

PLC122 LAB 2.2: INDUSTRIAL CONTROL CIRCUITS

Student Name: _____

Student ID: _____

LAB OUTCOMES:

Upon completion of this lab procedure, the student should be able to:

1. Identify all components on the NSCC wiring boards.
2. Measure the continuity of all the switches mounted behind the pushbutton heads.
3. Measure the resistance of the coil and contacts of an Allen Bradley relay.
4. Wire a 120VAC start/stop, 3-wire control circuit with a control relay
5. Wiring a circuit using the proper wire colors and wire numbers.
6. Troubleshoot a faulty start/stop control circuit

Lab Process:

Set up NSCC 120VAC wiring board. Setup the unit on its base, or lay flat on the work table.

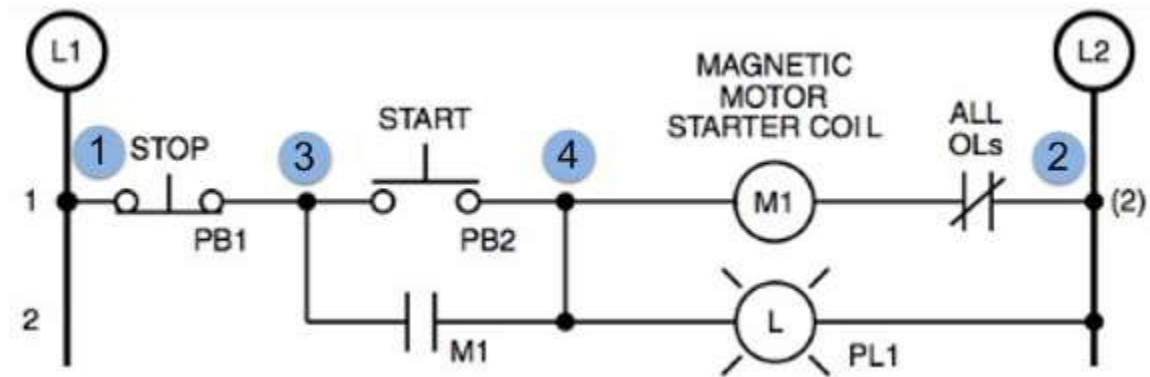
Connect the power cord and turn off the power input switch to make sure the unit is not powered.

Part 1

1. Identify the following components on the NSCC wiring board:
 - a. Reversing Motor Starter
 - b. Time Delay Relay
 - c. Ice Cube Relay
 - d. Proximity Switch
 - e. Photo-electric Switch
 - f. Limit Switch
 - g. Selector Switch

Part 2

Wire the following circuit on the NSCC wiring board.



1. Explain the purpose of the N.C. overload contact in series with the M1 coil.

2. Explain why the M1 coil stays pulled in when the Start pushbutton is released.

3. Explain if another Stop pushbutton was added to the circuit, how it would be connected.

4. If M1 is de-energized, what voltage should the user read between nodes 4 & 2? Explain the reason.

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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