Title: **Time-On Delay for 3P Motor** Job: 28

Course: Intro to Automation Unit: Manual Motor Control CLO: 1, 2

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Grade \_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**

1. Student shall develop an understanding of a Time-On Delay relay.
2. Student shall enhance motor control design skills.
3. Upon completion, a student shall have a more complete knowledge base for creating proficient motor control circuits.

**Assessment**

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

**Devices**

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| Inputs | | |
| *Device* | *Description* | *Symbol* |
| Mushroom Head Pushbutton, NC | Emergency Stop | ESTOP |
| Normally Closed Pushbutton | Stop Motor | STOP |
| Normally Open Pushbutton | Start Button | START |
| Outputs | | |
| *Device* | *Description* | *Symbol* |
| Green Pilot Light | Motor Running Forward | RUNNING |
| Red Pilot Light | Motor Stopped | STOPPED |
| Yellow Pilot Light | Motor Overload | OVERLOAD |
| 8-pin 24VDC On-Delay Relay | Motor Run Delay Timer | TON |
| 3-phase Motor Starter, with 2 NO, 2 NC auxiliary contacts | Motor Starter | MS4 |
| 208VAC/3P Motor | Three-phase AC Motor | M4 |

**Instructions**

Design a time delay motor control circuit using the devices listed above. One pushbutton shall be a START button. When the motor is energized, it shall run for 15 seconds then shut off. This shall be done using an Off-Delay relay in conjunction with a three-phase motor starter. The other pushbutton shall be a STOP pushbutton. The green light shall indicate RUNNING, the red light shall indicate STOPPED and the yellow light shall indicate OVERLOAD. Use the space on the opposite side of this page to design the circuit. Once complete, review the design with the instructor. After obtaining approval, wire the circuit. Have the instructor review all wiring before energizing the circuit. Render the schematic using a CAD type software package. Post the schematic to the *student share* folder using filename *MMC Job 29 – name.ext.*

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Discussed design \_\_\_\_\_\_\_\_ Checked wiring \_\_\_\_\_\_\_\_ Energized Test \_\_\_\_\_\_\_\_