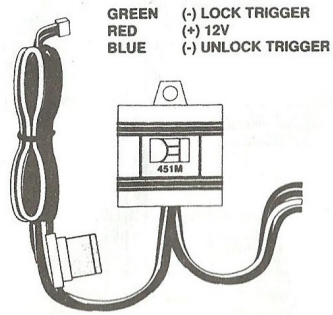




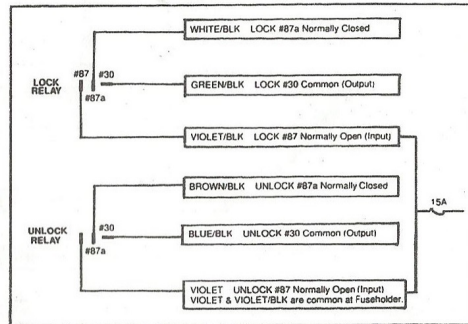
## SECURITY & CONVENIENCE COMPONENTS 451M MICRO DOORLOCK RELAY MODULE

INTERFACES WITH ALL REMOTE CONTROL SYSTEMS WITH (-) PULSED DOOR LOCK OUTPUTS

### 3-PIN PLUG INTERFACE WITH DEI® SYSTEM



### BUILT IN RELAY WIRING HARNESS



The door lock relay module will interface with most electric power door lock systems drawing 30 amps or less, both relay-controlled and direct-wired reversing-polarity types. It can also drive aftermarket door lock actuators, which must be added in the driver's door of Saabs, Volvos, most Mazdas and Subarus, and pre-1985 Mercedes-Benz and Audi vehicles, among others. It can also directly operate post-1985 Mercedes-Benz and Audi vacuum-driven systems if driven by a system with selectable-duration pulses. (Three-second minimum required.)

#### Identifying the door lock switch system:

The easiest way to determine what type of door lock system you are working with is to remove the master locking switch itself, which is usually on the driver's door or on the center console. Once you have determined which type of factory door lock circuit you are working with, and the color codes of the switch wires to be used, you can usually simplify the installation by locating the same wires in the vehicle's kickpanel.

**NOTE:** The wires should be re-tested at this point to be sure they work the same at the kickpanel. If no central locking switch is found, the installation may require a door lock actuator.

There are five different types of common door lock circuits (some vehicles use more unusual systems):

**Type A** Three-wire (+) 12V pulse controlling factory lock relays

**Type B** Three-wire (-) ground pulse controlling factory lock relays

**Type C** Directly-wired (no factory relays) reversing-polarity switches

**Type D** Aftermarket-actuator-driven systems. These include slave systems without an actuator in the driver's door, but with factory actuators in all the other doors, since these can be controlled with the installation of an aftermarket actuator.

**Type E** Electrically-activated vacuum systems (Mercedes-Benz and Audi 1985 and newer). This requires special programming of the system.

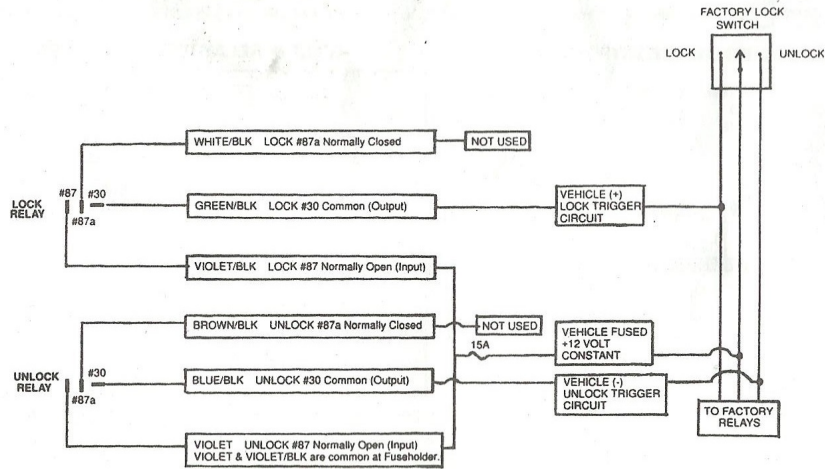
**NOTE:** This is only possible with systems with selectable duration lock pulses. (Three-second minimum required).

