

ET 350 Lab 15

PLC Sequence

1. A sequence of 3 events must be created and run continuously. The 3 event must repeat automatically. But if a push button is press, the sequence must start again from the first event and the counter and sequence reset.

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

I/O #	Inputs	Outputs	Relays	Relay+256	Timers	S.V.	Counters	S.V.
1	StartIn	SSR1	Begin		Delay	30	Seq1	3
2	StopIn	SSR2						
3		SSR3						
4								

Fig. 1

3. Create the following ladder logic diagram as in Fig. 2. The clock is a Special Bit and is used to pulse the counter. The StepN is a special function and will reset the sequence to first event. The RSctr is also a special function that will reset the counter.

4. Simulate the circuit and then transfer the file to the PLC. Run the file and observe that the output LEDs operate according to the ladder logic.

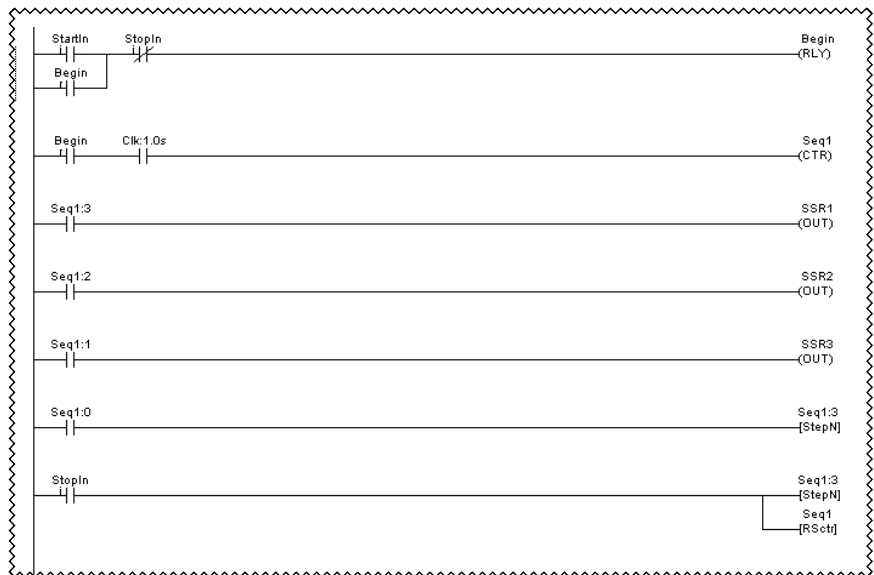


Fig. 2

5. Connect 3 solid state relays to the outputs of the PLC as in Fig. 3. The solid state relays contain an LED indicator which shows the operation of the relay coil. Run the program and observe that the LED indicators are operating according to the ladder logic the same as the LEDs on the PLC outputs.

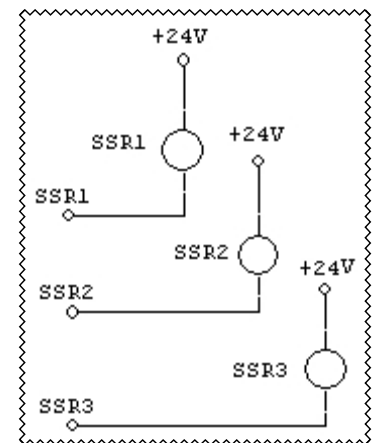


Fig. 3

6. Once the solid state relay coils are working, add 3 A.C. loads to the outputs of the relays as in Fig. 4. The A.C. load may be a fan, light bulb and motor.

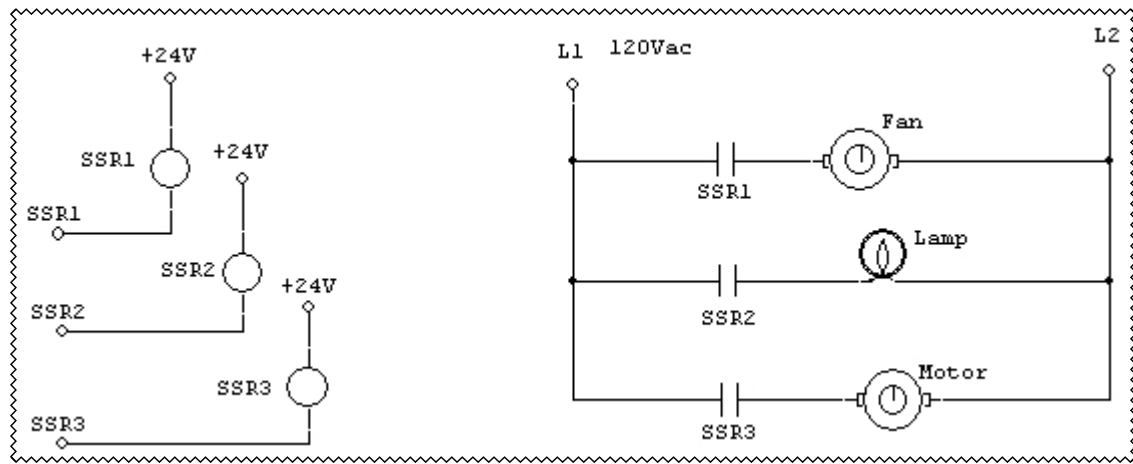


Fig. 4

7. Modify the ladder logic so that the sequence is the reverse of the original sequence.