



Virtual HMI User Instructions

ISC CAM AIM Technology

Version 1.1

29 August 2023

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Intended design and use of Virtual HMI

- Virtual HMI facilitates the interaction of non-controls experts with the Intralox equipment to:
 - commission,
 - adjust key operating parameters,
 - communicate faults,
 - communicate basic operating log data.

How to use this document

- Additional documents from the Intralox User Manual
 - Mechanical drawing of Intralox Equipment
 - Dimensions of Intralox equipment and position of the components
 - Functional layout drawing of Intralox equipment
 - Application information: product trajectories, belt speeds, min product gaps,
 - ISC Interlocks Document
 - ISC Troubleshooting Guide

Good to know

- Default IP Address: 192.168.1.254
- IP address displayed on the HMI updates only after reboot of the ISC CAM (power off/on).
- All parameters/values displayed on HMI are available on the ethernet network
- Click on “Submit” button to implement changes on the ‘fly’.
- Units: SI
- IDL: Intralox Divert Logic

Connection to the Virtual HMI

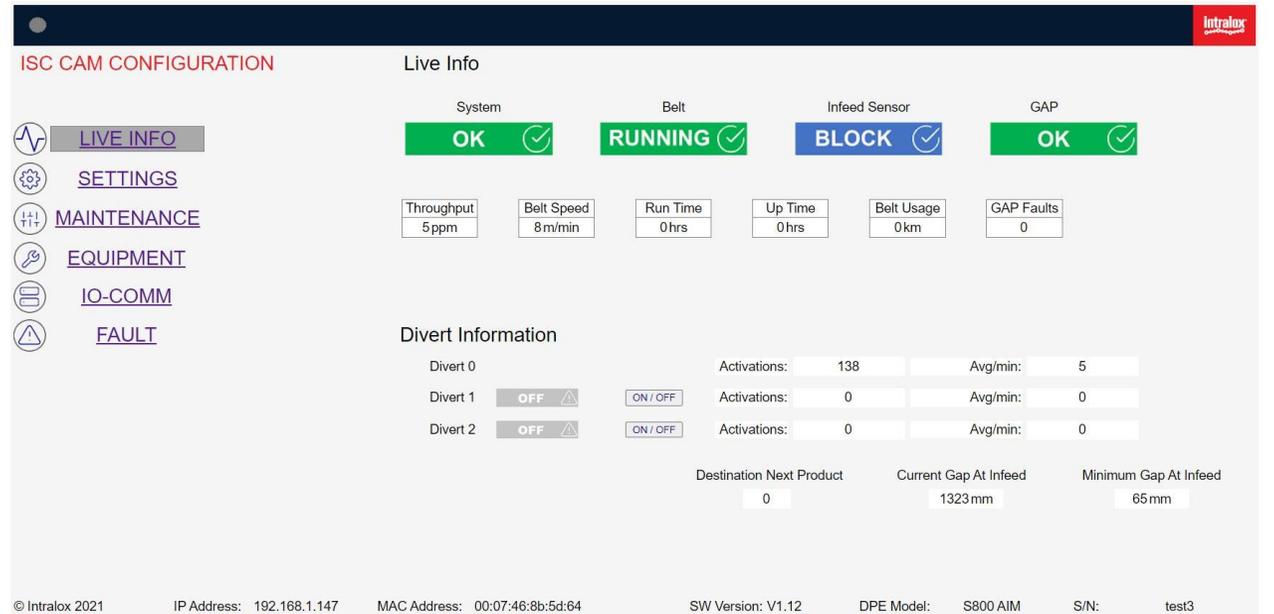
How to connect to the Virtual HMI?

- Connect with a laptop to the ethernet network of the ISC CAM
 - If the ISC CAM is not connected to any ethernet, connect directly to the ethernet port of the ISC CAM.
- Write the IP address of the ISC CAM on the navigation bar of an internet browser such as Microsoft Edge, Google Chrome, Mozilla Firefox or similar.
 - If the IP address of the ISC CAM is unknown, please request it to the responsible/manager of PLC network or use the Intralox Service Tool available on www.Intralox.com/isccam
 - Default IP address: 192.168.1.254

HMI Overview

Number of pages & high level Description

- The Virtual HMI has 6 pages
 1. Live: landing page
 2. Settings
 3. Maintenance
 4. Equipment
 5. IO-Communication
 6. Faults



ISC CAM CONFIGURATION

Live Info

System: OK ✓ Belt: RUNNING ✓ Infeed Sensor: BLOCK ✓ GAP: OK ✓

Throughput 5 ppm	Belt Speed 8 m/min	Run Time 0 hrs	Up Time 0 hrs	Belt Usage 0 km	GAP Faults 0
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Divert Information

Divert 0	Activations: 138	Avg/min: 5
Divert 1 OFF ⚠	Activations: 0	Avg/min: 0
Divert 2 OFF ⚠	Activations: 0	Avg/min: 0

Destination Next Product: 0
Current Gap At Infeed: 1323 mm
Minimum Gap At Infeed: 65 mm

