



# ISC CAM Virtual HMI User Instructions

S70X0 Technology

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# Intended design and use of Virtual HMI

- Virtual HMI (vHMI) facilitates the interaction of non-controls experts with the Intralox equipment for:
  - Commissioning,
  - Adjust key operating parameters,
  - Communicating faults,
  - Communicating basic operating datalogging.

# 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 network, 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](http://www.Intralox.com/isccam) for identification
  - Default IP address: 192.168.1.254

# HMI Overview



# Pages

## The Virtual HMI:

- Live info
- Settings
- Maintenance
- Equipment
- IO-Communication
- Faults

ISC CAM CONFIGURATION

Live Info

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

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

Divert Information

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

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

**ISC CAM CONFIGURATION**

**Live Info**

System	Belt	Infeed Sensor	GAP
OK	RUNNING	BLOCK	OK

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

**Divert Information**

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

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

**Bottom Information Bar:** © 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 panel

## 2. Bottom Information Bar

IP Address of ISC CAM

MAC Address:  
Electronics unique identifier

SW Version:  
Intralox Divert Logic Version

DPE Model: Intralox Product Family

S/N: serial number of the Intralox equipment

## 3. Page Unique Information

This is the main page of the HMI, different information will be displayed on this page depending on the selected page.

## 4. Live bit

This "light" will flash green when PLC connectivity is activated and is sending live bit.

# 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 PE (infeed photo eye),
- encoder,
- solenoids valves.

**Intended users:**  
Equipment operator,  
controls- engineers,  
maintenance technicians.

*'Read only' page*

**Live Info**

System	Belt	Infeed Sensor	GAP
OK	RUNNING	BLOCK	OK

Throughput	Belt Speed	Run Time	Up Time	Belt Usage	GAP Faults
5 ppm	8 m/min	0 hrs	0 hrs	0 km	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	Current Gap At Infeed	Minimum Gap At Infeed
0	1323 mm	65 mm

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

# Live Info – Indicators

**ISC CAM CONFIGURATION** Intralox

**Live Info**

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

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

**Divert Information**

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

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

© 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

## System

General system status.

## Belt

Status of the belt.

## Infeed Sensor

Status Infeed PE.

## Gap

Status of gap between 2 consecutive products measured by the Infeed PE.

See troubleshooting guideline.

# Live Info – Indicators

**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
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**Divert Information**

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

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

## Throughput

Number of products crossing the Infeed PE in the last minute, updated every minute. (not instantaneously)

## Belt Speed

## Run Time

Time duration since ISC CAM is powered on for the 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".

# Live Info – Divert Information

The screenshot displays the 'ISC CAM CONFIGURATION' interface. On the left is a navigation menu with icons and labels for LIVE INFO, SETTINGS, MAINTENANCE, EQUIPMENT, IO-COMM, and FAULT. The main area is titled 'Live Info' and contains several status indicators: System (OK), Belt (RUNNING), Infeed Sensor (BLOCK), and GAP (OK). Below these are six data boxes: Throughput (5 ppm), Belt Speed (8m/min), Run Time (0hrs), Up Time (0hrs), Belt Usage (0km), and GAP Faults (0). A 'Divert Information' table is highlighted with a yellow border, showing details for Divert 0, 1, and 2, including their activation status, number of activations, and average per minute. At the bottom of the interface, system information is displayed: © 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.

## ON/OFF button

ON: Available to divert products  
 OFF: Not available to divert products

When divert is “OFF” 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.

## Activations

Total number of diverts since first encoder pulse received by the ISC CAM.

Average per Minute:

Products diverted in the last minute.

## Destination Next Product

Destination assigned to next product crossing the Infeed PE.

## Current Gap at Infeed

Gap measured by Infeed PE between the last two products.

Default gap displayed is the length of the Intralox conveyor.

## Minimal Gap at Infeed

Minimal required distance between 2 products for the Intralox equipment to operate correctly. See functional Layout and ISC Troubleshooting guideline.

## 2. Settings Page



# End in Mind

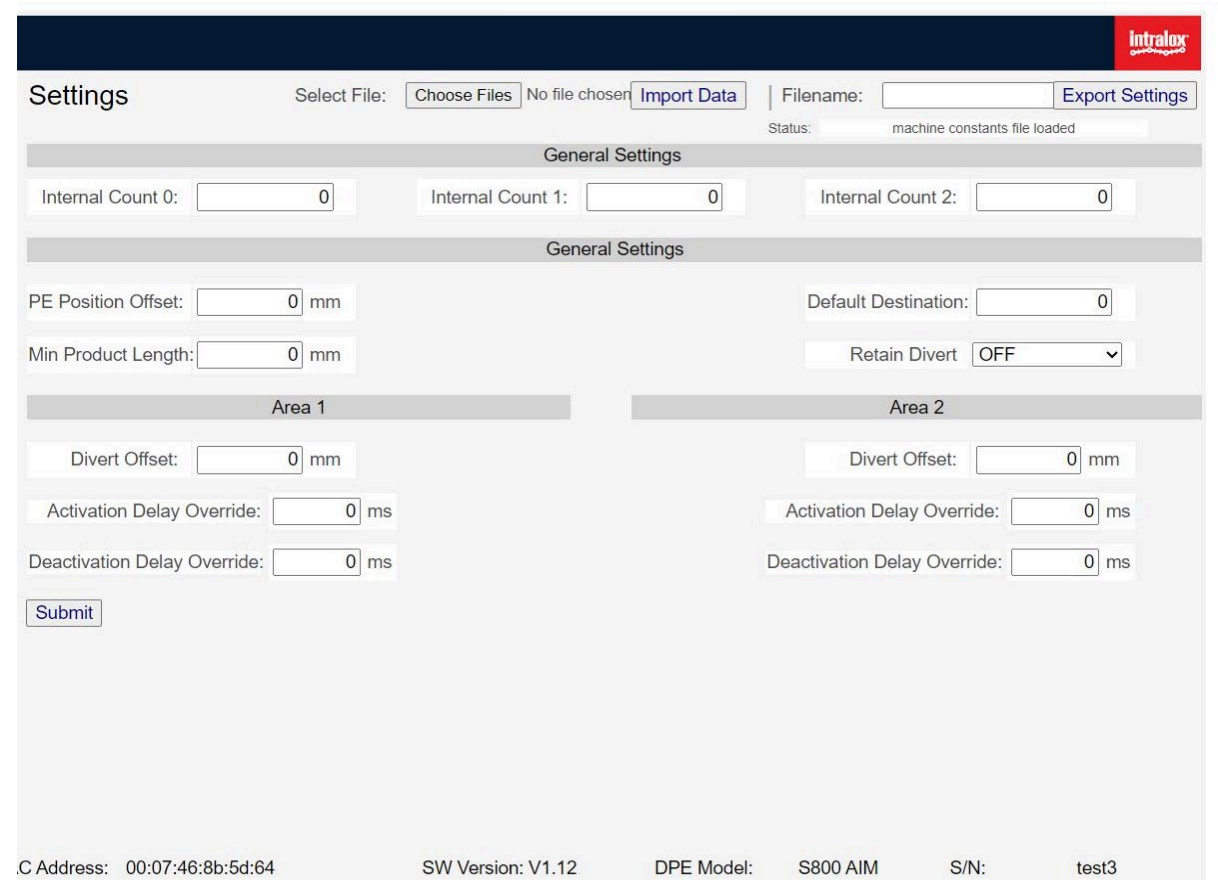
Provides the ability to modify key operating parameters (settings) of the Intralox equipment to optimize the trajectory of products.

