**Unit: Manual Motor Controls Job: 17**

**Title: ESTOP/Stop/Start Circuit for Three-Phase Motor CLO# 1,2**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Station \_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**

1. Establish the use of a motor contactor for controlling a three-phase motor.
2. Define the connections to a motor contactor and their terminal numbers.
3. Differentiate between using a clapper relay for single-phase motor control verses using a motor contactor for three-phase motor control.

**Assessment**

Students shall demonstrate a comprehension of the objectives listed above by scoring a minimum of 75% on this shop job. Grading shall be based on the Manual Motor Controls rubric.

**Instructions**

Design a stop/start motor control circuit using two momentary pushbuttons. The circuit will also utilize a latching mushroom head pushbutton to act as an “ESTOP” as well. Whenever the motor is running, the green light shall come on and the red light shall be off. When the motor is not running, the green light shall be off and the red light shall be on. If the ESTOP is pressed, the motor, if running, shall stop, the green light shall go out and the red light shall come on. HINT: You shall need a control relay and a motor contactor to complete this job. Use the space on the opposite side of this page to design your circuit. Once complete, review your design with you instructor. After obtaining approval, you may wire your circuit. Ensure to label all wires with the appropriate wire numbers. Have your instructor review your wiring before energizing your circuit.



Render the schematic you designed using a CAD type software package on a classroom PC. Once complete, post the schematic to your student network folder using filename MMC Job 17 – *username.ext*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |