Relay Operation

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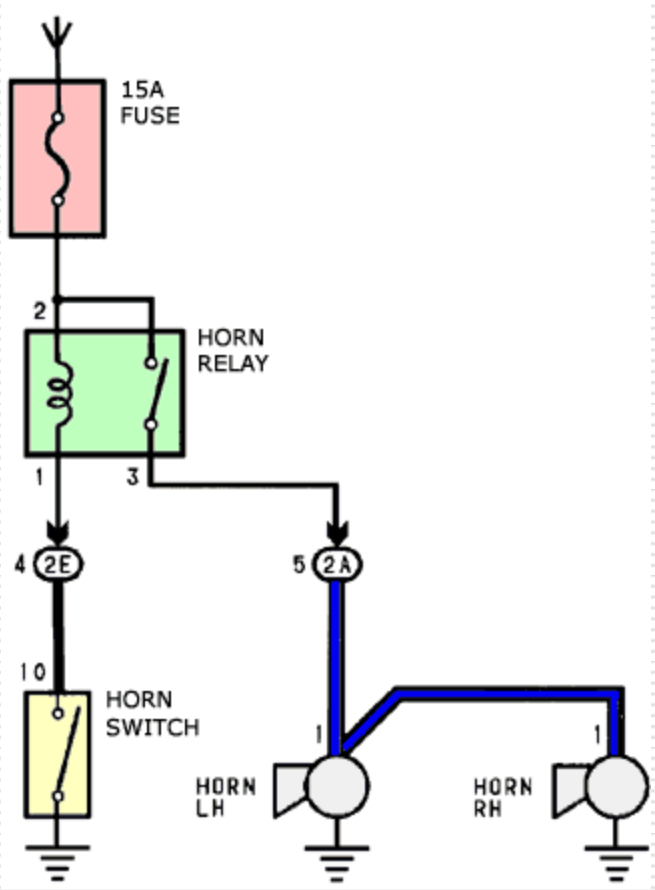
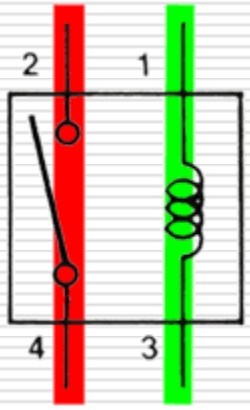
Relay operation

- Relays are a remote control electrical switch that can be switched using low current to control a high current load.

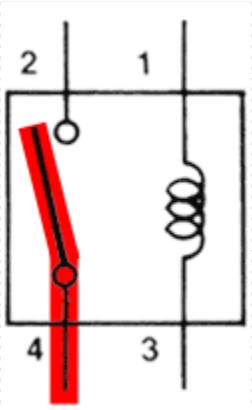


Relay operation

- Load side. (red)
- Control side. (green)

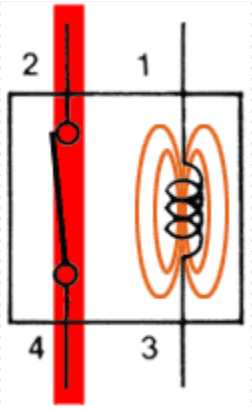


Relay operation (off)



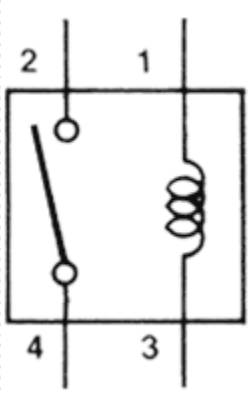
- Drawn in natural state
- Where is voltage present when load side is open?

Relay operation (on)



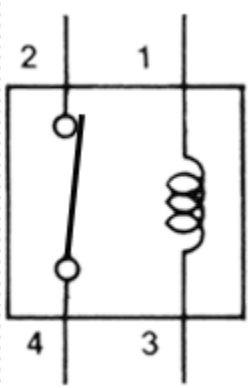
- When there is current through the coil of wire on the control side a magnetic field is produced.
- This magnetic field closed the contacts on the load side.