## Intended users:

Technical operators,  
Ex. maintenance technicians.

*'Read and Write'*.

*Option to import and export  
'Application setting files'*



The screenshot displays the 'Settings' page of the Intralox equipment interface. At the top right, the Intralox logo is visible. The page title is 'Settings'. Below the title, there are file management options: 'Select File:' with 'Choose Files' and 'Import Data' buttons, and a 'Filename:' input field. A status indicator shows 'Status: machine constants file loaded'. The main content area is divided into sections: 'General Settings' (repeated twice), 'Area 1', and 'Area 2'. Each section contains input fields for 'Internal Count 0', 'Internal Count 1', and 'Internal Count 2' (all set to 0), 'PE Position Offset' (0 mm), 'Min Product Length' (0 mm), 'Default Destination' (0), and 'Retain Divert' (OFF). 'Area 1' and 'Area 2' each have 'Divert Offset' (0 mm), 'Activation Delay Override' (0 ms), and 'Deactivation Delay Override' (0 ms) fields. A 'Submit' button is located at the bottom left of the settings area. At the bottom of the page, system information is displayed: 'C.Address: 00:07:46:8b:5d:64', 'SW Version: V1.12', 'DPE Model: S800 AIM', 'S/N: test3'.

# Setting Balance and General Setting

## Import Data Button

Import a backup of the application settings from file. (extension “.apl”). Ex: factory setting

## Export Setting Button

Creates a backup of the application settings to file

## Internal Count 0, 1 and 2 [Write]

Slugs/Train functionality. Number of products allocated to divert #. Only applicable when ISC CAM is working in “Internal Model”, see HMI Page “Equipment”.  
*Nominal range 0..255*

## Min Product Length [Write]

Minimum distance the infeed PE signal must be stable, to be accepted as product read. Shorter distances will be considered ‘noise’ or “product debris” such as tape of shrink plastic.  
*Nominal range 25mm..75mm*

## PE Position Offset [Write]

Infeed PE distance from the location specified in “PE position” the “EQUIPMENT” page.  
*Nominal value 0mm*

## Default Destination [Write]

Destination of product when no signal is received from the Line PLC (external mode) or no slugs/train function is set (internal mode)  
*Nominal value 0*

## Retain Divert [Write]

Divert activation changes when product needs change direction

**ISC CAM CONFIGURATION**

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

**Balance Settings**

Count 0:  Count 1:  Count 2:  Count 3:  Count 4:

**General Settings**

PE Position Offset:  mm Default Destination:

Min Product Length:  mm Retain Divert:

**Infeed 2 Settings**

Divert Offset to Left:  mm

Divert Offset to Right:  mm

**Area 1**

Divert Offset to Left:  mm

Divert Offset to Right:  mm

Divert Mode:

Divert Distance Override:  mm

Activation Delay Override:  ms

**Area 2**

Divert Offset to Left:  mm

Divert Offset to Right:  mm

Divert Mode:

Divert Distance Override:  mm

Activation 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: S7050 ARB S/N: test4

# Setting Area 1 & 2

ISC CAM CONFIGURATION

Settings

Select File:  No file chosen  | Filename:

Status:

**Balance Settings**

Count 0:  Count 1:  Count 2:  Count 3:  Count 4:

**General Settings**

PE Position Offset:  mm Default Destination:

Min Product Length:  mm Retain Divert:

**Infeed 2 Settings**

Divert Offset to Left:  mm

Divert Offset to Right:  mm

Area 1	Area 2
Divert Offset to Left: <input type="text" value="0"/> mm	Divert Offset to Left: <input type="text" value="0"/> mm
Divert Offset to Right: <input type="text" value="0"/> mm	Divert Offset to Right: <input type="text" value="0"/> mm
Divert Mode: <input type="text" value="Trailing Edge"/>	Divert Mode: <input type="text" value="Trailing Edge"/>
Divert Distance Override: <input type="text" value="0"/> mm	Divert Distance Override: <input type="text" value="0"/> mm
Activation Delay Override: <input type="text" value="0"/> ms	Activation 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: S7050 ARB S/N: test4

## Divert Offset [Write]

Distance of start of divert area from the position specified in the "EQUIPMENT" Page. See Mechanical Drawing of position.

Nominal range -500mm..500mm

## Divert Mode [Write]

Predefine setting for diverting/sorting the products. See image in next page for explanation

## Divert Distance Override [Write]

**Divert distance:** The distance of belt travel the product being activated.

See image in next page for explanation.

**Default Distance:** S70X0 Zone length

**Override:** sets new distance

Nominal range 0(default)/100mm..500mm.

