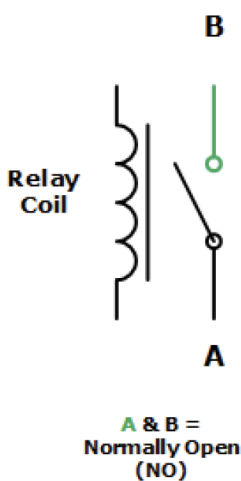


# Switch & Relay Contacts Explained

## Single Pole

### SPST - Single Pole Single Throw

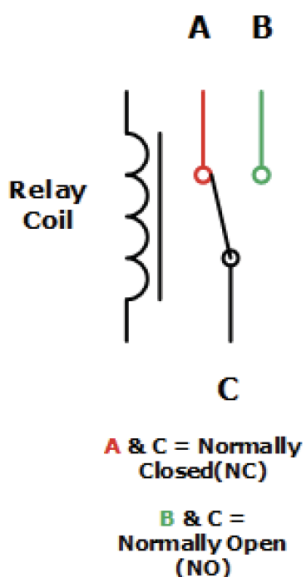
This type of contact has one normally open or one normally closed contact. When activated by a switch actuator or an energised relay the switch contact changes state.



For the relay example in the image - when voltage is applied across the relay coil, the contacts A and B close (activated state). When voltage is removed from the relay coil, the contacts are open (de-activated or resting state) as shown in the image.

### SPDT - Single Pole Double Throw

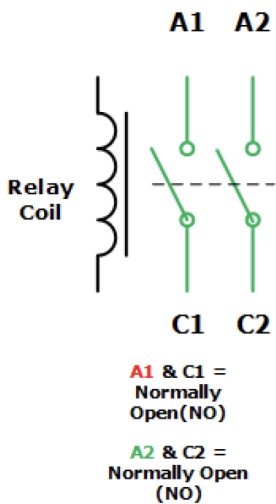
This type of contact has one normally open and one normally closed contact, also called a changeover contact. When activated by a switch actuator or an energised relay the switch contact changes state. This type of relay has 3 contacts: a Common (C), a Normally Open(A) and a Normally Closed(B).



For the relay example in the image - when voltage is applied across the relay coil, the contacts A and C close (activated state) and B and C open. When voltage is removed from the relay coil, the contacts change back to the resting state as shown in the image.

# Double Pole

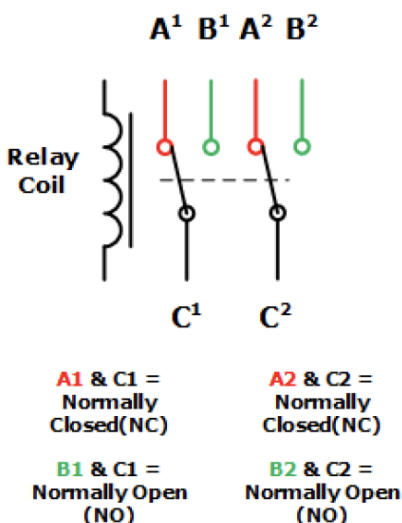
## DPST - Double Pole Single Throw



This type of contact has two normally open or two normally closed contacts. A1 + C1 and A2 + C2. A1/C1 are not electrically connected to A2/C2. When activated by a switch actuator or an energised relay, the switch contacts change state.

For the relay example in the image - when voltage is applied across the relay coil, the contacts A1 and C1 close at the same time as A2 and C2 (activated state). When voltage is removed from the relay coil, the contacts re-open (de-activated or resting state) as shown in the image.

## DPDT - Double Pole Double Throw



This type of contact has two sets of changeover contacts, two normally open and two normally closed contacts, also called changeover contacts. Each set has 3 contacts, a Common (C), a Normally Open (A) and a Normally Closed (B). A1 ,B1, C1 and A2 ,B2, C2 are not electrically connected in any way. When activated by a switch actuator or an energised relay, the switch contacts change state.

For the relay example in the image - when voltage is applied across the relay coil, both sets of contacts change state at the same time; contacts A1 and C1 close and B1 and C1 open (activated state), contacts A2 and C2 close and B2 and C2 open. When voltage is removed from the relay coil, the contacts change back to their resting state as shown in

the image.

**Note:**

All drawings/schematics and manual always show the contacts of a switch or relay in their resting state.

<https://support.cdvi.co.uk/portal/en/kb/articles/switch-relay-contacts-explained>