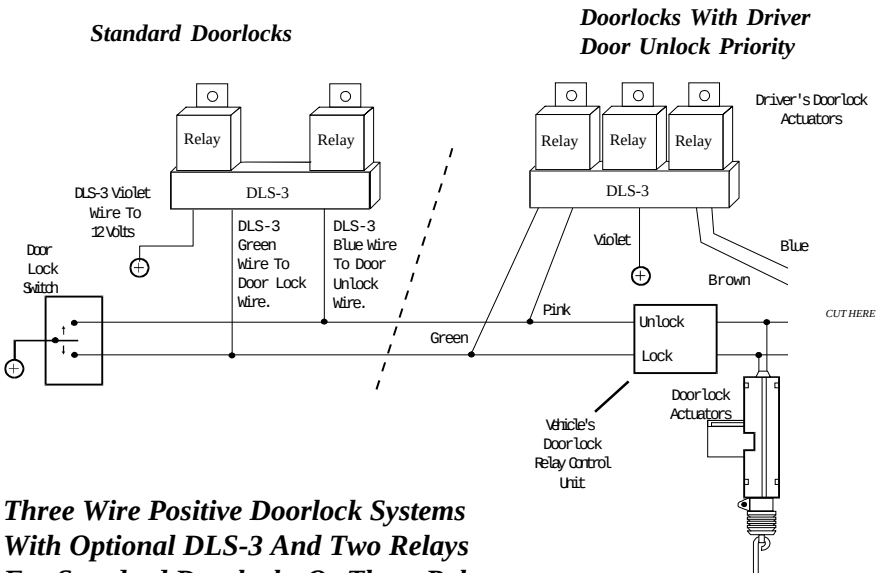
The connection point may be in either kick panel or at the supply pump itself, which is located in the trunk or under the rear seat.

The Optional DLS -3 And 2 Or 3 SPDT Relays - Driver Door Unlock Priority

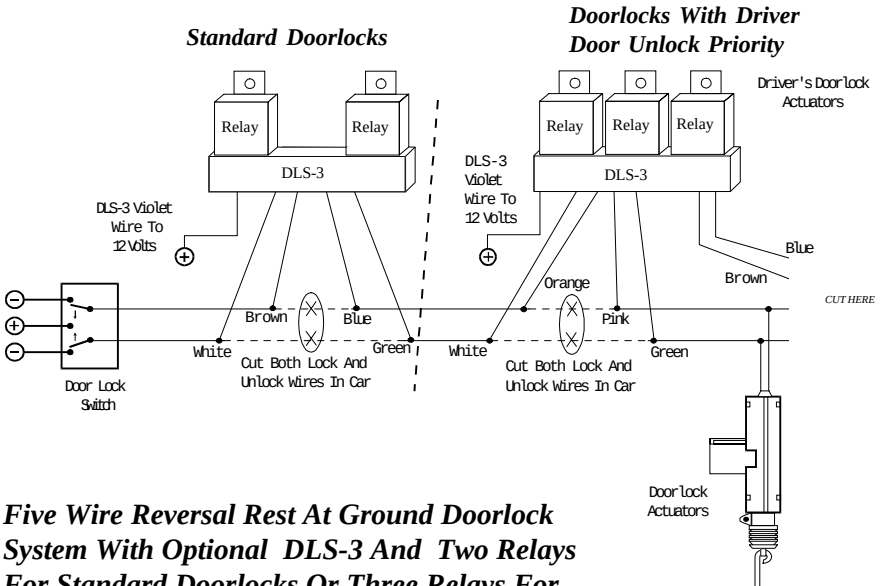
The DLS-3 is a triple relay socket (three relays are also needed) and is the most universal interface which allows the security system to lock the vehicle's doors, unlock only the driver's upon disarming (driver's door unlock priority) and, if desired, a second press of the transmitter's button within 5 seconds of disarming will unlock all of the doors. The DLS-3 used with two relays can be used in place of the DLS to lock and unlock all doors.



Three Wire Negative Doorlock Systems With Optional DLS-3 And Two Relays For Standard Doorlocks Or Three Relays For Driver's Door Priority Unlock.