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S800 AIM S/N: test3

Interface Overview

The screenshot shows the 'ISC CAM CONFIGURATION' interface. At the top right is the 'intralox' logo. On the left is a navigation panel (callout 1) with icons and labels for LIVE INFO, SETTINGS, MAINTENANCE, EQUIPMENT, IO-COMM, and FAULT. The main area is titled 'Live Info' and contains four status boxes: System (OK), Belt (RUNNING), Infeed Sensor (BLOCK), and GAP (OK). Below these are several data boxes: Throughput (5 ppm), Belt Speed (8 m/min), Run Time (0 hrs), Up Time (0 hrs), Belt Usage (0 km), and GAP Faults (0). The 'Divert Information' section shows three divert units (Divert 0, Divert 1, Divert 2) with their respective activation counts and average rates. At the bottom is a yellow bar (callout 2) containing system information: © Intralox 2021, IP Address: 192.168.1.147, MAC Address: 00:07:46:8b:5d:64, SW Version: V1.12, DPE Model: S800 AIM, S/N: test3. Callout 3 points to the Infeed Sensor status, and callout 4 points to the top navigation bar.

ISC CAM CONFIGURATION

Live Info

System: OK ✓ Belt: RUNNING ✓ Infeed Sensor: BLOCK ✓ GAP: OK ✓

Throughput: 5 ppm Belt Speed: 8 m/min Run Time: 0 hrs Up Time: 0 hrs Belt Usage: 0 km GAP Faults: 0

Divert Information

Divert	Status	Activations	Avg/min
Divert 0	ON	138	5
Divert 1	OFF	0	0
Divert 2	OFF	0	0

Destination Next Product: 0 Current Gap At Infeed: 1323 mm Minimum Gap At Infeed: 65 mm

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S800 AIM S/N: test3

1. Navigation pannel

- Live Info
- Settings
- Maintenance
- Equipment
- IO-COMM
- Fault

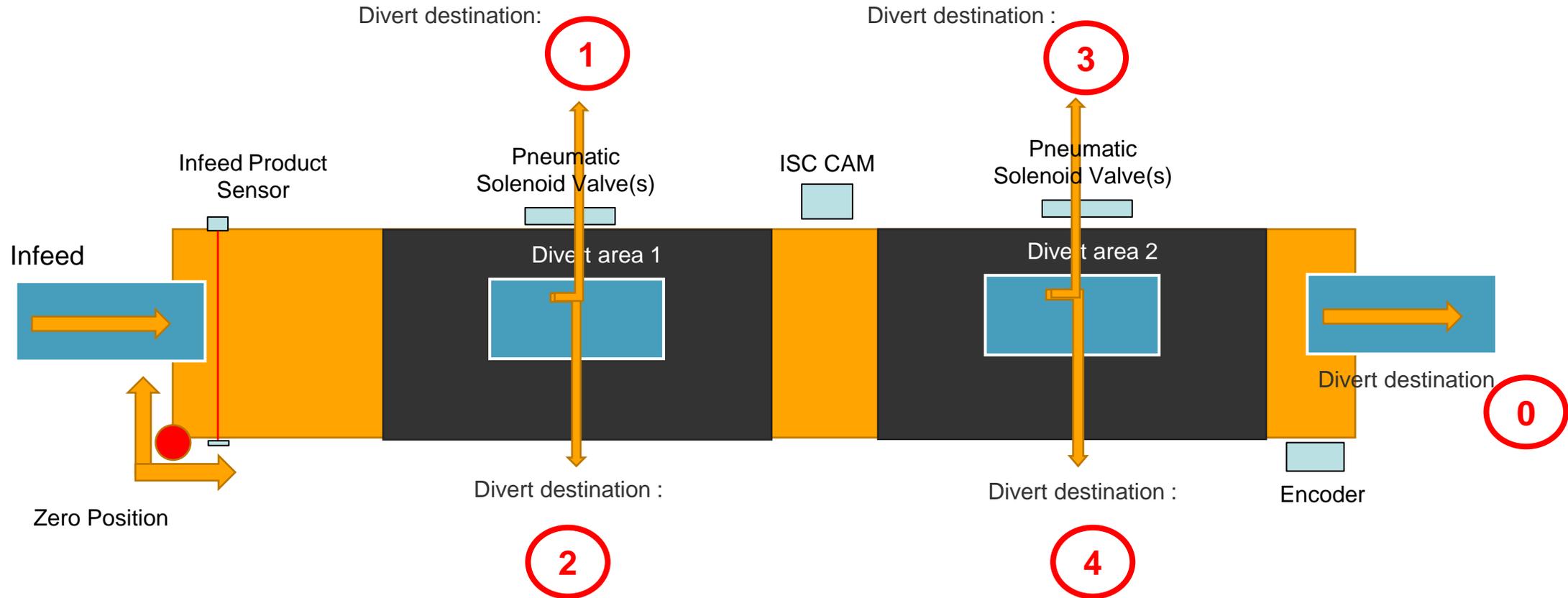
2. Bottom Information Bar

1. IP Address of ISC CAM
2. MAC Address: electronic unique identifier
3. SW Version: Intalox Divert Logic Version
4. DPE Model: Intralox Product Family
5. S/N: serial number of the Intralox equipment

3. Page Unique Information

4. Live bit

Intralox Sorters



1. Live page

End in Mind

- Provide an overview of the status of Intralox equipment using real-time operating data. The data is generated from the field components:
 - Infeed product sensor,
 - encoder,
 - solenoids valves
- ‘Read only’ page
- Intended users: Any user such as equipment operator, controls engineers, maintenance tech