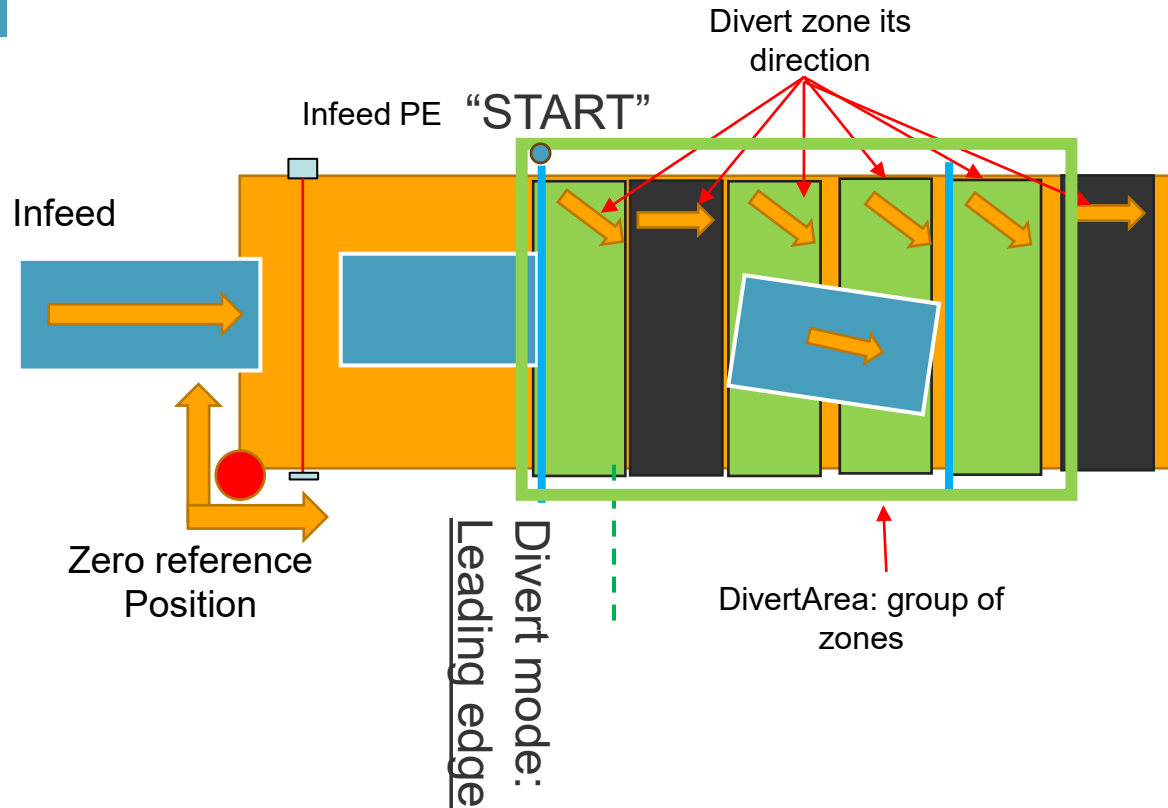
## Activation Delay Override [Write]

**Activation Delay.** This value considers mechanical delays of the activation system of the Intralox equipment.

**Override:** sets a new delay.

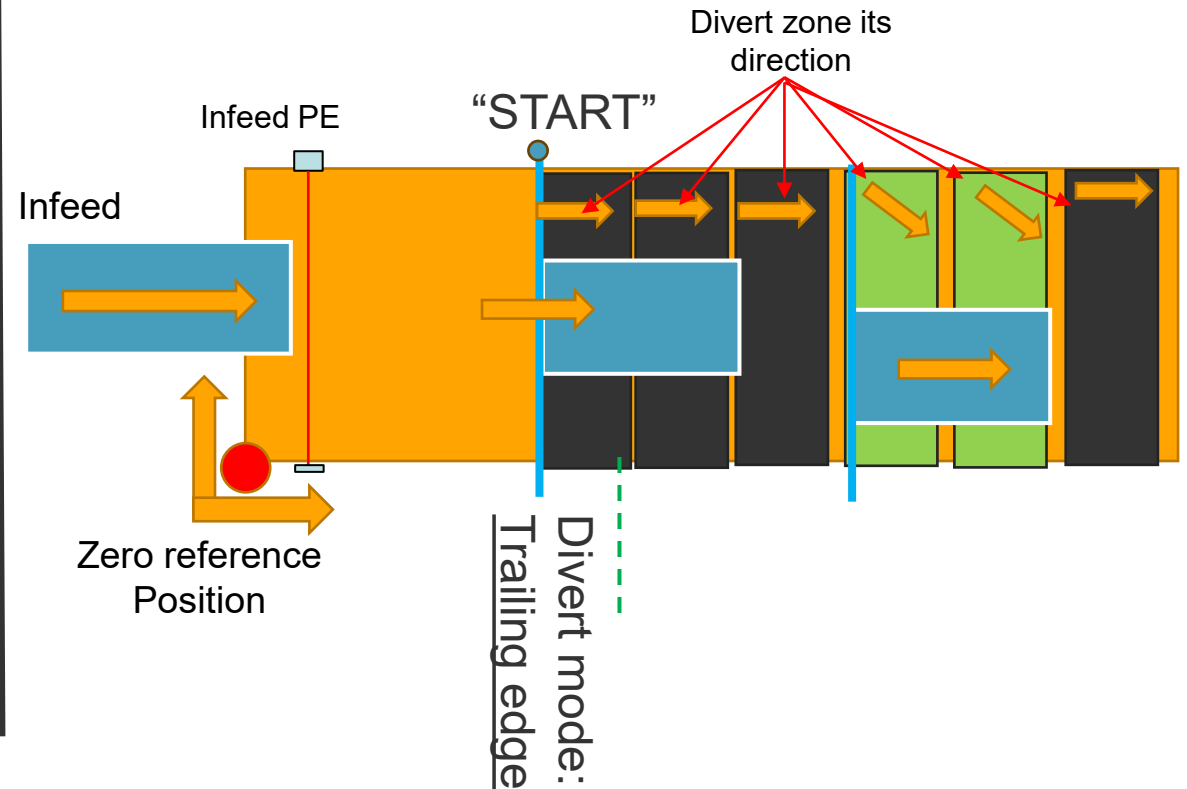
Nominal value 0

# S70X0 Leading Edge



Leading Edge [Standard]: activation is triggered when leading edge of the product reaches the end of divert area/zone. Use this setting for maximizing the total divert angle of the product trajectory.

