

Here you will find the most common types of power lock systems listed:

- Type A. The switch will have 3 wires on it and controls the power lock with (+) pulses.
- Type B. The switch will have 3 wires on it and controls the power lock with (-) pulses.
- Type C. Directly wired power lock switches with reversing polarity. The switches are connected directly to the motors and work without relays.
- Type D. Requires one or more actuators. Is required if there is no actuator in the driver's door or if the vehicle is retrofitted with a power lock system.
- Type E. Electrically activated vacuum pump system. The vehicle must have a vacuum motor in each door. If the vehicle can be opened and closed from the passenger side, this is the case. Otherwise, retrofit an actuator (Type D).
- Type F. Single wire system. Cut to lock, Ground to unlock.
- Type G. Positive multiplex system. One or two resistors are integrated in the door key cylinder.
- Type H. Negative multiplex system. One or two resistors are integrated in the door key cylinder.

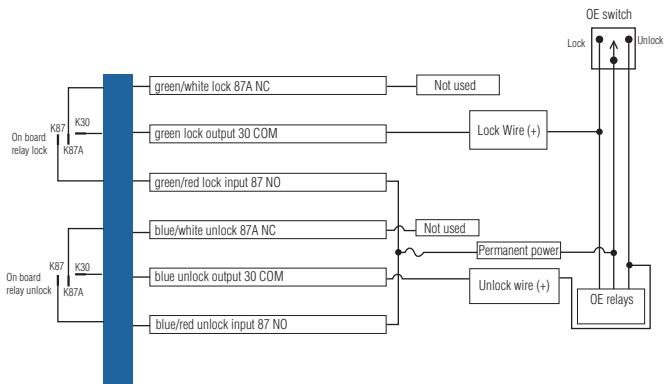
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Type A: positive (+) controlled power lock

The ZV724 can control type A door locks directly, with no additional parts.

The switch will have 3 wires on it, and one will test 12V/24V constantly. The others will alternately pulse Plus (+) when the switch is pressed to the lock or unlock position. If you cannot get to the switch, and you find a set of wires that pulse Plus (+) alternately on lock and unlock, make sure that it is not a type C direkt-wire system.

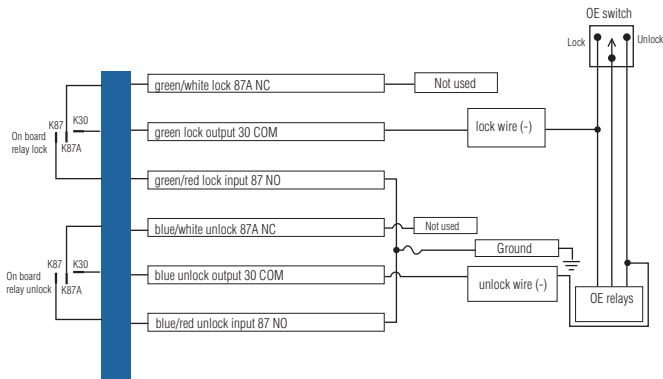
IMPORTANT! If it is a type C circuit and you confuse it with a type A circuit, this can lead to damage to the vehicle and the power lock module.



Type B: negative (-) controlled power lock

The ZV724 can control type B door locks directly, with no additional parts. The switch will have 3 wires on it, and one will test Ground all the time. The others will alternately pulse Ground (-) when the switch is pressed to the lock or unlock position. This type of system is difficult to mistake for any other type.

