PLC CONTROLLED MAGAZIN , CONVEYOR AND PUSH PART SYSTEM

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INTRODUCTION

Living in the most important period of the development on PLC Systems, the importance of developing tecnology systems increases day by day. In this project, PLC controlled magazine, conveyor and push part system in both sofware and hardware is installed, which is targeted to run on a regular basis.

This system consists of four main parts, a magazine unit, a conveyor unit, a push part unit and a PLC. System control is implemented by PLC. Software logic and hardware requirements of system are combined to set up a complete PLC control system. First, hardware requirements tagged together and created the system. Then, software requirements has been completed and then obtained the system control. System can be controlled in two ways. One of them is the programme which was installed into PLC, and the other one is the interface which was created between computer and the system.

As a result of these operations, action of main parts of the system has achieved with help of the reed sensors and limit sensors,and composed a programmable push-pull part directly with PLC through the computer. Aim was to fulfill the purposes before the project started, to work the system flawlessly in meaning of software and hardware, and to control the system in different scenarios.

THE ACTIVATION OF THE SYSTEM
1.Push the start button
  Upon pressing the start button;
    The conveyor belt starts to rotate. At the same time the magazine cylinder closes and it starts to transfer its parts onto the conveyor.
When the conveyor holds the parts,
1. The part is detected by the sensor that pushes the part.
    Upon detecting the part, the cylinder that pushes the part becomes active and pushes the part into the chamber. This turns the cylinder immediately to the start position. The part is detected by the sensor that pushes the part.
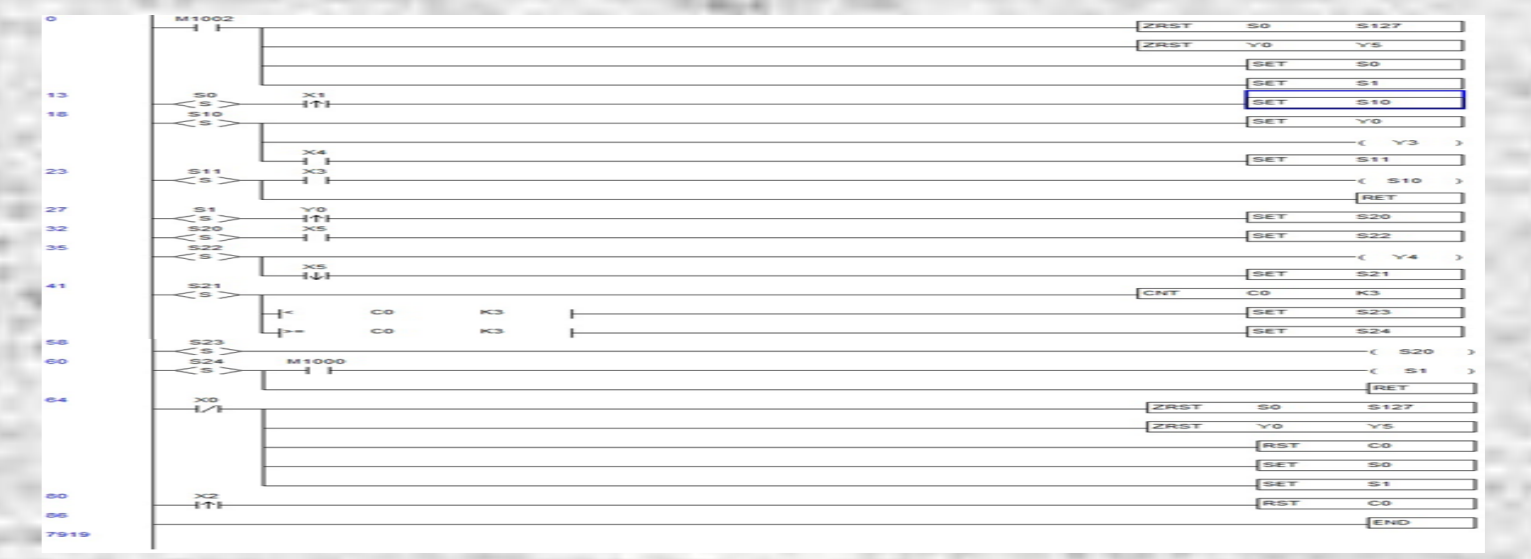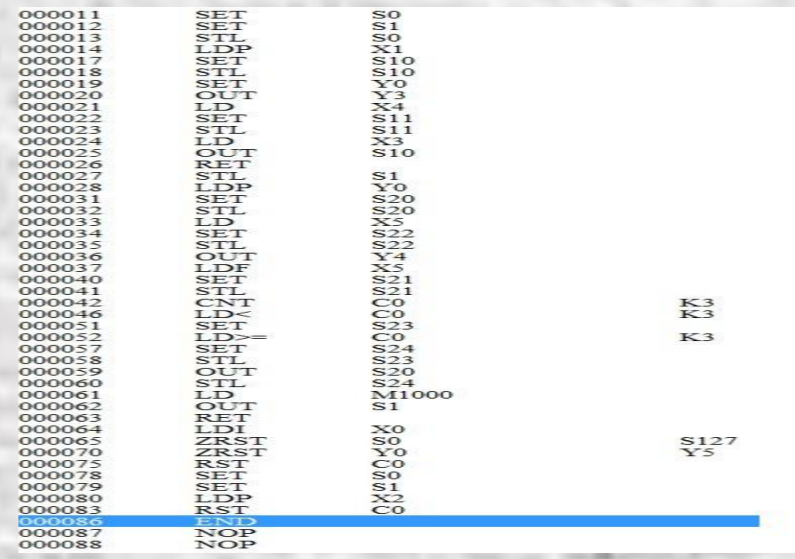   But because there are 3 memory counters, the parts cannot be push into the chamber. It is possible to reset the counter memory by pressing the other start button. In this case the cylinder that pushes the part pushes the 3 parts into the chamber. Then the magazine will keep transferring parts and the conveyor will keep turning. With the help of this training set it is possible to activate many scenarios. The control of pneumatics equipment and the activation of convector belt etc.
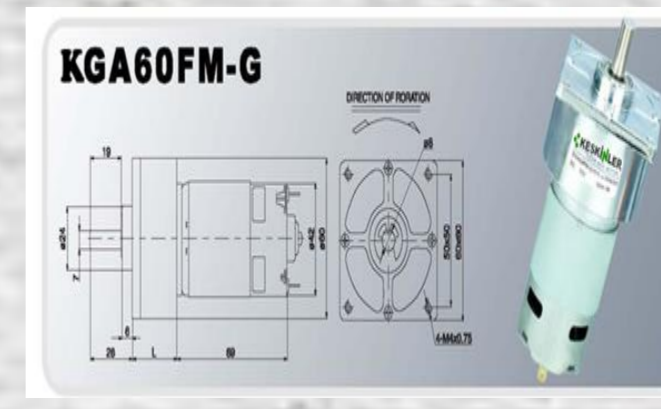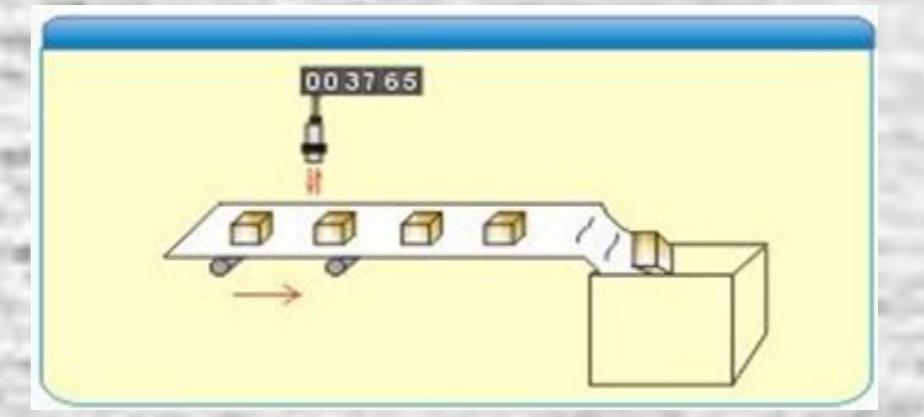
DESIGN OF PROJECT