Live Info – Indicators



ISC CAM CONFIGURATION

-  [LIVE INFO](#)
-  [SETTINGS](#)
-  [MAINTENANCE](#)
-  [EQUIPMENT](#)
-  [IO-COMM](#)
-  [FAULT](#)

Live Info

System OK ✓	Belt RUNNING ✓	Infeed Sensor BLOCK ✓	GAP OK ✓
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Throughput 5 ppm	Belt Speed 8 m/min	Run Time 0 hrs	Up Time 0 hrs	Belt Usage 0 km	GAP Faults 0
---------------------	-----------------------	-------------------	------------------	--------------------	-----------------

Divert Information

Divert 0		Activations: 138	Avg/min: 5
Divert 1	OFF ⚠ <input type="button" value="ON / OFF"/>	Activations: 0	Avg/min: 0
Divert 2	OFF ⚠ <input type="button" value="ON / OFF"/>	Activations: 0	Avg/min: 0

Destination Next Product 0	Current Gap At Infeed 1323 mm	Minimum Gap At Infeed 65 mm
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System

General status of the system to run

- **Belt**
Status of the belt.
- **Infeed Sensor**
Status infeed Product Sensor.
- **Gap**
Status of gap between 2 consecutive products measured by the infeed product sensor. See page faults for definition of GAP not "OK".

Gap shorter than "Min Gap at Infeed" triggers fault signal to PLC. See troubleshooting guideline.

Live Info – Indicators

ISC CAM CONFIGURATION



- [LIVE INFO](#)
- [SETTINGS](#)
- [MAINTENANCE](#)
- [EQUIPMENT](#)
- [IO-COMM](#)
- [FAULT](#)

Live Info

System	Belt	Infeed Sensor	GAP
OK ✓	RUNNING ✓	BLOCK ✓	OK ✓

Throughput 5 ppm	Belt Speed 8 m/min	Run Time 0 hrs	Up Time 0 hrs	Belt Usage 0 km	GAP Faults 0
---------------------	-----------------------	-------------------	------------------	--------------------	-----------------

Divert Information

Divert	Control	Activations	Avg/min
Divert 0		138	5
Divert 1	OFF ⚠ <input type="button" value="ON / OFF"/>	0	0
Divert 2	OFF ⚠ <input type="button" value="ON / OFF"/>	0	0

Destination Next Product 0	Current Gap At Infeed 1323 mm	Minimum Gap At Infeed 65 mm
-------------------------------	----------------------------------	--------------------------------

Throughput

Number of products crossing the infeed product sensor in the last minute, updated every minute (not instantaneously)

- **Belt Speed**
Linear belt speed.
- **(Belt) Run Time**
Time Duration since ISC CAM is powered on first time. It only increases when the belt is moving (receiving encoder pulses)
- **Up Time**
Time duration since the ISC CAM was last time powered on.
- **Belt Usage**
Total distance travelled by the belt since first encoder pulse.
- **Gap Fault**
Total number of 'Gap Not OK' since the first encoder pulse. See page faults for definition of GAP not "OK".

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S800 AIM S/N: test3

Live Info – Divert Information

ISC CAM CONFIGURATION intralox

Live Info

System: **OK** ✓ Belt: **RUNNING** ✓ Infeed Sensor: **BLOCK** ✓ GAP: **OK** ✓

Throughput 5 ppm	Belt Speed 8 m/min	Run Time 0 hrs	Up Time 0 hrs	Belt Usage 0 km	GAP Faults 0
---------------------	-----------------------	-------------------	------------------	--------------------	-----------------

Divert Information

Divert 0	Activations: 138	Avg/min: 5
Divert 1 OFF ⚠	Activations: 0	Avg/min: 0
Divert 2 OFF ⚠	Activations: 0	Avg/min: 0

Destination Next Product 0	Current Gap At Infeed 1323 mm	Minimum Gap At Infeed 65 mm
-------------------------------	----------------------------------	--------------------------------

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S800 AIM S/N: test3

- **Divert Number**

Zone counting starts from infeed of the Intralox equipment

- **ON/OFF button**

ON: zone is available to divert products

OFF: zone is not available to divert products

The ISC CAM would not activate this exit even if the LINE PLC indicates it.

Use the “OFF” button when a zone needs to be temporarily unavailable. Ex: maintenance task.

- **Activations**

Total number of activations of the divert since first encoder pulse received by the ISC CAM (absolute number)

Avg per Minute: products crossing the infeed product sensor in the last minute, update every 60 seconds

- **Destination Next Product**

Destination assigned to next product crossing the Infeed Product Sensor.

- **Current Gap at Infeed**

Gap measured by Infeed Product sensor between 2 products. Max gap displayed is the length of the Intralox conveyor.

- **Minimal Gap at Infeed**

Minimal required gap between 2 products for the Intralox equipment to operate correctly. Functional Layout and ISC Troubleshooting guideline.

