



**TROUBLESHOOTING GUIDE**

**ISC CAM**

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# LED DISPLAYS

The Intralox® Smart Carryway (ISC) Carryway Automation Module (CAM) has different groups of LED indicators. The LEDs of the CAM can be divided into approximately three groups as shown in the figure. The BUS, ERR, the PWR, the ETH1 and ETH2 apply to all Intralox ARB or AIM technologies, while the LED 0 to 7 apply differently in means of the Intralox technologies. In addition, since C3 can also be used as a hardwired interface, LED6 and LED7 have meanings corresponding this application. As followed, it explains in a group that how to interpret the status of LED indicators on the ISC CAM.



Figure 1: The general LEDs on the ISC CAM

## BUS, ERR AND PWR

### LED descriptions

	LED Description
BUS	Indicates the communication of the bus status.
ERR	Indicates the error status.
PWR	Indicates the power supply status.

### Light and meaning

PWR	Meaning
Off	No voltage or undervoltage at V1.
Green	Voltage at V1 and V2 ok.
Red	No voltage or undervoltage at V2.

BUS	Meaning
Off	No voltage connected.
Green	Active connection to a master.
Flashing green 3x in 2s	ISC CAM is active.
Red	IP address conflict, Restore mode active, F reset active or Modbus connection time-out.
Red flashing	Wink command active.
Red/Green (1 Hz)	Auto negotiation and/or waiting for DHCP-/Boot P -address assignment.

ERR	Meaning
Off	No voltage connected.
Green	No diagnostics.
Red	Diagnostic message pending.

# ETH1 AND EHT2

LED ETH1 and EHT2 descriptions

	LED Description
ETH1	Indicates the ethernet/IP networks connecting status, port 1.
ETH2	Indicates the ethernet/IP networks connecting status, port 2.

Light and meaning

ETH1 and EHT2	Meaning
Off	No ethernet connection.
Green	Ethernet connection established, 100 Mbps.
Green flashing	Ethernet traffic, 100 Mbps.
Yellow	Ethernet connection established, 10 Mbps.
Yellow flashing	Ethernet traffic, 10 Mbps.

# LED 0-1



LED 0 -1

Figure 2: LED 0 -1 on the ISC CAM

LED 0-1 descriptions

	Present of	LED Description
LED 0	C0 Pin4	Indicates the input status of the encoder.
LED 1	C0 Pin2	Indicates the input status of the infeed photo eye.

Light and meaning

LED 0	Meaning
Light Off	No input signals.
Light Green	Digital input signal active.
LED 1	Meaning
Light Off	Input not active.
Light Green	Input active.

# LED 2-7 FOR DARB TECHNOLOGY



LED 2-7: In DARB technology, LED 3, 5, 7 are used.

Figure 3: LED 2- 7 for DARB technology

### LED 2-7 descriptions

	Present of	In Intralox technology - DARB
LED 2	C1 Pin4	/
LED 3	C1 Pin2	Indicates the output status to the valve of the active carryway 1
LED 4	C2 Pin4	/
LED 5	C2 Pin2	Indicates the output status to the valve of the active carryway 2
LED 6	C3 Pin4	/
LED 7	C3 Pin2	Indicates the output status to the valve of active carryway 3

### Light and meaning

LED 3/5/7	Meaning
Off	Output not active.
Green	Output active.
Red	Output active with overload/short circuit



# LED 2-7 FOR ARB S7000/S7050 TECHNOLOGY



LED 2-7: In ARB S7000/7050 technology, LED 2, 4, 6 are used.

