

Portable Pneumatic Control Staircase for Train

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Abstract: *Automatic Staircase Using Pneumatic Actuators & IR Sensors serves to automate the mechanism of Staircase operation using Pneumatic, controller and infrared sensor technology. The methodology applied in the project is divided into three parts, firstly designing and fabrication of the Staircase with the calculated dimensions, secondly, developing a controller for door operation and thirdly, interfacing the different components to work together in a cohesive manner to adjust the height of Staircase at each platform level. When a platform comes in or goes out of the range of the sensor, a signal is sent to the controller which controls the electro-pneumatic circuit to open or close the Staircase as per required height of steps. The significance of this system is automation of the Staircase which can be customized according to the use. Based on the results obtained an actual working prototype was designed and a suitable large scale will develop taking into account the platform height conditions.*

Keywords: Automatic staircase, platform height, Electro-Pneumatics Control, IR Proximity senso, train