

Nama : Zaenal Abidin  
NIM : 12224039  
Program Studi : Teknik Elektro SI  
Judul : Studi Perencanaan Instalasi Listrik di Gedung Berbasis  
*Building Automation System*

## ABSTRAK

Kelistrikan di gedung Office Tower dikontrol oleh *Building Automation System* (BAS) agar pemakaian listrik sesuai kebutuhan dan mempermudah operator dalam melalakan pengecekan terhadap peralatan yang mengalami gangguan dengan melihat kondisi peralatan tersebut di ruang kontrol dan dapat segera diatasi gangguan tersebut. Total kebutuhan daya di gedung ini sebesar 4.943,6 kVA sehingga transformator yang digunakan sebesar 2.500 kVA sebanyak 2 unit dan pengaman arus lebih menggunakan ACB 4.000 A - 75 kA serta penghubung LVDP ke transformator menggunakan busduct aluminium 4.000 A. Kemudian, dengan perhitungan *back up* kebutuhan daya 60% dapat ditentukan genset yang digunakan sebesar 2.000 kVA sebanyak 2 unit dan pengaman arus lebih menggunakan ACB 2.500 A - 65 kA serta penghubung LVDP ke genset menggunakan busduct aluminium 2.500 A. Selanjutnya, dengan menggunakan BAS pengelola gedung dapat menghemat energi listrik dalam tiga puluh (30) hari sebesar 3.762 kWh sehingga pemakaian energi listrik lebih efisien 3,5%.

Kata kunci . BAS, transformator, genset, ACB, busduct, LVDP

Name : Zacnul Abidin  
NIM : 12224039  
Study Program : Teknik Elektro SI  
Title : Study of Planning Electrical Installations in The Building  
Based On *Building Automation System*

## ***ABSTRACT***

*Electricity in the Office Tower building is controlled by Building Automation System (BAS) so that electricity consumption is as needed and makes it easier for operators to check equipment that has been disrupted by seeing the condition of the equipment in the control room and can be overcome immediately. The total power requirements in this building amounted to 4,943.6 kVA so that the transformer used was 2,500 kVA as much as 2 units and the overcurrent protection used ACB 4,000 A - 75 kA and LVDP connectors to the transformer using aluminum busduct 4,000 A. Then, with the calculation of the back up of 60% power requirement, it can be determined that the generator used is 2,000 kVA as much as 2 units and the overcurrent protection uses ACB 2,500 A - 65 kA and LVDP connector to the generator using aluminum busduct 2,500 A. Furthermore, using BAS the building manager can save electricity energy in thirty (30) days by 3,762 kWh so that the use of electricity is more efficient at 3.5%.*

*Keywords: BAS, transformer, generator, ACB, busduct, LVDP*