

CONTROLLER FOR AN ELEVATOR SYSTEM

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ABSTRACT

The project is about building an elevator that can perform a basic operation. The elevator body was designed from acrylic and fitted inside a base in order to fix the placement of the structure. The use of steel is to make sure that it will balance the main structure. The elevator is being control by a CQM1H Programmable Logic Controller (PLC), which is an integrated circuit that can be programmed [1]. The input variables for the controller are such as photoelectric sensors and limit switches. Sensor plays an important role in this project which is the controlling part of the elevator depends on a sensor that detects any conditions that are set upon. The elevator has to complete it basic function. All the movements either stop to pick and place the passenger or move will depend on the ability of a sensor to detect the car.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

An elevator is frequently referred as a device for vertical transportation of passengers or freight to different floors or levels, as in a building or a mine. The term elevator generally denotes a unit with automatic safety devices; which the very earliest units were called hoists. Elevators consist of a platform or car traveling in vertical guides in a shaft or hoist way, with related hoisting and lowering mechanisms and a source of power.

Basic factors in elevating a building include the number of occupants and visitors, their distribution by floors, and the times and rates of arrival, departure, and floor-to-floor movement.

All of this factors need to be determine in order to give an acceptable facilities and satisfied all the passengers who are using. Besides, the environmental considerations of elevating which cover the process of locating elevators in a building, providing proper access space to such elevators, designing and shaping them to best accommodate people, determining door sizes and arrangements, and other considerations are also needed to make sure the maximum use and benefit is gained from the total elevator plant in a building.

The elevator platform-the area on which passengers ride-must be large enough to accommodate a passenger (or freight) load without undue crowding and allow each passenger ready access to and from the elevator doors. The most efficient door is one that opens and closes in minimum time and allows two persons to enter or leave an elevator simultaneously. There are four types of door arrangement which is center-opening, single slide, two-speed or swing for passenger application and sliding or vertical biparting for freight application. But the center-opening door meets most of the requirements (as economical and adaptable) and is the most popular for high quality elevators.