

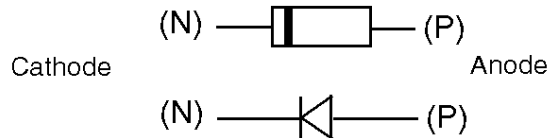
Diode Application Guide

3 in the *Installation Training Series* from Directed Electronics

Why do I need to use diodes?

A diode is an electrical "backflow valve", allowing electrons to travel in only one direction. A diode will allow positive voltage to travel from the **anode** through to the **cathode**. It will not allow positive voltage to travel from the cathode to the anode.

Remember:
Band on diode marks the cathode, or (-) side



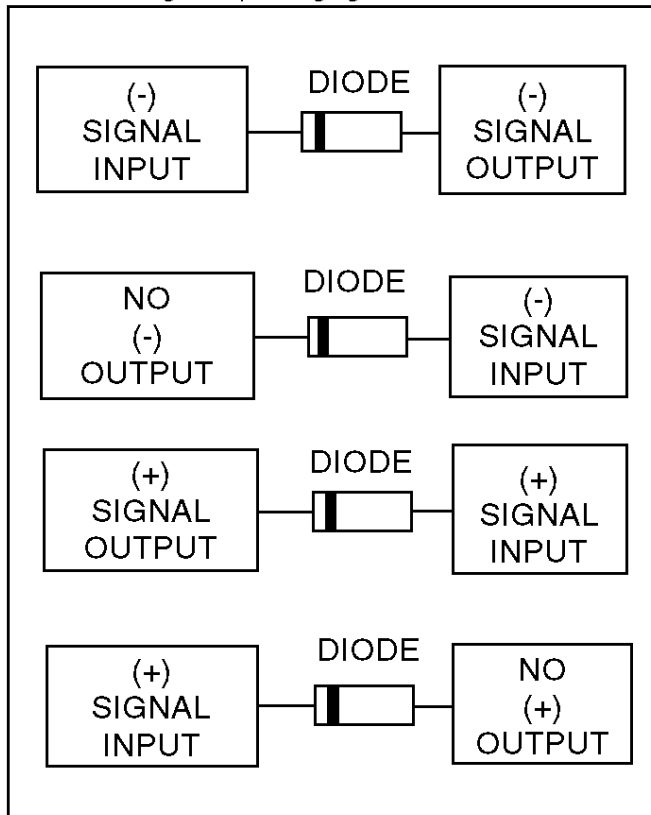
When working with a negative signal, the diode works in reverse. A negative signal will travel from the cathode to the anode, but will not travel from the anode to the cathode.

Diodes are necessary in the following common applications:

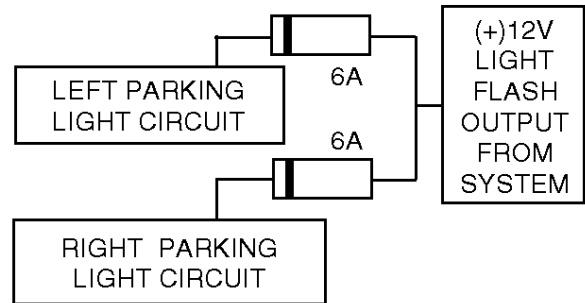
- Connecting two sets of switches to the same trigger input.
- Flashing two separate parking light circuits with the same relay output.
- Sending two different circuits control pulses while keeping them isolating them from each other.
- Preventing feedback through the windings of relay coils.

Here is a quick reference guide.

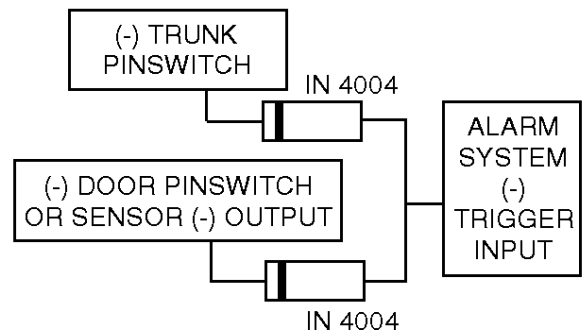
Remember: IN4004 diodes, the most common, are one-amp capable. Use the appropriate amperage rating. When working with parking lights, 6A diodes are recommended. 3A diodes are also available.



