0617-470 and 870 Controls for Manufacturing Automation

Department of MMET-PS

Rochester Institute of Technology

Laboratory Exercise #3

Objective:

The objective of this laboratory exercise is to create a PLC program to understand the use of **TON and TOF timers**. You will be using a NO Selector Switch to turn ON and turn OFF the motor and fan outputs.

Tasks to be accomplished:

1. A DC motor should turn ON 10 seconds after a NO Selector Switch is turned ON (Use TON timer)
2. The DC motor should turn OFF 10 seconds after the same NO Selector Switch is turned OFF (Use TOF timer)
3. A Fan (used for cooling the DC Motor), should be turned ON 10 seconds after the DC Motor is turned ON.
4. Once the Fan starts working, it should stay ON for 10 seconds and OFF for 10 seconds.
5. The Fan should be turned OFF when the DC motor is stopped.

Input/Output Listing for the Experiment:

	Inputs/Outputs	PLC
Inputs	NO Selector Switch	Local:5:I.Data.20
Outputs	Motor	Local:6:I.Data.30
	Fan	Local:6:O.Data.18

Hand Written Program: (Write the ladder rung that will perform each task given below – rungs for each task)

1. A DC motor should turn ON 10 seconds after a NO Selector Switch is turned ON (Use TON timer)

2. The DC motor should turn OFF 10 seconds after the same NO Selector Switch is turned OFF (Use TOF timer)

3. A Fan (used for cooling the DC Motor), should be turned ON 10 seconds after the DC Motor is turned ON.

4. Once the Fan starts working, it should stay ON for 10 seconds and OFF for 10 seconds.

5. The Fan should be turned OFF when the DC motor is stopped.

What needs to be submitted?
1. Test the program and show the demo to the instructor in the lab (only for on campus students).
2. A well documented functional PLC program (RSLogix File), containing all tasks, should be submitted in the drop box within myCourses. (You should have tested the program before submission)