

Captor™ Vision Braille Inspection System

Manual Number: MC088
Revision Date: 2/2013

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Declaration of Conformity

(According to EN 45014)



Manufacturer:

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declares that the product:

Product Name:

Captor™ Vision Braille
Inspection System

complies with the following Council Directives:

Safety of Machinery:

2006/42/EC

Low Voltage Equipment:

2006/95/EC

EMC:

2004/108/EC

and conforms to the following standards:

Safety:

EN60204-1:2006
EN13849-1

Risk:

EN14121-1:2007

EMC Emissions:

EN61000-6-4:2007
EN61000-4-2

EMC Immunity:

EN61000-6-2:2005
EN61000-4-3
EN61000-4-4
EN61000-4-5
EN61000-4-6
EN61000-4-8
EN61000-4-11

Place and Date:

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CE Mark first fixed 2006

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This Declaration of Conformity has been generated electronically and is legally binding without signature



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SECTION 1 - INTRODUCTION

Captor™ Introduction

Features

With the Valco Captor™ Vision Braille Inspection System, live images of boxes are analyzed at full production speed for braille marking problems. As part of the sophisticated Valco Melton glue application system technology product line, Captor™ adds a vision-based quality assurance capability that integrates into a full production workflow from defect identification to removal and analysis.

- Uses high-speed CCD camera technology and custom lighting to produce over 10,000 images per second of the tab or 4th panel areas.
- Touchscreen simultaneously displays live images of current production and failed boxes.
- Defective box window identifies specifically what is wrong with each one.
- Images of defective boxes are saved and recalled easily for detailed viewing and analysis.
- Inspection at production speeds in excess of 350 m/min or 28,000 boxes/hr.
- Inspection resolution of 1mm.
- Connection to KiwiPlan™ software for job updates and counter resets.
- Robust camera/lighting enclosure for top down or bottom up inspection.
- Connects with Valco gluing and marking systems for seamless integration.
- Connects with Valco Bundle Ejector.
- Inspects braille marks on boxes.

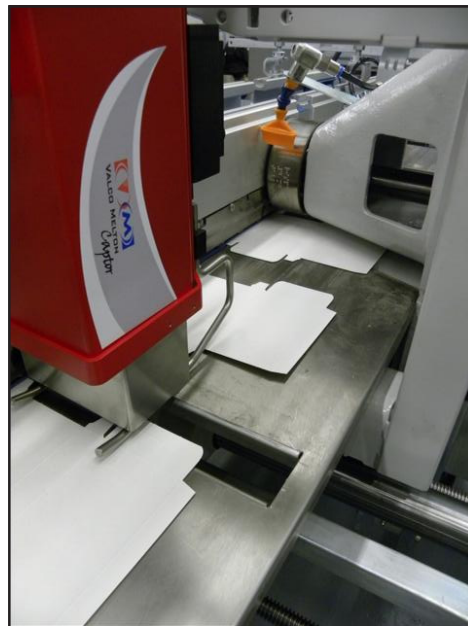


Figure 1-1. Captor Inspecting Braille Marks on Boxes

SECTION 2 - SAFETY AND USE

Read Thoroughly Before Handling Equipment

Symbols

Warning!



Read and follow all safety precautions, warnings, cautions, and other recommendations in this manual. OTHERWISE, DEATH, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

Read this entire section before handling the equipment.

The following symbols may be used on the equipment and/or in this manual.



This symbol represents a **Caution** or a **Warning**. *Cautions* draw special attention to anything that could damage equipment or cause the loss of data. *Warnings* draw special attention to anything that could injure or kill the reader. Both Cautions and Warnings are placed before the step they apply to.



This symbol represents a **Hot Surface**.



This symbol represents a **Puncture Risk**. It is usually used in regard to nozzle cleaning appliances and other sharp instruments that can cause puncture wounds and risk exposure to bloodborne pathogens and other debris.



This symbol means that **Working Gloves** are required.



This symbol means that **Goggles** are required.



This symbol indicates a **Shock Hazard**. There is a presence of non-insulated dangerous voltage within the product's enclosure. This voltage may cause electrical shock or fire.

Continued next page

Symbols - Continued



This symbol indicates the need to **Unplug/Disconnect All Power Sources** and to let them de-energize before attempting any type of work or maintenance. Remember that there can still be energy in equipment, cords, and wires even when unplugged/disconnected.



This symbol indicates the need to **Lock Out All Power Sources** and to let them de-energize before attempting any type of work or maintenance. If power is not locked out, the person working on the equipment may be injured or killed if someone unknowingly switches on the power to the equipment.



This symbol indicates a **Note**. Notes point out something of special interest or importance to the reader. They give tips, hints, and information in addition to what is necessary for the step preceding it.

Owner Responsibilities

The owner of the equipment is under obligation to manage all safety information. Some examples include:

- Examine all safety materials and documents as well as jurisdictional laws and make certain all laws, recommendations, and other safety/hazard laws, certification requirements, training, and instructions are followed and kept current.
- Maintain all safety materials including tags, labels, documents, and MSDS information. Make certain they are distinct and can be read/understood. Replace any that are dirty, worn, or unreadable.
- Make sure all personnel who will handle, install, maintain, operate, fix, and work around the equipment have ready access to the safety information, training, and equipment according to jurisdictional authorities.

The owner of the equipment is under obligation to make certain that all instructions, requirements, and jurisdictional laws are met. Some examples include:

- Make sure there are regular inspections of equipment and safety devices.
- Have regular safety drills and inspections supervised by the proper authorities.
- Provide all required safety items, first aid equipment, and training.

The owner of the equipment is under obligation to make certain that all personnel who will handle, install, maintain, operate, fix, and work around the equipment are qualified, trained, and up-to-date with all information regarding the equipment. Some examples include:

- Make sure all personnel have the proper safety training, equipment, education, and abilities necessary for the job function according to safety instructions and all jurisdictional laws and regulations.
- It is strongly advised that personnel receive first-responder medical care training in case of burns, medical emergencies, or other injuries. Training should be kept up to date.
- Make sure all personnel understand and can follow safety policies and procedures for the organization as well as for the specific equipment.
- Make sure that all personnel are consistently trained, evaluated, free of alcohol and medications that may impair judgment and reflexes, and are tested for banned substances according to jurisdictional authorities.

Limitations of Use

Read this document and all information regarding the equipment before handling the equipment. The intended use of the equipment is stated in Section 1 of this manual.

Do not use this equipment for anything other than its intended use. Do not modify, change, or alter the equipment in any way. If you are unsure of the intended use and the limitations of use for the equipment, contact your Valco Melton Representative before handling the equipment.

Installation/Startup/Use Safety Information

Valco Melton hot melt units, cold glue units, controllers, inspection systems and all related accessories have the following universal safety precautions (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

Warning!



Only qualified personnel should install the equipment. Valco Melton strongly recommends that a Valco Melton Technician install all equipment. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

Warning!



The equipment should be installed so that it can be turned off at a location **away** from the equipment in case of injury, electrical problems, or malfunction. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Properly route all electrical wires. Never tamper with equipment. Only use approved and correct voltage, type of current, fuses, and other power supplies. Replace worn cords, hoses, etc. immediately. FAILURE TO OBSERVE WARNING MAY RESULT IN DEATH, PERSONAL INJURY, AND/OR EQUIPMENT DAMAGE.

Warning!



Poor ventilation, smoking, and open flames can cause overheated hot melt to ignite. Adequate ventilation must be provided. Smoking should be prohibited in the immediate vicinity of the molten adhesive. Open flames must be kept away from the area around molten adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

Warning!



Never use any Valco Melton equipment in an explosive environment. Explosive environments include, but are not limited to, solvent-based cleaners or adhesives, explosive materials, radioactive materials, etc. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Equipment will start automatically when remotely controlled by triggering devices. Be sure to disable all triggering devices, carefully release hydraulic pressure, and disconnect air pressure before servicing or working near guns, valves, and other triggered devices. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Shut Down Safety Information

Valco Melton hot melt units, cold glue units, controllers, inspection systems and all related accessories have the following universal safety precautions (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

Warning!



Purge the fluid pressure and the air pressure from the system before disconnecting/disabling any part of the system. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Disconnect and lock out all power before maintenance or other need to open the equipment. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Equipment may still be energized even if unplugged! When making adjustments or performing checkout procedures, stay clear of any moving mechanical parts and do not touch exposed electrical equipment or electrical connectors. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Disconnect/disable all mechanical and/or electrical devices that send activation signals to the gun(s), valve(s), melter pump(s), etc. This includes pattern controls, timers, input/output signals, etc. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Disable all triggering devices, relieve all residual pressure (hydraulic and air) and allow adhesive to cool before attempting to disconnect guns, hoses, valves, etc. Only qualified personnel should open and service the control. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Never point an adhesive dispensing gun, valve, hose, air hose, or anything else at yourself or another person. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Hot Melt Specific General Safety Information

Valco Melton hot melt units have the following universal safety precautions **in addition to all other universal precautions previously mentioned** (this is not intended to be an exhaustive list; follow all instructions and safety precautions for the specific type of equipment involved):

Warning!



Never process any polyurethane reactive (PUR) hot melt or solvent-based material in a Valco Melton unit unless you are certain that the unit is compatible and is marked "PUR"! Read all instructions and MSDS sheets carefully, following manufacturer's instructions, especially regarding heat levels. If you have any question as to the compatibility of a Valco Melton unit for PUR hot melt, call your Valco Melton Representative before attempting to use the unit for PUR or solvent-based materials. OTHERWISE, HAZARDOUS FUMES, EXPLOSION, DEATH, OR PERSONAL INJURY COULD OCCUR.

Warning!



Keep pump cover and electrical enclosures closed except during setup, service, and checkout procedures. OTHERWISE, DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



People with respiratory problems (e.g., asthma, bronchitis, etc.) should not work in the vicinity of molten adhesive. RESPIRATORY PROBLEMS MAY BE AGGRAVATED BY THE FUMES. Do not wear a face mask when working around molten adhesive. THE MASK MAY TRAP THE FUMES AND DEATH OR PERSONAL INJURY COULD OCCUR.

Warning!



Keep hot melt hoses away from walkways and the moving parts of hot melt systems. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

Warning!



Hot surfaces! Do not touch! Use extreme caution when refilling the unit by hand. OTHERWISE, PERSONAL INJURY COULD OCCUR.

Warning!



Wear protective gloves and goggles at all times around all machinery, especially hot melt. OTHERWISE, SERIOUS PERSONAL INJURY COULD OCCUR.

Warning!



Never use an open flame to heat hot melt components or adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

***What to Do if Contact
with Hot Adhesive
Occurs***

If hot adhesive comes in contact with the skin, do the following:

Warning!

Do not attempt to remove heated hot melt adhesive from the skin. OTHERWISE, SEVERE PERSONAL INJURY AND DEATH COULD OCCUR.

1. Immediately immerse the contacted area in clean, cold water.



It is strongly recommended that a source of clean, cold water be provided near the hot melt work area.

2. Cover the affected area with a clean, wet compress and call the emergency medical response system (such as 911) immediately.
3. Watch for and treat the subject for signs of shock while waiting for professional help to arrive.

***What to Do if
Inhalation of
Adhesive Fumes
Occurs***

If adhesive fumes are inhaled, immediately follow these steps:

1. Take the victim away from the immediate work area.
2. Provide victim with fresh air.
3. Call the emergency medical response system (such as 911) immediately.

**What to Do if
Adhesive-Related
Fire or Explosion
Occurs**

During the heating and melting process, the surface of the adhesive will be exposed to air. The mixture of polymer fumes and air can catch fire if the hot melt is overheated.

Warning!



Poor ventilation, smoking, and open flames can cause overheated hot melt to ignite. Adequate ventilation must be provided. Smoking should be prohibited in the immediate vicinity of the molten adhesive. Open flames must be kept away from the area around molten adhesive. OTHERWISE, DEATH, PERSONAL INJURY, OR DAMAGE TO EQUIPMENT COULD OCCUR.

Warning!



Exposed arcing may ignite the fume/air mixture. Shield all electrical equipment from melt fumes to avoid exposed arcing. OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

Warning!



Do not use a water extinguisher to extinguish the fire! OTHERWISE, PERSONAL INJURY OR EQUIPMENT DAMAGE COULD OCCUR.

If the hot melt adhesive ignites, promptly perform the following steps:

1. Sound a fire alarm.
2. Evacuate the immediate area.
3. Turn off all local electrical equipment at the source.
4. Leave the area immediately if conditions are unsafe.