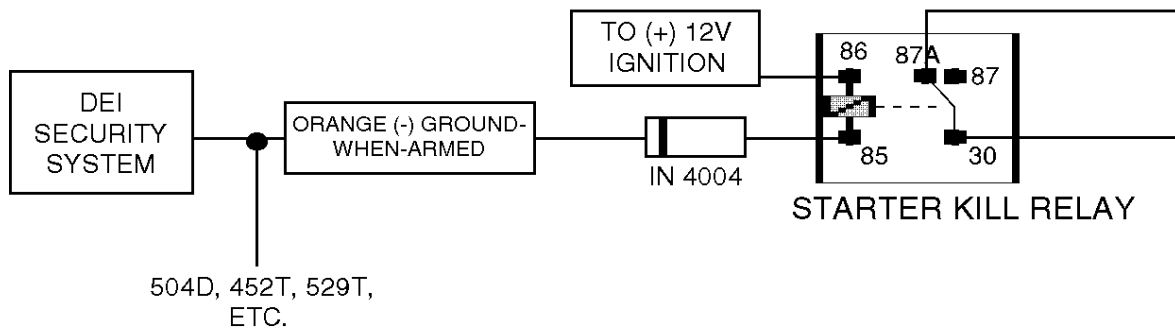
ISOLATING DUAL PARKING LIGHT CIRCUITS



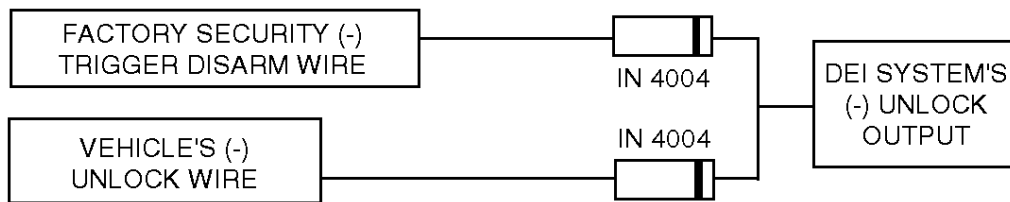
ISOLATING SWITCHES AND SENSORS ON THE SAME INPUT



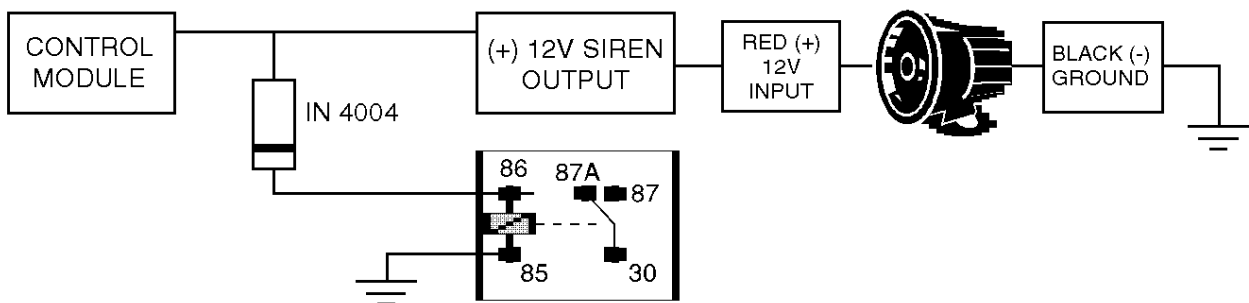
ISOLATING A STARTER KILL RELAY FROM OTHER COMPONENTS CONNECTED TO (-) GROUND-WHEN-ARMED



DISARMING FACTORY SECURITY WHEN UNLOCKING



ADDING A RELAY TO DEI SIREN OUTPUT WITHOUT ENGAGING THE SHORT-CIRCUIT PROTECTION



FACTORY SECURITY DISARM WITH AUXILIARY CHANNEL IN VALET START INSTALLATIONS