2. Settings Page

Setting: End in Mind

- Provides the ability to modify key operating parameters (settings) of the Intralox equipment to optimise the trajectory of products.
- ‘Read and Write’. Option to import and export ‘Application setting files’
- Intended users
 - Technical operators looking for adjusting the performance of the Intralox equipment. Ex. maintenance tech

Setting General

ISC CAM CONFIGURATION

Settings Select File: No file chosen Filename: Status: machine constants file loaded

General Settings

Internal Count 0: Internal Count 1: Internal Count 2:

General Settings

PE Position Offset: mm Default Destination:

Min Product Length: mm Retain Divert: ▾

Area 1

Divert Offset: mm

Activation Delay Override: ms

Deactivation Delay Override: ms

Area 2

Divert Offset: mm

Activation Delay Override: ms

Deactivation Delay Override: ms

Click "Submit" button to implement changes

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S800 AIM S/N: test3

- **Import Setting Button**

Import to the ISC CAM backup application setting files to (extension ".apl"). Ex: factory setting

- **Export Data Button**

Export application setting files to generate backup

- **Internal Count 0, 1 and 2**

Slugs/Train functionality. Number of products allocated to divert #. Only applicable when ISC CAM is working in "Internal Model", see HMI Page "Equipment".

- **Min Product Length**

Minimum distance the infeed PE signal must be stable, to be accepted as product read. Distance shorter will be considered 'noise' or "product debris" such as tape of shrink plastic.

- **PE Position OffSet**

Infeed Product Sensor distance from the Zero Position. See Mechanical Drawing.

- **Default Destination**

Destination of product when no signal is received from the Line PLC (external mode) or no slugs/train function is set (internal mode)

- **Retain Divert**

Divert activation changes when product needs change direction

Setting General (AIM)

ISC CAM CONFIGURATION

Settings

Select File: No file chosen | Filename:

Status:

General Settings

Internal Count 0: Internal Count 1: Internal Count 2:

General Settings

PE Position Offset: mm Default Destination:

Min Product Length: mm Retain Divert:

Area 1	Area 2
Divert Offset: <input type="text" value="0"/> mm	Divert Offset: <input type="text" value="0"/> mm
Activation Delay Override: <input type="text" value="0"/> ms	Activation Delay Override: <input type="text" value="0"/> ms
Deactivation Delay Override: <input type="text" value="0"/> ms	Deactivation Delay Override: <input type="text" value="0"/> ms

Click "Submit" button to implement changes

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S800 AIM S/N: test3

- **Divert OffSet**

(Start of) divert area distance from the position defined by Intralox. See Mechanical Drawing of position.

- **Activation Delay Override**

This value considers mechanical delays of the activation system of the Intralox equipment from product detection until product starts moving on the belt.

- **SUBMIT BUTTON**

Click button for making the modifications on the IDL effective.

3. Maintenance Page

End in Mind

- Display the 'equipment log' with absolute counter values
- 'Read only', ability to export counter files.
- Intended users: maintenance.

Maintenance

ISC CAM CONFIGURATION

Maintenance

Filename: Save Counters

Status: machine constants file loaded

Counters			
Up Time:	0 hrs	Belt Runtime:	0 hrs
Product Count:	157	GAP Fault Count:	0
Divert 1 Count:	0	Divert 2 Count:	0
		Belt Usage:	0 km
		Divert 0 Count:	169

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S7050 ARB S/N: test4

Up time

Time elapsed since the ISC CAM was powered on. It resets to zero when the ISC CAM is powered off.

Belt Run Time

Time elapsed since the ISC CAM received the first encoder pulse. It only increments when the ISC CAM receives encoder pulses. It never resets to zero

Belt Usage

Total distance travelled by the belt since first encoder pulse. It never resets to zero

Product Count

Total count number of products that passed the infeed product sensor (absolute value) since first encoder pulse.

GAP Fault Count

Total number of 'Gap Not OK' since the first encoder pulse. See page faults for definition of GAP not "OK".

Divert 0, 1, 2

Total number of activations of each divert since first encoder pulse .

Save Counters BUTTON

Click button to export the counter values. File extension is 'cnt' and requires Intralox tool to make it readable.

4. Equipment Page

End in Mind

- Ability to modify key operating parameters (settings) of the Intralox equipment to optimise the trajectory of products.
- ‘Read and write’
 - Read: read the Intralox equipment mechanical dimensions relevant for the automation of the carryway
 - Write: upload files with the mechanical dimensions of the Intralox equipment
- Intended users
 - Controls engineers integrating the ISC CAM into the Line network (communication)
 - Maintenance operators troubleshooting
- See Functional Layout and Mechanical Drawing

Equipment -Application Data

ISC CAM CONFIGURATION

Equipment

Select File: No file chosen

Status: machine constants file loaded

Application Data

Application: Switch Activation Type: R&R 1-3 Belt Type: S7050 ARB Minimum GAP: 65 mm

Hardwired Signal: Run Mode: Sensor Mode: Fault Override:

Belt Data

Conveyor Length: 1465 mm Belt Width: 2007 mm Sprocket Teeth: 10 Pitch: 81 mm

Encoder Resolution: 64 Belt Traveled/Pulse: 3.96 mm/P Maximum Speed: 90 m/min Minimum Speed: 0 m/min

Divert Data

Divert Area Count: 1 Zone Length: 64 mm Inf. Sensor Count: 1 PE Position: 135

Valve Placement:

Area 1

Position: 126 mm Activation Delay: 55 ms

Area 2

Position: 1547 mm Activation Delay: 22 ms

Zone Count: 7 Zone Count: 2

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S7050 ARB S/N: test4

- **Application**

Type of functionality that the Intralox equipment is performing when diverting products: Sorter or Switch

- **Activation Type**

Type of mechanical activation mechanism used for engaging with Intralox belt for diverting products: PopUp, RnR or AIM

- **Belt Type**

Intralox Belt series used in the Intralox equipment.

