

# Lab #1

## TECH 3821

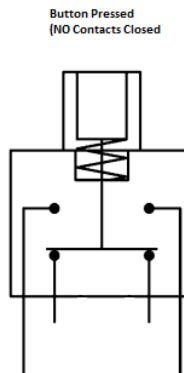
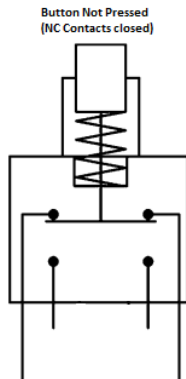
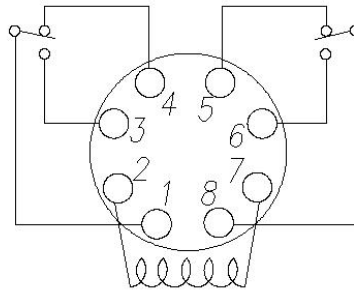
### Relay Start Stop Pushbutton Station

Ver 3.0

**Objective:** Gain an understanding of relays and simple start stop pushbutton stations.

**Materials:** One relay (12-24 V DC coil, DPDT at minimum). 2 Industrial Push Buttons, One Light.

**Required Diagrams:**



**Procedure:**

- Record the following:

Relay Model Number: \_\_\_\_\_

Coil Voltage: \_\_\_\_\_

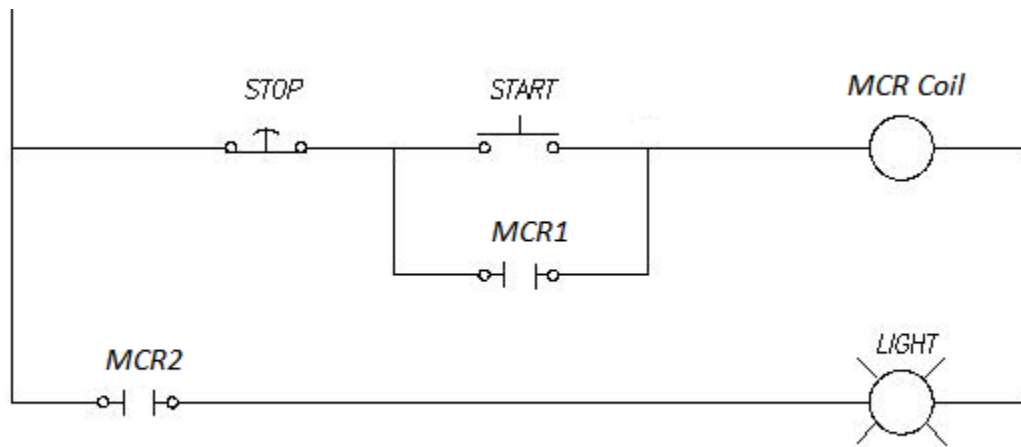
Contact Ratings: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Connect the Relay coil to a variable power supply. Starting at zero volts, slowly increase the voltage until the relay energizes (ie you hear the click indicating the relay close the contact). Record this voltage: \_\_\_\_\_ and current \_\_\_\_\_. These values are known as the "PULL IN" voltage and current.
3. With the relay still energized, start decreasing the voltage until the relay opens (indicated by the click of the relay). Record the voltage \_\_\_\_\_ and current \_\_\_\_\_. These values are known as the "DROP OUT" current and voltage.
4. Place the relay terminal numbers on the following ladder diagram.



5. Wire the circuit.
6. Demonstrate to the instructor (obtain signature)
7. In your own words, explain the operation of the circuit in the following order: When the Start is depressed, Running (how does it remain running when the start button is released), when the stop is depressed.

[use back of sheet if you run out of room]

8. Clean up your work area, but away all equipment and parts and turn in the lab.