

## EWW Exp. ①

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 electric path to flow. It is made up of materials like copper, al & others. As silver is expensive it is not used. It is further classified into 3 parts by their properties,  
a) Conducting material :- Copper (Good conductor of electricity)  
Aluminium (light weight)

b) Insulating material :- These are bad conductors of electricity. Heat 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.

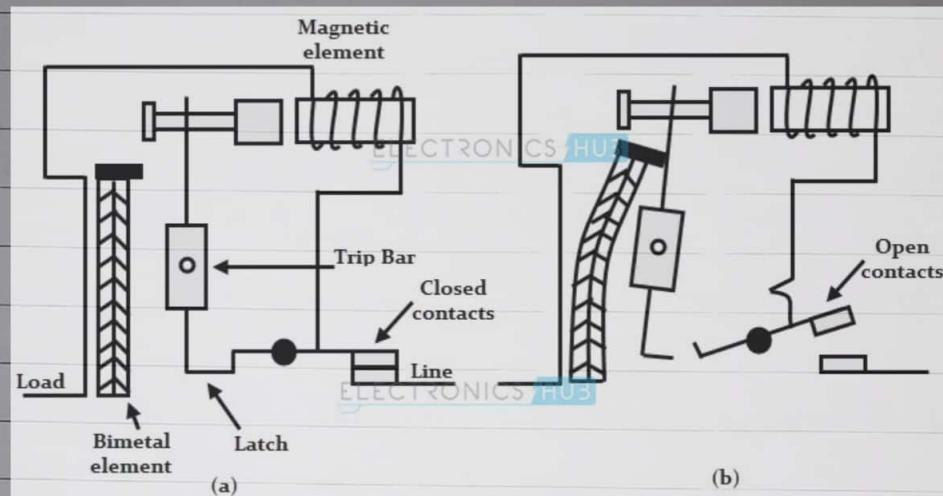
Intermediate Switch - It controls for more than two places

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

### iii) Main fuse Circuit Breaker (MCB) :-

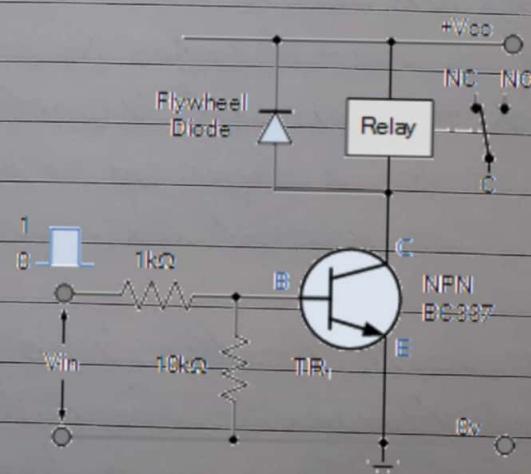
It is electromagnetic Device. The primary function is to switch the current. This means automatically open the circuit

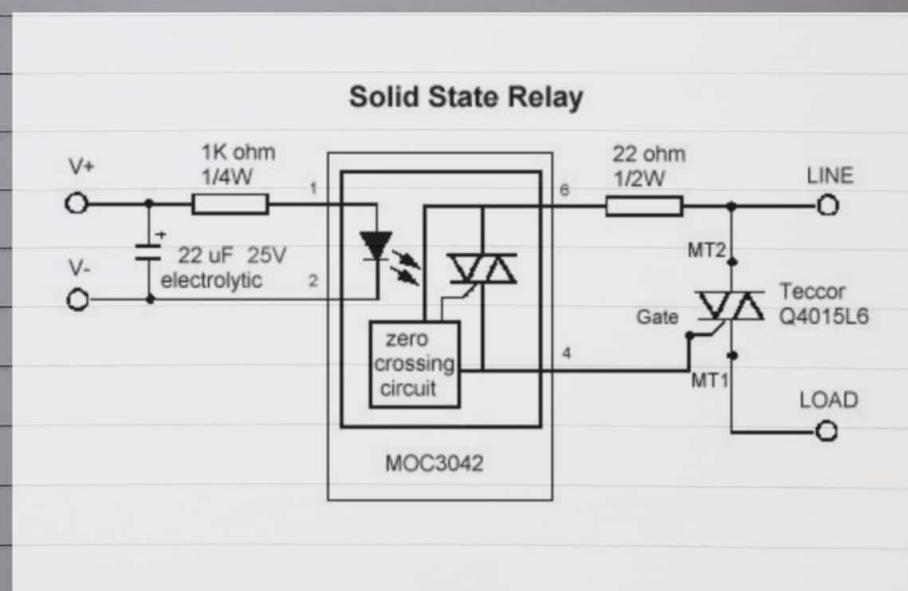
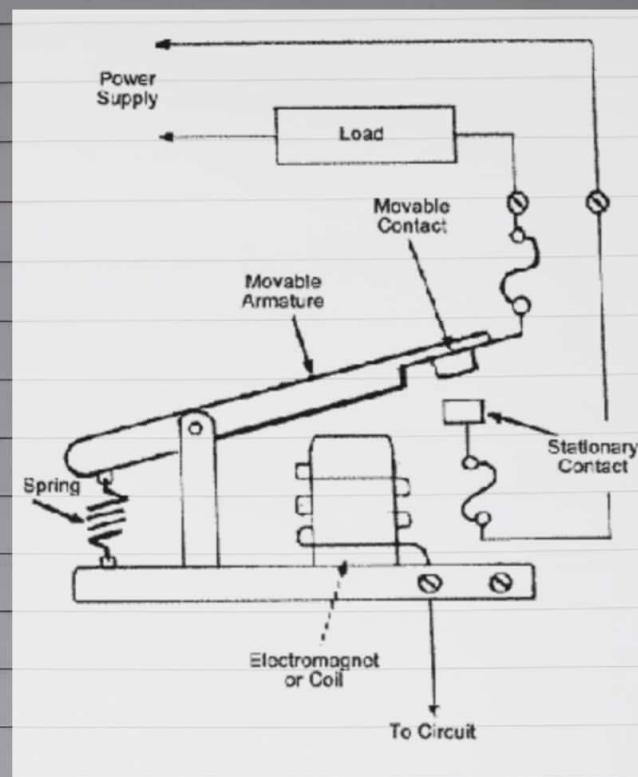
This is a time-delaying tripping device. In these the operating time is controlled by magnitude of overcurrent passing through it. This means that device functions whenever there is overall existing for a long time. Hence this the want the from overload short circuits, over currents.



iv) Relay :-

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





4) 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.

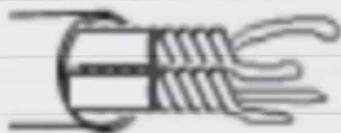
Types of cables -

- a) shielded cables
- b) twisted pair cables
- c) coaxial cables.

## Networking Cables



Unshielded twisted-pair cable



Shielded twisted-pair cable



Coaxial cable

ComputerHope.com

FOR EDUCATIONAL USE