

ET 350 Lab 14

PLC Timers and Counters

Part 1

1. It is required that a D.C. motor must be controlled by a PLC. A "Start" switch must start the motor, but after depressing the "Start" switch, there must be a 3 second delay before the motor starts rotating. Another push button switch must stop the procedure.

I/O #	Inputs	Outputs	Relays	Relay+256	Timers	S.V.
1	StartIn	MotorOut	Latch		Run	30
2	StopIn					

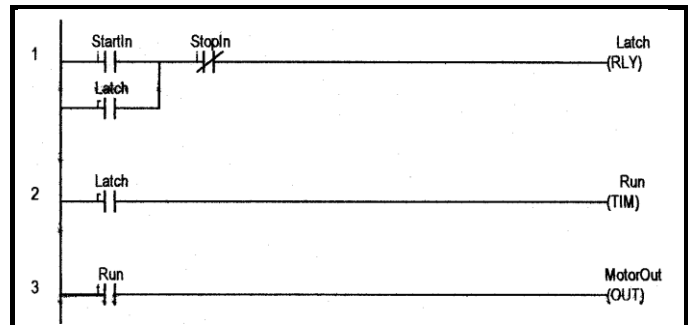
2. Create the following Input/Output table as in Fig. 1:

3. Create the following ladder logic diagram as in Fig.2:

4. Simulate the program.

5. Transfer the program to the PLC.

6. Operate the program in hardware.



Part 2

1. The same D.C. motor is to be controlled by a PLC. But this time the motor will begin to rotate but only after 3 items have passed by a sensor. In this procedure one button must start the procedure. A second button must act as a counter and after this button is depressed 3 times, the motor must start. A third button must stop the procedure and reset the counter.

I/O #	Inputs	Outputs	Relays	Relay+256	Timers	S.V.	Counters	S.V.
1	StartIn	MotorOut	Latch				Eye	3
2	Tripin							
3	ResetIn							

2. Figures 3 and 4 contain the necessary Input/Output table and ladder diagram.

3. Simulate the program, transfer to the PLC and operate the program in hardware.