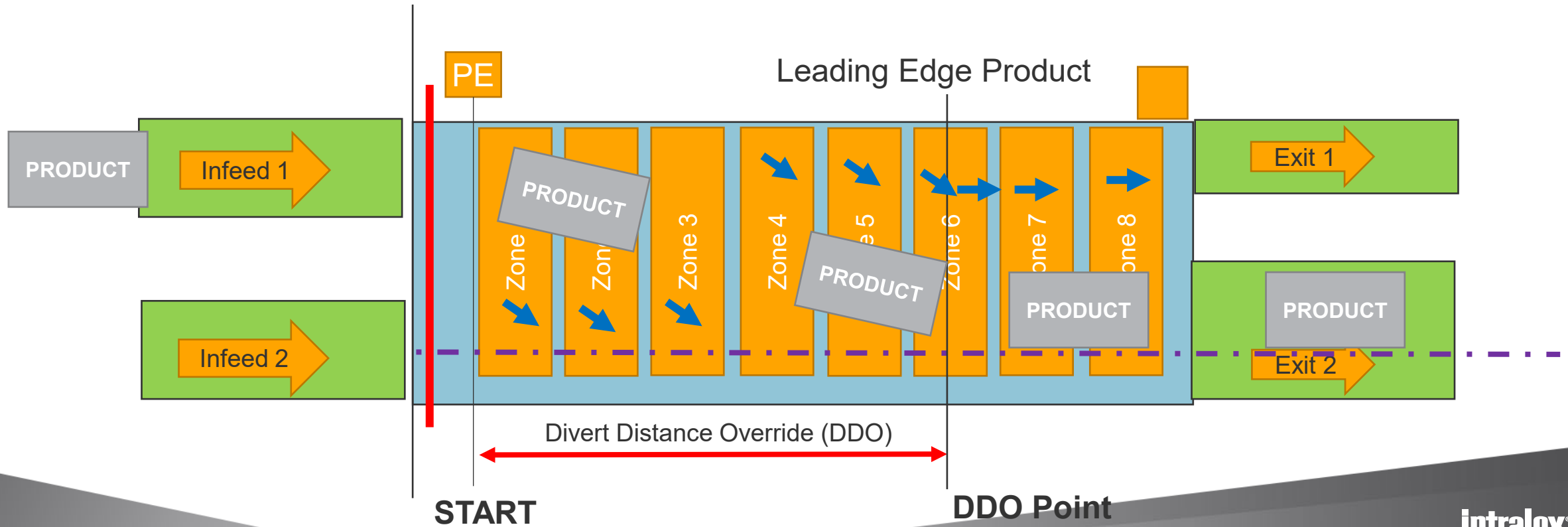
# S70X0 Trailing Edge



Trailing Edge: activation is triggered when trailing edge of the product reaches the start of divert area/zone. Use this setting for minimizing the skewing of the product while moving on the Intralox equipment

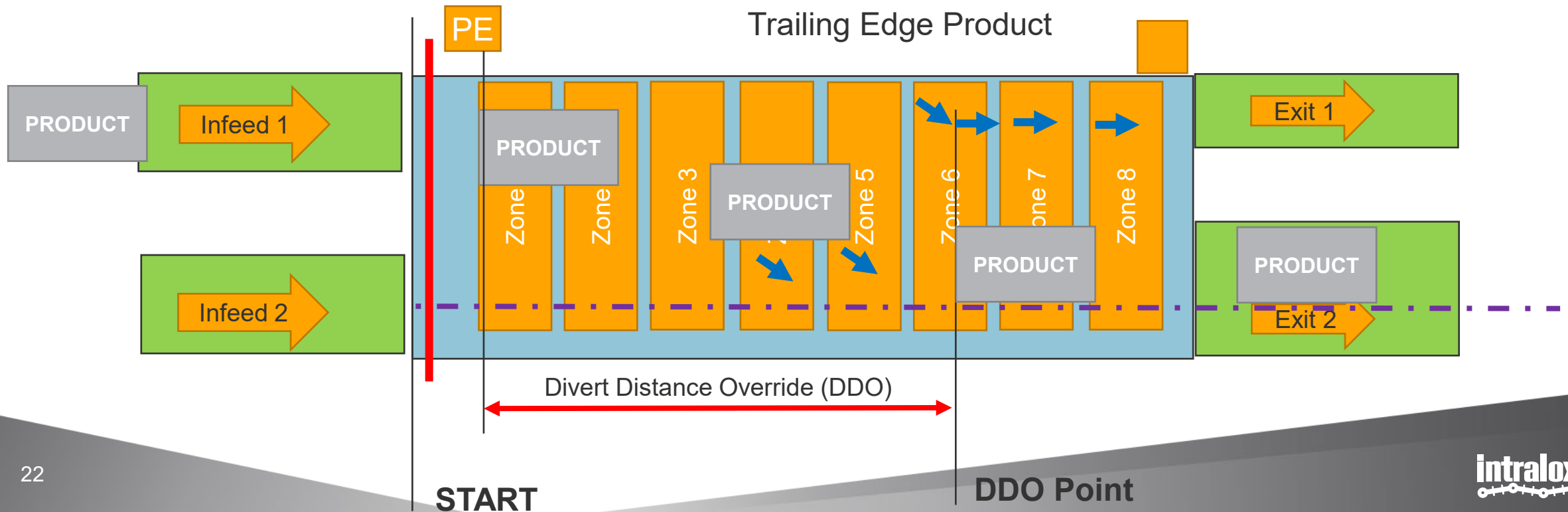
# S70x0 Divert Distance Override (DDO)

Divert Mode Leading Edge: distance (mm) that the product moves with the belt while moving sideways measured from when leading edge of the product reaches the START point until the leading edge reaches the DDO.



# S70x0 Divert Distance Override (DDO)

Divert Mode Trailing Edge: distance (mm) that the product moves with the belt while moving sideways measured from when trailing edge of the product reaches the START point until the trailing edge reaches the DDO.



