Initial state

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 0 |
| Lens lamp sorter | 0 |
| Engine conveyer | 0 |
| Engine feeder | 0 |
| Engine sorter | 1 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | 0 |

Resting state

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp | 0 |
| Lens lamp | 0 |
| Engine conveyer | 0 |
| Engine feeder | 0 |
| Engine sorter | 0 |
| Display | 0 |
| LED state indicator | 1 |
| Timer start | 0 |

Running state

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 0 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | 2 + Belt |

Timer Start (Ru, SS = 1)

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 0 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Belt |

Running State 2

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 0 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | 0 |

Running State 3

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 0 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | 2 + Belt |

Motor Up

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 1 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Sort |

Motor Up 2

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 1 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Sort |

Motor Down

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 1 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Sort |

Motor Up’

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 0 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 0 |
| Engine sorter | 1 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Sort |

Motor Up 2’

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 0 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 0 |
| Engine sorter | 1 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Sort |

Motor Down ’

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 0 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 0 |
| Engine sorter | 1 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Sort |

Timer Start

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 0 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | 0 |

Timer Start 2 (SS = 1)

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 0 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 0 |
| Engine sorter | 1 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Belt |

Abort (A)

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 0 |
| Lens lamp sorter | 0 |
| Engine conveyer | 0 |
| Engine feeder | 0 |
| Engine sorter | 0 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | 0 |

After tick

|  |  |
| --- | --- |
| Outputs | Value for output |
| Lens lamp position | 1 |
| Lens lamp sorter | 1 |
| Engine conveyer | 1 |
| Engine feeder | 1 |
| Engine sorter | 0 |
| Display | 0 |
| LED state indicator | 0 |
| Timer start | Belt |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Initial state | | Input | | | Input value | | | State | | |
| I | | Push | | | 1 | | | R | | |
| R | | SS | | | 1 | | | Ru | | |
| Ru | | Timer | | | TEnd | | | I | | |
| Ru | | PS | | | 1 | | | Ru2 | | |
| Ru | | Abort | | | 1 | | | A | | |
| Ru | | SS | | | 1 | | | TimS | | |
| Ru2 | | Timer | | | TEnd | | | I | | |
| Ru2 | | PS | | | 1 | | | Ru3 | | |
| Ru2 | | CD | | | 1 | | | MU | | |
| Ru2 | | SS | | | 1 | | | TimS | | |
| Ru2 | | Abort | | | 1 | | | A | | |
| Ru3 | | Tic | | | 1 | | | Ru2 | | |
| MU | | PB | | | 1 | | | MU2 | | |
| MU | | SS | | | 1 | | | TS2 | | |
| MU2 | | SS | | | 1 | | | TS2 | | |
| MD | | SS | | | 1 | | | TS2 | | |
| MU | | Abort | | | 1 | | | A | | |
| MU2 | | Abort | | | 1 | | | A | | |
| MD | | Abort | | | 1 | | | A | | |
| MU2 | | Timer | | | SORT | | | MD | | |
| MD | | Timer | | | Motor Down | | | Ru2 | | |
| MU’ | | PB | | | 1 | | | MU2’ | | |
| MU’ | | Abort | | | 1 | | | A | | |
| MU2’ | | Timer | | | SORT | | | MD’ | | |
| MU2’ | | Abort | | | 1 | | | A | | |
| MD’ | | Timer | | | Motor Down | | | After tick | | |
| MD’ | | Abort | | | 1 | | | A | | |
| TimS | | Tic | | | 1 | | | After tick | | |
| After tick | | CD | | | 1 | | | MU’ | | |
| After tick | | Abort | | | 1 | | | A | | |
| After tick | | Timer | | | TEnd | | | I | | |
| TS2 | | Timer | | | Tic | | | MU’ | | |
| A | | | SS | | | 1 | | | I | |
| Motor Down | 0.30 s | | | Sort | | 0.85 s | Belt | | | 2.0 s |

Motor Up: probably the same as Motor Down, only the opposite?

Motor Down: the time it takes for the engine of the sorter to move the sorter from the lowest point to the highest point.

Sort: the amount of time it takes for a disc to be transported from the black/white detector to the end of the conveyor belt.

Belt: the amount of time it takes for a disc to travel from the feeder to the end of the conveyor belt.

TEnd: I don’t know, I don’t care yet.

Tic: one clock tick.