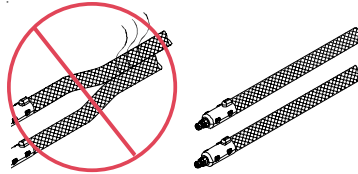
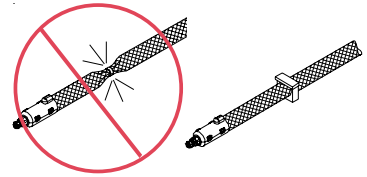
If you feel you can fight the fire **safely**, do **one** of the following:

- Smother the fire with a fire blanket.
- Aim a CO₂ fire extinguisher at the base of the flames.
- Aim a dry-powder fire extinguisher at the base of the flames.

Hose Safety Information

Do not use bindings, wire ties, or unapproved fasteners around the hoses.

Do use approved wrapping (P/N KAP0434), making sure the wrapping is slightly snug but not tight.

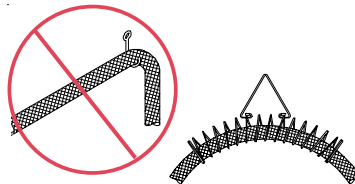
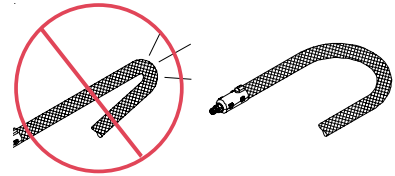


Do not place hoses close together.

Do allow at least 2 inches (5.1 cm) between hoses for proper ventilation.

Do not bend hoses sharply. **Do not** allow kinks or indentations in the hoses.

Do use a minimum bend radius of 10 inches for a 20-inch diameter coil hose.

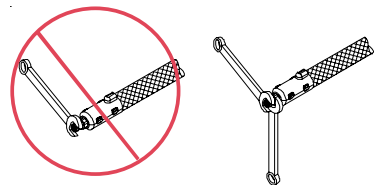


Do not use unapproved hooks to hang hoses. **Do not** wrap hoses over or around objects.

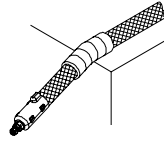
Do use a hose hanging kit (P/N 781xx827).

Do not use the “one handed/one wrench” technique to attach or remove hoses. **Do not** wrench on any surface other than the large hexagon swivel nuts.

Do use two hands and two wrenches to tighten or loosen connections on hoses. **Do** wrench only on large hexagon swivel nuts.



Hose Safety Information -
Continued

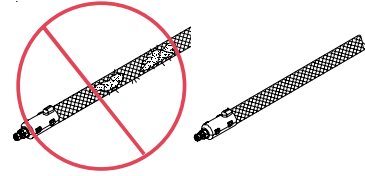


Do not allow hoses to rub against objects or to come into contact with sharp edges or points.

Do wrap the hoses in approved padding (P/N 795xx549) if the hoses must be installed where they will come into contact with objects.

Do not use worn, damaged, or bent hoses.

Do inspect all hoses regularly for damage and/or wear and replace damaged or worn hoses immediately.



SECTION 3 - BASIC FEATURES

Installation

Warning!

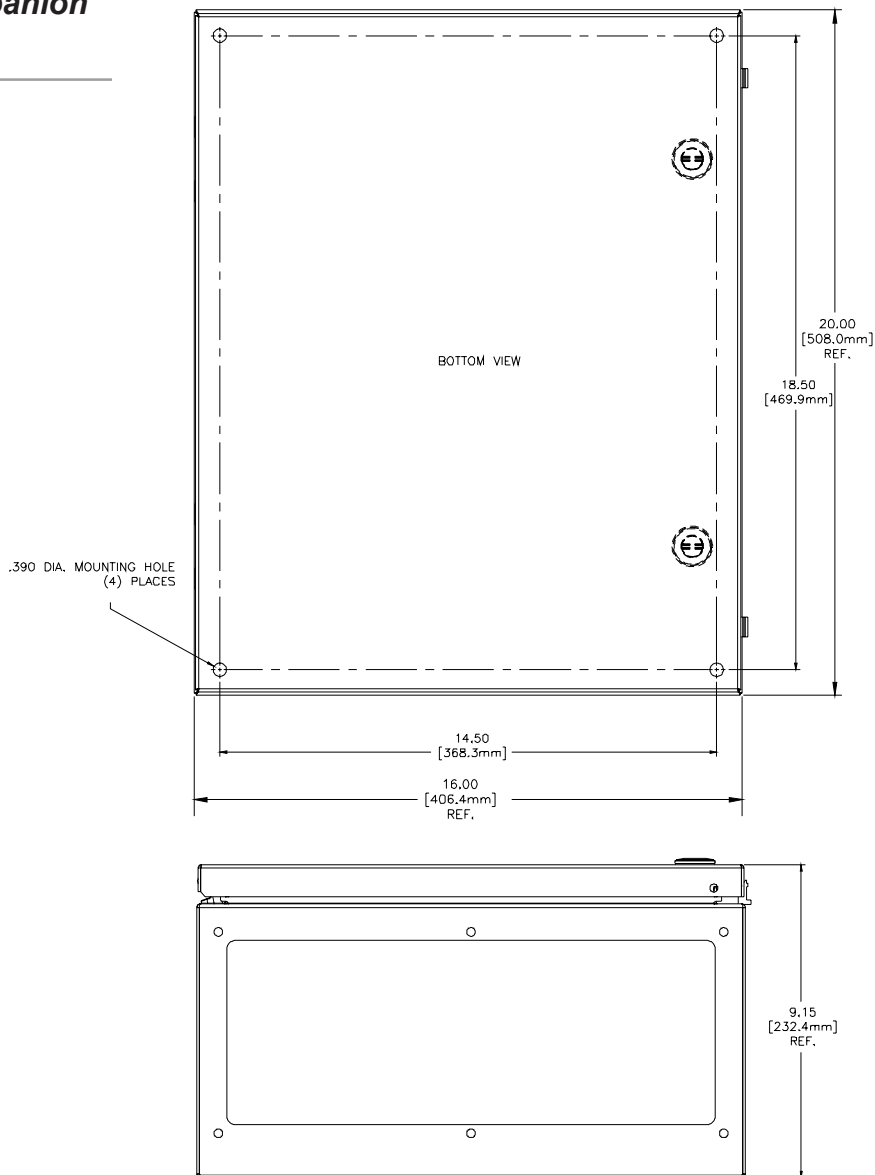


Professional installation of the Captor™ Vision Inspection System is highly recommended. Any error in installation can cause a dangerous condition that may result in personal injury, death, and/or damage to equipment.

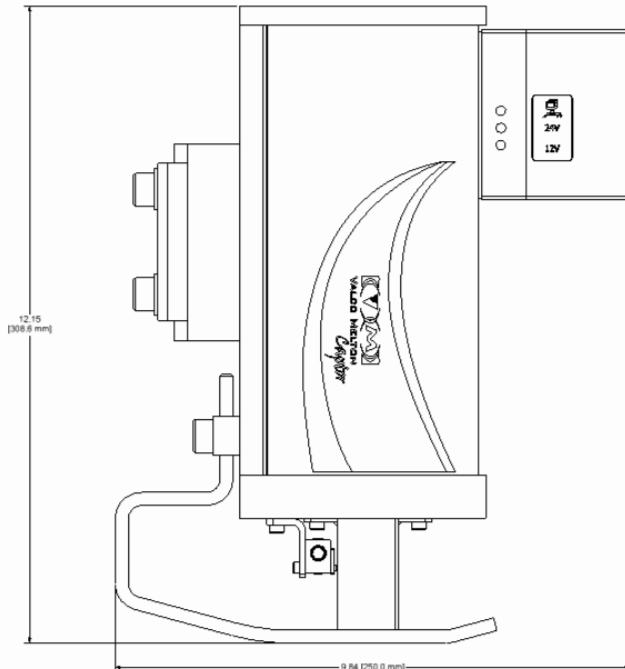
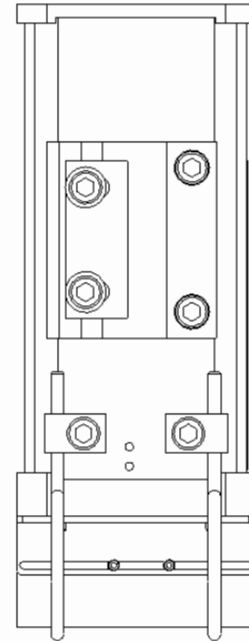
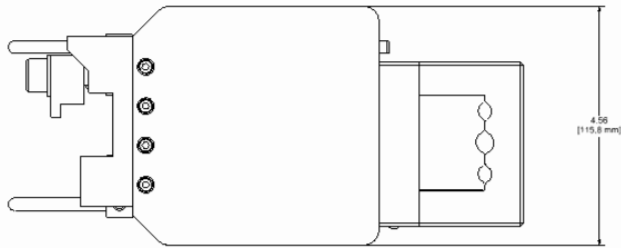
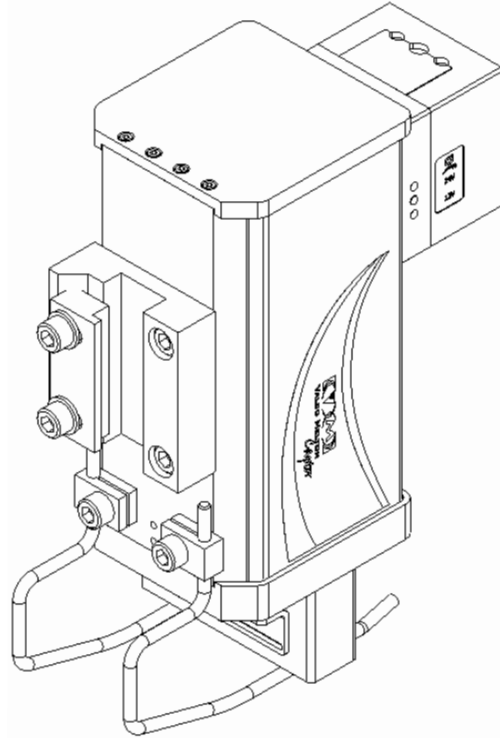
Installation will vary depending on the location and other systems installed with the Captor System.

The following illustrations show the typical layout for the Captor™ Vision Inspection System as a stand-alone system and with the OT-12 and MCP-12 Control Units.

Mounting Footprint - Captor Companion Box

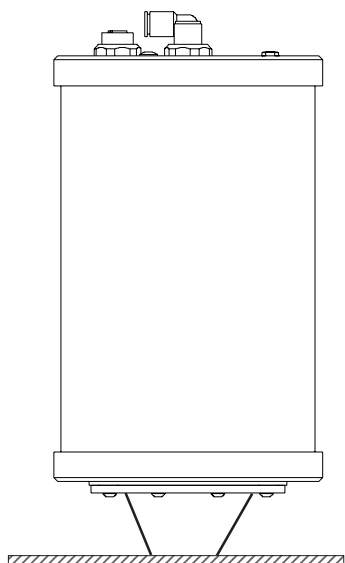


**Mounting
Footprint - Braille
Captor Camera
Assembly**

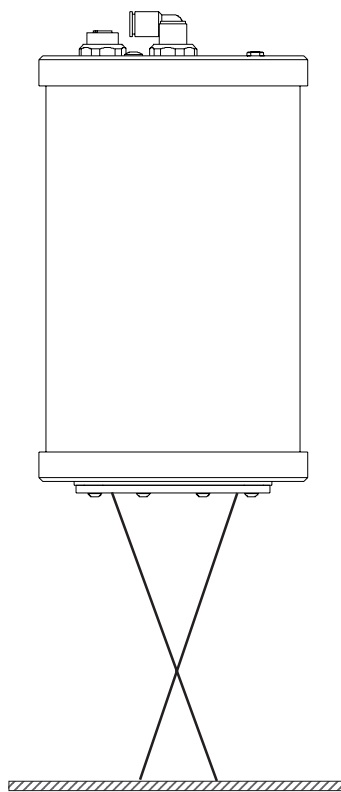


Camera Height

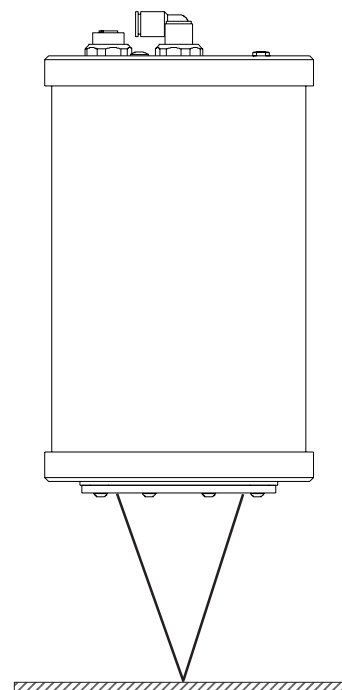
Proper camera height is critical for proper operation. The camera should be mounted 2.6" (65 mm) from the product. When the camera is mounted at the correct height, one single, blue light beam will appear on the product as the image is scanned. If two beams appear the camera is too close or too far away and the images will appear dark.



