



De La Salle University- Dasmariñas

Dasmariñas, Cavite

College of Engineering, Architecture and Technology



Bachelor of Science in Electronics and Communications Engineering

“Earthquake Safety Precaution Through Accelerometer Controlled Rollup Door”

An Undergraduate Thesis Presented to the Faculty of the Electronics and Communications Engineering Department in De La Salle University-Dasmariñas, Cavite

In Partial Fulfillment of the Requirements For the Degree of Bachelor of Science In Electronics and Communications Engineering

By

Angela Joyce De Ramos

Ryan Anthony Luna

Christopher M. Orense

Michael Gerard Solis

Engr. Emmanuel Longares

Thesis adviser

CHAPTER V

Conclusions and Recommendations

CONCLUSION

The Developed Earthquake Safety Precaution through Accelerometer controlled Rollup doors are proven effective based on the tests conducted on the system in the shake table where a specified intensity level has been preset.

Increasing the displacement of the accelerometer from its original position causes the output voltage to increase. Depending on the orientation of the device, the Input on the comparator's reference voltage can properly be determined. Setting the reference voltage slightly higher than the output of the accelerometer so that the initial output of the comparator is LOW, shaking the accelerometer results to a HIGH comparator output. Doing such method results to an increase in the precision of the device. Therefore, ADXL203 proves to be a powerful tool for various applications. Depending on the integration of the device itself to other systems, the created unit is considered to be ideal for sensing earthquakes.

Based on the conducted tests as the research progress, The researchers conclude that the system is functional, accurate and reliable enough for emergency purpose use specifically at times of an earthquake. Researchers arrived to this conclusion because the created system was able to detect an earthquake and fully open a rollup door at a small amount of time only.

However, the system has its flaws which can be improved by the future researchers, which are mentioned in the recommendation section of this research.

RECOMMENDATION

For future researchers to conduct a study on this research, the present researchers recommend the following:

1. Test the Device at intensity levels higher than 7
2. Add speed control to the motor
3. If possible, add fire or smoke detectors which shall also enable the system.
4. Add a lock

