

EWV Exp. ②

Aim :- To understand various components used household wiring.

Apparatus :- Electrical wire, switch, MCB, optical, cable wires etc

Theory :-

i) Electrical wire & wirings :-

Electricity requires an electron path to flow. It is made up of materials like copper, al. & silver. As silver is expensive it is not used. It is further classified into 3 parts to their properties,

a) Conducting material :- Copper (Good conductor of electricity)
Aluminium (light weight)

b) Insulating material :- These are bad conductors of electricity. Most insulating material are very light.

c) Semiconductor material :- It is middle of conducting & insulating.
i) Intrinsic & ii) Extrinsic.

ii) Switch :-

It makes or breaks the electric circuit. It is for on/off.

It types are, One-way, Two-way, intermediate, main switch.

It can be also used to control one lamp from two places.

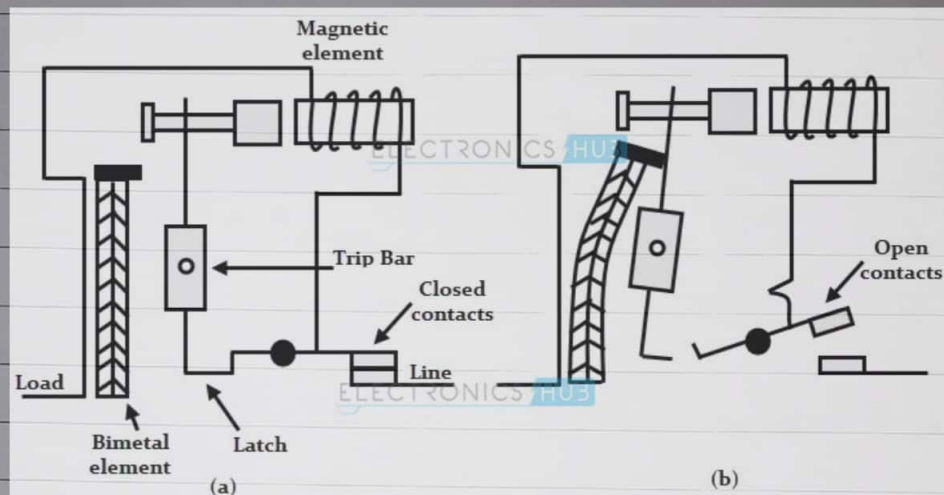
Intermediate Switch - It conducts for more than two places.

Main Switch - It is one of the parts of a control panel which has a large ip or progressive a project & applies or disconnect the power of the control panel.

iii) Miniature Circuit Breaker (MCB) :-

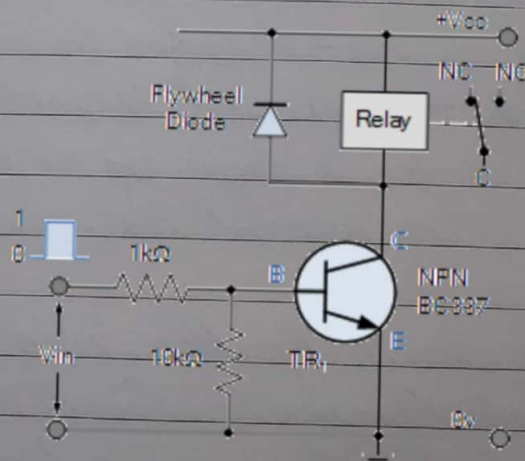
It is electromagnetic device. The primary function is to switch the current. This means automatically open the circuit.

