**Sequence Title**: Loading Unit

**Doc Version:** 1.00.1

**Published By:** Tim Reamsbottom

**Publish Date**: 21/07/2015

# Version History

*The version number corresponds with the program version number set in Automation Studio.*

|  |  |  |  |
| --- | --- | --- | --- |
| Publish Date | Version Number | Comments | Engineer Initials |
| 21/07/2015 | 1.00.1 | First Release | TR |
| 20/06/2016 | 1.01.0 | Fix issue with loading not using unloading PLS from comms. Now it works with both belt and comms correctly. | TR |
| 07/02/2018 | 1.01.1 | Change global vars to dynamic standards | TR |
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# Sequence Description

## Basic Sequence Description

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| --- |
| Standard loading unit program  Is designed for KanlInk communication or data transfer from a transfer belt. |

## Sequence Steps

|  |  |
| --- | --- |
| Step | Description |
| 0 | Disabled |
| 1 | Check status |
| 2 | Wait for bag at buffer |
| 3 | Wait for bag to arrive |
| 4 | Bag settles in loading unit |
| 5 | Move steady cylinders down |
| 6 | Wait for bag to be loaded |
| 7 | Check if compression is required |
| 8 | Move linen compressor down |
| 9 | Check switches |
| 10 | Check for buffer space |
| 11 | Wait for bag to be released |
| 12 | Click here to enter text. |
| 13 | Click here to enter text. |
| 14 | Click here to enter text. |
| 15 | Click here to enter text. |
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# IO Description

## Standard IO Descriptions

|  |  |  |  |
| --- | --- | --- | --- |
| Standard Block number | Block Port | Input  Output | Description |
| 21 | 1 | X | SLU1 – Bag at buffer |
| 21 | 2 | X | SLU1 – Bag past stop |
| 21 | 3 | X | SLU1 – Bag at stop |
| 21 | 4 | X | SLU1 – Bag released |
| 21 | 5 | Y | SLU1 – Open buffer |
| 21 | 6 | Y | SLU1 – Open stop |
| 21 | 7 | Y | SLU1 – Steady cylinders |
| 21 | 8 | Y | Spare |
| 22 | 1 | X | SLU1 –Bag overfill |
| 22 | 2 | X | SLU1 – Compressor at top |
| 22 | 3 | X | SLU1 – Compressor at top |
| 22 | 4 | X | Spare |
| 22 | 5 | Y | SLU1 – Move compressor down |
| 22 | 6 | Y | SLU1 – Move compressor down |
| 22 | 7 | Y | SLU1 – Load support unit |
| 22 | 8 | Y | Spare |
| n/a | - | - | Click here to enter text. |
| n/a | - | - | Click here to enter text. |
| n/a | - | - | Click here to enter text. |
| n/a | - | - | Click here to enter text. |
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| n/a | - | - |  |

*Description must contain “–“after sequence identifier (i.e.SPN1 – ).*

# Manual Description

|  |
| --- |
| 1. Disabled   All controls functions are disabled.   1. Check status   The emergency stop condition is checked, as a status check of all switches. If a linen compressor is fitted the “linen compressor at top” switches must be made, the “bag past stop” and “bag at stop” proximity switches must be not made. Then the sequence will then change to step 2.   1. Wait for bag at buffer.   A logical assessment is made of the input buffer condition, by checking the “bag at buffer” proximity switch and data for validity (if applicable), or the request release state of the incoming buffer sequence.  When the assessment is true the sequence will change to step 3.   1. Wait for bag to arrive.   The loading unit stop will open. The incoming buffer will open, or the incoming buffer sequence will release a bag. The bag will then gravitate into the loading unit. When the first trolley is detected by the “Bag past stop” proximity switch, the sequence will change to step 4.   1. Bag settles in loading unit.   The loading unit stop will close and the 2nd trolley will come to rest against it. The “Bag at stop” proximity switch is then made. After 3 seconds the sequence changes to step 5.   1. Move steady cylinders down   The steady cylinders and load support unit are allowed 2 seconds to move into position, before the sequence will change to step 6.   1. Wait for bag to be loaded   The bag is loaded by either external equipment or a transfer. The loading finish is detected by valid data being copied into the loading unit data position, then the sequence will change to step 7.   1. Check if compression is required   If a linen compressor is not fitted the sequence will change to step 9.  If a linen compressor is fitted if the “bag overfill” photocell is made the sequence will change to step 8, If the “bag overfill” photocell is not made the sequence will go to step 9.   1. Move linen compressor down   The linen compressor is allowed 5 seconds to move down, then the sequence will change to step 9.   1. Check switches   The emergency stop condition is checked, If a linen compressor is fitted the “linen compressor at top” switches must be made before the sequence changes to step 10.   1. Check for buffer space   An assessment is made to determine if releasing of the bag is allowed, once release is allowed the sequence will change to step 11.  The integrity of the data is checked, If there is outgoing buffer, the line full trip is checked. The “bag at buffer” proximity and state of the going buffer stop is also checked if this is a single bag buffer to ensure a bag is not released with the buffer stop being in a close position.  If there is no outgoing buffer, a request release signal is sent to the outgoing sequence, valid release is when an enable release signal is received.   1. Wait for bag to be released.   The loading unit stop is opened and the bag is able to gravitate away into its next position.  If there is an outgoing buffer then arrival in the buffer is detected by the line trip proximity switch. If there is no outgoing buffer arrival is detected by the enable release signal changing to false. |