

ABSTRACT

THE POSITION MONITORING SYSTEM OF AUTOMATED GUIDED VEHICLE (AGV) IN INDUSTRIAL PRODUCTION PROCESS

Increasing the need for robots in the industrial world is due to the increasingly tight competitiveness between companies. The robot has been implemented in all production lines to improve the efficiency and quality of a product against market demand. Automated Guided Vehicle (AGV) is one of the many robots used in the industrial world. AGV usually has automatic navigation and functions to move goods from one place to another. The lack of AGV has an automatic navigation system that the AGV stops at a place that is not known by the operator.

In this final project the author will design a position monitoring system from the wireless AGV-based movement. This study uses a differential steering algorithm to get the position of x and y coordinates that will be displayed on the display. AGV wheel speed is required using an encoder sensor and will be sent via a wireless communication system using Xbee which will then be processed in the user to become coordinate points.

As a result of this final project, the reading of the encoder sensor has an error range reaching 0,125333333 m on a straight line and has an error range reaching 2.609644727 m in the path of the plan provided. Data transmission from the transmitter and receiver does not match the datasheet. There is data loss from sending maximum distance (30 m) in the room (indoor) to 35%.

Keywords: *Automated Guided Vehicle, Monitoring System, Xbee, Differential Steering*

