

## Drive Motors

Motor Control Centers or likewise called MCC's, are an assembly of one or more enclosed sections, that have a common power bus principally containing motor control units. They have been used since the 1950's by the automobile industry, since they used a lot of electric motors. Now, they are utilized in different industrial and commercial applications.

Inside factory assembly for motor starter; motor control centers are fairly common practice. The MCC's comprise programmable controllers, metering and variable frequency drives. The MCC's are usually seen in the electrical service entrance for a building. Motor control centers commonly are utilized for low voltage, 3-phase alternating current motors which range from 230 V to 600V. Medium voltage motor control centers are made for large motors that range from 2300 volts to 15000 volts. These units use vacuum contractors for switching with separate compartments so as to achieve power control and switching.

Inside factory locations and area that have dusty or corrosive processing, the MCC can be installed in climate controlled separated locations. Typically the MCC would be situated on the factory floor near the equipment it is controlling.

A MCC has one or more vertical metallic cabinet sections with power bus and provisions for plug-in mounting of individual motor controllers. Smaller controllers could be unplugged from the cabinet to be able to complete testing or maintenance, whereas very large controllers could be bolted in place. Each and every motor controller has a contractor or a solid state motor controller, overload relays In order to protect the motor, circuit breaker or fuses to provide short-circuit protection as well as a disconnecting switch so as to isolate the motor circuit. Separate connectors enable 3-phase power to enter the controller. The motor is wired to terminals situated in the controller. Motor control centers provide wire ways for field control and power cables.

Each and every motor controller in a motor control center could be specified with different alternatives. These alternatives include: extra control terminal blocks, control switches, pilot lamps, separate control transformers, and many kinds of bi-metal and solid-state overload protection relays. They also comprise various classes of kinds of power fuses and circuit breakers.

There are many options concerning delivery of MCC's to the customer. They could be delivered as an engineered assembly with interlocking wiring to a central control terminal panel board or programmable controller along with internal control. On the other hand, they could be provided prepared for the client to connect all field wiring.

Motor control centers normally sit on the floor and should have a fire-resistance rating. Fire stops could be necessary for cables that go through fire-rated walls and floors.