Camera too close

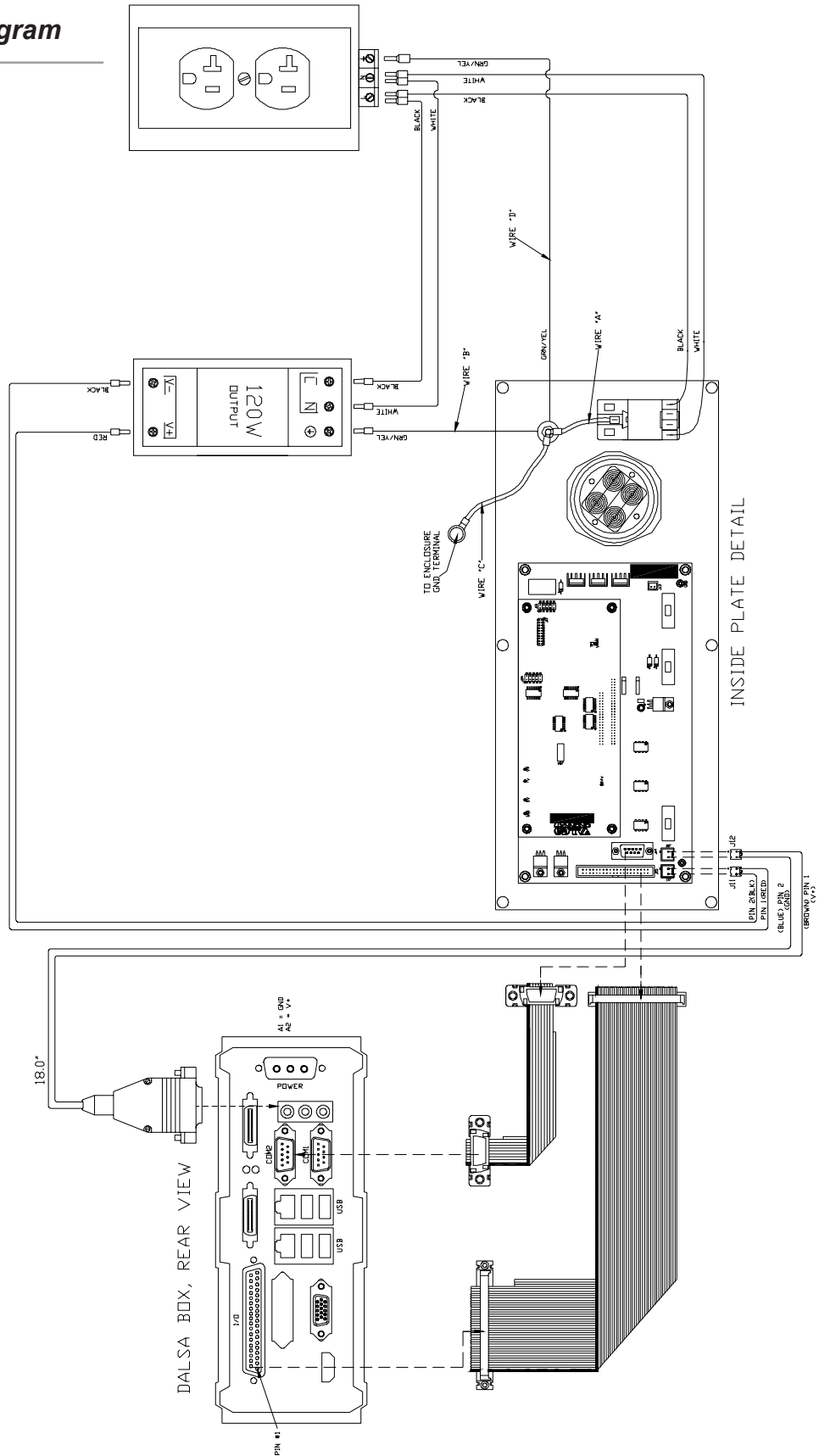


Camera too far away

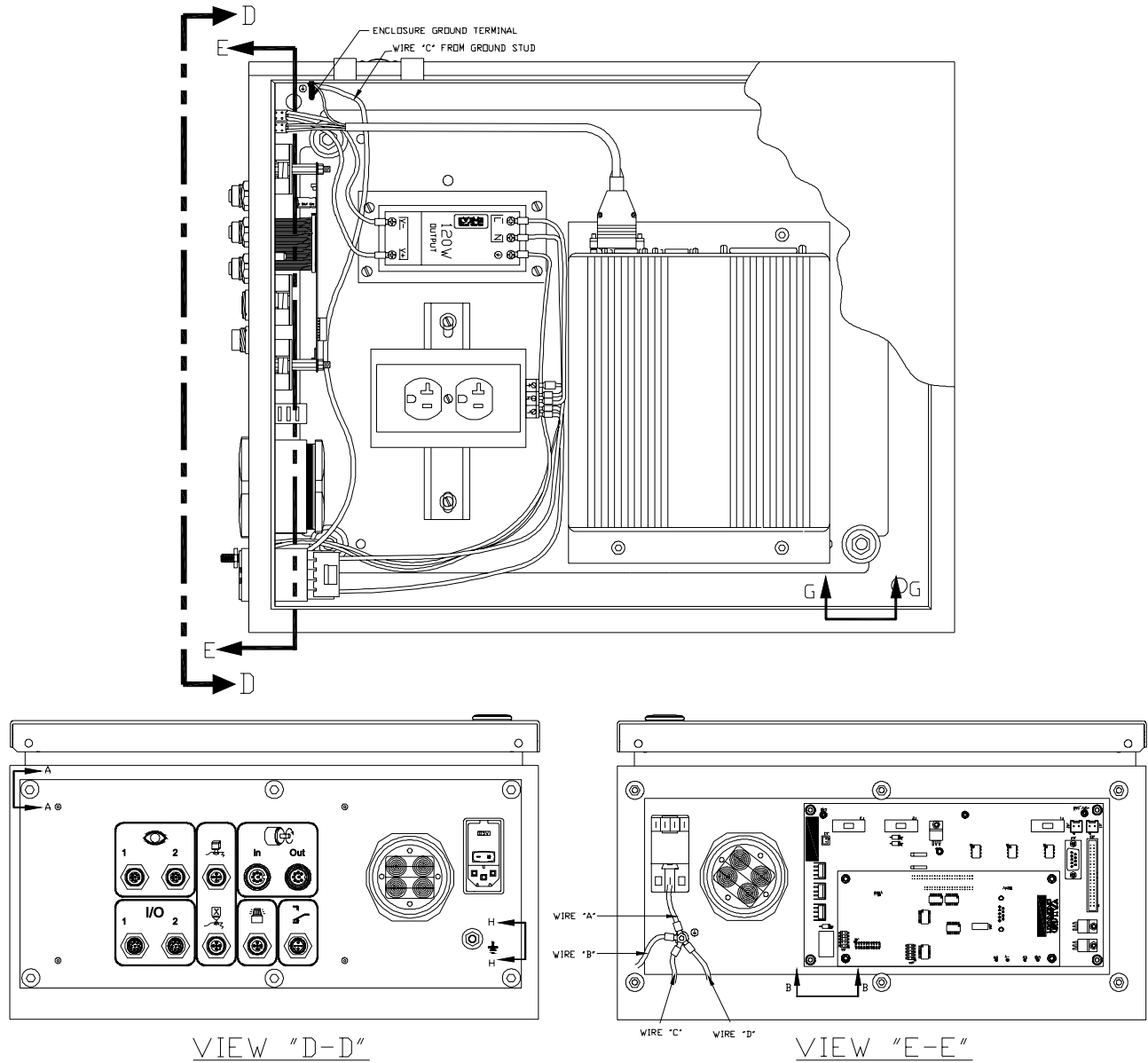


Camera at the correct distance

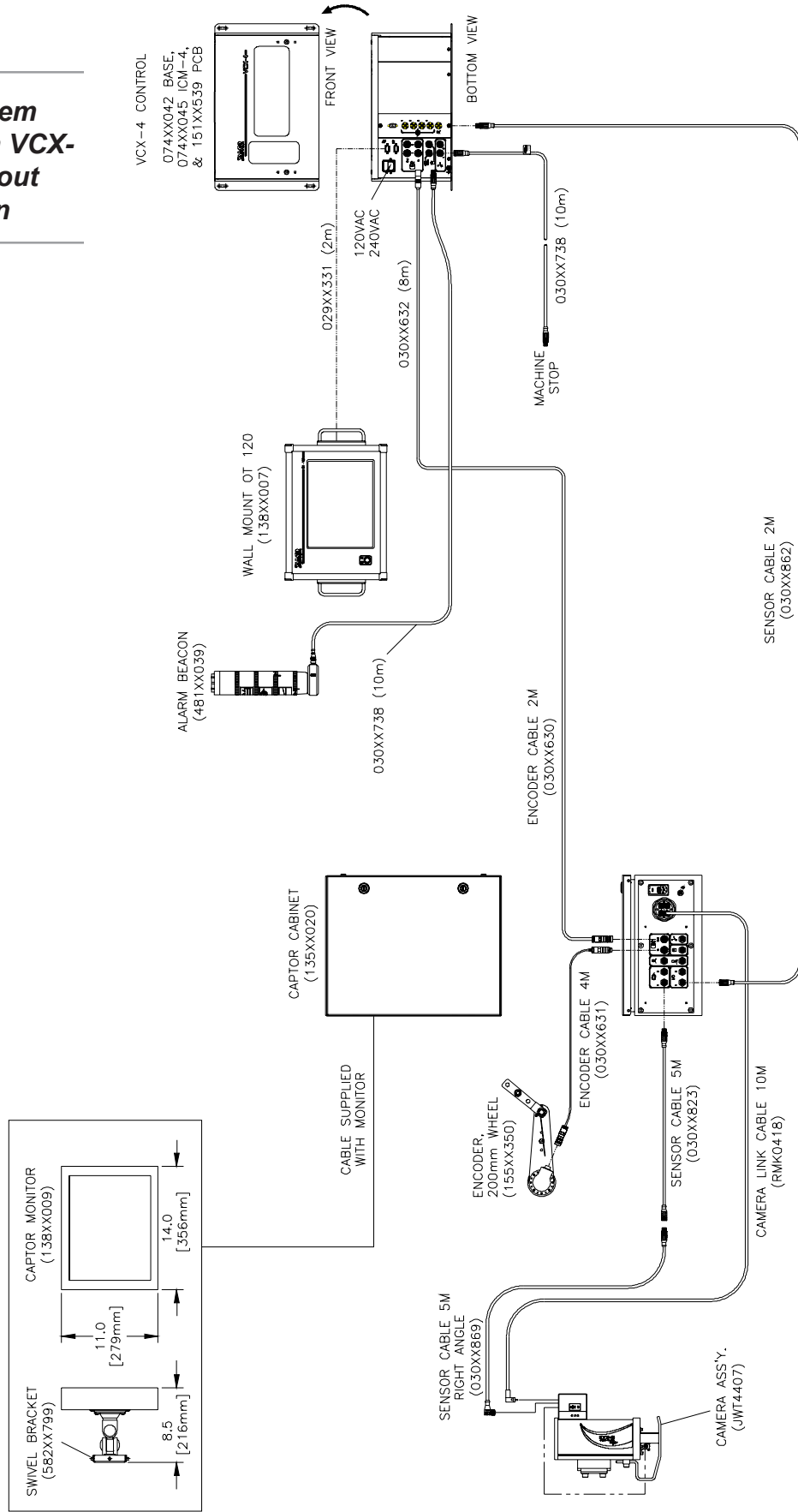
Wiring Diagram

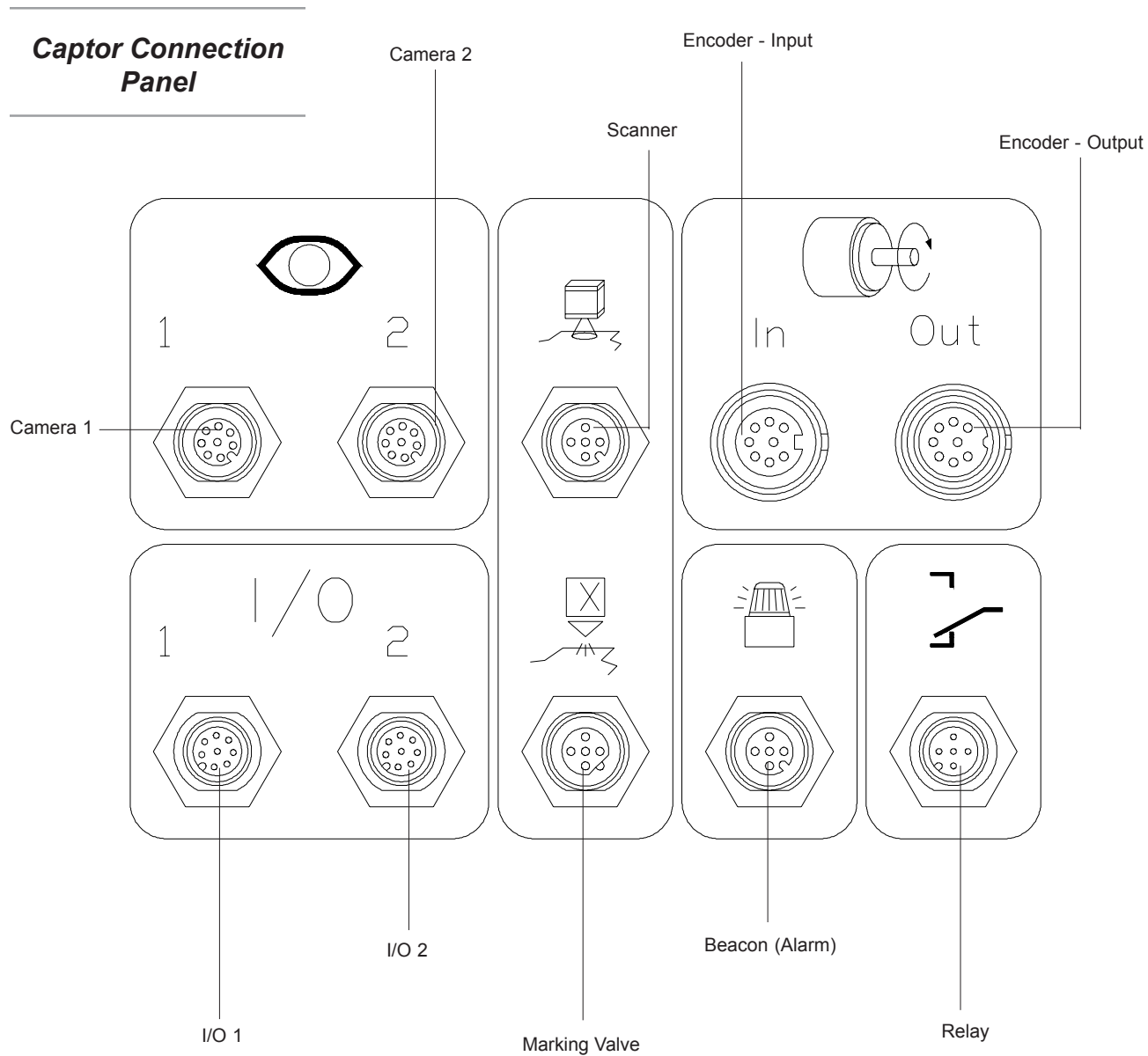


Wiring Diagram - Continued



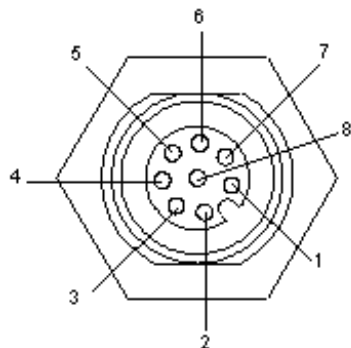
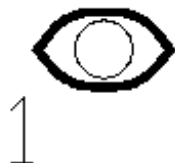
**Captor System
Integrated with VCX-
4/OT-12 Layout
Illustration**



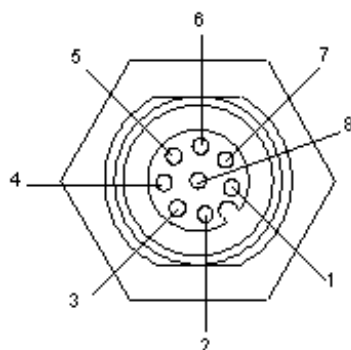


Captor_Conn_Panel.dwg

Camera Pinouts

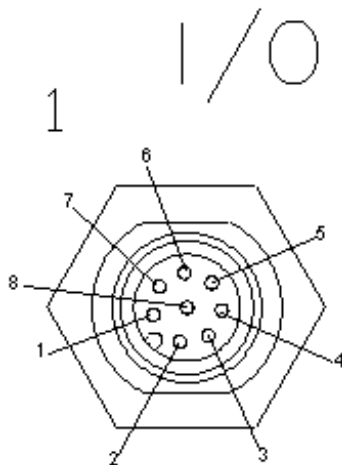


Camera 1 Connection		
Pin #	Description	Color
1	Scanner (PNP)	White
2	Scanner (NPN)	Brown
3	+12V	Green
4	Ground	Yellow
5	+24V	Grey
6	N/C	Pink
7	Ground	Blue
8	Ground	Red

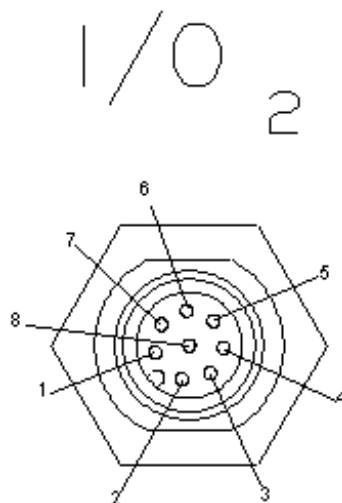


Camera 2 Connection		
Pin #	Description	Color
1	Scanner (PNP)	White
2	Scanner (NPN)	Brown
3	+12V	Green
4	Ground	Yellow
5	+24V	Grey
6	N/C	Pink
7	Ground	Blue
8	Ground	Red

I/O Pinouts

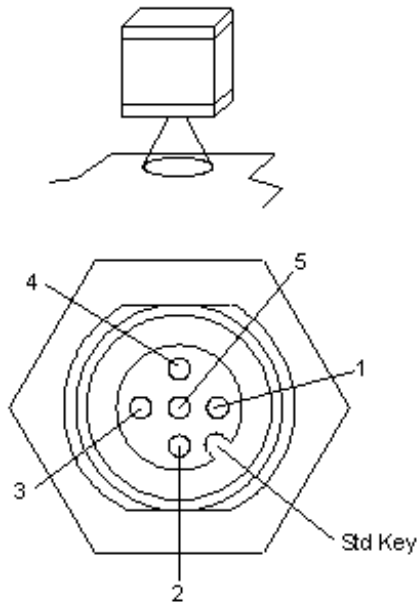


I/O 1 Connection		
Pin #	Description	Color
1	Decision	White
2	N/C	Brown
3	On / Off	Green
4	Trigger	Yellow
5	+24V	Grey