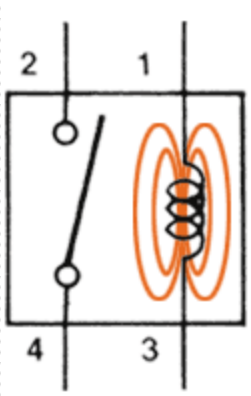
Normally open



- In this relay's natural state it is in the normally open state.
- When the coil is energized the contacts are closed

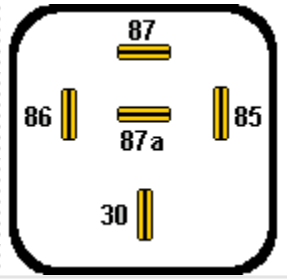
Normally closed



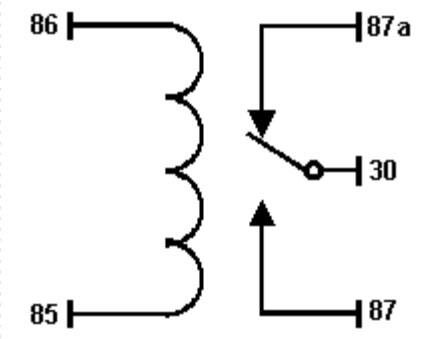


- In this relay's natural state it is in the normally closed state.
- When the coil is energized the contacts opened

Mini-ISO 5 pin

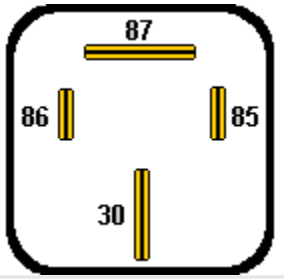


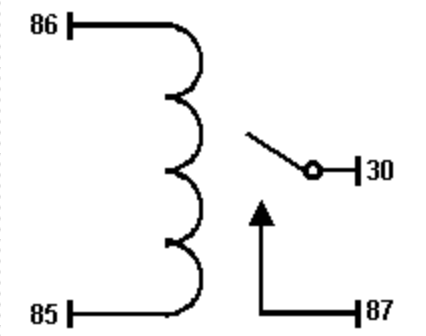
- Five pin relay
- Most common
- Contains normally open and normally open contacts



Mini-ISO 4 pin

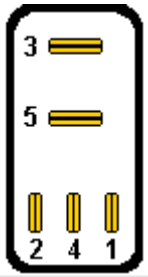
- 4 pin relay
- Contain either normally open or normally closed.

