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| Name |  | Station |  | Date | |  | |
| Objective | | | | | | | |
| Design a control circuit that controls a conveyor belt at a grocery checkout. Your circuit will have an on/off switch to allow the checker to turn the conveyor on or off when needed. Additionally, a limit switch will determine if any groceries are at the end of the belt. Once the checker turns on the conveyer, the belt will run until an item is present at the end of the belt (limit switch actuated). Once the item is no longer present at the end of the belt (limit switch not actuated), the conveyor motor shall start again. If the conveyor belt runs for more than ten seconds without an item being sensed at the end of the belt, the conveyor motor shall stop. Once this occurs, the checker will have to press a reset button to get the conveyor to run. At any time the checker can turn the conveyor off with the on/off switch. A yellow light shall indicate that the conveyor is running and a red light shall indicate that the conveyor is off. | | | | | | | |
| Job Instructions | | | | | | | |
| Before any wiring, design your schematic on the graph provided. Use references to ladder rungs, terminal locations, wire numbers and cross-references of all components in your designed circuit. Once your design is complete, you may start wiring your circuit. Ensure to use wire numbers on every wire. Once the wiring is complete, have the instructor grade both your hand drawing and your wiring circuit. Grading shall be based on the rubric below. | | | | | | | |
| Grading Rubric | | | | | | | |
| Classification | | | | | Points | | Score |
| Hand drawing | | | | | 20 | |  |
| Schematic Design | | | | | 20 | |  |
| Wiring | | | | | 20 | |  |
| Wire Colors | | | | | 10 | |  |
| Wire Numbers | | | | | 10 | |  |
| Circuit Operation | | | | | 20 | |  |

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