6	Reset	Pink
7	N/C	Blue
8	Ground	Red



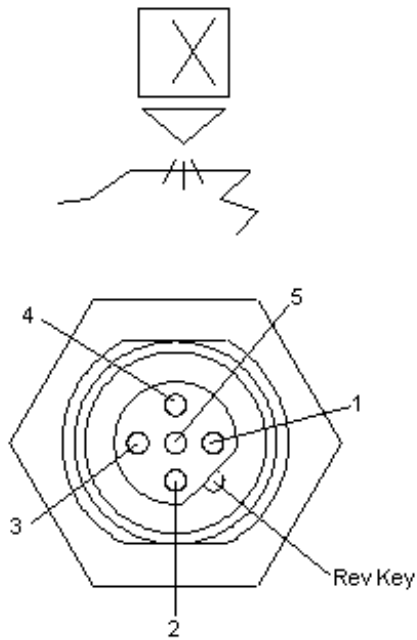
I/O 2 Connection		
Pin #	Description	Color
1	Decision	White
2	N/C	Brown
3	On / Off	Green
4	Trigger	Yellow
5	+24V	Grey
6	Reset	Pink
7	N/C	Blue
8	Ground	Red

Scanner Pinout



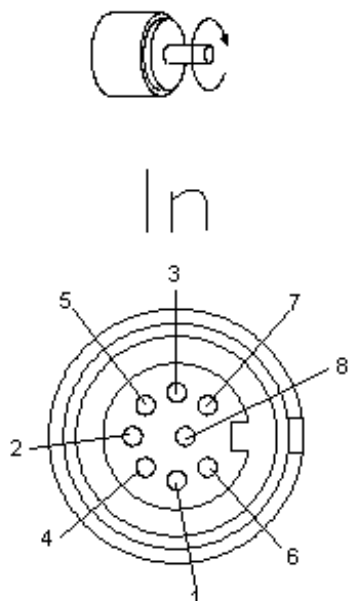
Scanner Connection		
Pin #	Description	Color
1	+24V	Brown
2	PNP	White
3	Ground	Blue
4	NPN	Black
5	Shield	Shield/Grey

Marking Valve Pinout



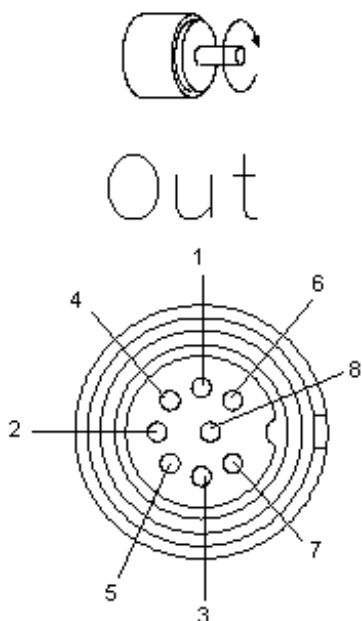
Marking Valve Connection		
Pin #	Description	Color
1	Coil	Brown
2	Coil	White
3	Purge	Blue
4	Purge	Black
5	PE (Shield)	Green/Yellow

Input Encoder Pinout



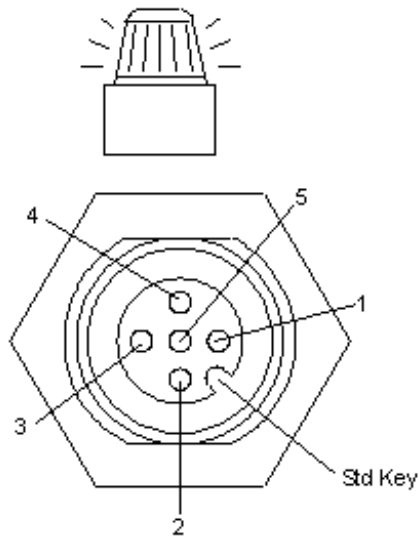
Input Encoder Connection		
Pin #	Description	Color
1	Ground	Black
2	A Signal	Orange
3	+24V/+12V	Red
4	B Signal	Yellow
5	Z Signal	Brown
6	/Z Signal	Violet
7	/B Signal	Blue
8	/A Signal	Green

Output Encoder Pinout



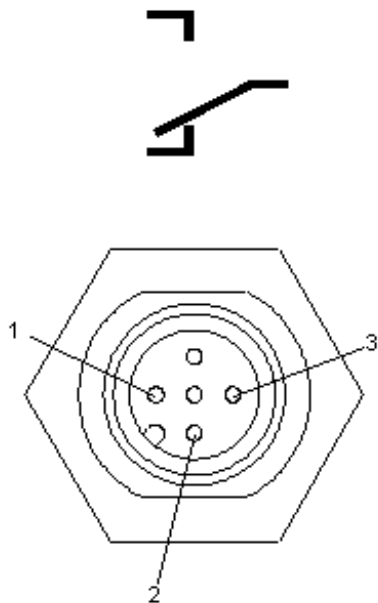
Output Encoder Connection		
Pin #	Description	Color
1	Ground	Black
2	A Signal	Orange
3	+24V/+12V	Red
4	B Signal	Yellow
5	Z Signal	Brown
6	/Z Signal	Violet
7	/B Signal	Blue
8	/A Signal	Green