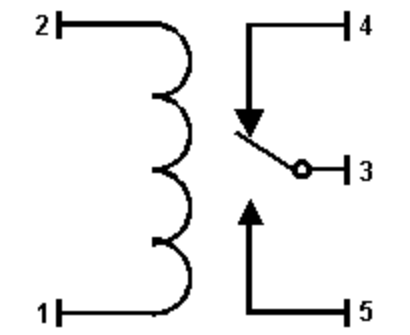




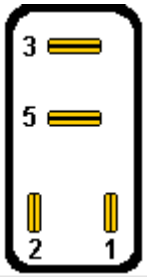
Micro-ISO 5 pin

- 5 pin relay
- Very common
- Contains normally open and normally closed

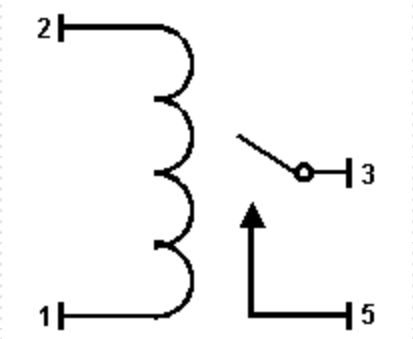


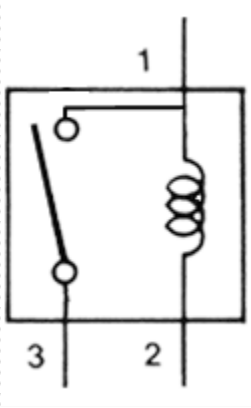


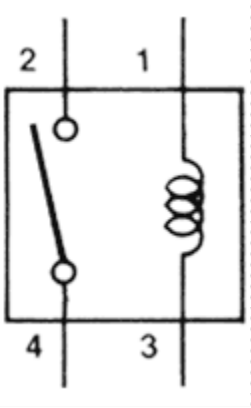
Micro-ISO 4 pin

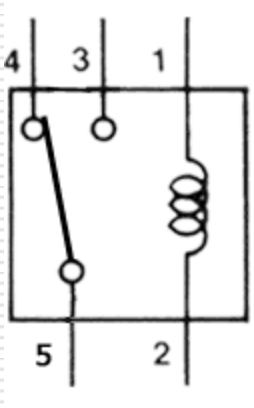


- 4 pin
- Contains either normally open or closed

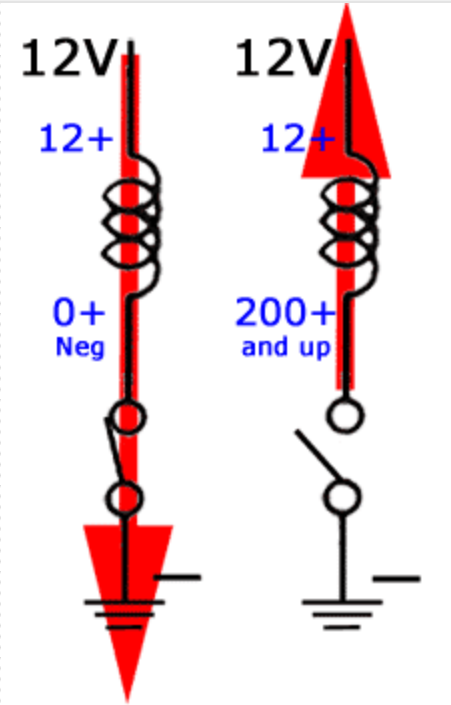



1
3
2


2
1
4
3


4
3
1
5
2

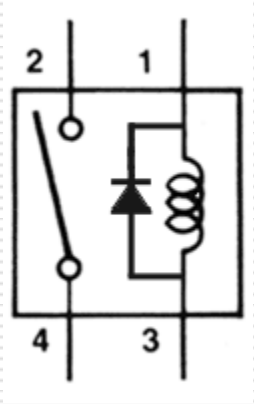
Voltage spikes

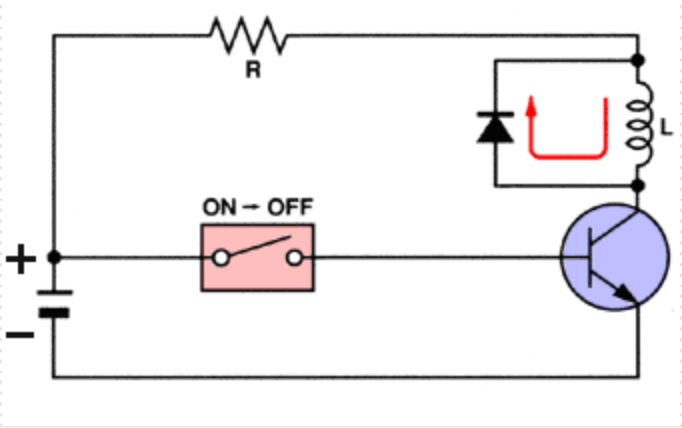


- When a coil collapses what is produced in the coil?

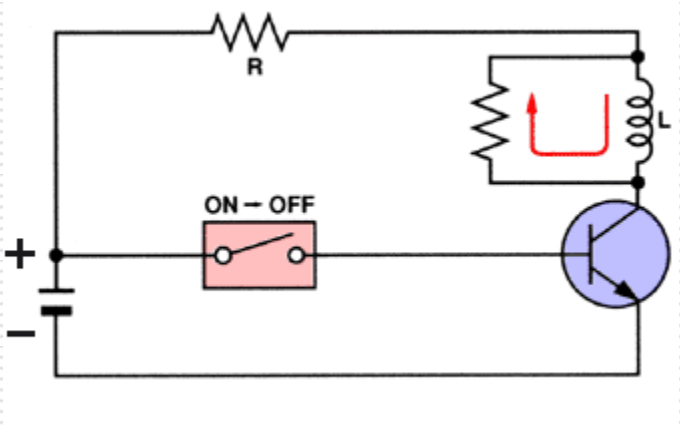
Voltage suppression

- Diodes are used to suppress the voltage spike produced by collapsing the magnetic field





Voltage suppression



- Resistor
- The voltage spike is forced to go through the resistor.