## **3. Maintenance Page**

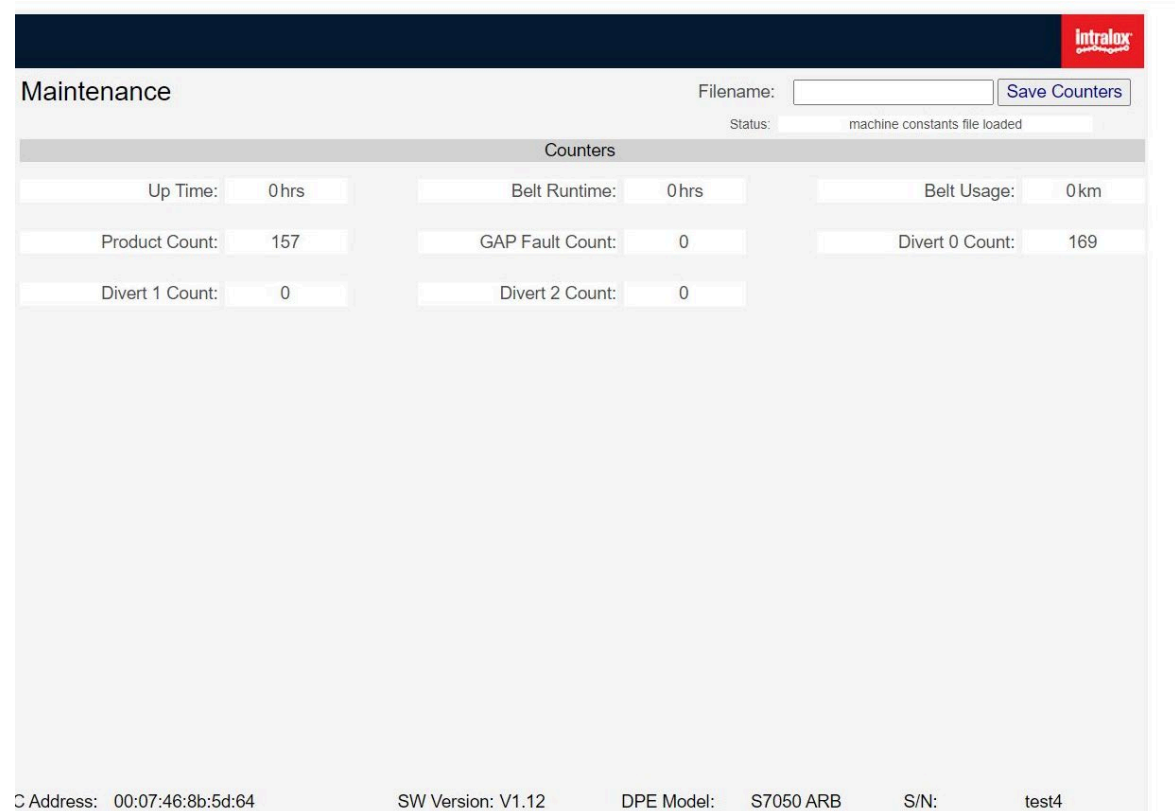
# End in Mind

Display the 'equipment log' with absolute counter values

**Intended users:**  
Maintenance technicians

*'Read only'*

*Ability to export counter files.*



The screenshot displays the 'Maintenance' interface for an Intralox machine. At the top right, the 'Intralox' logo is visible. Below the title, there is a 'Filename:' field and a 'Save Counters' button. The status is indicated as 'machine constants file loaded'. The main section is titled 'Counters' and contains several data points in a grid-like layout:

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

At the bottom of the interface, technical details are listed: © Address: 00:07:46:8b:5d:64, SW Version: V1.12, DPE Model: S7050 ARB, S/N: test4.



# Maintenance

ISC CAM CONFIGURATION

Maintenance

Filename:  Save Counters

Status: machine constants file loaded

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

## 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 pluses. 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 PE (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 count

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

## 4. Equipment Page

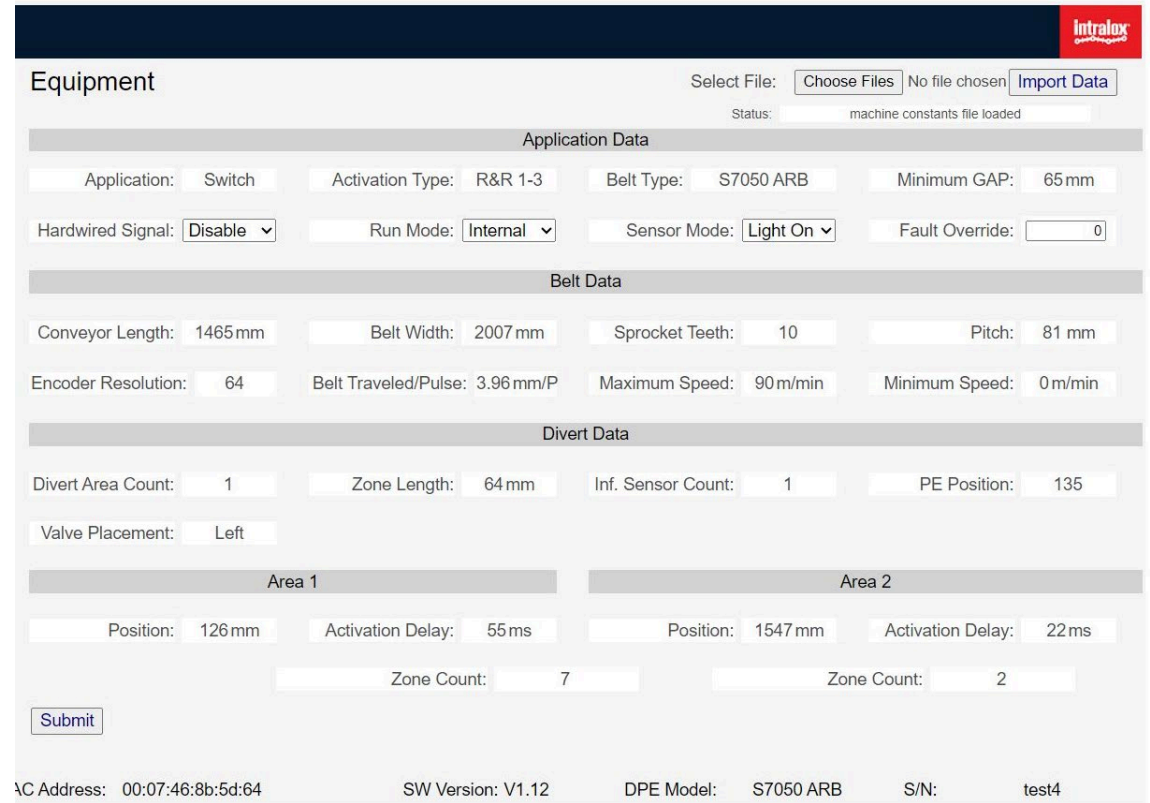
# End in Mind

Ability to modify key operating parameters (settings) of the Intralox equipment to optimise the trajectory of products.

**Intended users:**  
Controls engineers,  
Maintenance operators.

*'Read and write'*

*Options to import Intralox equipment mechanical dimensions*



The screenshot displays the Intralox equipment configuration web interface. At the top right, the Intralox logo is visible. The main heading is "Equipment". Below this, there are several sections for configuration:

- Application Data:** Includes fields for Application (Switch), Activation Type (R&R 1-3), Belt Type (S7050 ARB), Minimum GAP (65 mm), Hardwired Signal (Disable), Run Mode (Internal), Sensor Mode (Light On), and Fault Override (0).
- Belt Data:** Includes fields for 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), and Minimum Speed (0 m/min).
- Divert Data:** Includes fields for Divert Area Count (1), Zone Length (64 mm), Inf. Sensor Count (1), PE Position (135), and Valve Placement (Left).
- Area 1 and Area 2:** Each area has fields for Position, Activation Delay, and Zone Count. Area 1 has Position (126 mm), Activation Delay (55 ms), and Zone Count (7). Area 2 has Position (1547 mm), Activation Delay (22 ms), and Zone Count (2).

At the bottom, there is a "Submit" button and a status bar showing: \C Address: 00:07:46:8b:5d:64, SW Version: V1.12, DPE Model: S7050 ARB, S/N: test4.