Beacon (Alarm) Pinout



Beacon/Alarm Connection		
Pin #	Description	Color
1	Ground	Brown
2	Light (Glue)	White
3	Light (Jam)	Blue
4	Buzzer	Black
5	Light (LLD)	Shield/Gray

Relay Pinout



Relay Connection		
Pin #	Description	Color
1	COM	Brown
2	N.C.	White
3	N.O.	Blue

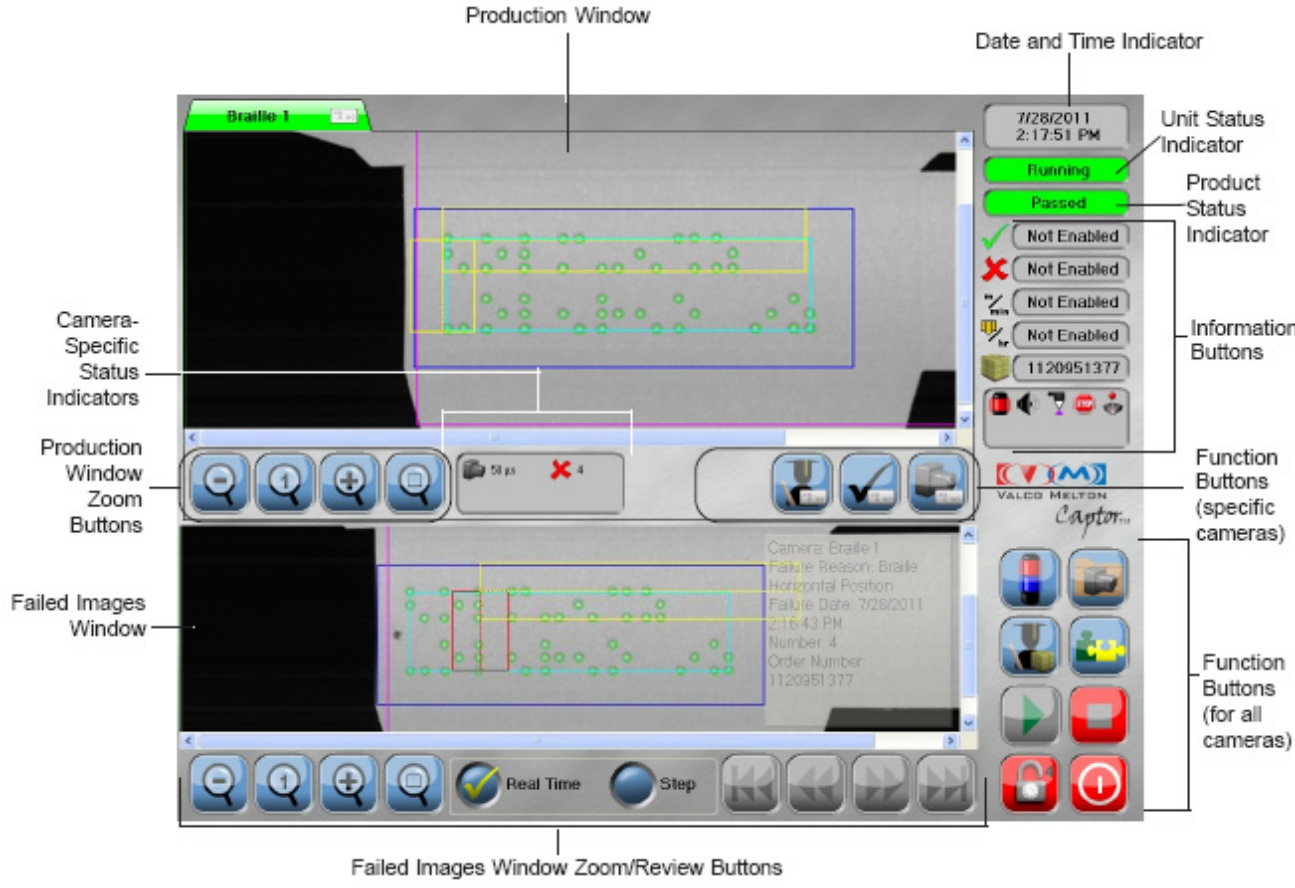
Input Voltage

The input voltage is rated from 90-260VAC.

SECTION 4 - OPERATION

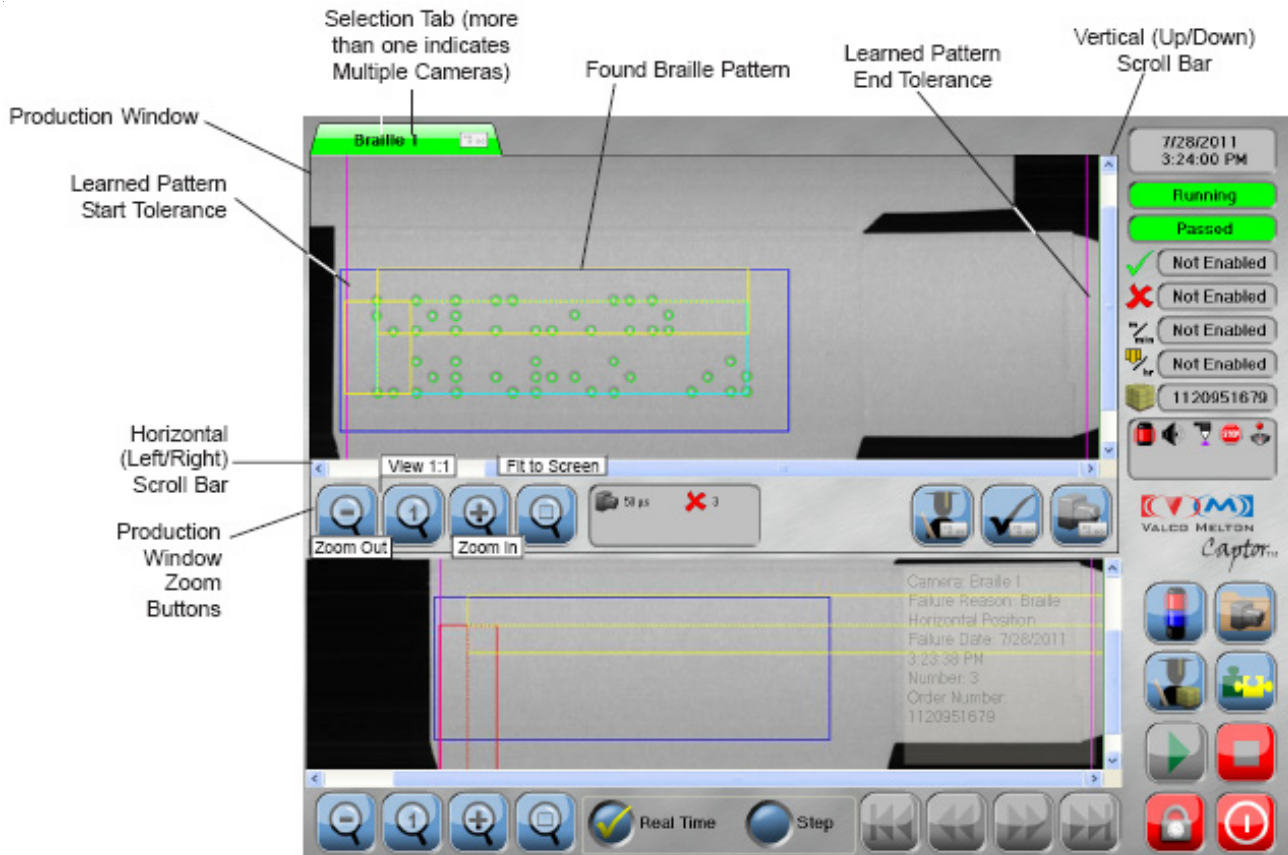
Viewscreen Overview

This is a quick overview of all the buttons, windows, and indicators on the viewscreen.



Production Window

The production window displays the “live” pictures of the products as they are captured by the Captor camera system.



Green lines around the glue patterns indicate the found lines. Scroll bars on the bottom and on the right side of the production window allow the operator to frame the view as desired. The production window zoom buttons control the magnification of the view as follows:

Production Window Zoom Button	Symbol	Use
Zoom Out		Use to reduce the size of the image and see more of the product in the production window.
View 1:1		Use to view the product actual size (1:1 ratio) in the production window.
Zoom In		Use to increase the size of the image and see more details of the product in the production window.
Fit to Screen		Use to fit the image of the product to the production window.

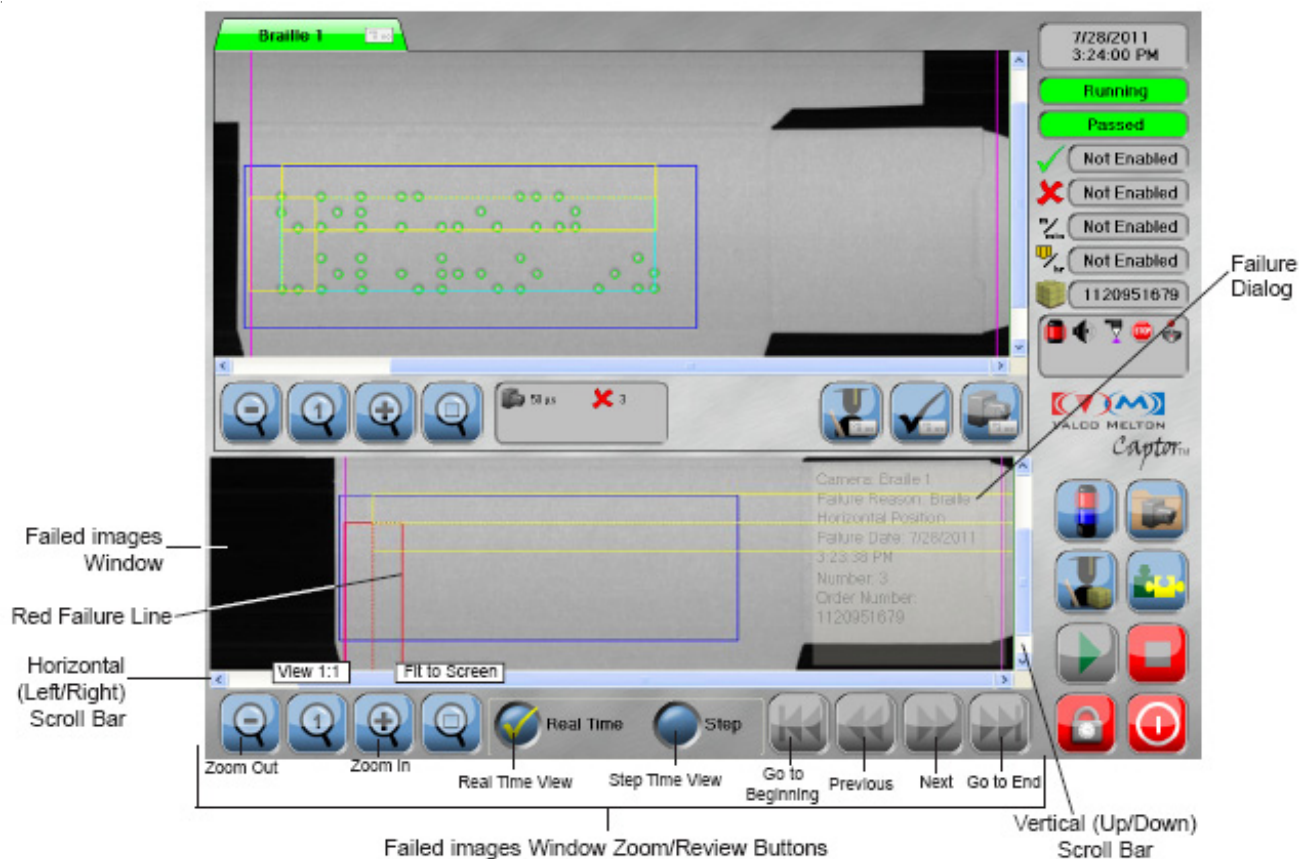
Failed Images Window

The failed images window displays the pictures of failed products. There are two modes: Real Time Mode and Step Mode. In real time mode, the “live” products that fail are seen in the failed images window as they go by. In the step mode, pictures of failed products that have been saved can be reviewed for closer examination.