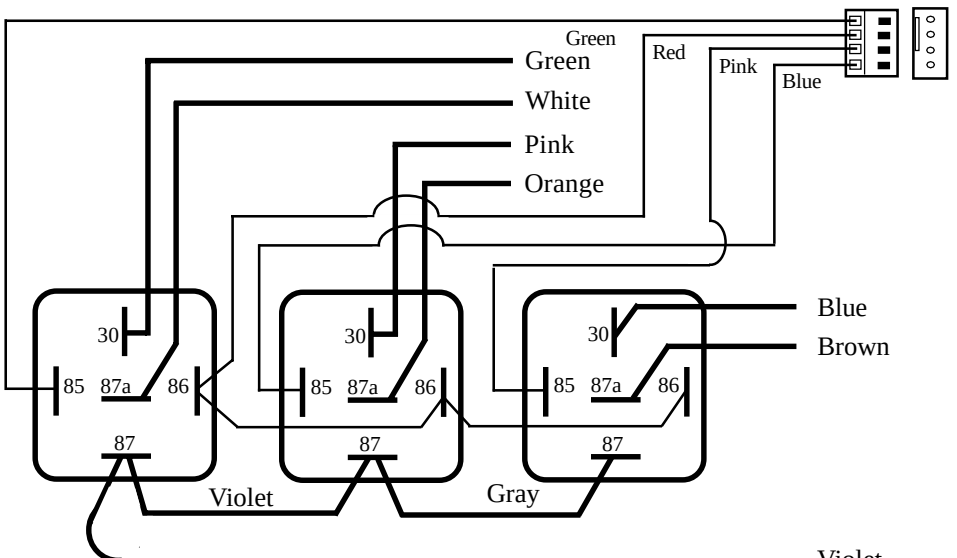
Three Wire Positive Doorlock Systems With Optional DLS-3 And Two Relays For Standard Doorlocks Or Three Relays For Driver's Door Only Unlock.

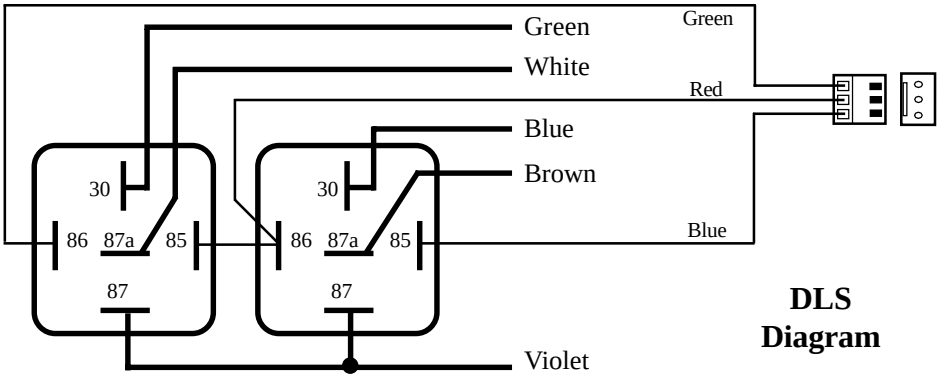


Five Wire Reversal Rest At Ground Doorlock System With Optional DLS-3 And Two Relays For Standard Doorlocks Or Three Relays For Driver's Door Only Unlock.

DLS-3 Wiring Diagram

DLS-3 Red Connector
Plugs Into Alarm's
Red Doorlock Port





DLS Diagram

Ignition-Activated Locking And Unlocking: Programmable Features #6, #7 and #8 control the security system's locking and unlocking the doors when the ignition switch is turned "on" and "off". Use the following combinations:

#6	#7	#8	Ignition Switch Status = Doorlocking Results
OFF	**OFF**	**OFF**	"ON" = No Lock; "OFF" = No Unlock #1, No Unlock #2
ON	**ON**	**ON**	"ON" = Lock; "OFF" = Unlock #1, Unlock #2
ON	**OFF**	**OFF**	"ON" = Lock; "OFF" = No Unlock #1, No Unlock #2
ON	**ON**	**OFF**	"ON" = Lock; "OFF" = Unlock #1, No Unlock #2

Programming Transmitters

When adding or deleting transmitter codes to operate the security system, follow this process:

1) Turn "on" the ignition.