Figure 4: LED 2- 7 for ARB S7000/7050 technology

## LED 2-7 descriptions

	Present of	In Intralox technology - ARB S7000/7050
LED 2	C1 Pin4	Indicates the IOL communication status/data processing status between ISC and the valve bank or the valve bank module status on the active carryway 1
LED 3	C1 Pin2	/
LED 4	C2 Pin4	Indicates the IOL communication status/data processing status between ISC and the valve bank or the valve bank module status on the active carryway 2
LED 5	C2 Pin2	/
LED 6	C3 Pin4	Indicates the IOL communication status/data processing status between ISC and the valve bank or the valve bank module status on the active carryway 3
LED 7	C3 Pin2	/

## Light and meaning

LED 2/4/6	Meaning (Channel in IO-Link mode)
Off	Port inactive, no IO-Link communication, diagnostics deactivated.
Green flashing	IO-Link communication, process data valid.
Red flashing	IO-Link communication active and module error, invalid process data
Red	IO-Link supply error free, no IO-Link communication and/or module error, process data invalid.

# LED 2-7 FOR AIM TECHNOLOGY



LED 2-7: In AIM technology, LED 2-7 are all used.

Figure 5: LED 2-7 in AIM technology

## LED 2-7 descriptions

	Present of	In Intralox technology - AIM
LED 2	C1 Pin4	Indicates input status of the peg sensors for active carryway 1
LED 3	C1 Pin2	Indicates the output status to the valve of the active carryway 1
LED 4	C2 Pin4	Indicates input status of the peg sensors for active carryway 2
LED 5	C2 Pin2	Indicates the output status to the valve of the active carryway 2
LED 6	C3 Pin4	Indicates input status of the peg sensors for active carryway 3
LED 7	C3 Pin2	Indicates the output status to the valve of the active carryway 3

## Light and meaning

LED 2/4/6	Meaning / (Channel in SIO mode (DI))
Off	No input signals.
Green	Digital input signal active.
LED 3/5/7	Meaning
Off	Input not active.
Green	Input active.
Red	Output active with overload/short circuit



# LED 6 -7 USED FOR 24V REJECT CONNECTION



LED 6-7: Used for 24v reject connection  
Figure 6: C3 connect of 24v reject signal

## LED 6 and LED 7 description

	Present of	In hardwire interface
LED 6	C3 Pin4	Indicates the Input status of hardwired reject signal. *
LED 7	C3 Pin2	Indicates the output status of the System run or fault. *

## Light and meaning

LED 6	Meaning
Off	Input not active.
Green	Input active.

  

LED 7	Meaning / Used for output status of system
Off	Not active.
Green	System in Run, no diagnostic.
Red	System has fault, require diagnostic.

\* LED 6 and LED 7 indicates the input of the24v reject signal or the system status only when this wiring is existing, refer to the ISC webpage – connection diagram section.

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# LED FAULTS

## POWER FAULT – RED LED FOR POWER

POSSIBLE CAUSE	ACTION
Connector loose.	Retorque connector per ISC CAM Commissioning Guideline, Electrical Connections.
Facility power disrupted (no voltage).	Contact facility management to correct power disruption.
Damaged power cable.	Replace power cable.
Facility power incorrect (voltage too high or too low).	Contact facility management to obtain correct 24 VDC power.

## POWER FAULT – RED LED FOR BUS

POSSIBLE CAUSE	ACTION
IP address conflict.	Verify and set proper IP address. See Commissioning Guideline for details.
Restore mode active.	Power cycle the ISC.
Modbus connection timeout.	Power cycle the ISC. Verify the network settings and hardware.

## POWER FAULT – RED/GREEN (1 HZ) LED FOR BUS

POSSIBLE CAUSE	ACTION
Autonegotiation.	No action required.
Waiting for DHCP- /BootP- address assignment.	Ensure network sends address to ISC.

## POWER FAULT – RED LED FOR ERR

POSSIBLE CAUSE	ACTION
Diagnostic message pending.	No action required.

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# FAULTS

Faults indicate that the ISC-CAM has detected an out-of-scope situation that requires immediate action as the correct functionality of the equipment or correct divert cannot be guaranteed. Depending on the type of fault detected, the ISC-CAM may attempt a fault recovery. Faults can be categorized into faults related to equipment failures, and faults related to application failures.

To the following faults please refer the instructions in the ISC CAM vHMI instruction.