Yellow lines around the patterns and at the bottom edge of the product indicate the learned tolerances. Red lines indicate failures detected by the system.











Scroll bars on the bottom and on the right side of the failed images window allow the operator to frame the view as desired.

On the right side of the failed images window there is a failure Dialog. This box lists the details of the failure shown in the window. This box is faded into the background of the failed images window except when a failure is detected as it passes the camera or when a failure is reviewed. The operator can also press the window at any time to bring it into full view. The box will automatically fade after about five seconds.



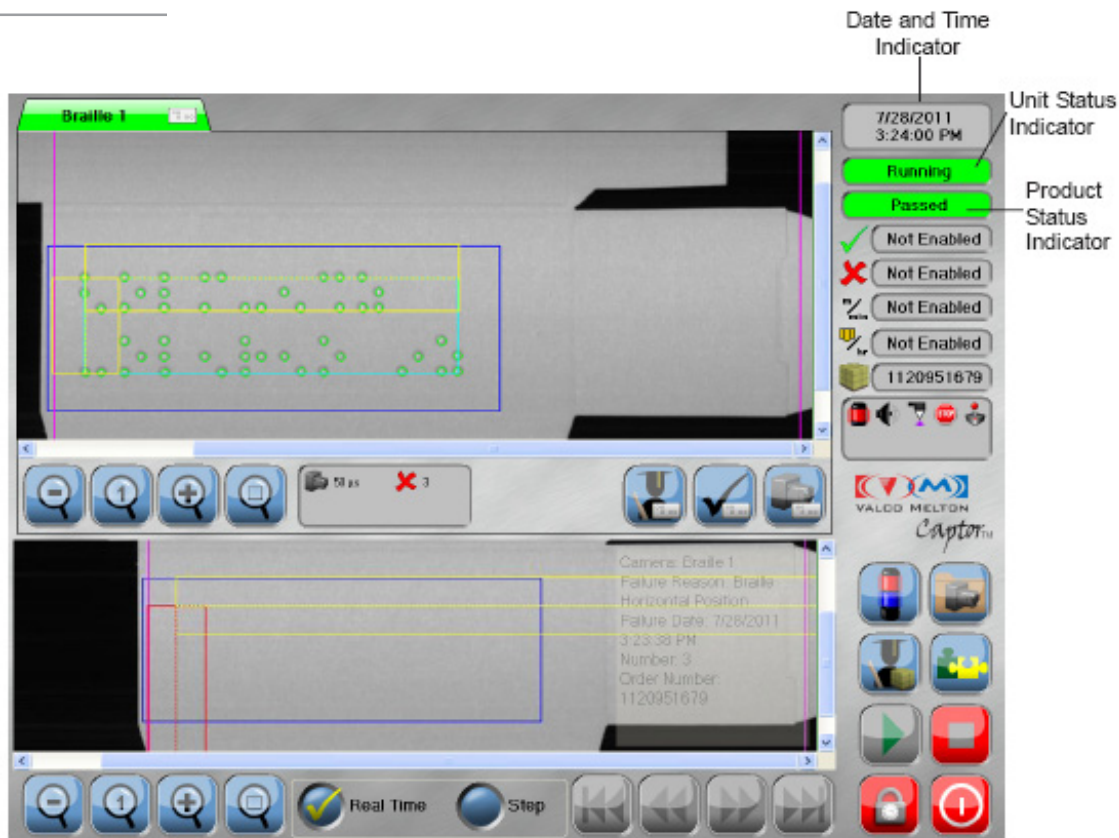
Failed images Window - Continued

The failed image window zoom/review buttons control the magnification and viewing of failed products as follows:

Failed Image Window Zoom/ Review Button	Symbol	Use
Zoom Out		Use to reduce the size of the image and see more of the product in the failed image window.
View 1:1		Use to view the product actual size (1:1 ratio) in the failed image window.
Zoom In		Use to increase the size of the image and see more details of the product in the failed image window.
Fit to Screen		Use to fit the image of the product to the failed image window.
Real Time View		Use to view the product in the failed image window as it passes under the camera.
Step Time View		Use to review the captured images of failed products in the failed image window.
Go to Beginning*		Use to go to the first of all captured images of failed products that are saved in the archive, and view it in the failed image window.
Previous*		Use to go to the previously viewed captured image in the failed image window.
Next*		Use to go to the next captured image in the failed image window.
Go to End*		Use to go to the last of all captured images of failed products that are saved in the archive, and view it in the failed image window.

*Only available in Step Time Mode

Indicators



Date and Time Indicator

Indicator	Symbol	Description
Date and Time		Displays the date and time (see the Configuration Section to change the date and time).

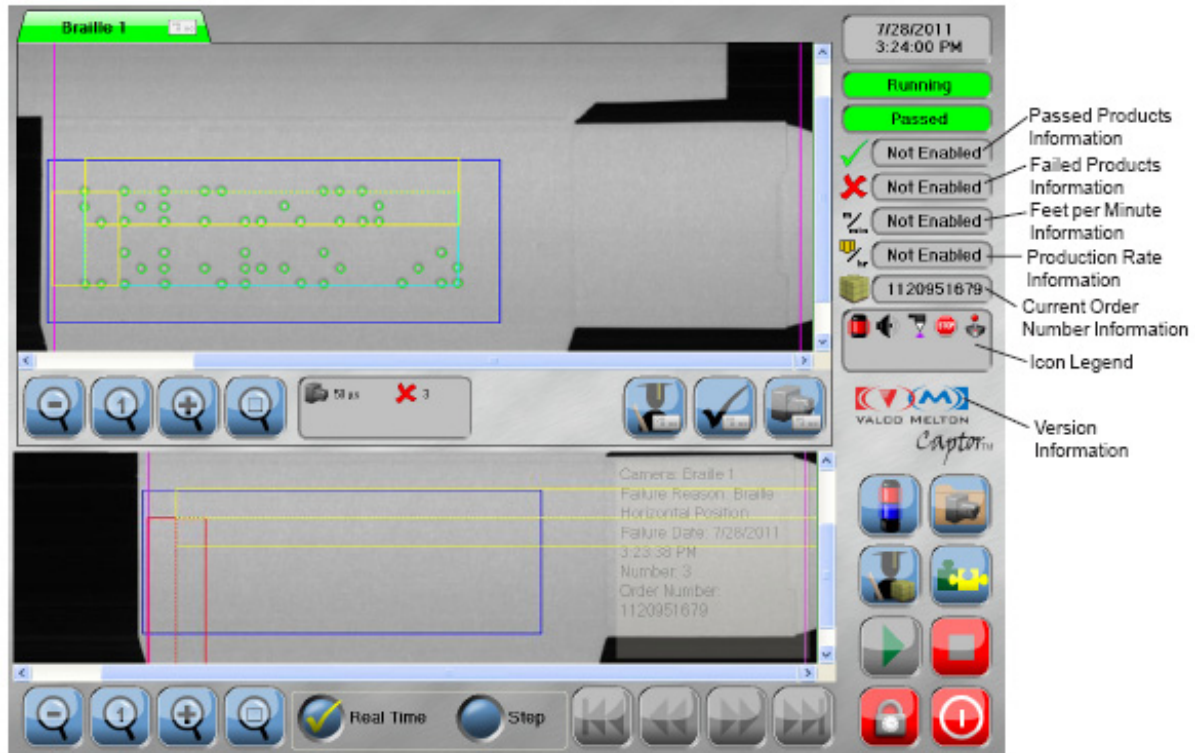
Unit Status Indicator

Unit Status Indicator	Symbol	Description
Running		The unit is running and inspecting products.
Learning		The unit is learning the tolerance settings.
Stopped		The unit is stopped.








Product Status Indicator

Product Status Indicator	Symbol	Description
Passed		The product passed inspection.
Failed		The product failed inspection.

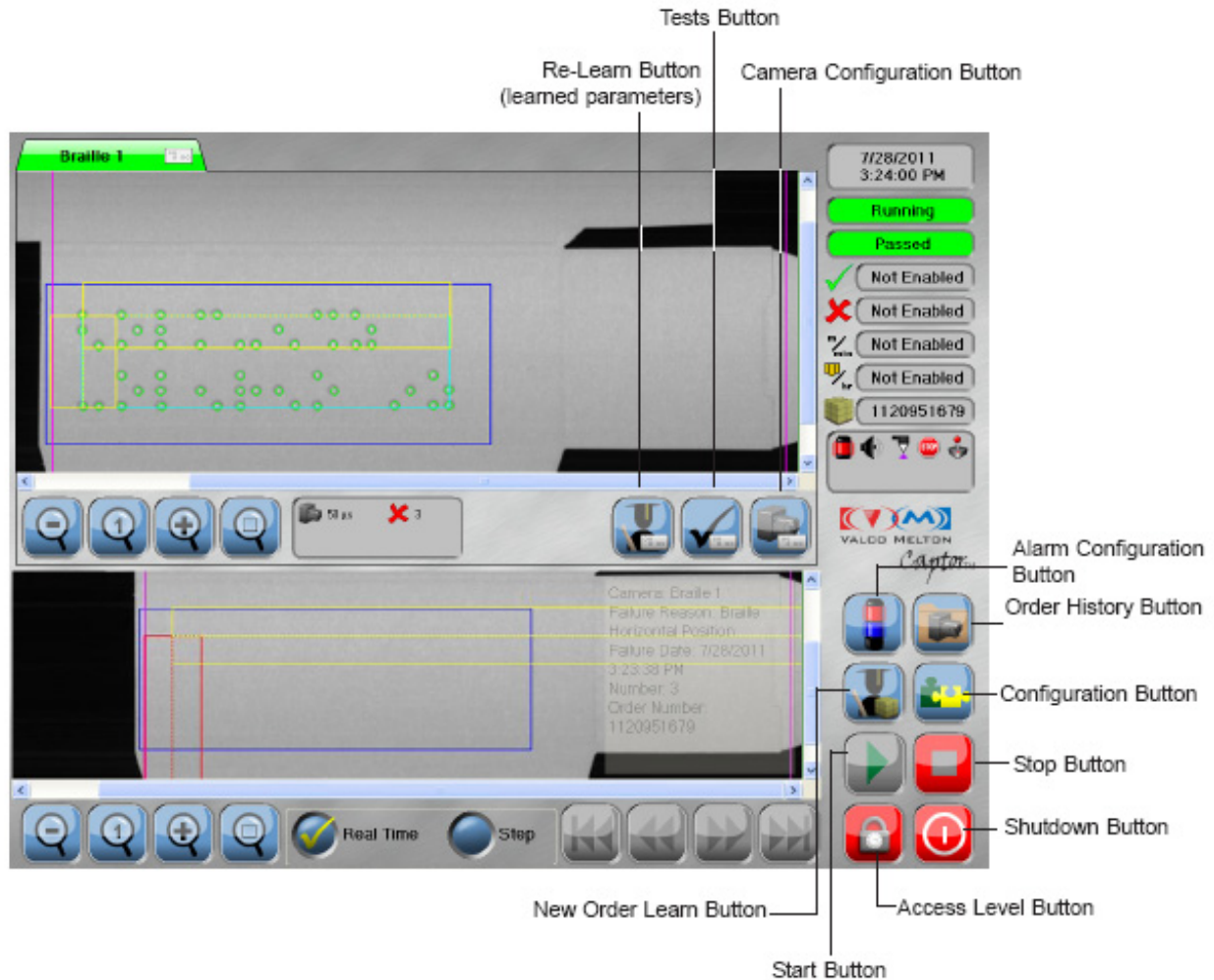
Information Buttons














Information Buttons - Continued

Information Button	Symbol	Description
Passed Products		Displays the number of products that have passed inspection ("good products"). Press to open a Counter Dialog Box for more information and a Counter Reset Button.
Failed Products		Displays the number of products that have failed inspection ("bad products"). Press to open a Counter Dialog Box for more information and a Counter Reset Button.
Feet per Minute		Displays the Box Machine feed rate.
Production Rate		Displays the production rate in products per hour or products per minute. Press to open a Production Unit Configuration Dialog Box.
Current Order Number		Displays the current order number. Press to open an order Information Dialog Box and Enter Order Number Button.
Icon Legend		Clicking on this button opens a window with brief descriptions for each icon shown.
Version Information		Displays the current version information for the Captor™ System. Press to enlarge the information for easier viewing.