- **Minimum Gap**

Minimum distance between products at the infeed of Intralox See Functional Layout

- **Hardware Signal**

Selections: enable or disable.

Hardwire signal “enable” results that ONLY the 1st divert reacts to the discrete signal of 24VDC to activate. The discrete signal has priority over the ethernet signal. Use hardware signal when the Intralox equipment has a high-speed reject

- **Run Mode**

Selections: Internal or external

Internal Mode: ISC CAM operates in autonomous mode with an internal counter for diverting products

External Mode: ISC CAM requires the input signal from the Line PLC for diverting (or not) each product.

- **Sensor Mode**

Selection: Light On / Dark On

Applicable to infeed product sensor. Use only for replacement

- **Fault Override**

Mask - Selection: number, overrides faults. See HMI Page “Faults”.

Click “Submit”
button to implement
changes

Equipment –Belt Data

ISC CAM CONFIGURATION Intralox

Equipment Select File: No file chosen

Status: machine constants file loaded

Application Data

Application: Activation Type: Belt Type: Minimum GAP:

Hardwired Signal: Run Mode: Sensor Mode: Fault Override:

Belt Data

Conveyor Length: 1465 mm	Belt Width: 2007 mm	Sprocket Teeth: 10	Pitch: 81 mm
Encoder Resolution: 64	Belt Traveled/Pulse: 3.96 mm/P	Maximum Speed: 90 m/min	Minimum Speed: 0 m/min

Divert Data

Divert Area Count: Zone Length: Inf. Sensor Count: PE Position:

Valve Placement:

Area 1		Area 2	
Position: <input type="text" value="126 mm"/>	Activation Delay: <input type="text" value="55 ms"/>	Position: <input type="text" value="1547 mm"/>	Activation Delay: <input type="text" value="22 ms"/>
Zone Count: <input type="text" value="7"/>		Zone Count: <input type="text" value="2"/>	

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S7050 ARB S/N: test4

- **Conveyor Length**
Length in [mm] of the frame of the Intralox equipment.
- **Width**
Belt width
- **Sprocket Teeth**
Number of teeth of the sprocket
- **Pitch**
Length of the module of the belt.
- **Encoder Resolution**
Number of pulses generated by the encoder per revolution. Standard = 64 pulse/rev
- **Belt Travel/pulse**
Conversion of the belt travel distance in [1/10mm] for each encoder pulse. Dependant of the belt pitch
- **Maximum Speed**
Recommended Maximum belt speed of the Intralox equipment. Functional Layout.
- **Minimum Speed**
Recommended minimum belt speed of Intralox equipment. Functional Layout

Click "Submit" button to implement changes

Equipment – DARB Divert Data

The screenshot displays the 'Machine' configuration page for an S4500 DARB. The interface includes a navigation menu on the left with options: LIVE INFO, SETTINGS, MAINTENANCE, MACHINE (highlighted), IO-COMM, and FAULT. The main content area is divided into sections: Application Data, Belt Data, and Divert Data. The Divert Data section is highlighted with a yellow border and contains the following fields: Divert Area Count (1), Zone Length (357 mm), Inf. Sensor Count (1), and PE Position (219). Below this, there are two columns for Area 1 and Area 2, each with Position and Activation Delay fields. A 'Submit' button is located at the bottom of the configuration area. A red callout box with a white border points to the 'Submit' button, containing the text: 'Click "Submit" button to implement changes'. At the bottom of the page, system information is displayed: © Intralox 2021, IP Address: 192.168.1.254, MAC Address: 00:07:46:8c:bd:f7, SW Version: V1.0, DPE Model: S4500 DARB, and S/N: 2296406 E2021DSW332.

ISC CAM CONFIGURATION

Machine

Select File: No file chosen
Status: no file loaded

Application Data

Application: Activation Type: Belt Type: Minimum GAP:
Hardwired Signal: Run Mode: Sensor Mode: Fault Override:

Belt Data

Conveyor Length: Belt Width: Sprocket Teeth: Pitch:
Encoder Resolution: Belt Traveled/Pulse: Maximum Speed: Minimum Speed:

Divert Data

Divert Area Count: Zone Length: Inf. Sensor Count: PE Position:

Area 1

Position: Activation Delay:
Zone Count:

Area 2

Position: Activation Delay:
Zone Count:

© Intralox 2021 IP Address: 192.168.1.254 MAC Address: 00:07:46:8c:bd:f7 SW Version: V1.0 DPE Model: S4500 DARB S/N: 2296406 E2021DSW332

- **Divert Area Count**

Area # starts from infeed of the Intralox equipment.
See image in next page.

- **Zone Length**

Length of the divert area.

- **Inf Sensor Count**

Number of Infeed product sensor.

- **PE Position**

Infeed Product Sensor distance from the Zero Position.

Equipment

ISC CAM CONFIGURATION

Equipment

Select File: No file chosen
Status: machine constants file loaded

Application Data

Application: Activation Type: Belt Type: Minimum GAP:

Hardwired Signal: Run Mode: Sensor Mode: Fault Override:

Belt Data

Conveyor Length: Belt Width: Sprocket Teeth: Pitch:

Encoder Resolution: Belt Traveled/Pulse: Maximum Speed: Minimum Speed:

Divert Data

Divert Area Count: Zone Length: Inf. Sensor Count: PE Position:

Area 1

Position: Activation Delay:

Peg Sensor Offset: Deactivation Delay:

Area 2

Position: Activation Delay:

Peg Sensor Offset: Deactivation Delay:

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S800 AIM S/N: test3

- **Divert Area Count**
Area # starts from infeed of the Intralox equipment. See image in next page.
- **Zone Length**
Length of the divert zone
- **Inf Sensor Count**
Number of Infeed product sensor.
- **PE Position**
Infeed Product Sensor distance from the Zero Position.