- Gap between products too small
- Infeed PE jammed
- Product Buffer full
- Product destination signal received too late

## AIM PEG SENSOR FAULT

This fault is activated when the AIM peg sensor (if equipped) fails to change state throughout the activation duration, despite being expected to do so. This could indicate a broken or blocked peg sensor. This check is performed only when products need to be diverted at the connected active carryway.

When this fault is triggered, the equipment may either fail to divert the product or divert it late.

Automatic Reset: The fault automatically resets once the peg sensor changes state with the belt in motion.

Manual Reset: Manual reset can be performed either via the vHMI 'fault' page or via the PLC. See ISC CAM Network communication data interface file for more information.

POSSIBLE CAUSE	ACTION
Peg missing, broken.	Add a new peg or replace the broken peg.
Peg sensor is wrong installed, not clean or broken.	Correct the installation of the peg sensor. Clean the peg sensor. Replace the peg sensor.

## ENCODER FAULT

This fault is activated when the belt appears to be running, but the encoder does not detect motion. The mechanism used to trigger the fault varies depending on whether the ISC CAM is connected to a line PLC.

If the encoder signal does not change state and the Infeed PE triggers multiple times within a fixed period, the fault will also activate. The time window is a fixed value set by Intralox during the assembly and testing of the equipment. The value can be found on the 'equipment' page of the vHMI under 'Fault timer'.

Automatic Reset: The fault automatically resets once the encoder starts pulsing.

Manual Reset: Manual reset can be performed either via the vHMI 'fault' page or via the PLC. See ISC CAM Network communication data interface file for more information.

POSSIBLE CAUSE	ACTION
Encoder broken.	Replace encoder.
Encoder cable disconnected.	Connect encoder cable.
Signals are sent incorrectly from the PLC.	Check that motor running signal is sent actually when belt is running. See ISC CAM Network communication data interface file for more information.

## MOTOR RUN SIGNAL MISSING FAULT

This fault is activated when the encoder is pulsing while the ISC CAM is connected to a line PLC, but the motor running signal is missing. Please note that this fault will not be triggered if the ISC CAM is not connected to a line PLC. The fault automatically resets once the motor running signal is sent.

Automatic Reset: The fault automatically resets once the motor running signal is sent

POSSIBLE CAUSE	ACTION
No right connection to the line PLC.	Check the network integration of ISC is proper.
The communication from ISC to PLC is not proper established.	Establish the right network communication between ISC and PLC. See PLC-ISC integration instruction)

This situation will also trigger a 'Motor run signal missing' fault: parent device indicates the drive motor is off, but the encoder detects belt motion. The fault will resolve as the correct signals are given.

POSSIBLE CAUSE	ACTION
Wrong timing in setting up communication parent device – ISC.	Ensure the signal is sent in a timely manner.

## I/O LINK FAULT

POSSIBLE CAUSE	ACTION
Broken I/O link device.	Replace I/O link device.
Loose or damaged communication cable.	Reconnect or replace I/O link cable.

## TOO HIGH OR TOO LOW VOLTAGE FROM POWER SUPPLY

The ISC CAM will provide a fault when the voltage is below 18V. Overvoltage may also occur, the ISC CAM is not to detect this situation.

Automatic Reset: The fault automatically resets once the voltage is in the normal range.

POSSIBLE CAUSE	ACTION
Power supply is faulty.	Adjust or replace power supply.
Voltage drop between the power supply and the ISC CAM.	Adjust or relocate power supply.

# TOO MUCH CURRENT DRAW

A situation may occur where an output from the ISC CAM pulls too much current, the ISC CAM will provide a fault when the output current is over 0.5A.

Automatic Reset: The fault automatically resets once the current is in the normal range.

POSSIBLE CAUSE	ACTION
Electrical short.	Replace broken cable or sensor.