Function Buttons



Function Buttons Continued

Function Button	Symbol	Use
Applies to All Cameras		
Alarm Configuration Button		Press to open the Alarm Configuration Dialog Box.
Order History Button		Press to open the failed image archive files. This button only shows when the unit is unlocked to level 1 or higher.
New Order Learn Button		Press to start learning (new order).
Configuration Button		Press to open a Configuration Dialog Box. This button is not available in Level 0.
Start Button		Press to start the unit.
Stop Button		Press to stop the unit.
Access Level Button		Press to open a keypad and enter a password. There are five levels, from 0 to 4. The default level is 0 (indicated by a locked icon as shown).
Shutdown Button		Press to shutdown the Captor™ system.
Applies to Specific Cameras		
Re-Learn Button		Press to start learning for a specific camera without restarting Counters.
Tests Button		Press to open a Tests dialog box for a specific camera. This button is not available in Level 0.
Camera Configuration Button		Press to open a Camera Settings Dialog Box for a specific camera. This button is only available when the unit is stopped with the Stop Button.

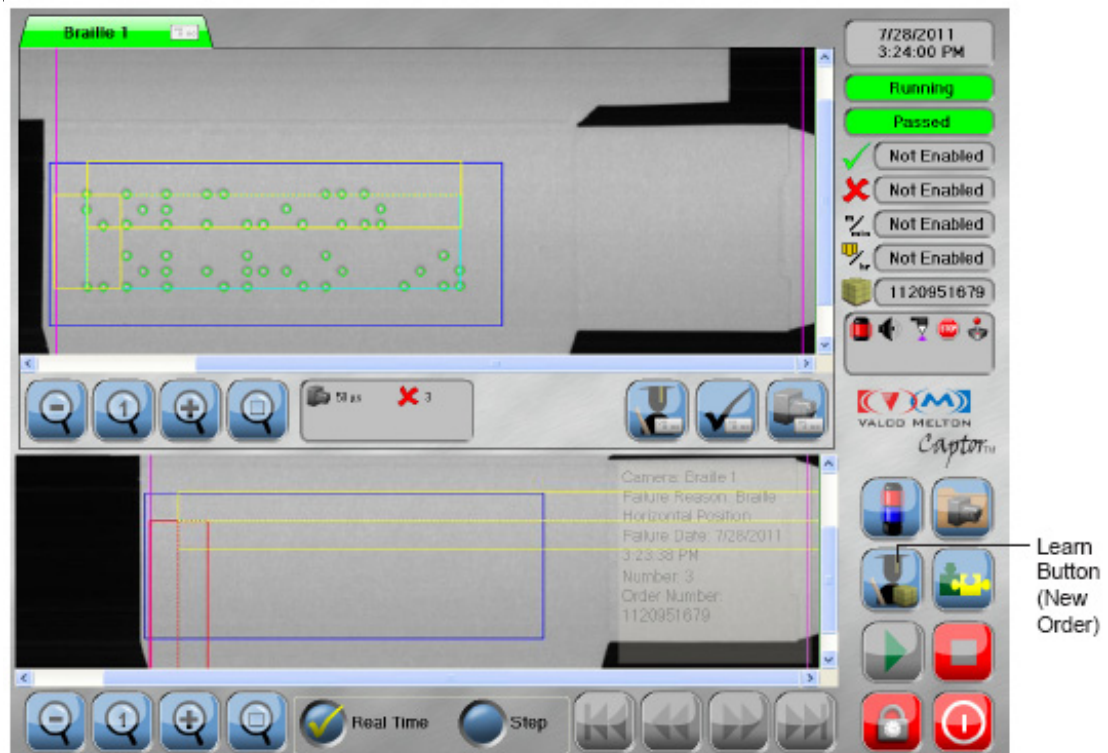
Learning an order (New Order)

*This parameter file is a file programmed by ValcoMelton personnel, according to the client's needs. Only ValcoMelton personnel should access this file.





Check to be sure the braille patterns are satisfactory before they run through the Captor™ Inspection System. When acceptable, turn on the Captor™ Inspection System. Then do the following:

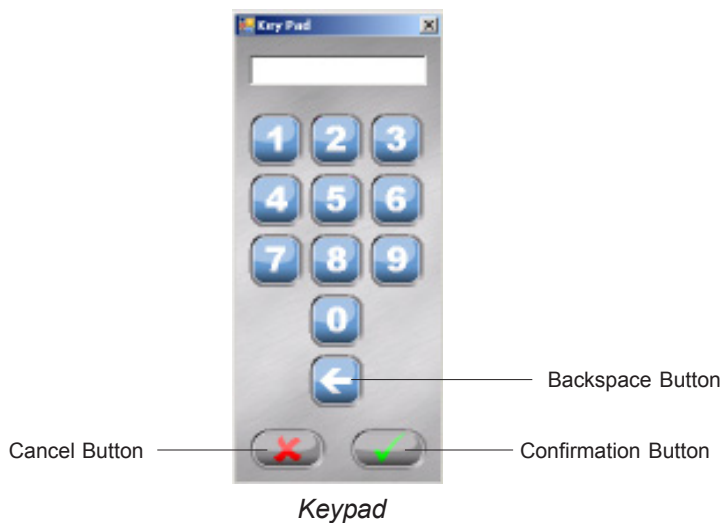
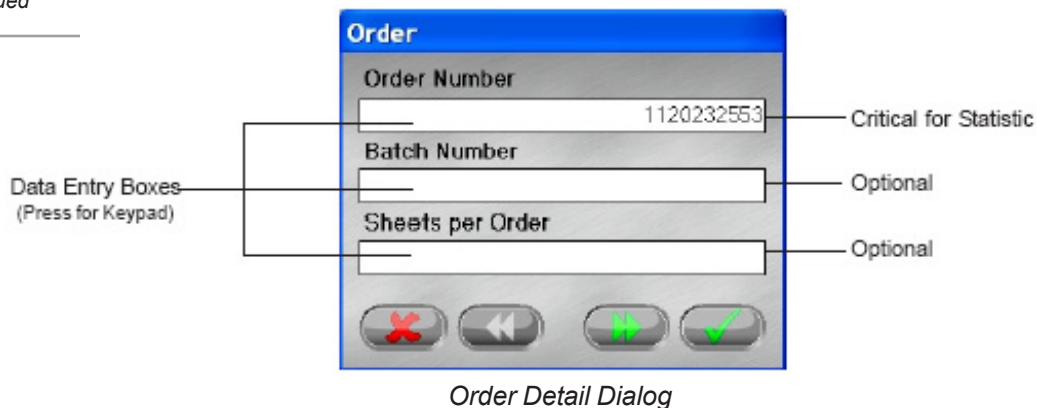
1. Press the Learn Button to open the New Order Detail Dialog.




Learn Button (New Order)

2. In the Order Detail Dialog, press a Data Entry Box to open a keypad. Use the keypad to enter the Order Number, the Batch Number, and the number of Sheets per Order. Press the Confirmation Button  on the keypad when done, then press the Confirmation Button  on the Order Detail Dialog to continue to the Set Box Settings Dialog.

Learning an order - Continued

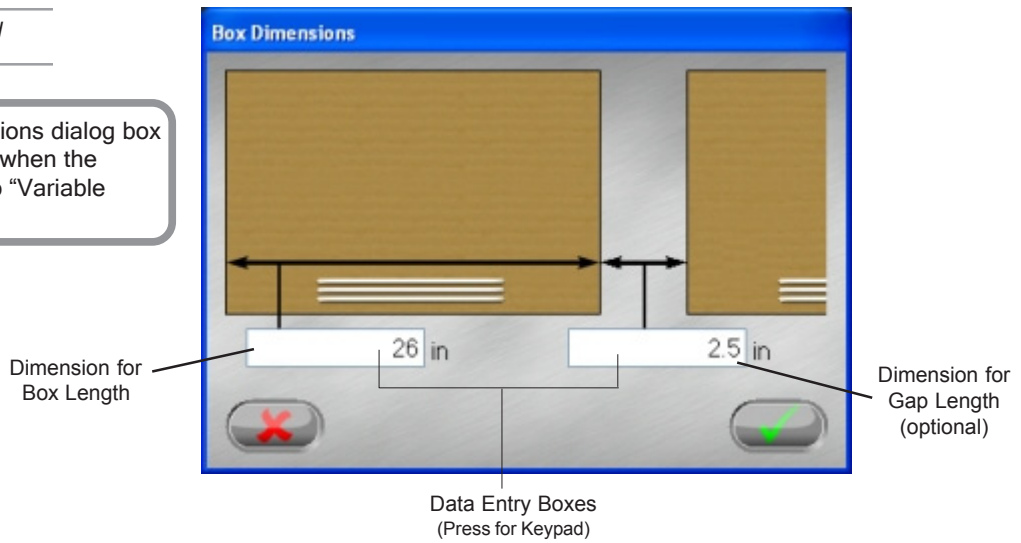


i The system can be configured to require the operator to enter the order number before being able to access the next screen (refer to the Configuration file). Contact authorized Valco personnel for details.

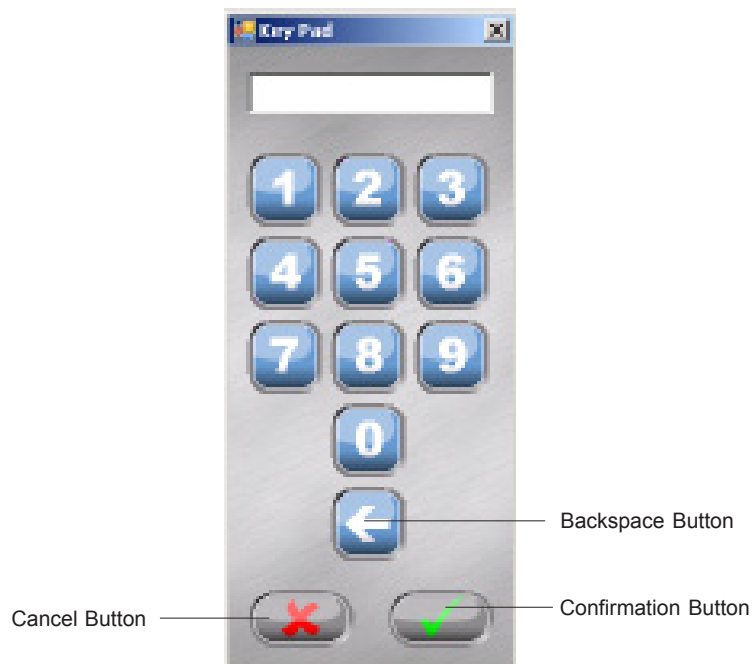
3. Press a Data Entry Box on the Box Dimensions Dialog for a keypad. Use the keypad to enter the product length (box length) and the gap length. Press the Confirmation Button  to continue.

Learning an order - Continued

i The Box Dimensions dialog box is only available when the machine is set to "Variable Length."



