

Design and Fabrication of Faulty Product Detection and Separation System

Mr. J. G. Pathak¹, Mr. Ghotekar Roshan², Mr. Kadam Maharudra³, Mr. Jagtap Yogesh⁴

Prof, Electronics & Telecommunication Engg. Department, Amrutvahini Polytechnic, Sangamner, India¹

Students, Electronics & Telecommunication Engg. Department, Amrutvahini Polytechnic, Sangamner, India^{2,3,4}

Abstract: *With recent advances in industrial technologies, automation has become an indispensable part in the manufacturing world. Industrial environments are adopting more and more aspects of automation to increase product quality, accuracy, and reduce product costs. Conveyor systems are used widely in manufacturing industries. This automated conveyor system works by detecting the size of the material in the conveyor using ultrasonic sensors. The microcontroller analyses this data from the ultrasonic sensor and then directs the pneumatic cylinder material to different directions, height-wise, depending on the height of the material. The position of the conveyor is indicated by a 16X2 liquid crystal display and LED. This project thus automates the material separation process in the conveyor to improve efficiency and increase productivity. In this report we have discussed about how the faulty product detection works, what are its procedure and steps, the components used for making this project and etc.,. Also in this project we have done the modification in such a way that the color sensor detects the color faulty products and also the ultrasonic sensor detects the height difference and DC gear motor with detachable arm helps in sorting of faulty products.*

Keywords: Conveyor, faulty product detection, Automation, Embedded system