Click "Submit" button to implement changes

Equipment

ISC CAM CONFIGURATION

Equipment

Select File: No file chosen

Status: machine constants file loaded

Application Data

Application:	Sorter	Activation Type:	AIM Switch block	Belt Type:	S800 AIM	Minimum GAP:	65 mm
Hardwired Signal:	<input type="button" value="Disable"/>	Run Mode:	<input type="button" value="Internal"/>	Sensor Mode:	<input type="button" value="Light On"/>	Fault Override:	<input type="text" value="0"/>

Belt Data

Conveyor Length:	1587 mm	Belt Width:	660 mm	Sprocket Teeth:	8	Pitch:	50.8 mm
Encoder Resolution:	64	Belt Traveled/Pulse:	3.96 mm/P	Maximum Speed:	60 m/min	Minimum Speed:	0 m/min

Divert Data

Divert Area Count:	2	Zone Length:	1320 mm	Inf. Sensor Count:	1	PE Position:	85
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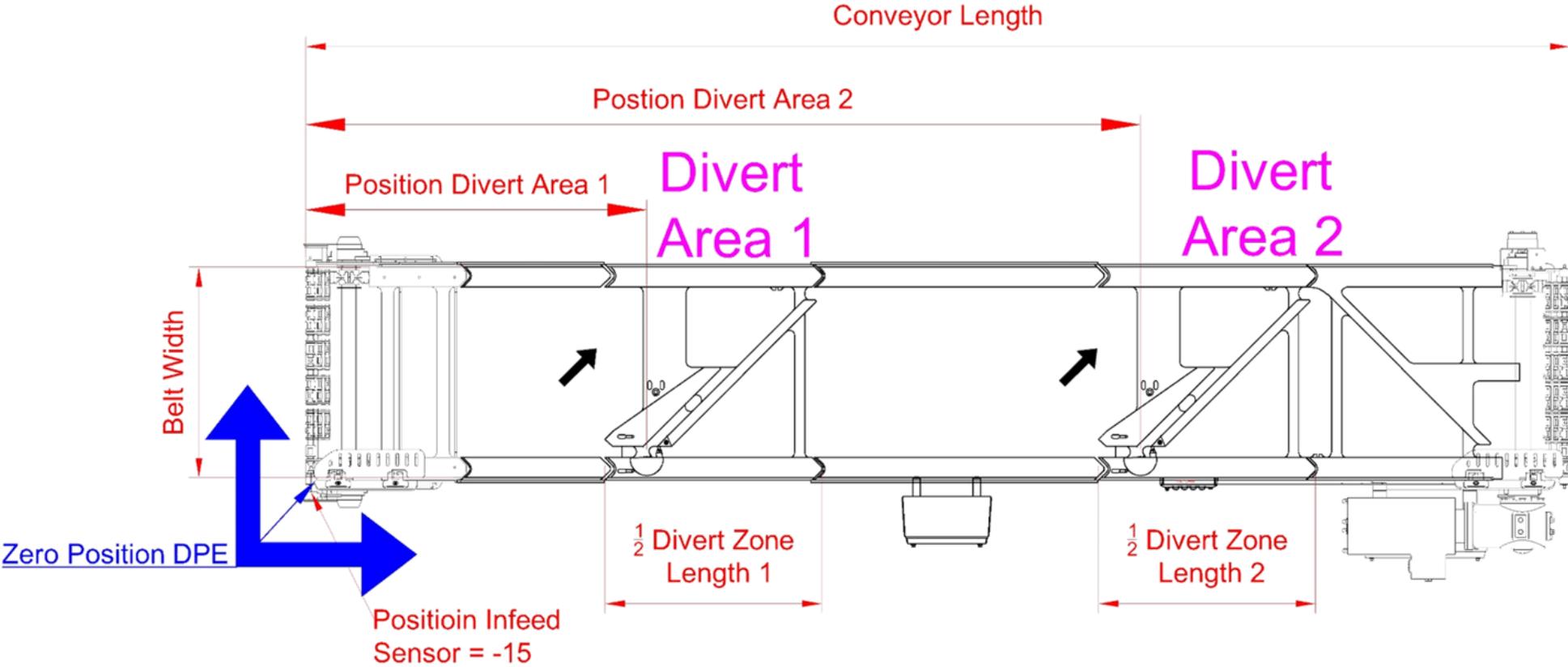
Area 1		Area 2					
Position:	85 mm	Activation Delay:	34 ms	Position:	685 mm	Activation Delay:	12 ms
Peg Sensor Offset:	45 mm	Deactivation Delay:	34 ms	Peg Sensor Offset:	45 mm	Deactivation Delay:	12 ms

