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| Name |  | Station | |  | | | Date |  | |
| Filename | Intro to PLC Job HO4 *[name].*RSS | | Location | | | U:\Electrical\*[firstname\_lastname]* | | | |
| Objective | | | | | | | | | |
| You are to design, wire and program a simple motor start stop control circuit that allows the operator the ability to select the motor’s rotational direction. | | | | | | | | | |
| Job Details | | | | | | | | | |
| Design a simple motor start stop station. The station shall determine whether the motor is on or off. For this functionality, output 4 shall be wired to a control relay (CR1). A selector switch will determine whether the motor is to rotate CCW or CW. When the switch is in the left position, the motor shall rotate in a CCW fashion and the top green light will illuminate. Conversely, when the selector switch is in the right position, the motor shall rotate in a CW fashion and the yellow light will illuminate. The reversing functionality shall be controlled through output 5 that shall be wired to another control relay (CR2). If output 5 is off, the motor shall rotate CCW. If output 5 is on, the motor shall rotate CW. If the motor is running and the operator changes the rotation selector switch, the motor will **stop** running requiring the operator to press the start button to get the motor to spin in the new direction. If the stop button is pressed at any time, the motor shall stop and the red light will illuminate. | | | | | | | | | |
| Job Instructions | | | | | | | | | |
| * Draw your design on a separate piece of paper. (No use of PCs at this time) * Get instructor approval before developing your code. * Program the approved ladder logic. * Have your instructor test your ladder program (with lights as only outputs). * Obtain a wiring diagram from an instructor. * Wire control relays to PLC (but not the motor). * Have your instructor test functionality of the program with control relays only. * After obtaining instructor approval, wire the motor to the control relays. * Have instructor test final system. * Save ladder program to the U:\Electrical drive. | | | | | | | | | |
| Grading Rubric | | | | | | | | | |
|  | | | | | Points | | | | Score |
| Program Drawing | | | | | 10 | | | |  |
| PLC Program Design | | | | | 10 | | | |  |
| PLC Program Comments | | | | | 10 | | | |  |
| PLC Program Functionality | | | | | 15 | | | |  |
| Wiring Control Relay CR1 | | | | | 15 | | | |  |
| Wiring Control Relay CR2 | | | | | 15 | | | |  |
| Using correct wire colors | | | | | 10 | | | |  |
| Motor Functionality | | | | | 15 | | | |  |
|  | | | | | Total | | | |  |