#### At the switch:

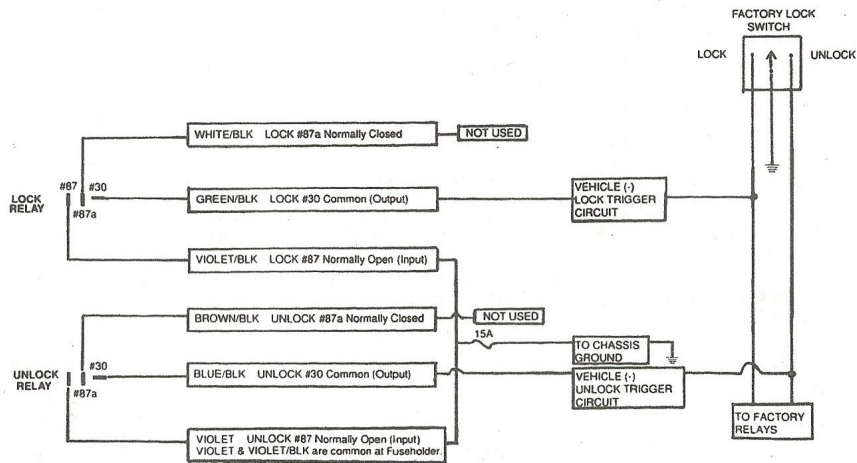
- Three-wire switches will have either a constant ground input or a constant (+)12V input, along with the pulsed lock and unlock outputs to the factory relays.

- Direct-wired switches will have a (+) 12V constant input and one or two (-) ground inputs, along with two out put leads going directly to the motor.

**WIRING DIAGRAM A: (+)12V pulses driving factory relays.**



**WIRING DIAGRAM B: (-) negative ground pulses driving factory relays.**



**WIRING DIAGRAM C: Directly-wired reversing-polarity switch circuits.**

Use these instructions if the power door lock switch has four or five heavy-gauge wires. This type of switch has two outputs that rest at (-) ground.

**NOTE:** Interfacing with these systems will require you to cut two switched leads. The 451M module must duplicate the factory door lock switches' operation. Protect the violet/black wire of the module with a 20A fuse.

One of the wires from the switch is a constant (+) 12V power source. The violet/black wire of the door lock module can be connected to this for constant (+)12V, if desired.

In all cases, the brown/black and white/black inputs to the module must be connected to the switch side of the lock and unlock wires. The switch side is the side that still rests at ground after the wire is cut. If both sides seem to rest at ground after you have only cut one of the switch leads, cut the other switch lead and re-test.

**IMPORTANT!** If these are not connected properly, you will send (+)12 volts directly to (-) ground, possibly damaging the module or the factory switch.

**WHITE/BLACK:** Locate and cut the lock output of the switch. Test both sides of the wire for (-) ground with the switch in the middle position. Also test for (+)12V with the switch in the lock position. Connect this wire to the switch side of the cut lock wire.

