ABSTRACT

Programmable Logic Controller (PLC) mostly used in industrial environment. PLC is used for control big instruments that needs for automatic and looping works. PLC have more features that use in big factory. More PLC superiority are easy use, predictable output, endure from vibration, have endure for long use, and can work in dirty environment.

In my final project, I will design a *Printed Circuit Board (PCB)* for micro PLC. PCB design follow Electromagnetic Compatibility rules for use in hard environment. Microcontroller that is used in my PLC hardware design is ATMega 128 microcontroller.

PLC is designed in one PCB that contains input – output block, power supply block, communication block, and memory. All my microcontroller pins are used maximal for input – output block, power supply block, communication block, and memory. PLC can handle most general PLC process.

PLC in this design have specifications 10 digital inputs with voltage level 12 – 24 volt and current level 5 – 50 mA. 8 digital outputs with voltage level 12 – 24 volt and current level until 100 mA. PLC use power supply 220 VAC. Using serial RS232 as communication. Have analog inputs. Can work in manufacture industry as properly micro PLC.

Keywords : *Programmable logic controller (PLC), Printed Circuit Board (PCB), Microcontroller.*