

ANALYSIS OF THE DESIGN OF A SMALL POWER THREE-PHASE SYNCHRONOUS GENERATOR

Name Of Student : MT Ardiyansyah
Student ID Number : 3204191305
Supervisor : Zainal Abidin, ST., M.T.

ABSTRAK

Three-phase synchronous generator is the main source of electricity generation which is familiar in the world of electricity. Almost all power generation systems in the world use synchronous generators as a source of electricity, except for generators with specific purposes and conditions. Synchronous generators work by converting the mechanical energy generated at the turbine shaft into three-phase electrical energy. This design uses a capacitor motor as a driver, a generator as an electrical power source, and lights as a load. In the first experiment, a zero phase to phase load test was carried out with an output voltage of R-S 225 volts, R-T 227 volts and S-T 227 volts at 2823 RPM. In the second experiment, testing was carried out with a 12 watt load with an output voltage of R-S 223 volts, R-T 225 volts and S-T 224 volts at 2797 RPM. In the third experiment, testing was carried out with a 24 watt load with an output voltage of R-S 218 volts, R-T 221 volts and S-T 220 volts at 2787 RPM. In the fourth experiment, testing was carried out with a 36 watt load with an output voltage of R-S 214 volts, R-T 217 volts and S-T 216 volts at 2705 RPM.

Keywords: *Three Phase Generator, Motor, Voltage.*