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# WARNING

Warnings indicate that the ISC-CAM has detected an out-of-scope situation or a near out-of-scope situation that need to be corrected in a timely fashion to ensure correct continued functionality of the equipment. Warnings are notifications to the user; the ISC-CAM behavior does not change when a warning is triggered.

To the followed warnings please refer the instructions in the ISC CAM vHMI instruction.

- Gap between products small
- Infeed PE jammed
- Product Buffer nearly full
- Product destination signal received late

## AIM DAMAGED OR MISSING PEG

This warning is activated when the AIM peg sensor (if equipped) fails to change state within the length of one belt module, despite being expected to do so. This could indicate a broken or missing peg. This check is performed only when products need to be diverted at the connected active carryway.

Automatic Reset: The fault automatically resets once the peg sensor changes state with the belt in motion.

Manual Reset: Manual reset can be performed either via the vHMI 'fault' page or via the PLC. See ISC CAM Network communication data interface file for more information.

POSSIBLE CAUSE	ACTION
Peg missing, broken.	Add a new peg or replace the broken peg.

## BELT SPEED TOO SLOW

This warning is activated when the belt speed remains below the minimum belt speed for more than a second. Belt speeds that are too low can cause a "stick slip" motion of the belt and/or lead to issues with product transfer. The minimum belt speed is established by Intralox during the assembly and testing of the equipment. The value can be found on the 'equipment' page of the vHMI under 'Min. speed'.

Automatic Reset: The warning automatically resets once the belt speed exceeds the minimum belt speed.

POSSIBLE CAUSE	ACTION
Belt moving slower than allowed MIN belt speed, risk of product being stranded at transfers	Increase belt speed to within acceptable range.  Decrease the ramp up/ramp down time.

## BELT SPEED TOO FAST

This warning is activated when the belt speed remains above the maximum belt speed for more than a second. Belt speeds that are too high can lead to divert timing issues and excessive wear on the belt, sprockets, wear strips, and other moving parts of the DPE. The maximum belt speed is established by ILOX during the assembly and testing of the equipment. The value can be found on the 'equipment' page of the vHMI under 'Max. speed'.

Automatic Reset: The warning automatically resets once the belt speed falls below the maximum belt speed.

POSSIBLE CAUSE	ACTION
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Belt moving faster than allowed MAX belt speed, risk of mechanical damage to machinery or of product diverting improperly.	Decrease belt speed to within acceptable range.
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## BELT ELONGATION LIMIT REACHED

This warning is activated when the belt elongation exceeds the maximum elongation allowed for this belt type. The maximum allowed belt elongation is established by Intralox during the assembly and testing of the equipment. The value can be found on the 'equipment' page of the vHMI under 'Max. elongation'.

POSSIBLE CAUSE	ACTION
The belt elongation exceeds the maximum elongation	Replace the belt.

## BELT ACCELERATION TOO FAST WARNING

This warning is activated when an excessive ramp-up (rapid start) of the belt speed is detected. The maximum allowed belt acceleration is established by Intralox during the assembly and testing of the equipment. The value can be found on the 'equipment' page of the vHMI under 'Max. acceleration'.

Automatic Reset: This warning will automatically reset after 10 seconds after the warning has been generated.

Manual Reset: Manual reset can be performed either via the vHMI 'fault' page or via the PLC. See interlock file for more information.

POSSIBLE CAUSE	ACTION
An excessive ramp-up (rapid start) of the belt speed is detected.	Increase the ramp-up time of the belt or install a soft start controller.

## BELT DECELERATION TOO FAST WARNING

This warning is activated when an excessive ramp-down (rapid stop) of the belt speed is detected. The maximum allowed belt deceleration is established by Intralox during the assembly and testing of the equipment. The value can be found on the 'equipment' page of the vHMI under 'Max. deceleration'.

Automatic Reset: This warning will automatically reset after 10 seconds after the warning has been generated.

Manual Reset: Manual reset can be performed either via the vHMI 'fault' page or via the PLC. See interlock file for more information.