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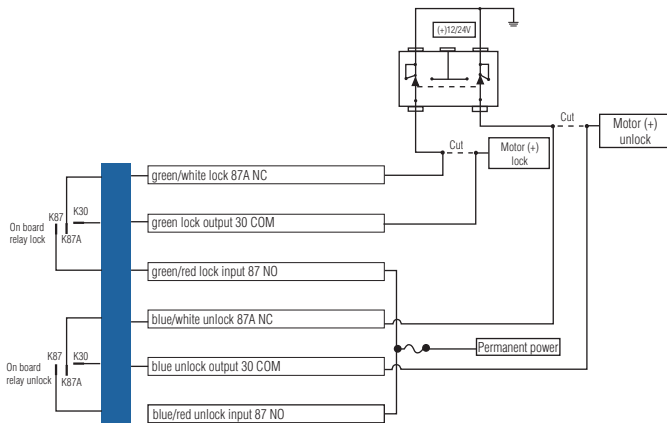


Type C: reversing polarity power lock system

It is critical to identify the proper wires and locate the master switch to interface the door locks properly. Locate wires that show voltage on lock and unlock. Cut one of the suspected wires and check operation of the locks from both switches. If one switch loses operation in both directions and the other switch operates in one direction only, you have located one of the target wires. The switch that lost all operation is the master switch. If one switch works in both directions and the other switch works only in one direction, you have a type A system. If both switches still operate, but one or more doors has stopped responding entirely, you did cut a motor lead. Reconnect it and continue to test for another wire. Once both wires have been located and the master switch has been identified, cut both wires and interface as shown in the following diagram.

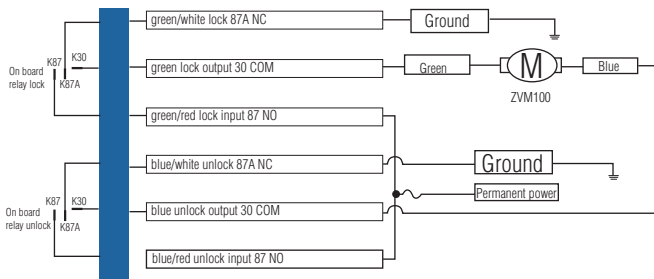
IMPORTANT! If these wires are not connected properly, you will send (+) 12V/24V directly to (-) Ground, possibly damaging the ZV724 or the factory switch.

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Type D: retrofitted actuators

Vehicles that do not have power lock as standard require an actuator for each door. This motor must be installed in the door. Other vehicles that can only be controlled from the driver's door only require a servomotor in the driver's door. This type of installation is required to operate factory lock systems in many Volvo, Saab, Mazda and a whole range of Japanese vehicles.

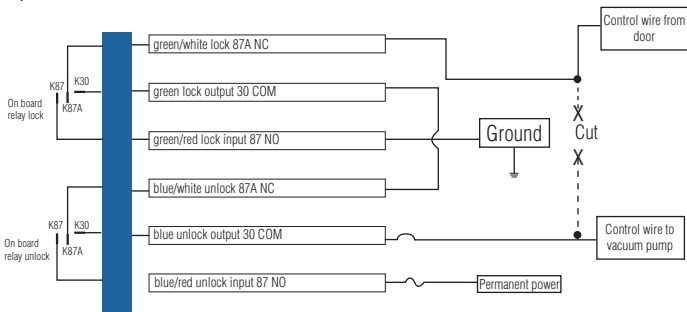


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Type E: vacuum pump in old Mercedes-Benz and Audi (1985 to ~1995)

These door locks are controlled by a vacuum pump. Some Mercedes and Audi models use a type D system. This is easy to find out. If you can lock and unlock from the passenger key cylinder, you can control the power lock with no additional parts. Check behind the driver's side kick panel, find a wire that carries voltage when the vehicle is unlocked and carries ground when the vehicle is locked. Connect the ZV724 according to the wiring diagram.

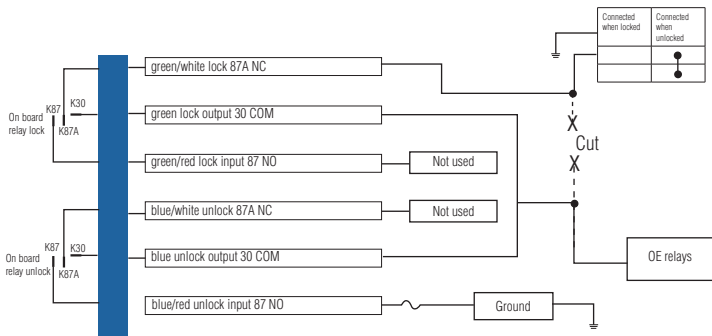
IMPORTANT! The system must be programmed for 4 second door lock pulses.



