A motor controller is a device or group of devices that serves to govern in some predetermined manner the performance of an electric motor.[1] A motor controller might include a manual or automatic means for starting and stopping the motor, selecting forward or reverse rotation, selecting and regulating the speed, regulating or limiting the torque, and protecting against overloads and faults.[2]

There are many types of starters:

1.Direct On Line (DOL)

2.Star delta starter

3.Auto transformer starter

**Applications**

Every electric motor has to have some sort of controller. The motor controller will have differing features and complexity depending on the task that the motor will be performing.

The simplest case is a switch to connect a motor to a power source, such as in small appliances or power tools. The switch may be manually operated or may be a relay or contactor connected to some form of sensor to automatically start and stop the motor. The switch may have several positions to select different connections of the motor. This may allow reduced-voltage starting of the motor, reversing control or selection of multiple speeds. Overload and over current protection may be omitted in very small motor controllers, which rely on the supplying circuit to have over current protection. Small motors may have built-in overload devices to automatically open the circuit on overload. Larger motors have a protective overload relay or temperature sensing relay included in the controller and fuses or circuit breakers for over current protection. An automatic motor controller may also include limit switches or other devices to protect the driven machinery.

More complex motor controllers may be used to accurately control the speed and torque of the connected motor (or motors) and may be part of closed loop control systems for precise positioning of a driven machine. For example, a numerically controlled lathe will accurately position the cutting tool according to a preprogrammed profile and compensate for varying load conditions and perturbing forces to maintain tool position.