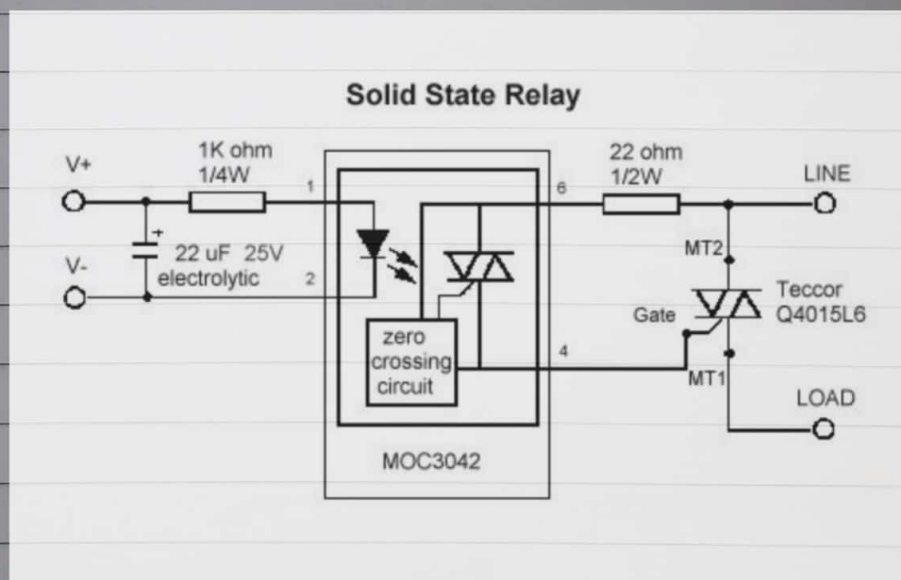
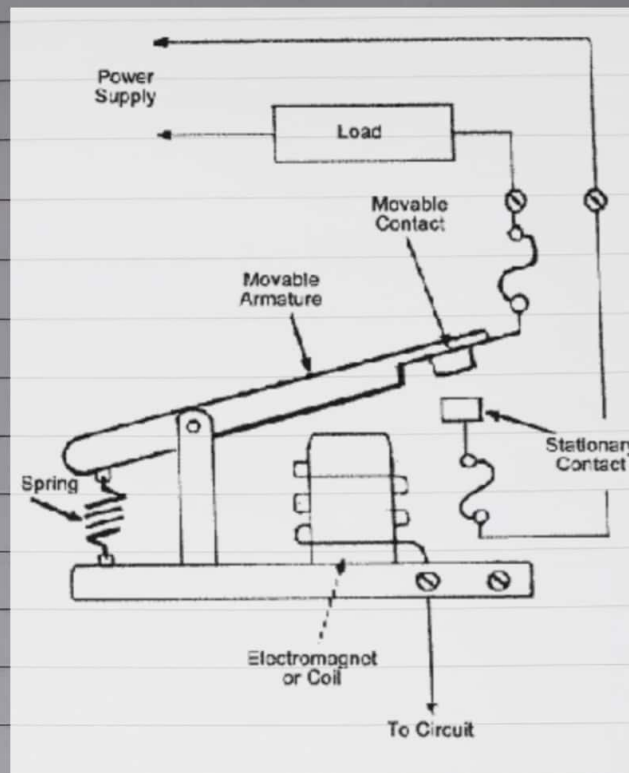
This is a time-delaying tripping device. In these the operating time is controlled by magnitude of overcurrent passing through it. This means that device functions whenever there is overall existing for a long time. Hence this is the worst the from overload short circuits, over currents.



iv) Relay :-

It is switch the on/off switch electronically. A relay diag. shows when relay is open & normally closed there is a closed contact when the relay is not engaged. In either case, applying electrical current to the contacts will change their state.





1) Cables :-

That are used to transmission & substitution of electrical power is known as electric power cable. It is used for the transmission of high voltages in places where overhead lines are impractical to use.

Types of cables - a) Shielded cables

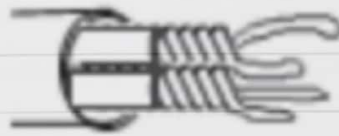
b) Twisted pair cables

c) Coaxial cables.

Networking Cables



Unshielded twisted-pair cable



Shielded twisted-pair cable



Coaxial cable

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