ABSTRACT

Remote Terminal Unit (RTU) is a SCADA equipment that can be monitored or ordered by the master station. The RTU is installed on the RTU panel as a place to assemble the RTU with other RTU integration equipment to carry out its main functions, namely telecontrolling, telesignalling and telemetering. One of the RTU panel installations is on the recloser.

In this research, an RTU recloser simulator is made using an Arduino Mega 2560 microcontroller with 3 main controls in the form of open control, close control and autoreclose control. For the status function, a simulation reads 6 main statuses in the form of open status, close status, type disturbances status, hot line tag status, autoreclose status, protection setting status and local/remote status. In addition, there are also additional functions in the form of a battery tested status to overcome the problem of disconnection of the main source of RTU, reset power control to overcome the problem of hang RTU and data logger facilities that can automatically be accumulated in a number processing program. For the metering function, the voltage and current measurements are measured before and after overload condition using a voltage divider circuit and ZMCT103C sensor.

The trial of the tool obtained the results that telecontrolling and telesignalling functions can be done succesfully because it accordance with total response time of PLN's standard operating procedure, which is less than 3 seconds. For metering, the voltage measurement has a percentage difference between the sensor and the multimeter, the result is 0,07% -0,18%. In current measurement, the use of the ZMCT103C sensor has an accuracy class of ± 0,2%, so it matches with PLN's standard accuracy class of sensor, which is 0,5%. Meanwhile, for the data logger facility, the process of collecting and recording data from sensors for archiving and analysis successfully accumulates in the Microsoft Excel program in real time.

Keywords: RTU *Panel*, SCADA, *recloser, telecontrolling, telesignalling, telemetering, data logger.*