

Design and Development of Indicators for Monitoring the Condition of 18650 Type Battery Cells in Parallel Series Circuits

By

Dicky Yoga Pratama

Study Program of Automotive Engineering, Majoring of Engineering

The State Polytechnic of Jember

ABSTRACT

This study aims to determine the design of monitoring indicators for 18650 lithium ion batteries by testing the design in the form of discharging and charging. In the discharging test using 2 electric dynamos of 5.7 volts and charging for 1 hour and checking and comparison with a multimeter every 5 minutes. As for the results of the discharging test, the value of the difference in voltage with the multimeter averaged in each arrangement parallel 1 of 0.13 volts, parallel 2 of 0.11 volts and parallel 3 of 0.12 volts. While the results of the charging test the value of the difference in voltage with the average multimeter in each parallel 1 arrangement is 0.11 volts, parallel 2 is 0.12 volts and parallel 3 is 0.12 volts. With the test results, the monitoring indicator design has a voltage difference value with the multimeter of around 0.1-0.14 volts with a confidence level of 99.30%.

Keyword : 18650 Lithium Ion battery, indicator monitoring, discharging, charging