ABSTRACT

To the present, programmable logic controller (PLC) are widely used in various applications, such as in the production process of an industrial field. PLC is a device that is made as a substitute for mechanical relays that serve as control systems and can handle a wide levels variety of complexity. Until now, the number of PLC on the market is increasing, but there is no PLC made in Indonesia. Therefore, IT Telkom which working with several agencies such as the DIKTI and PT.ESI creates PLC which called PLC Rapid. Because of PLC Rapid is still in development, so it need to be more develop and found out more detailed about testing specifications about the PLC.

This undergraduate thesis is doing tests which are carried out on the electrical performance of the PLC Rapid. Electrical performance includes electrical response of the input digital output, analog output accuracy of reading input, power supply, voltage and current. Testing of analog and digital inputs are using the power supply as the input voltage, while the digital output test using ration AC and DC. Testing performance of power supply, voltage and current are using autotrafo that serves to regulate the voltage ration for the PLC.

Test result on a digital input port on voltage is 4.1 V. Testing digital output stream can be missed by 5A ± 3.3%. The voltage of input analog output is 0-5V with 1/4096 resolutions and 12 bit data conversion. Operating Voltage PLC is 90-220 and block power supply output voltage is generated by 23.854 Vdc, 5.024 and 3.249 Vdc Vdc.

Keyword : PLC, PLC Rapid, *voltage, current, grounding*