

ABSTRACT

Docking Station is a device that is used as an automatic charging on a robot. The use of a docking station makes it easy for robots to move automatically without having to manually charge. This device consists of a series of AC to DC adjustable converters, Arduino, PING sensors, servo motors, and notifications in the form of LCD, LED, Buzzer. This device is labeled with a blue sticker the size of 2x2 cm so that it can be recognized by robots. After successfully detecting the color on the docking station, the robot will move towards the docking station. The maximum distance between the robot and the docking station is 30 cm so the robot can detect the docking station. The PING sensor paired on the docking station serves to measure the distance of the robot wheels in the docking area. The robot wheel distance obtained on the PING sensor is used as a reference to drive a servo motor that locks the robot wheels. The servo motor will lock and open at the specified time.

Keywords: docking station, PING sensor, servo motor.