# 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:	<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:	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:	<input type="button" value="Left"/>						

**Area 1**

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

**Area 2**

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

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

Click "Submit" button to implement changes

## Application [Read only]

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

## Activation Type [Read only]

Type of mechanical activation mechanism used for engaging with Intralox belt for diverting products: S45X0, S70X0 or AIM

## Minimum Gap [Read only]

Minimal required distance between 2 products for the Intralox equipment to operate correctly. See Functional Layout

## Hardwired Signal [Read only]

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 [Write]

**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 [Write]

Applicable to Infeed PE.

Default: LIGHT MODE

## Fault Override [Write]

Mask - Selection: number, overrides faults.

See HMI Page "Faults".

# Equipment –Belt Data

**ISC CAM CONFIGURATION**

**Equipment**

Select File:  No file chosen   
Status:

**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:   
Valve Placement:

**Area 1** **Area 2**

Position:  Activation Delay:  Position:  Activation Delay:   
Zone Count:  Zone Count:

© Intralox 2021 IP Address: 192.168.1.147 MAC Address: 00:0c:29:5d:64 SW Version: V1.12 DPE Model: S7050 ARB S/N: test4

Click "Submit"  
button to implement  
changes

**Conveyor Length [Read only]**  
Length in [mm] of the frame of the Intralox equipment.

**Belt width [Read only]**

**Sprocket Teeth [Read only]**  
Number of teeth of the sprocket

**Pitch [Read only]**  
Length of the module of the belt.

**Encoder Resolution [Read only]**  
Number of pulses generated by the encoder per revolution.  
Default = 64 pulse/rev

**Belt Travel/pulse [Read only]**  
Conversion of the belt travel distance in [1/10mm] for each encoder pulse. Dependant of the belt pitch

**Maximum Speed [Read only]**  
Recommended Maximum belt speed of the Intralox equipment.  
Functional Layout.

**Minimum Speed [Read only]**  
Recommended minimum belt speed of Intralox equipment.  
Functional Layout

# Equipment – Divert Data

ISC CAM CONFIGURATION

Equipment

Select File:  No file chosen

Status:

**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:

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: 00:0c:29:16:8b:5d:64 SW Version: V1.12 DPE Model: S7050 ARB S/N: test4

Click "Submit" button to implement changes

## Divert Area Count [Read only]

Area # starts counting from the Zero Position. See image in next pages.

## Zone Length [Read only]

Length of the divert area.

## Inf Sensor Count [Read only]

Number of Infeed PE.  
Default: 1

## PE Position [Read only]

Infeed PE distance from the Zero Position.

## Position [Read only]

Start of divert area distance from Zero Position

## Activation Delay [Read only]

Standard mechanical activation delay between a signal is received by the ISC CAM and the product starts moving on the belt.

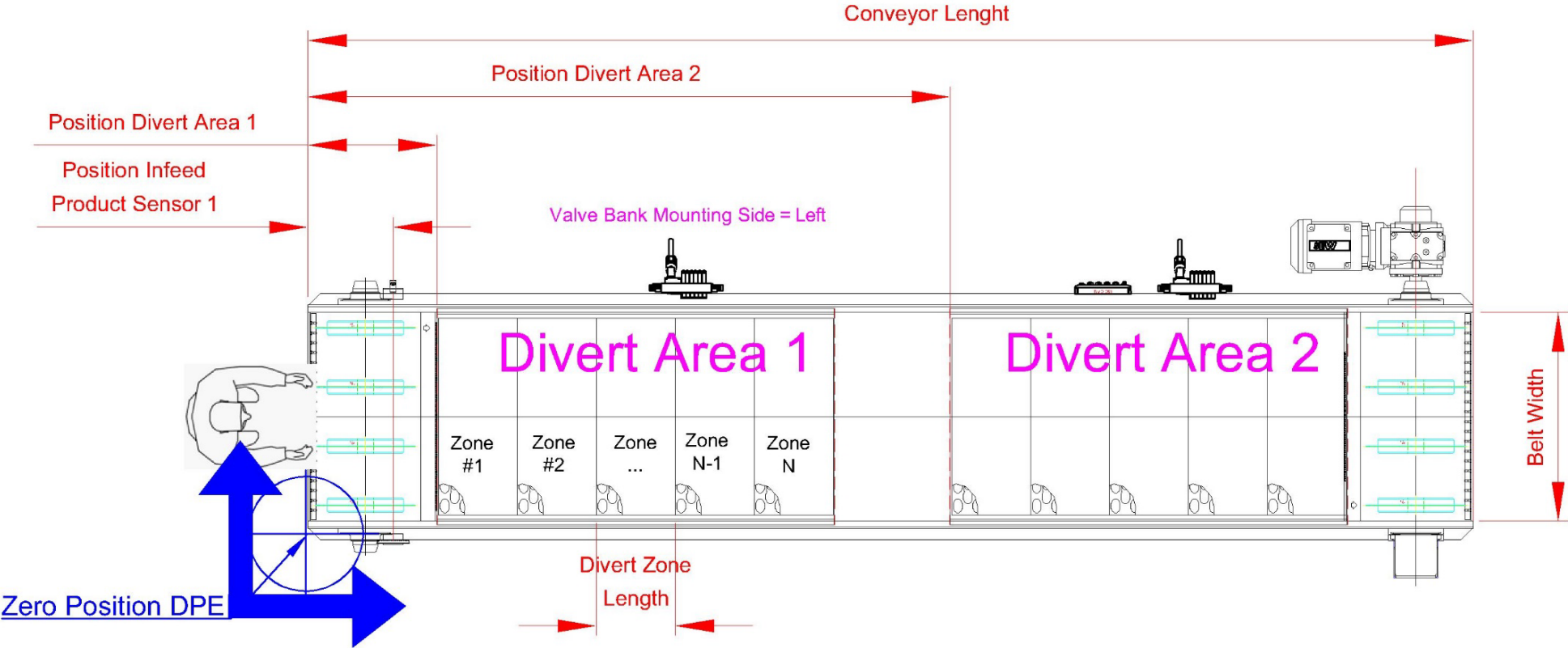
## Valve Placement [Read only]

S70X0 Only. Mounting side of the valve bank of the Intralox equipment where the valve terminal is mounted