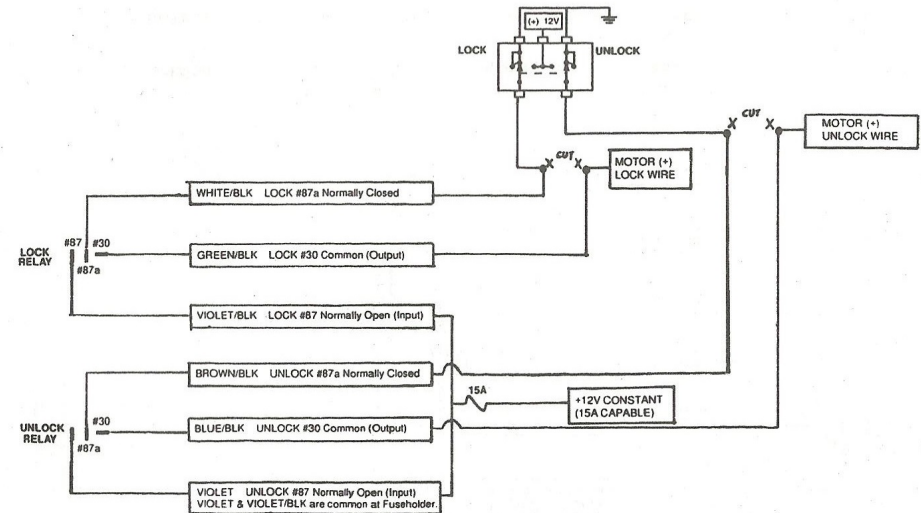
**GREEN/BLACK:** Connect the green/black wire to the other side of the lock wire you have cut. This wire goes directly to the lock motor.

**BROWN/BLACK:** Locate and cut the unlock output of the switch. Test both sides of the wire for (-) ground with the switch in the middle position. Also test for (+)12V with the switch in the lock position. Connect the brown/black to the switch side of the cut lock wire.

**BLUE/BLACK:** Connect the blue/black wire to the other half of the cut unlock wire.

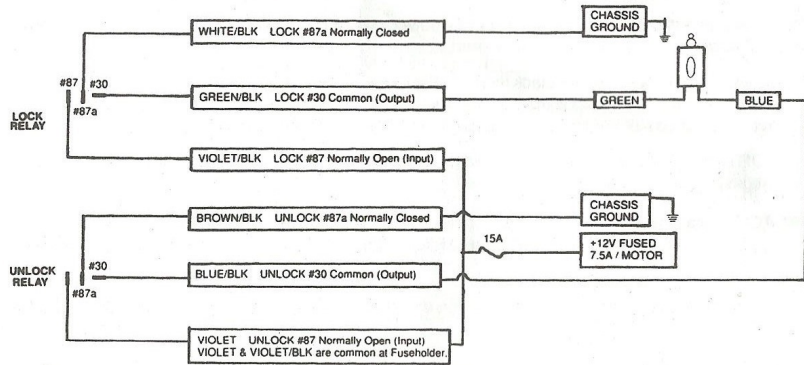
**VIOLET/BLACK:** This wire must be connected to a constant (+)12 volts. The best connection point for this wire is the constant (+) 12 volt supply for the door lock switch or directly to the (+) battery post with a fuse at the battery post.

**NOTE:** Most direct-wired power lock systems require 20-30 amps of current to operate. Connecting the violet/black wire to a poor source of voltage will keep the door locks from operating properly.



#### WIRING DIAGRAM D: AFTERMARKET ACTUATORS

Vehicles without factory power door locks require the installation of one actuator per door. This requires mounting the door lock actuator inside the door. Other vehicles may only require one actuator installed in the driver's door if all door locks are operated when the driver's lock is used.



#### WIRING DIAGRAM E: MERCEDES-BENZ AND AUDI

In Mercedes-Benz and Audi vehicles manufactured in 1985 and later, the door locks are controlled by an electrically activated vacuum pump. This can be controlled by certain security systems if the following wiring scheme is followed and the system is programmed for Mercedes/Audi lock pulse lengths.

**IMPORTANT!** Remember that the violet jumper between the #87 lock terminal and the #87 unlock terminal must be cut.

The wire to be cut and interrupted in these cars will test to be resting at (-) ground when the doors are locked, and rest at (+)12V when the doors are unlocked.

This wire can be found in either kick panel in the Mercedes-Benz. It is blue in the driver's kick panel and green in the passenger kick panel. In Audis, the driver's side wire is often green/blue or green/red.