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S800 AIM S/N: test3

Click "Submit" button to implement changes

- **Position**
(Start of) divert area distance from the Zero Position.
- **Activation Delay**
Standard mechanical activation delay between a signal is received by the ISC CAM and the product starts moving on the belt.
- **Peg Sensor OffSet**
Peg sensor distance from Zero Position
- **SUBMIT BUTTON**
Push button for making the modifications in the IDL effective.
- **NOTE: Area 2 is optional**

Appendix 4: AIM Application



5.10-COMM Page

End in Mind

- Detail the communication status between the ISC CAM with the field components and the line PLC. Please refer to the ISC CAM Interlocks Document for additional information and ISC Troubleshooting document actions
- ‘read only’
- Intended users
 - Line control engineers

IO-COMM Status

ISC CAM CONFIGURATION

IO & Communication Status

Hardware Input Status

Encoder: Negative Infeed PE: BLOCK Reject Signal: OFF Peg Sensor 1: CLEAR Peg Sensor 2: CLEAR

IO-Link Output Status

Output Port1 Value: 0 Output Port2 Value: 0

Hardwired Output Status

Valve 1: OFF Valve 2: OFF

Communication Input Words (From PLC to ISC)

WORD 00:	0	WORD 01:	0	WORD 02:	0	WORD 03:	0	WORD 04:	0	WORD 05:	0
WORD 06:	0	WORD 07:	0	WORD 08:	0	WORD 09:	0	WORD 10:	0	WORD 11:	0
WORD 12:	0	WORD 13:	0	WORD 14:	0	WORD 15:	0				

Communication Output Words (From ISC To PLC)

WORD 00:	18	WORD 01:	65535	WORD 02:	0	WORD 03:	1	WORD 04:	4	WORD 05:	15
WORD 06:	233	WORD 07:	0	WORD 08:	0	WORD 09:	0	WORD 10:	20	WORD 11:	0
WORD 12:	0	WORD 13:	0	WORD 14:	0	WORD 15:	0				

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S7050 ARB S/N: test4

- **Encoder**
Status of encoder, blinking with each pulse
- **Infeed PE**
Status of infeed product sensor
- **Reject Signal**
Status of hardwire reject signal
- **Peg Sensor 1**
Only applicable for AIM applications. Status of peg sensor of divert 1, blinking with each peg passing the beam the peg sensor (belt has to move)
- **Peg Sensor 2**
Only applicable for AIM applications. Status of peg sensor of divert 2, blinking with each peg passing the beam the peg sensor (belt has to move)

IO-COMM Status

ISC CAM CONFIGURATION

IO & Communication Status

Hardware Input Status

Encoder: Negative Infeed PE: BLOCK Reject Signal: OFF Peg Sensor 1: CLEAR Peg Sensor 2: CLEAR

IO-Link Output Status **Hardwired Output Status**

Output Port1 Value: 0 Output Port2 Value: 0 Valve 1: OFF Valve 2: OFF

Communication Input Words (From PLC to ISC)

WORD 00:	0	WORD 01:	0	WORD 02:	0	WORD 03:	0	WORD 04:	0	WORD 05:	0
WORD 06:	0	WORD 07:	0	WORD 08:	0	WORD 09:	0	WORD 10:	0	WORD 11:	0
WORD 12:	0	WORD 13:	0	WORD 14:	0	WORD 15:	0				

Communication Output Words (From ISC To PLC)

WORD 00:	18	WORD 01:	65535	WORD 02:	0	WORD 03:	1	WORD 04:	4	WORD 05:	15
WORD 06:	233	WORD 07:	0	WORD 08:	0	WORD 09:	0	WORD 10:	20	WORD 11:	0
WORD 12:	0	WORD 13:	0	WORD 14:	0	WORD 15:	0				

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:07:46:8b:5d:64 SW Version: V1.12 DPE Model: S7050 ARB S/N: test4

- **IO-Link Output Status**

- **Out Port 1 valve**

- Only applicable to RnR technology. Status of valve bank.

- **Out Port 2 valve (optional)**

- Only applicable to RnR technology. Status of valve bank.

- **Hardware Output Status**

- **Valve 1**

- Only applicable to Popup and AIM technology

- OFF: valve is off

- ON: valve is on.

- **Valve 2 (optional)**

- Only applicable to Popup and AIM technology

- OFF: valve is off

- ON: valve is on.

IO-COMM Input Words

The screenshot displays the 'IO & Communication Status' page in the Intralox web interface. The page is divided into several sections:

- Hardware Input Status:** Encoder: Negative, Infeed PE: BLOCK, Reject Signal: OFF, Peg Sensor 1: CLEAR, Peg Sensor 2: CLEAR.
- IO-Link Output Status:** Output Port1 Value: 0, Output Port2 Value: 0.
- Hardwired Output Status:** Valve 1: OFF, Valve 2: OFF.
- Communication Input Words (From PLC to ISC):** A table showing 16 words, all currently set to 0.
- Communication Output Words (From ISC To PLC):** A table showing 16 words with various values.