## Zone Count [Read only]

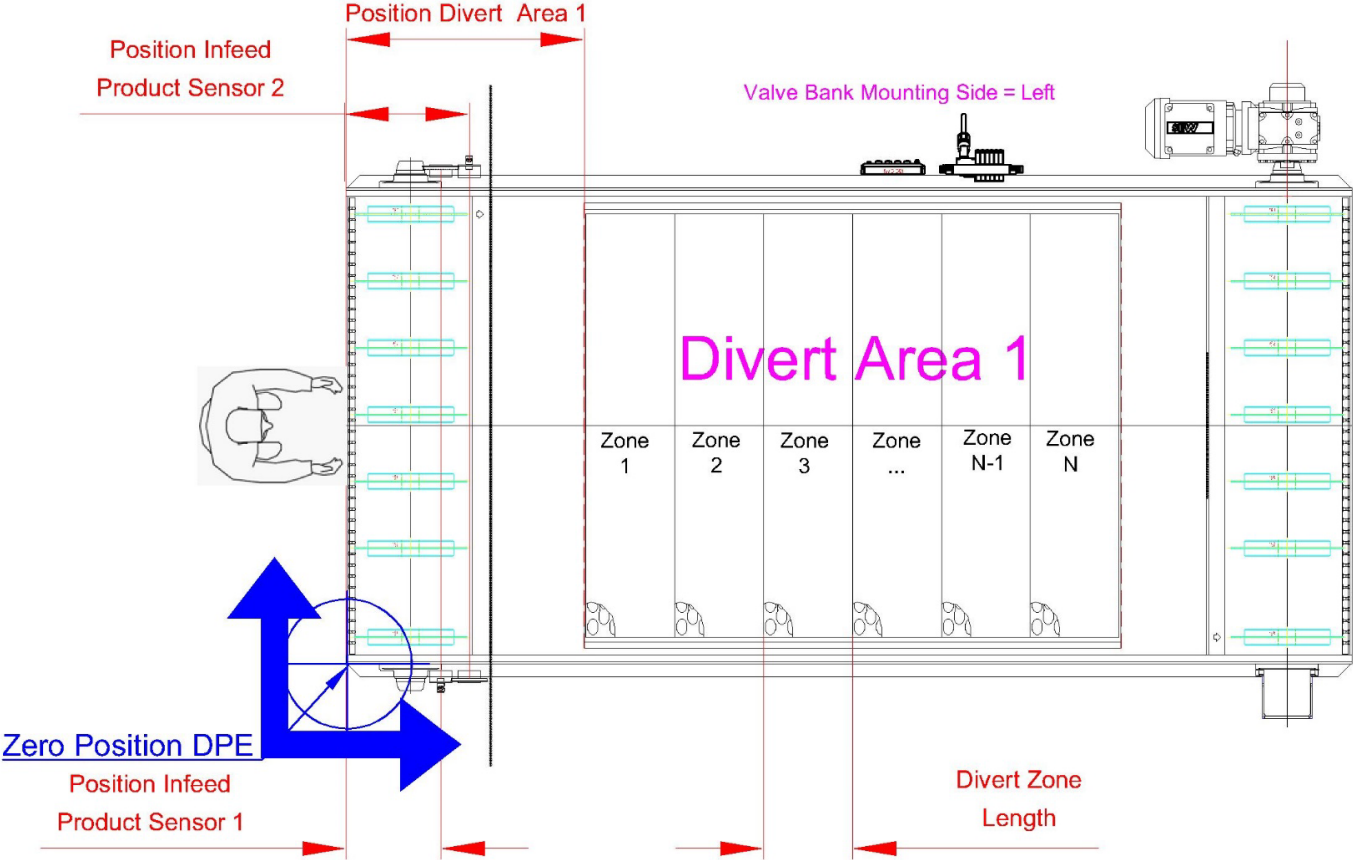
S70X0: Number of S70X0 Rack n Roll Zones per divert area.  
S45X0: default 1 per divert area

# S70X0 Sorter Application



# S70X0 Switch Application

S70X0 Switch is equivalent to a S70X0 Sorter of 1 divert.





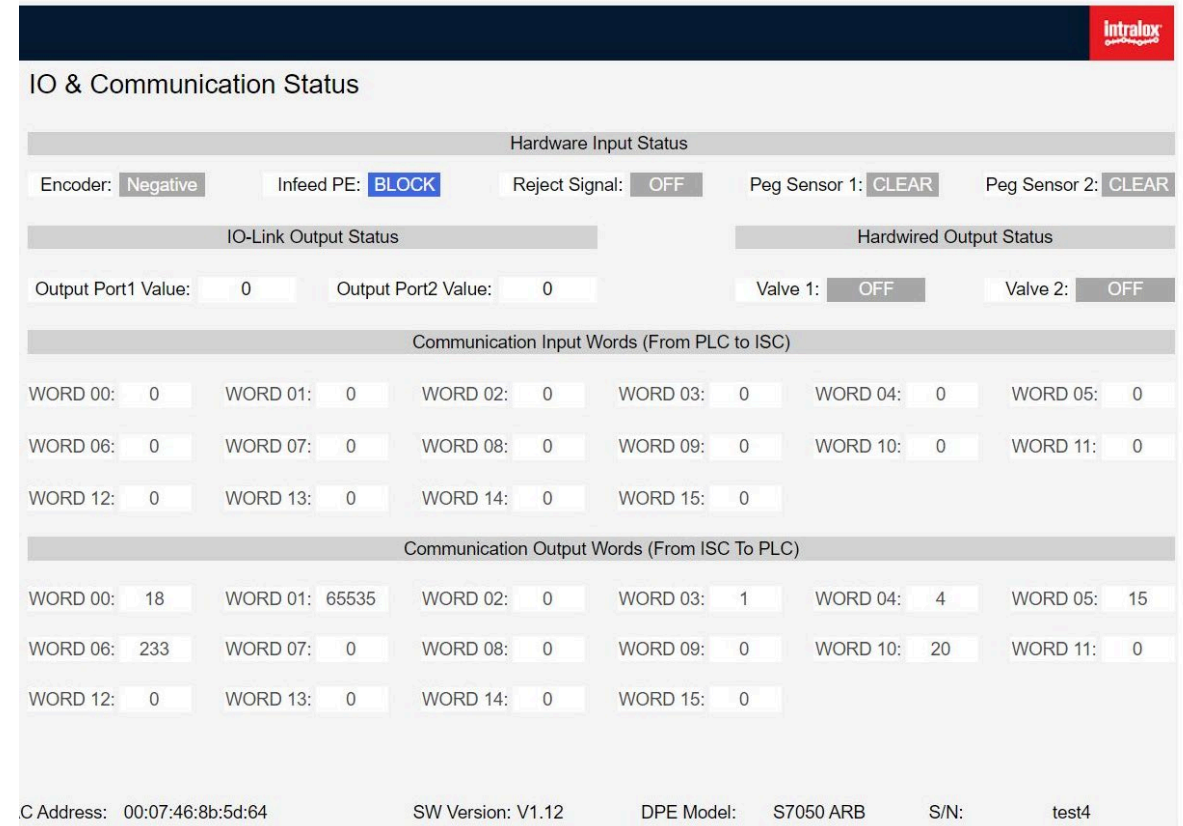
**5.10-COMM Page**

# 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

**Intended users:**  
Line control engineers

*'Read only'*



**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				

C Address: 00:07:46:8b:5d:64                      SW Version: V1.12                      DPE Model: S7050 ARB                      S/N: test4

# 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				

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## Encoder

Status of encoder, blinking with each pulse with screen updates every 0.5second .