Mechanical Model
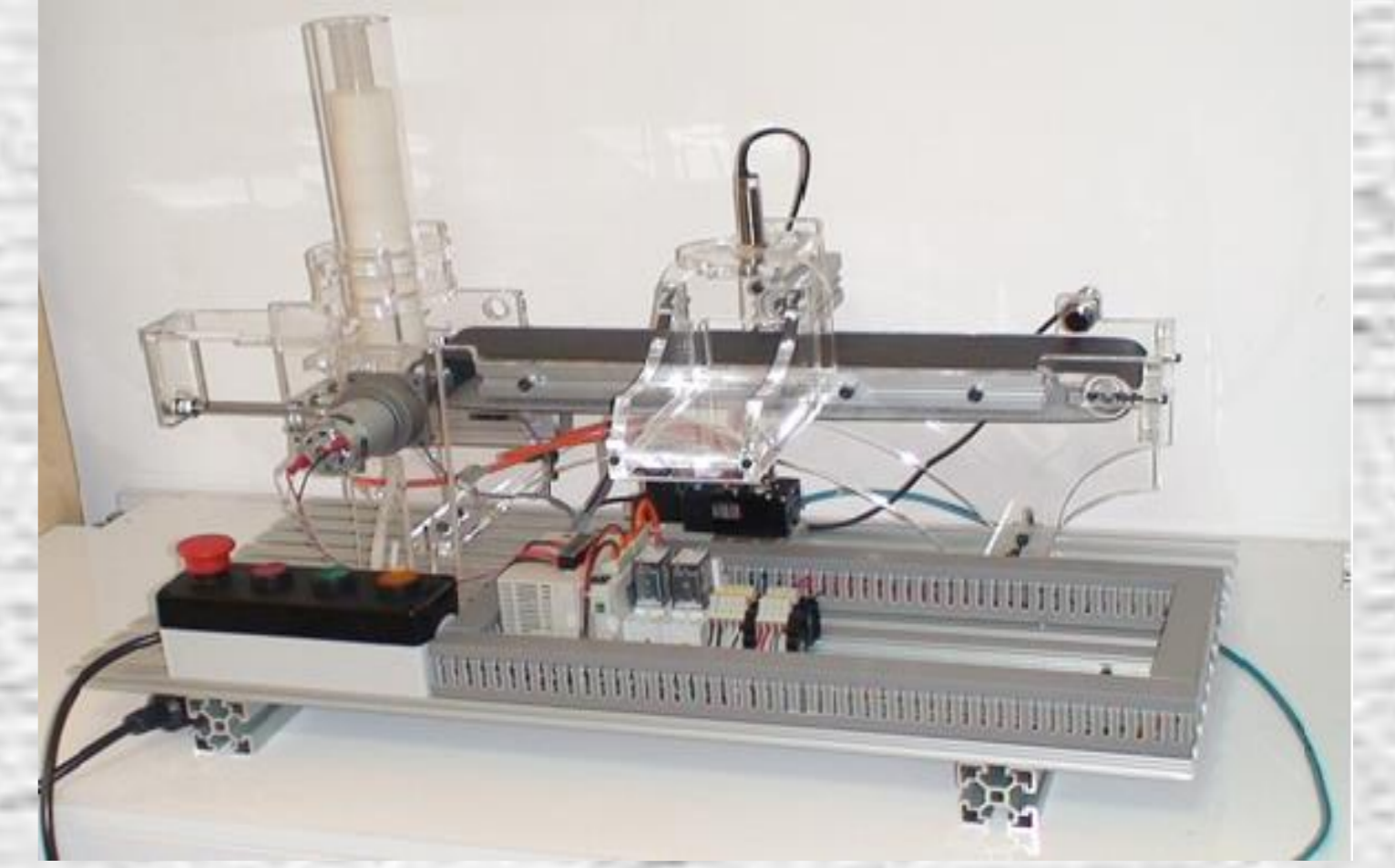