Title: **11 Pin Relay, Wired** Job: 15

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

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

**Objectives**

1. Student shall identify the components of an eleven-pin relay.
2. Student shall contrast the differences between a standard 8-pin relay and an 11-pin relay.
3. Student shall assess the behavior of an eleven-pin relay in a live circuit.

**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 instructor evaluation.

**Devices**

|  |  |  |
| --- | --- | --- |
| Inputs | | |
| *Device* | *Description* | *Symbol* |
| Mushroom Head Pushbutton | Emergency Stop | ESTOP |
| Normally Closed Pushbutton | Stop Button | STOP |
| Normally Open Pushbutton | Start Button | START |
| Outputs | | |
| *Device* | *Description* | *Symbol* |
| Green Pilot Light | Motor Running | RUNNING |
| Yellow Pilot Light |  |  |
| Red Pilot Light | Motor Stopped | STOPPED |
| Blue Pilot Light |  |  |
| Eleven-Pin 24VDC Relay | Control Relay | CR2 |
| 120VAC Motor | Motor | M |

**Instructions**

Wire the schematic shown below. Ensure to use the proper colored wire and label all wires with the appropriate wire numbers. Have the instructor review the circuit before energizing the panel. After obtaining approval, energize the circuit and follow the steps in the table below. When complete, render the schematic using a CAD type software package. Post the schematic to the student share folder using filename MMC Job 15 –name.ext.

**Diagram**

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|  |  |  |

**Schematic**



1. What does an eleven-pin relay offer that an eight-pin relay doesn’t?

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1. List some uses that you think an eleven-pin relay can be used.

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1. The main problem with using an eight-pin relay to stop and start a single-phase motor is the limited amount of contacts. Pressing the ESTOP or stop button disconnects power from the red “stopped” light (at least while the stop button is being pressed). Design a Stop/Start circuit with an ESTOP using an eleven-pin relay that keeps the “stopped light energized even in the ESTOP or STOP buttons are pressed.

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