POSSIBLE CAUSE	ACTION
An excessive ramp-down (rapid atop) of the belt speed is detected.	Increase the ramp-down time of the belt or install a soft start controller.

## HIGH CPU USAGE WARNING

This warning is activated when the CPU is overloaded with too many tasks simultaneously.

Automatic Reset: This warning will automatically reset once the CPU load returns to normal levels.

POSSIBLE CAUSE	ACTION
The CPU is overloaded	To prevent this warning, avoid making rapid or large updates to the ISC CAM while the belt is in motion.

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# ORDINARY FAILURE OR ISSUE

## STATUS OF PHOTOEYE PRODUCT SENSOR

POSSIBLE CAUSE	ACTION
Sensor blocked when there is no product.	Remove product or debris or other blockage.
	Ensure sensor is not damaged.

## PEG SENSOR BLOCKED, BELT MOVING

Peg sensor blocked continuously with belt moving. **Only applicable for AIM technology.**

POSSIBLE CAUSE	ACTION
Debris blocks the peg sensor.	Open belt and do a visual inspection of the peg sensor, cylinder, and the puck and the cavity of the carryway where the puck is mounted.
AIM activation block is obstructed.	Open belt and do a visual inspection of the peg sensor, cylinder, and the puck and the cavity of the carryway where the puck is mounted.

## PEG NOT SEEN WHEN EXPECTED

**Only applicable for AIM technology.**

POSSIBLE CAUSE	ACTION
Broken peg.	Find broken or damaged belt module and replace with new module.

# APPLICATION ISSUES

Access the Virtual HMI for detail diagnostics of the ISC CAM.

## PRODUCT TRANSFERRING OUT TOO EARLY / TOO LATE

The ISC CAM may not be causing the issue. See the Distinct Piece of Equipment (DPE) User Manual troubleshooting procedures for additional troubleshooting options.

**NOTE:** Consider how the ISC CAM prioritizes inputs, when executing changes in the ISC CAM. See the ISC CAM Commissioning Guideline, Basic Setup, Prioritization section.

POSSIBLE CAUSE	ACTION
Activation of active carryway is too <u>late</u> because of different friction factor between product and belt roller. <ul style="list-style-type: none"><li>Wear belt activation system (belt roller, popup/Rack and Roll, cylinder, etc.)</li></ul>	Adjust Intralox activation position using ISC CAM Virtual HMI by trailing edge activation.
	Adjust Intralox activation position using ISC CAM Virtual HMI by center activation.
	Adjust Intralox activation position using ISC CAM Virtual HMI by changing trigger point value
Activation of active carryway is too <u>early</u> because of different friction factor between product and belt roller.	Adjust Intralox activation position using ISC CAM Virtual HMI by trailing edge activation.
	Adjust Intralox activation position using ISC CAM Virtual HMI by center activation.
	Adjust Intralox activation position using ISC CAM Virtual HMI by applying a divert position offset.
Activation zones do not complete movement.	<ol style="list-style-type: none"><li>Ensure air pressure is correct.</li><li>Ensure the equipment is clean.</li><li>Using ISC CAM virtual HMI, ensure the sideways motion limit is set properly.</li></ol>
Activation of active carryway is too early or too late because of incorrect belt elongation value.	Measure the actual belt elongation and fill in correct value in vHMI, maintenance page. See ISC CAM vHMI instructions for more details.

## PRODUCT SKEWING

The ISC CAM may not be causing the issue. See the DPE User Manual troubleshooting procedures for additional troubleshooting options.

POSSIBLE CAUSE	ACTION
Products are skewed when transferring onto the Intralox conveyor.	Minimize product skewing at the infeed of the Intralox conveyor.
Improper transfers set up (height of the transfer not proper, etc.).	Adjust transfers to minimize skewing [see the equipment User Manual].
Different belt speeds of Intralox conveyor and its infeed and outfeed conveyors.	Adjust belt speeds to be identical.
Product tracking point or trigger points are not set up correctly.	Ensure the product tracking point or trigger points settings are correct.

