

ABSTRACT

Technological developments are increasingly sophisticated, including the development of robots that are increasingly diverse in form and sophistication. In the industrial world, there are many who use robots as work aids. The robot was chosen because it can improve product efficiency and quality. AGV (Automated Guided Vehicle) is a vehicle that is guided automatically with computer technology or a vehicle that can be programmed like a multi-purpose robot that is guided along the path on the floor useful for carrying and moving goods from one place to another. As long as the AGV is running, there is a possibility that the AGV will be damaged and run out of battery. Therefore we need a software that can monitor the position and capacity of the AGV battery.

In this final project the author will design a monitoring system for the position and battery capacity of the AGV. Position monitoring research uses differential steering and Kinematics algorithms to get the x and y coordinates. To get the value of the battery power capacity, the authors compare the value of the battery voltage when it is full and the battery voltage value when it is empty. After getting the position data and battery capacity and then sent and displayed on the software.

The result of this final project is to be able to monitor the position and battery capacity of an AGV in real time using a software. In this final project the author wants to get the results of the test, namely being able to read the position of the AGV with a distance of approximately 90% according to the original distance and being able to read the voltage on the battery approximately 90% according to the voltage reading on the multimeter.

Keywords: Automated Guided Vehicle, Position Tracking, Differential Steering, Kinematic