

**DESIGN OF MOTOR CONTROL CENTER PANEL
FOR CONTROL OF TWO THREE-PHASE
INDUCTION MOTORS BASED ON PLC**

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ABSTRACT

The electric motor can be controlled through the control panel. The control panel functions to regulate and control the electric motor. The Motor Control Center (MCC) panel is needed to easily find out the conditions or problems that occur in the motor or pump used and protect it if there is a disturbance because there is a safety feature in the panel. Speed control and operation of the motor or pump can be done centrally in one place. In addition, with the help of the Motor Control Center (MCC) panel, voltage, current and power consumption can also be monitored and problems that occur such as overload, reverse phase and lost phase. The Motor Control Center (MCC) panel is a system that can operate manually or automatically adjust several sets of motors in the industry in a panel box. Remote control is done automatically using a programmable logic controller Programmable Logic Control (PLC) or distributed control system (DCS) in the control system, and the motor is activated manually by activating the miniature circuit breaker Motor Control Center (MCB) component on the panel. On the Motor Control Center (MCC) panel there are various equipment and components whose function is to control the operation of the electric motor and all of these equipment or components are placed in a panel box made of carbon iron and metal iron plates that have been arranged horizontally or vertically. Therefore, the Motor Control Center (MCC) Panel can be designed automatically using a Programmable Logic Control (PLC). To regulate the speed of a three-phase induction motor, one way is by changing the frequency. To regulate the frequency entering the three-phase induction motor, you can use a variable speed drive (VSD) control that is directly connected to the three-phase induction motor. Variable Speed drive or variable frequency drive is a tool used to control the speed of an electric motor (AC) by controlling the frequency of the electrical power supplied to the motor.

Keywords: 3 phase motor, Variable Speed drive, Programmable Logic Controller