

PLC126 LAB 3.1: ALLEN BRADLEY SLC-500 ON-DELAY TIMER

Student Name: _____

Student ID: _____

LAB OUTCOMES:

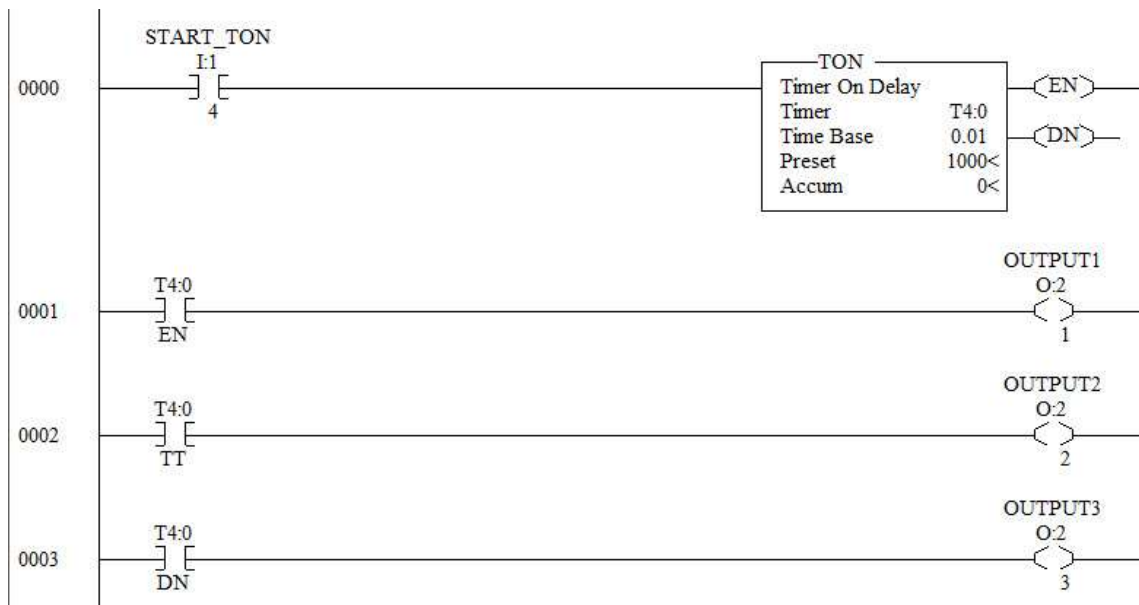
1. Explain the operation of a TON instruction
2. Explain the operation of the status bits controlled by a TON instruction
3. Demonstrate how to change the time delay value of a TON instruction
4. Explain the operation of the RTO and RES instructions
5. Explain the operation of the status bits controlled by an RTO instruction

LAB PROCESS:

Write the program as shown in part 1 and then save it to the hard drive of the computer. You will then download the program to the SLC-500 processor. Once that it is complete you will go online with the SLC-500 and place the processor in RUN mode.

Part 1

1. Key in the following program and save it to the hard drive. Name the project something you will be able to easily remember.



2. What is the time delay for the timer in this lab?
3. Turn on the START_TON input. Does the timer start timing?

What status bits come on immediately?

How long do they stay on?

When does Output3 turn on?

