**Project overview:**

Project includes 5 conveyer belts, for moving industrial items from line A to storage bin. Belts will start in reverse order (5,4,3,2,1) and stop in forward order (1,2,3,4,5)

**Sequence of operations:**

1. When operator starts the system , belt 5 starts first
2. After 1 second time delay, belt 4 starts
3. After 1 second time delay, belt 3 starts
4. After 1 second time delay, belt 2 starts
5. After 1 second time delay, belt 1 starts
6. When operator stops the system, belt 1 stops first
7. After 1 second time delay, belt 2 stops
8. After 1 second time delay, belt 3 stops
9. After 1 second time delay, belt 4 stops
10. After 1 second time delay, belt 5 stops

**IO List:**

|  |  |  |  |
| --- | --- | --- | --- |
| Tag name | Description | PLC Address | Tag type |
| B1\_Running | Belt 1 Running | I:0/0 | DI |
| B1\_Fault | Belt 1 Faulted | I:0/1 | DI |
| B1\_Run\_CMD | Belt 1 Run Command | O:0/0 | DO |
| B2\_Running | Belt 2 Running | I:0/2 | DI |
| B2\_Fault | Belt 2 Faulted | I:0/3 | DI |
| B2\_Run\_CMD | Belt 2 Run Command | O:0/1 | DO |
| B3\_Running | Belt 3 Running | I:0/4 | DI |
| B3\_Fault | Belt 3 Faulted | I:0/5 | DI |
| B3\_Run\_CMD | Belt 3 Run Command | O:0/2 | DO |
| B4\_Running | Belt 4 Running | I:0/6 | DI |
| B4\_Fault | Belt 4 Faulted | I:0/7 | DI |
| B4\_Run\_CMD | Belt 4 Run Command | O:0/3 | DO |
| B5\_Running | Belt 5 Running | I:0/8 | DI |
| B5\_Fault | Belt 5 Faulted | I:0/9 | DI |
| B5\_Run\_CMD | Belt 5 Run Command | O:0/4 | DO |

**Alarm List:**

|  |  |  |  |
| --- | --- | --- | --- |
| Tag name | Description | Alarm Type | Alarm Condition |
| B1\_Fault\_ALM | Belt 1 Fault Alarm | Digital | ON |
| B1\_FTS\_ALM | Belt 1 Fail to Start Alarm | Digital | ON |
| B2\_Fault\_ALM | Belt 2 Fault Alarm | Digital | ON |
| B2\_FTS\_ALM | Belt 2 Fail to Start Alarm | Digital | ON |
| B3\_Fault\_ALM | Belt 3 Fault Alarm | Digital | ON |
| B3\_FTS\_ALM | Belt 3 Fail to Start Alarm | Digital | ON |
| B4\_Fault\_ALM | Belt 4 Fault Alarm | Digital | ON |
| B4\_FTS\_ALM | Belt 4 Fail to Start Alarm | Digital | ON |
| B5\_Fault\_ALM | Belt 5 Fault Alarm | Digital | ON |
| B5\_FTS\_ALM | Belt 5 Fail to Start Alarm | Digital | ON |