

## **RELAY BASICS:**

### **What is Relay:**

Most of the high end industrial application devices have relays for their effective working. Relays are simple switches which are operated both electrically and mechanically. Relays consist of an electromagnet and also a set of contacts. The switching mechanism is carried out with the help of the electromagnet. There are also other operating principles for its working. But they differ according to their applications. Most of the devices have the application of relays.

### **How Relay works:**

Relays are switches that open and close circuits electromechanically or electronically. Relays control one electrical circuit by opening and closing contacts in another circuit. As relay diagrams show, when a relay contact is normally open (NO), there is an open contact when the relay is not energized. When a relay contact is Normally Closed (NC), there is a closed contact when the relay is not energized. In either case, applying electrical current to the contacts will change their state.

Relays are generally used to switch smaller currents in a control circuit and do not usually control power consuming devices effect because a small voltage applied to a relays coil can result in a large voltage being switched by the contacts.

### **Relay Applications**

- Relays are used to realize logic functions. They play a very important role in providing safety critical logic.
- Relays are used to provide time delay functions. They are used to time the delay open and delay close of contacts.
- Relays are used to control high voltage circuits with the help of low voltage signals. Similarly they are used to control high current circuits with the help of low current signals.
- They are also used as protective relays. By this function all the faults during transmission and reception can be detected and isolate.

