

PLC Lab 3: Timers

Objectives

1. Load plastic rings into the assembly area using the rotary solenoid.
2. Decrement queue counter as the plastic rings moved from the queue into the assembly area.
3. Integrate new features with the previous sorting and counter routines
4. Introduce essential time delays to take account of system lags

Procedure

1. Activate the chain conveyor.
2. Activate the belt conveyor so that the pegs will travel along the belt conveyor, picking up the ring waiting in the assembly area.
3. Sort the metal and plastic components using sensors 12 and 5 as done in Lab 1.
4. Generate a queue count as in Lab 2.
5. Use the IR Reflective sensor (Input 4) to detect when the hopper is empty. When empty, activate the rotary solenoid (Output 1) to load a ring

A typical Sequence of events is shown in the timing diagram figure 2.

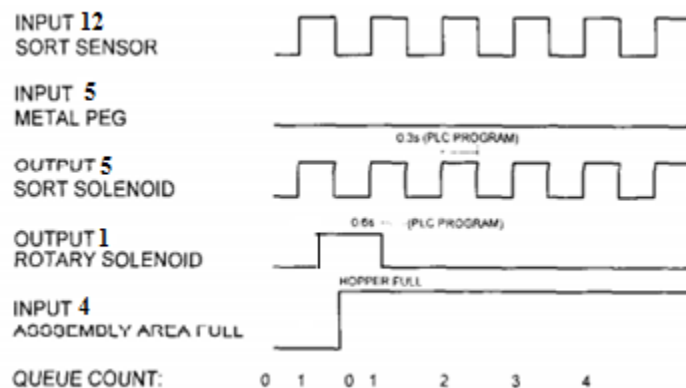


Figure 2: Timing Diagram for the Assembly Area

Important Timing Issues

The rotary solenoid needs to have time delays and holds to allow for rings to load into the assembly hopper properly.