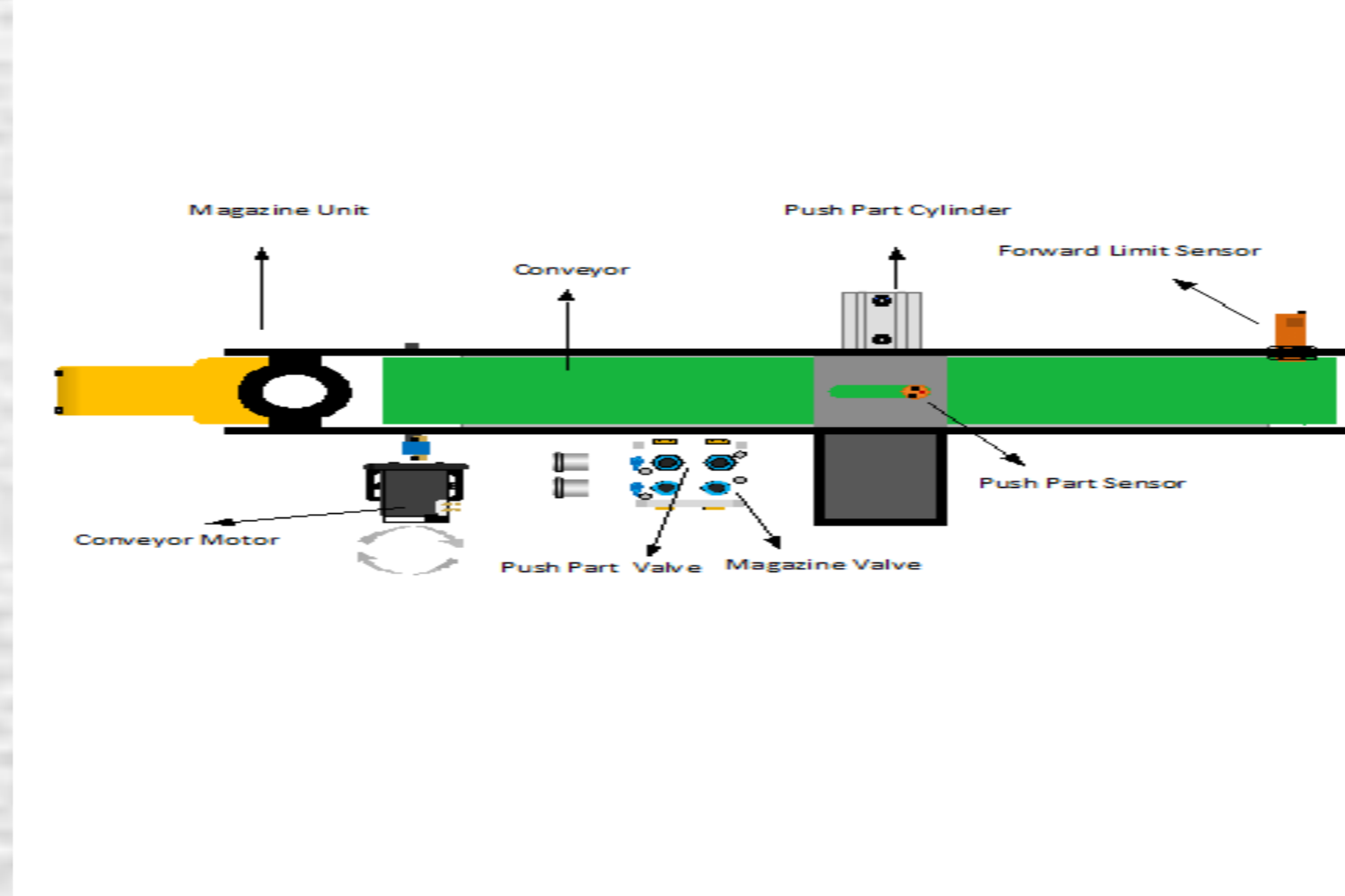
Software Model

Components

Application Areas