## PRODUCT NOT DIVERTED

The ISC CAM may not be causing the issue. See the DPE User Manual troubleshooting procedures for additional troubleshooting options.

POSSIBLE CAUSE	ACTION
Parent device is not sending the “divert command” to the ISC in a timely manner and in the proper format.	Ensure parent device sends the right information in a timely manner.
ISC does not receive sensor signals.	Verify encoder, PE status on the virtual HMI of the ISC. If shown as defective:  <ol style="list-style-type: none"><li>1. Inspect LEDs on ISC</li><li>2. Inspect cable connection.</li><li>3. Replace components.</li></ol>
No or low air pressure.	Increase air pressure to within acceptable range.
Defective actuation system (valve, cylinder).	Replace faulty components.
Gap between products is smaller than the minimum gap specified for this application (ISC Virtual HMI). If the gap between two (2) products is too short, the second product can be sent to the same destination as given to the first one.	Increase product gap to meet specification.
Active carryways have been disabled either from the vHMI or through the PLC communication.	Verify from the vHMI live info page that active carryways are enabled. See ISC CAM vHMI instructions for more details.

## CONVEYOR BELT IS NOT MOVING

The ISC CAM may not be causing the issue. See the DPE User Manual troubleshooting procedures for additional troubleshooting options.

POSSIBLE CAUSE	ACTION
Products are jammed on the conveyor or the belt is overloaded.	<ol style="list-style-type: none"><li>1. Clear any product jams.</li><li>2. Inspect product load to ensure it is not excessive for the equipment. Reduce the load as needed.</li></ol>
The sprockets do not engage the belt.	<ol style="list-style-type: none"><li>1. Ensure the sprockets are properly positioned on the belt.</li><li>2. Inspect the sprockets for excessive wear. Repair or replace parts as needed.</li><li>3. Measure the sprocket bore for excessive wear.</li><li>4. Inspect the sprocket pockets in the belt for excessive wear. Repair or replace parts as needed.</li><li>5. Inspect the belt for excessive elongation.</li><li>6. Inspect the belt to ensure proper back tension is applied. Adjust the belt as needed.</li><li>7. Inspect the catenary sag in the returnway and adjust return rollers if needed.</li></ol>
The drive motor is not operating properly.	Ensure drive motor power is connected and the drive motor is wired properly.

	Ensure the Variable-Frequency Drive (VFD) is operating properly (if applicable).
The shafts are damaged or not adjusted properly.	Ensure the drive motor is mounted to the drive shaft securely.
	Inspect the shaft bearings for damage or excessive wear.
Downstream conveyor or chutes are full.	Ensure the downstream conveyor and chutes are cleared before starting the equipment.

## PRODUCTS DO NOT REACH THE ASSIGNED OUTFEED

The ISC CAM may not be causing the issue. See the DPE User Manual troubleshooting procedures for additional troubleshooting options.