At the bottom of the interface, system information is provided:

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1. Words sent by the ISC CAM to the Line PLC through the ethernet network
2. See ISC CAM Interlocks file for details

IO-COMM Output Words

ISC CAM CONFIGURATION

IO & Communication Status

Hardware Input Status

Encoder: Negative Infeed PE: BLOCK Reject Signal: OFF Peg Sensor 1: CLEAR Peg Sensor 2: CLEAR

IO-Link Output Status

Output Port1 Value: 0 Output Port2 Value: 0

Hardwired Output Status

Valve 1: OFF Valve 2: OFF

Communication Input Words (From PLC to ISC)

WORD 00:	0	WORD 01:	0	WORD 02:	0	WORD 03:	0	WORD 04:	0	WORD 05:	0
WORD 06:	0	WORD 07:	0	WORD 08:	0	WORD 09:	0	WORD 10:	0	WORD 11:	0
WORD 12:	0	WORD 13:	0	WORD 14:	0	WORD 15:	0				

Communication Output Words (From ISC To PLC)

WORD 00:	18	WORD 01:	65535	WORD 02:	0	WORD 03:	1	WORD 04:	4	WORD 05:	15
WORD 06:	233	WORD 07:	0	WORD 08:	0	WORD 09:	0	WORD 10:	20	WORD 11:	0
WORD 12:	0	WORD 13:	0	WORD 14:	0	WORD 15:	0				

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1. Words received by the ISC CAM from the Line PLC through the ethernet network
2. See ISC CAM Interlocks file for details

6. Fault Page

End in Mind

- Display the status of the faults generated by the ISC CAM in human readable interface.
- Refer to the ISC CAM Interlocks Document for details and ISC Troubleshooting document for actions
- ‘Read only’
- Intended users: all users

Fault 0-7

ISC CAM CONFIGURATION

Fault Overview

Fault Code 0 : Encoder Fault	OK	✓
Fault Code 1 : Motor Signal is Off	OK	✓
Fault Code 2 : Belt too Slow	OK	✓
Fault Code 3 : Belt Too Fast	OK	✓
Fault Code 4 : JAM Product Sensor 1	OK	✓
Fault Code 5 : JAM Product Sensor 2	OK	✓
Fault Code 6 : JAM Product Sensor 3	OK	✓
Fault Code 7 : Peg Sensor Blocked	OK	✓
Fault Code 8 : Peg not seen while expected	OK	✓
Fault Code 9 : GAP Fault	OK	✓
Fault Code 10 : Power Supply (Low Voltage)	OK	✓
Fault Code 11 : Current Draw High	OK	✓
Fault Code 12 : IO-Link Fault port C0	OK	✓
Fault Code 13 : IO-Link Fault port C1	OK	✓
Fault Code 14 : IO-Link Fault port C2	OK	✓
Fault Code 15 : IO-Link Fault port C3	OK	✓

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- **Fault Code 0**
No encoder signal received from encoder
- **Fault Code 1**
Encoder pulsing but no signal received from Line PLC for motor on.
- **Fault Code 2**
Belt speed is slower than minimum recommended speed. See Functional Layout for minimum speed.
- **Fault Code 3**
Belt speed is faster than maximum recommended speed. See Functional Layout for maximum speed
- **Fault Code 4**
Infeed Product sensor blocked , see ISC troubleshooting guide.
- **Fault Code 5**
Optional. See Functional Layout for configuration of Intralox Equipment
- **Fault Code 6**
Optional. See Functional Layout for configuration of Intralox Equipment
- **Fault Code 7**
Only applicable to AIM technology. Peg sensor blocked 1 or 2 (if applicable), see ISC troubleshooting guide.

Fault 8-15

The screenshot displays the 'ISC CAM CONFIGURATION' interface. On the left, a navigation menu includes 'LIVE INFO', 'SETTINGS', 'MAINTENANCE', 'EQUIPMENT', 'IO-COMM', and 'FAULT'. The main area is titled 'Fault Overview' and contains a table of fault codes. A yellow callout box highlights Fault Code 8: Peg not seen while expected, which is marked as 'OK'.

Fault Code	Description	Status
Fault Code 0	Encoder Fault	OK
Fault Code 1	Motor Signal is Off	OK
Fault Code 2	Belt too Slow	OK
Fault Code 3	Belt Too Fast	OK
Fault Code 4	JAM Product Sensor 1	OK
Fault Code 5	JAM Product Sensor 2	OK
Fault Code 6	JAM Product Sensor 3	OK
Fault Code 7	Peg Sensor Blocked	OK
Fault Code 8	Peg not seen while expected	OK
Fault Code 9	GAP Fault	OK
Fault Code 10	Power Supply (Low Voltage)	OK
Fault Code 11	Current Draw High	OK
Fault Code 12	IO-Link Fault port C0	OK
Fault Code 13	IO-Link Fault port C1	OK
Fault Code 14	IO-Link Fault port C2	OK
Fault Code 15	IO-Link Fault port C3	OK

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- **Fault Code 8**
Only applicable to AIM Technology
Peg missing in the belt.
- **Fault Code 9**
See Functional Layout for min gap value
- **Fault Code 10**
Power supply low voltage. See ISC troubleshooting guide.
- **Fault Code 11**
Current draw too high. , see ISC troubleshooting guide.
- **Fault Code 12**
Only applicable to RnR Technology
Optional. See Functional Layout for configuration of Intralox equipment
- **Fault Code 13**
Only applicable to RnR Technology
See Functional Layout for configuration of Intralox equipment and ISC troubleshooting guide.
- **Fault Code 14**
Only applicable to RnR Technology
Optional. See Functional Layout for configuration of Intralox equipment , and ISC troubleshooting guide.
- **Fault Code 15**
Only applicable to RnR Technology
Optional. See Functional Layout for configuration of Intralox equipment and ISC troubleshooting guide.