ABSTRACT

As the development of technology advances, PT. Telkom as the wireline phone service provider have to follow the update and build optic fiber networks from the central to the home wiring. So, they need a device called outdoorMulti-Service Access Nodeor MSAN. Unfortunately, it still hasa weakness which is the power cut because of the PLN itself, rolling blackouts, or running out of pre-paid power without notice. Actually, an alarm warning had been made but it's a short range alarm.

This final project is to make a design and realization of alarm warning of outdoor MSAN power supply based on microcontroller with SMS gateway so the site engineer don't have to standby all time in the office. When the outdoor MSAN goes off, the contact of relay will open and give voltage to alarm console. Then, it will read by microcontroller. Next, it will give order to GSM module to give alarm warning via SMS based on the program created. When the power is on, the site engineer will get notification again via SMS that the outdoor MSAN is on.

The alarm warning is a prototype that uses a simulation circuit. It will monitor 4 outdoor MSAN. From experiment results, the warning alarm is useful with the voltage in microcontroller's power supply that is stable at 4.975 v, the voltage in simulator's power supply that is stable at 4.949 v, the voltage in serial circuit that is stable at 4.979 v, alarm standby time experiments rates at 67.23 s, alarm time process experiments rates at 6.453 s, time process for *simultaneous* detection experiments experiments rates at 52.52 s. But, the warning alarm's real condition experiments is unsuccessful because from 30 times test, only 5 test were successful.

Keywords : ***multi-service access node, microkontroller, SMS gateway, warning alarm, power supply***