POSSIBLE CAUSE	ACTION
Debris is blocking the belt or belt rollers from moving.	Clean the belt to remove any debris blocking the belt or belt rollers.
The product bottom surface is not suitable for the equipment.	<ol style="list-style-type: none"> <li>1. Inspect the product bottom surface for moisture, oils, debris, damage, or irregularities.</li> <li>2. Remove any debris or damaged products.</li> </ol>
The belt is not installed properly.	<ol style="list-style-type: none"> <li>1. Ensure the belt is properly aligned down the length of the conveyor.</li> <li>2. Ensure the belt properly engages the sprockets.</li> <li>3. Inspect the catenary sag in the returnway and adjust return rollers if needed.</li> </ol>
Debris is blocking the Rack and Roll rollers from rotating.	<ol style="list-style-type: none"> <li>1. Disable power to the equipment.</li> <li>2. Open the belt.</li> <li>3. Inspect the Rack and Roll rollers to ensure they rotate freely.</li> <li>4. Remove any debris blocking the movement of the Rack and Roll rollers.</li> <li>5. Clean the Rack and Roll rollers as needed, to remove any debris.</li> <li>6. Close the belt and restart the equipment.</li> </ol>
The belt or belt rollers are damaged.	<ol style="list-style-type: none"> <li>1. Inspect the belt, belt rollers, and rods to ensure they are undamaged and operating properly.</li> <li>2. Repair or replace parts as needed.</li> <li>3. Inspect the belt length to ensure the damage is not caused by improper catenary sag.</li> <li>4. Measure the sprocket bore for excessive wear.</li> </ol>
There is excessive belt roller wear.	<ol style="list-style-type: none"> <li>1. Inspect belt rollers for excessive wear.</li> <li>2. Replace belt sections as needed.</li> </ol>
There is excessive Rack and Roll roller wear.	<ol style="list-style-type: none"> <li>1. Disable power to the equipment.</li> <li>2. Open the belt.</li> <li>3. Inspect the Rack and Roll rollers for excessive wear.</li> <li>4. Replace any damaged Rack and Roll rollers.</li> <li>5. Close the belt and restart the equipment.</li> </ol>
A Rack and Roll roller is blocked.	<ol style="list-style-type: none"> <li>1. Ensure Rack and Roll rollers move properly.</li> <li>2. Ensure Rack and Roll system is functioning properly.</li> <li>3. Ensure the actuation system is connected properly and power is supplied to the Rack and Roll actuators.</li> </ol>



	<p>4. Ensure proper air pressure is supplied to the pneumatics (as needed) [See pneumatic schematics]. Contact Intralox Customer Service for additional assistance.</p> <ul style="list-style-type: none"> <li>• Ensure Rack and Roll electric actuators are properly connected, if applicable.</li> </ul>
The product gapping is not adjusted properly.	Inspect gap between products entering the system and adjust as needed [See functional layout]. Contact Intralox Customer Service if uncertain about the proper gap.
A sensor is blocked or is not functioning properly.	<ol style="list-style-type: none"> <li>1. Remove any debris blocking the sensors.</li> <li>2. Ensure the sensors are aligned properly to see products.</li> <li>3. Ensure the sensors are calibrated properly.</li> <li>4. Repair or replace sensors as needed.</li> </ol>
Pneumatics are not functioning properly.	<ol style="list-style-type: none"> <li>1. Ensure proper air pressure is supplied to the pneumatics.</li> <li>2. Ensure clean, dry air is supplied to the pneumatics.</li> <li>3. Ensure the solenoid valves are functioning properly.</li> <li>4. Ensure the pneumatic cylinders move properly.</li> </ol>
The encoder is not operating properly.	<ol style="list-style-type: none"> <li>1. Ensure the encoder is properly connected.</li> <li>2. Ensure the encoder Pulses per Revolution (PPR) is set to 64.</li> <li>3. Repair or replace the encoder.</li> </ol>
The parent PLC is not functioning properly.	<ol style="list-style-type: none"> <li>1. Ensure the parent PLC is not faulted.</li> <li>2. Reset the parent PLC and restart the equipment.</li> <li>3. Connect to the parent PLC and ensure the program is executing properly.</li> </ol>
Sensors are not secured properly or are not positioned directly facing each other.	<ol style="list-style-type: none"> <li>1. Ensure sensor brackets are tight so sensors cannot move during operation.</li> <li>2. Ensure both photoelectric sensors of a set are directly facing each other.</li> </ol>
Destination conveyor or chute is full.	Ensure the destination conveyor or chute is clear.
ISC CAM is tracking more than 15 products (ISC CAM IDL C-1.x). ISC CAM is tracking more than 32 products (ISC CAM IDL C-2.x).	The ISC CAM can handle up to a certain value on a single piece of equipment. If this limit is met the ISC CAM will start diverting irregularly. Increase gap or decrease throughput to maintain proper functioning of the equipment.
Activation of active carryway is too early or too late because of incorrect belt elongation value.	Measure the actual belt elongation and fill in correct value in vHMI, maintenance page see ISC CAM vHMI instructions for more details
Active carryways have been disabled either from the vHMI or through the PLC communication.	Verify from the vHMI live info page that active carryways are enabled see ISC CAM vHMI instructions for more details
Override active carryway is active either from the vHMI or the PLC.	Check the vHMI IO-Comm page that override is not active. Deactivate from the vHMI or line PLC if used see ISC CAM vHMI instructions for more details
Trajectory settings are wrong	Check the trajectory settings on the vHMI settings page, see ISC CAM vHMI instructions for more details