4. Turn off the START_TON input.

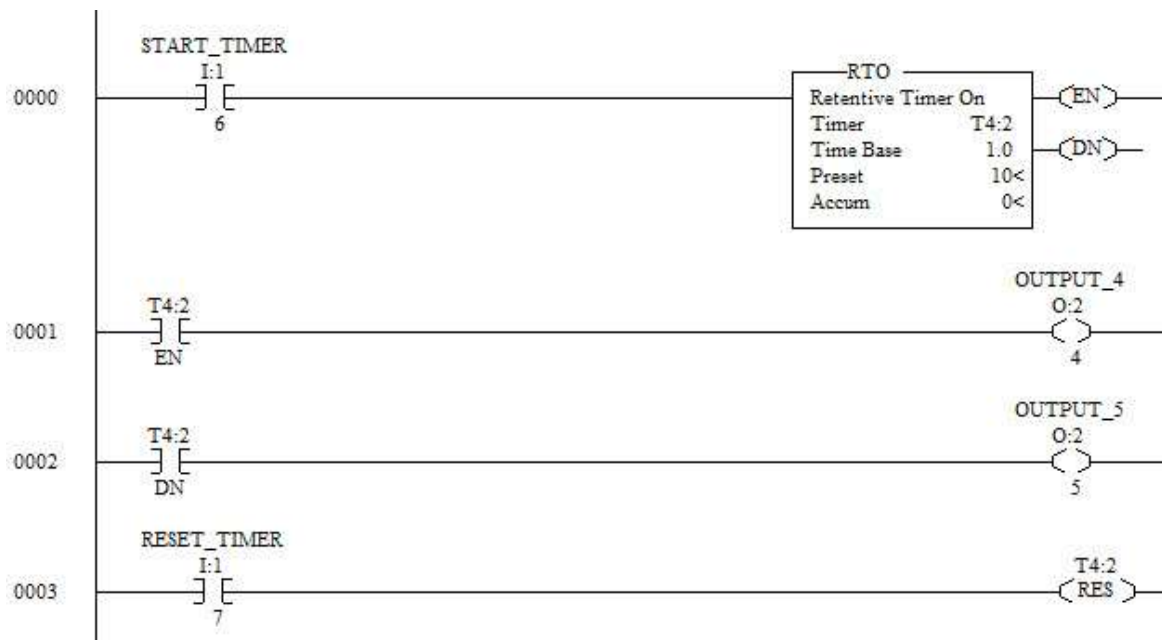
How is the Accumulate value of the timer affected?

How are the status bits affected?

5. When will Output 1 be on?
6. When will Output2 be on?
7. When will Output3 be on?
8. Change the preset value of the timer to 1750. What is the new time delay for the timer?

Part 2

Create the following program in RSLogix500. Download the program into an SLC-500 unit, go online and verify the processor is in the Run Mode



1. Notice the time base of the RTO is 1.0 seconds.

What would the preset value be for a 30 second time delay?

2. Make sure the RESET_TIMER input is shut off.

Turn on the START_TIMER input. Does the timer start timing?

3. When does OUTPUT_4 turn on?
4. When does OUTPUT_5 turn on?
5. Keep the START_TIMER input on until the timer times out.
6. Turn off the START_TIMER input. Does the accumulated value reset?
7. Turn on the RESET_TIMER input. Does the accumulated value reset?
8. Keep the RESET_TIMER input on. Then turn on the START_TIMER input.

Will the RTO start timing?

Explain.

Questions

1. How does the user change the value of the preset in the Timer instruction while online?
2. What is the maximum value the user can put into the timer preset?

3. What is the value of the Accumulated value, 5 seconds into the time cycle in the first lab?
4. If the TON is shut off, what will happen to the Accumulated value of a timer?
5. Explain the address: T4:0.ACC
6. Explain the address: T4:0/DN
7. With the START_TON input off in the first program, can the user key in a new value for the Accum value?

Explain.

8. What resets the accumulated value of a timer that is controlled by an RTO instruction?
9. What is the disadvantage of using a 1.0 second time base, versus a 0.01 second time base for an Allen Bradley PLC timer instruction?
10. What does an RES instruction addressed as T4:2 do when it is energized?

The outcomes of this exercise (listed on page 1) specifies the skills that the Student must demonstrate to the Instructor. Once the Instructor is satisfied with the demonstration of Knowledge & Skills by the individual student, they will sign this document (for the student), then enter a 100% into the Hands-On Lab grade in Sakai.

I verify that this student has completed all of the requirements of this Hands-On Assessment:

Student Name: _____

Faculty Signature: _____ Date: _____

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