Type F: 1-wire system - “cut” to lock and “ground” to unlock

Type F door locks usually require a negative pulse to unlock, and cutting the wire to lock the door. In some vehicles, these functions are reversed.

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Type G: positive (+) multiplex signal central lock

This system is most commonly found in Ford, Mazda, Chrysler and GM vehicles. The door lock switch or door key cylinder may contain either one or two resistors.

SINGLE-RESISTOR TYPE: If one resistor is used in the door lock switch/key cylinder, the wire will pulse (+)12V/24V in one direction and less than (+)12V/24V when operated in the opposite direction.

TWO-RESISTOR TYPE: If two resistors are used in the factory door lock switch/key cylinder, the switch/key cylinder will read less than (+)12V/24V in both directions.

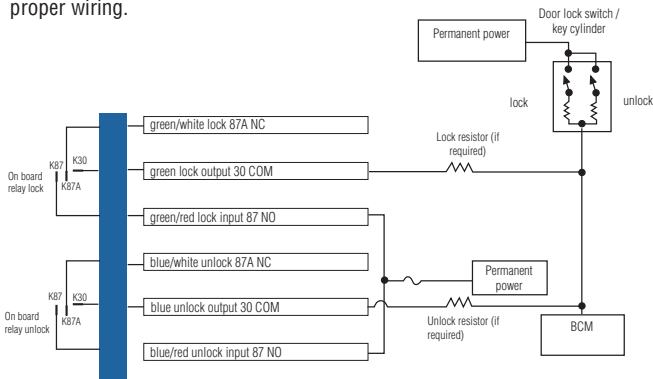
DETERMINING THE PROPER RESISTOR VALUES: If two resistors are integrated, two pulses with a voltage less than +12V/24V can be measured for each direction.

IMPORTANT! Do not touch the measuring tip with your fingers during the measurement.

1. Cut the output wire from the door lock switch/key cylinder in half.
2. Test with the meter from the switch side of the cut door lock switch/key cylinder wire to a reliable constant (+)12V/24V source. Some good constant (+)12V/24V references are the power input source to the door lock switch/key-cylinder, the ignition switch power wire, or the (+) terminal of the battery.
3. Operate the door lock switch/key cylinder in both directions to determine the resistor values. If the multimeter displays zero resistance in one direction, no resistor is needed for that direction.

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4. Once the resistor value(s) is determined, refer to the wiring diagram for proper wiring.



Type H: negative (+) multiplex signal central lock

This system is most commonly found in Ford, Mazda, Chrysler and GM vehicles. The door lock switch or door key cylinder may contain either one or two resistors.

SINGLE-RESISTOR TYPE: If one resistor is used in the door lock switch/key cylinder, the wire will pulse Ground in one direction and resistance to Ground when operated in the opposite direction.

TWO-RESISTOR TYPE: If two resistors are used in the factory door Lock switch/key cylinder, the door Lock switch/key cylinder will read resistance to ground in both directions.

TO DETERMINE RESISTANCE VALUES: Use only a digital multimeter in the "Ohm" position.

IMPORTANT! Do not touch the measuring tip with your fingers during the measurement.

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1. Cut the output wire from the door lock switch/key cylinder in half.
2. Test with the meter from the switch side of the cut door lock switch/key cylinder wire to a reliable ground source. Some good ground references are the ground input source to the door lock switch/key cylinder or the battery ground.
3. Operate the door Lock switch/key cylinder in both directions to determine the resistor values. If the multimeter displays zero resistance in one direction, no resistor is needed for that direction.
4. Once the resistor value(s) is determined, refer to the wiring diagram for proper wiring.

