

## **ABSTRACT**

*An elevator is a means of transportation that works automatically with the control not carried out directly by humans, so that all elevator users depend entirely on the technological reliability of this vertical means of transportation. The elevator is run by a control system using a device that can work automatically, namely Programmable Logic Controller (PLC). This type of PLC is used as a control for a 3-floor miniature elevator, the PLC Modicon TM221CE16R.*

*TM221CE16R PLC Modicon is one of the Schneider Electric M221 PLC families. The advantage of TM221CE16R PLC Schneider is that it has 16 digital I/O with 9 inputs and 7 digital outputs that are easy to program using the SoMachine Basic software. The 3-floor elevator miniature simulation uses load cell sensor to detect the maximum load on the elevator cabin and infrared sensor as a detector on the elevator door, if there is an object in the middle of the door then the door will not close immediately.*

*In appearance, this tool can provide information in the form of loads detected in the elevator cabin and the location of the elevator cabin in this 3-floor elevator miniature. In the measurement process this device has a 4.21% error rate for testing load cell sensors when the cabin rises and falls and the distance that is detected by an infrared sensor is 10 cm.*

*Keywords: HMI, Lift, PLC Schneider TM221CE16R, Infrared Sensor, Load Cell Sensor.*