2) Within 5 seconds of turning "on" the ignition, press the Easy Valet™ switch 5 times. The horn will honk (or the siren will chirp), confirming that for the next 10 seconds the system is ready to learn a transmitter code. When the first transmitter code is learned all existing stored codes will be erased. To enter a transmitter code, simply press and release the transmitter button which is desired to arm and disarm the system.

3) Repeat this procedure for each transmitter desired to operate the security system. The system will honk the horn (or chirp the siren) once to confirm that each transmitter code was learned. Both of the other two transmitter button's functions will automatically be learned when the arm / disarm button is learned. If a code is not received within a 10 second period, the learning process will automatically terminate.

Any one of the transmitter's three buttons may be programmed to arm and disarm the security system. Upon the system learning the arm / disarm button, the other two buttons are automatically assigned other functions, as follows:

Continued Next Page

Arm / Disarm	Trunk Release	3rd Channel
Large Center Button	Small Right Button	Small Left Button
Small Right Button	Large Center Button	Small Left Button
Small Left Button	Large Center Button	Small Right Button

This security system is programmed at the factory for the large center transmitter button to arm and disarm the system. The three transmitter buttons also perform other functions, which is explained in more detail in the Owner's Manual. Any one of the transmitter's three buttons may be programmed to arm and disarm the security system. Upon the system learning the arm / disarm button, the other two buttons are automatically assigned other functions, as shown in the chart.

Programmable Features

This vehicle security system has 21 programmable features that allows the system to be customized to fit the owner's personal needs. In order of the features programming protocol, the features are:

1) Ignition Activated Anti-Carjacking: **Default OFF.**
2) Door Activated Anti-Carjacking: **Default OFF.**
3) Last Door Arming: **Default ON.**
4) Doors Lock With Last Door Arming: **Default ON.**
5) Current Sensing: **Default ON.**
6) Doors Lock At Ignition "on": **Default ON.**
7) Unlock All Doors At Ignition "off": **Default ON.**
8) Unlock Driver Door Only At Ignition "off": **Default OFF.**
9) Open Door Bypass Of Ignition Lock / Unlock: **Default ON.**
10) Lights "On" 5 Or 30 Seconds Upon Disarm: **Default 30 Seconds.**
11) 90 Second Automatic Rearming: **Default ON.**
12) Trunk Release Disarm: **Default ON.**
13) .8 Or 3 Second Doorlock Pulse: **Default .8.**
14) Double Unlock Pulse: **Default OFF.**
15) 3 Or 45 Second Arming Delay: **Default 3 Seconds.**
16) Confirmation Chirp: **Default ON.**
17) Activated Duration) 30 / 60 Seconds: **Default 60 Seconds.**
18) Pulsed Or Steady Horn / Siren Output: **Default Pulsed.**
19) Horn Honk 12 ms (loud) Or 8ms (soft): **Default 12 ms.**
20) 28 Second Door Lock Pulse: **Default OFF.**
21) 3rd Channel Output Activates Anti-Carjacking: **Default OFF.**

Continued Next Page

The 21 Programmable Features are explained in more detail in the Owner's Manual. To program these features "on" or "off", follow this process:

1) Turn "off" the ignition.

2) Within 5 seconds of turning "off" the ignition, press the Easy Valet™ switch 5 times. The horn will honk (or the siren will chirp), followed by a short horn (or siren) burst, confirming that for the next 10 seconds the system is ready to receive a feature number.

3) Press the Easy Valet™ Switch the number of times that is equal to the feature number. Example: Press the Easy Valet™ Switch six times if Feature #6 is to be changed.

4) The horn (or siren) will respond by honking (or chirping) the same amount as the feature number. Example: The horn honks 6 times (or the siren responds with six chirps).

5) Press the large transmitter button to turn the feature "on". When done, the horn will honk one time (or the siren will respond with one chirp).

6) Press the small left transmitter button to turn the feature "off". When done, the horn will honk twice (or the siren will respond with two chirps).