

ABSTRACT

Battery Monitoring System (BMS) is a measuring battery parameters concept such as the voltage, current, and temperature accurately with the ease for user to access data on the interface. The used PT PLN APD Bandung battery monitoring system is doing conventionally. Engineer gets lowbatt or not battery condition from the RTU without any further monitoring process. This is why the designed BMS is appropriate to be applied on the existing system.

This Final Project did design and implementation of a battery monitoring system device applied to the substation of PT PLN APD Bandung, with the result that simplify the battery monitoring process: done periodically through the GPRS connection, sending the last-updated data to the server, and accessed via the interface.

The designed device has performance parameter percentage about 66.667% with 5.8% packet loss and 1518.7ms delay. The used sensing's block has four dividers with each linearity, accuracy, and precision value is $D_1 = 99.9196\%$; 100%; 100%, $D_2 = 99.8936\%$; 99.98%; 99.9788%, $D_3 = 99.8931\%$; 99.98833%; 99.98668%, dan $D_4 = 99.8892\%$; 100%; 100%. This BMS device has been implemented on four series Panasonic 12V 20Ah VRLA batteries as a DC Backup Power Supply on the PLN substation.

Keywords: Battery, PLN, Monitoring, Interface, BMS, GPRS.