Title: **Stop-Start-Jog using a Selector Switch for 3P Motor** Job: 23

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

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

**Objectives**

1. Student shall compare motor jogging techniques and how they differ.
2. Student shall demonstrate how a stop/start motor circuit can be converted to a jogging circuit using a two-position selector switch.
3. Student shall develop motor circuit design skills for three-phase motor control.

**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* |
| Two-position Selector Switch | Run/Jog Selection | MODE |
| Normally Closed Pushbutton | Stop Motor | STOP |
| Normally Open Pushbutton | Start/Jog Motor | START |
| Outputs | | |
| *Device* | *Description* | *Symbol* |
| Green Pilot Light | Motor Running | RUNNING |
| Red Pilot Light | Motor Stopped | STOPPED |
| Yellow Pilot Light | Motor Overload | OVERLOAD |
| Blue Pilot Light | Motor Jog | JOG |
| 3-phase 24VDC Motor Starter | Three-phase Motor Starter | MS3 |
| 208VAC/3P Motor | Three-phase AC Motor | M3 |

**Instructions**

Design a stop/start/jog motor control circuit using the devices listed above. With the selector switch in “run” mode, whenever the start button is pressed, the motor shall start and stay running. Whenever the stop pushbutton is pressed the motor shall stop. With the selector switch in “jog” mode, whenever the start button is pressed, the motor shall start and run only while the button is being pressed. When the start button is released the motor shall stop. Ensure that the control circuit includes overload protection. The green light indicates that the motor is running. The red light indicates motor has stopped. The blue light indicates that the motor is being “jogged”. The yellow light indicates an overload condition. 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 ensuring to label all wires with the appropriate wire numbers. 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 23 – name.ext.*

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