## PRODUCTS DO NOT TRANSFER PROPERLY

The ISC CAM may not be causing the issue. See the DPE User Manual troubleshooting procedures for additional troubleshooting options.

POSSIBLE CAUSE	ACTION
The transfer height is too high or too low.	Adjust the transfer height.
The conveyors are not set to the proper speed.	Adjust the conveyor speed.
Debris is blocking the operation of the transfer.	Remove any debris blocking the operation of the transfer.
The product is too small for the transfer to convey.	Contact Intralox Customer Service for assistance.
The product bottom surface is not suitable for the equipment.	<ol style="list-style-type: none"> <li>1. Inspect the product bottom surface for moisture, oils, debris, damage, or irregularities.</li> <li>2. Remove any debris or damaged products.</li> </ol>
The powered roller transfer is not set to the proper speed.	Adjust the powered roller speed as needed.
A transfer roller is not working.	<ol style="list-style-type: none"> <li>1. Inspect for damaged rollers and replace with new rollers.</li> <li>2. Inspect for damaged bearings and replace with new bearings.</li> </ol>
Products are not oriented properly when entering the transfer.	Ensure products are oriented properly when entering the transfer.

## UNUSUAL NOISE OR VIBRATION COMING FROM THE BELT

The ISC CAM may not be causing the issue. See the DPE User Manual troubleshooting procedures for additional troubleshooting options.

POSSIBLE CAUSE	ACTION
The catenary sag is not adjusted properly.	<ol style="list-style-type: none"> <li>1. Measure belt pitch and adjust as needed.</li> <li>2. Inspect the catenary sag in the returnway and adjust as needed [See the equipment User Manual for more information and adjustment procedures].</li> </ol>
Debris in the belt is causing excessive noise.	Clean the belt to remove any debris.
Peg is jumping the activation mechanism. (AIM only)	Clean the activation mechanism, check the smooth operation of the mechanism.
Peg is jumping the activation mechanism when activating. (AIM only)	Change the "Activation Delay Override" value in the vHMI. Changes by no more than 5ms per step are recommended.
Peg is jumping the activation mechanism when de-activating. (AIM only)	Change the "De-activation Delay Override" value in the vHMI. Changes by no more than 5ms per step are recommended.

## UNUSUAL NOISE OR VIBRATION COMING FROM THE SHAFT SUPPORT BEARINGS

The ISC CAM may not be causing the issue. See the DPE User Manual troubleshooting procedures for additional troubleshooting options.

POSSIBLE CAUSE	ACTION
The shaft support bearings are damaged.	<ol style="list-style-type: none"><li>1. Inspect the bearings to ensure they are not damaged.</li><li>2. Ensure the bearings are lubricated properly.</li><li>3. Repair or replace parts as needed.</li></ol>
The sprockets shift under the weight of the belt as the shaft rotates, causing a clicking noise.	<ol style="list-style-type: none"><li>1. Determine if the noise occurs four (4) times per shaft revolution.</li><li>2. If needed, record the setting on the VFD, then lower the speed of the VFD to hear the noise.</li><li>3. If the noise occurs four (4) times per shaft revolution, it is the normal noise of the sprockets shifting.</li><li>4. Ensure the sprocket is installed properly. Verify all fasteners are tightened on the split sprockets. Tighten the split sprocket halves to each other, not the shaft.</li><li>5. Contact Intralox Customer Service for additional assistance.</li></ol>

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# CONTACT

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