## Infeed PE

Status of Infeed PE.  
"Block": beam is blocked.  
Screen updates every 0.5second .

## Reject Signal

Input 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 movement required)

Screen updates every 0.5second .

## Peg Sensor 2

Only applicable for AIM applications with 2 diverts. Status of peg sensor of divert 2, blinking with each peg passing the beam the peg sensor (belt movement required)

Screen updates every 0.5second .

# 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 Valve 1: OFF Valve 2: OFF

Hardware 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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## IO-Link Output Status

### Out Port 1 valve

Only applicable to S70X0 technology. Status of valve bank.

### Out Port 2 valve (optional)

Only applicable to S70X0 technology. Status of valve bank.

## Hardware Output Status

### Valve 1

Only applicable to S45X0 and AIM technology  
OFF: valve is off  
ON: valve is on.

### Valve 2 (optional)

Only applicable to S45X0 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 ISC CAM configuration tool. The interface includes a navigation menu on the left with options: LIVE INFO, SETTINGS, MAINTENANCE, EQUIPMENT, IO-COMM (selected), and FAULT. The main content area 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, system information is provided: © 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.

Words sent by the ISC CAM to the Line PLC through the ethernet network.

See ISC CAM Interlocks file on ISC Webpage

# IO-COMM Output Words

The screenshot displays the 'IO & Communication Status' page of the ISC CAM configuration 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, Valve 1: OFF, Valve 2: OFF.
- Communication Input Words (From PLC to ISC):** A grid of 16 words, all showing a value of 0.
- Communication Output Words (From ISC To PLC):** A grid of 16 words with the following values: 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.

At the bottom of the interface, the following system information is displayed:

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Words received by the ISC CAM from the Line PLC through the ethernet network

See ISC CAM Communication Interlocks file on ISC Webpage.

# 6. Fault Page

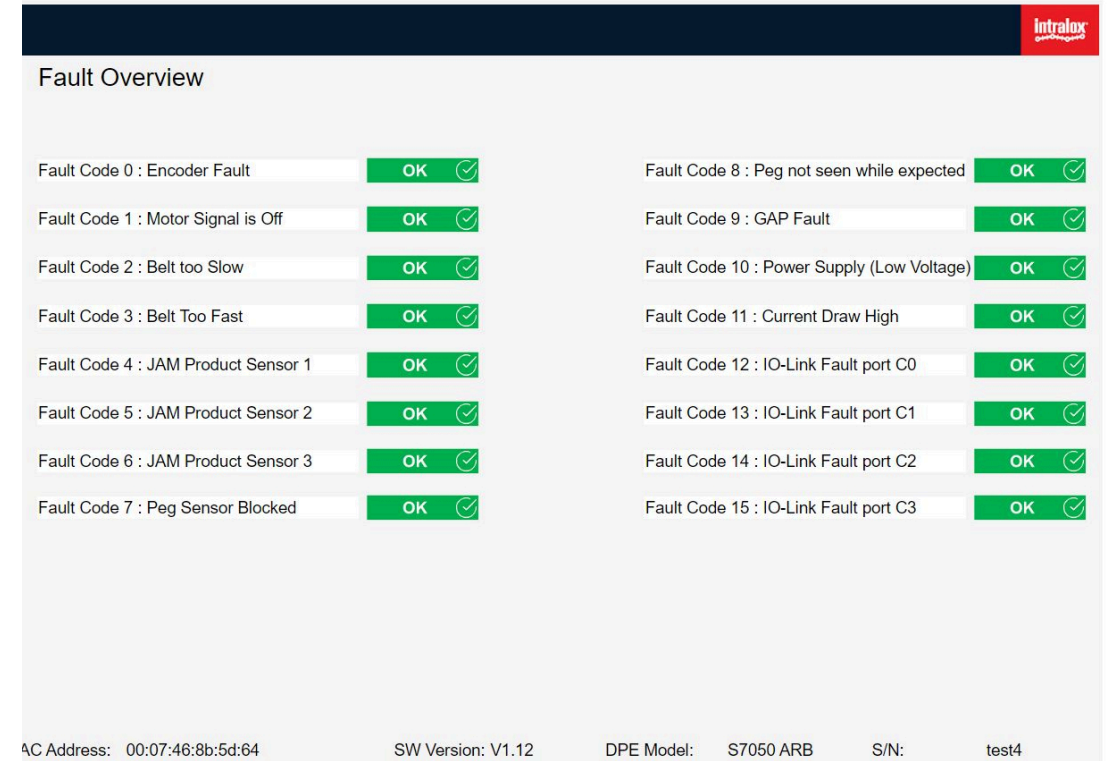
# End in Mind

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

**Intended users:**  
all users

*'Read only'*



The screenshot displays the 'Fault Overview' page from the Intralox ISC CAM interface. The page features a dark blue header with the Intralox logo. Below the header, the title 'Fault Overview' is centered. The main content area lists 16 fault codes, each with a description, a status indicator 'OK', and a green checkmark icon. The fault codes are arranged in two columns. At the bottom of the page, system information is displayed, including the MAC Address, SW Version, DPE Model, and S/N.

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 ✓

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



# Fault 0-7

ISC CAM CONFIGURATION Intralox

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 when motor is ON.

## Fault Code 2

Belt speed is slower than minimum recommended speed. See "EQUIPMENT" page and Functional Layout for minimum speed

## Fault Code 3

Belt speed is faster than maximum recommended speed. See "EQUIPMENT" page and Functional Layout for minimum s

## Fault Code 4

Infed PE 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(s) 1 or 2 (if applicable) blocked, see ISC troubleshooting guide.

# Fault 8-15

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 8

Only applicable to AIM Technology Peg missing in the belt.

## Fault Code 9

See MIN GAP value in "EQUIPMENT" page.

## 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 S70x0 Technology with valve banks.

Optional. See Functional Layout for configuration of Intralox equipment

## Fault Code 13

Only applicable to S70X0 Technology with valve banks. See Functional Layout for configuration of Intralox equipment and ISC troubleshooting guide.

## Fault Code 14

Only applicable to S70X0 Technology with valve banks.

Optional. See Functional Layout for configuration of Intralox equipment , and ISC troubleshooting guide.

## Fault Code 15

Only applicable to S70X0 Technology with valve banks.

Optional. See Functional Layout for configuration of Intralox equipment and ISC troubleshooting guide.