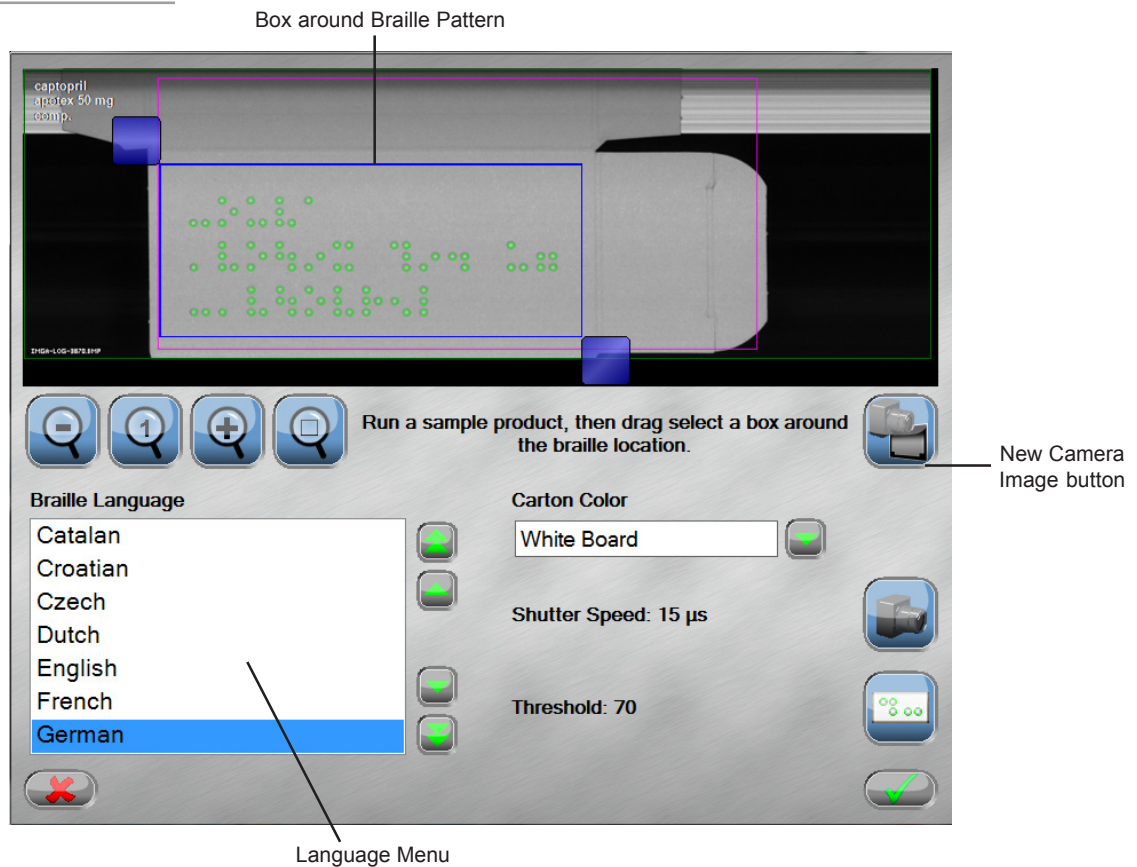
Box Dimensions Dialog



Keypad - Enlarged View

4. Select the braille language from the list. Click/drag the mouse to draw a 'box' around the braille pattern to be scanned.

Learning an order - Continued




5. Verify that the correct pattern and translation are shown. If not, select the New Camera Image button and run a new sample product.
6. Once the correct pattern is shown, select the Confirmation button to accept the pattern.

Caution!




Only trained personnel should adjust the Shutter Speed. OTHERWISE, UNDESIRABLE PERFORMANCE MAY RESULT.

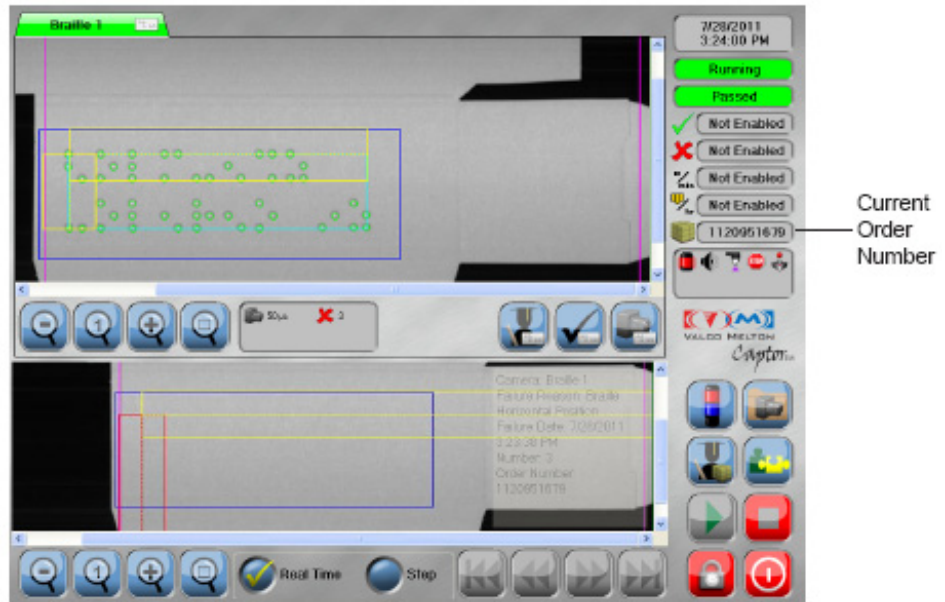
7. When all Confirmation Buttons  are pressed, the Main Screen will appear.
8. Set the pattern control as necessary and run products through until the patterns are acceptable.

The product counters are automatically reset, too!

Congratulations! The new job is running!

Current Order Number

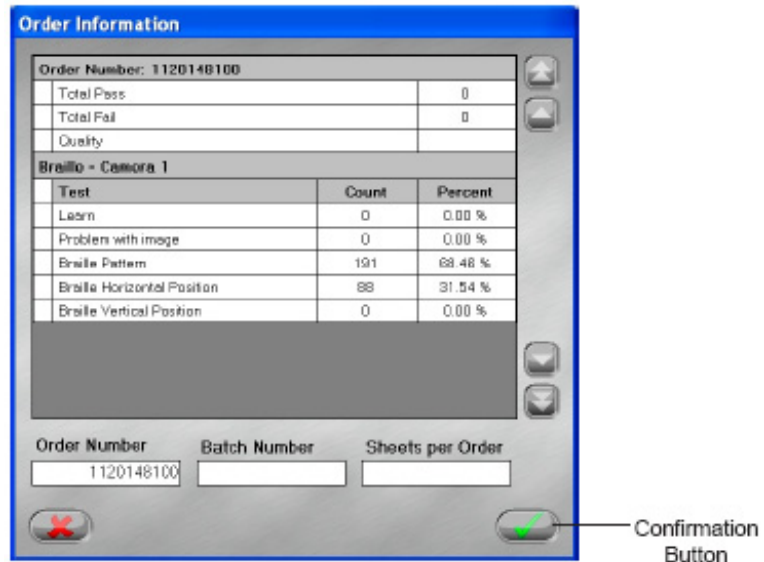
Press on "Current Order Number"  to open the Order Information Dialog.



Current Order Number on the Viewscreen

The Order Information Dialog displays detailed information for the current order number.

When finished, press the Confirmation Button to close the Order Information Dialog.



Order Information Dialog

Failures

Viewing Products

Products passing through the inspection system will appear in the Production Window. Yellow lines outline the learned parameters for the braille patterns as each product passes through. Use the Production Window Zoom Buttons to adjust the magnification of the products and use the scroll bars to frame the image as desired (see the subsection “Production Window” in this section).

The Product Status Indicator will show “Passed” or “Failed” as each product is evaluated. Product counts and the production rate will display.

If a product fails inspection, the product will appear in the Failed images Window with red lines indicating the failure. The Failure Dialog comes to the foreground and states the failure information for several seconds before fading into the background. Tap the faded Failure Box to bring it back to full opacity for several moments.

When the Failed images Window Zoom/Review Buttons are set to “Real Time,” the picture of the last failed product will remain in the Failed images Window until there is another failed product. Images of failed products will be kept in the Captor™ memory until capacity is reached (approximately 500 images), at which time the images will be moved automatically to Archive Storage, accessible through the Failed Image Archive Viewer.

Please speak to your ValcoMelton Representative to discuss photo archive possibilities for the Captor™ Inspection System.






Viewing Failures: Real Time

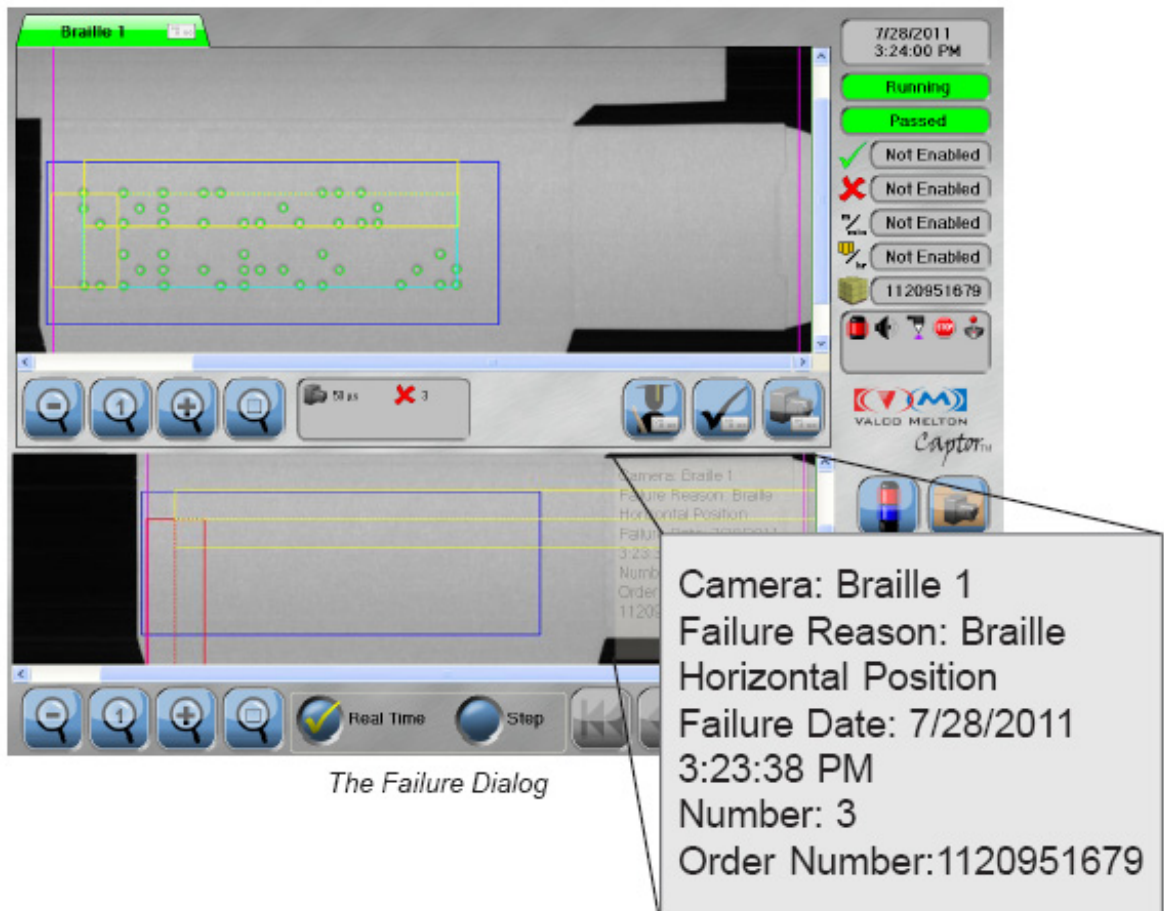
There are several ways to view products labeled “failure” by the Captor.

In “Real Time” the failed products are displayed in the Failed images Window the moment they are detected. Therefore, there is a possibility that several failed products are displayed too quickly for the operator to view in detail one product at a time. For detailed viewing without time limitations, the “Step Time” setting is recommended.






Viewing Failures: Step Time

When the Failed images Window Zoom/Review Buttons are set to “Step Time,” failed images are used for immediate diagnosis of problems. To examine failed products in “Step Time,” do the following:

1. Check the “Step Time” Failed images Window Zoom/Review Button by pressing it. A green checkmark will appear .
2. Use the “Go to Beginning”  “Previous”  “Next”  and “Go to End”  Buttons to navigate through the failed product images, sorted by date/time.
3. Note the information in the Failure Dialog for each failed product. Details such as the reason for the failure, the failure date and time, the failed product number, and the job number. (If the Failure Dialog fades into the background, just press it to bring it to the foreground.)




Viewing Failures: Step Time -
Continued

4. Use the “Zoom Out”  “View 1:1”  “Zoom In” 
and “Fit to Screen”  Buttons to adjust the magnification of
the image.
5. Use the scroll bars on the bottom and on the right side of the
Failed images Window to frame the view as desired.
6. To return to “Real Time” press the Real Time Button. A green
checkmark will appear  .

Viewing Failures

The Order History contains all the saved failed images. These images are intended for historical data review. To examine failed products in the Order History, do the following:

1. Press the Order History Button . The Order History Dialog will open.



The screenshot shows the 'Order History' dialog box. It features a table with the following columns: Start Time, Order Number, Total Pass, Total Fail, and Quality. The table lists several orders from 7/28/2011, all with 0 Total Pass and 0 Total Fail. Below the table are search filters for 'Order Number', 'Start Date', and 'End Date'. A detailed view on the right shows 'Order Number: 1120551679' and a table of failure counts for 'Braille - Camera 1'.

Start Time	Order Number	Total Pass	Total Fail	Quality
7/28/2011 2:07 PM	1120551679	0	0	
7/28/2011 2:29 PM	1120551386	0	0	
7/28/2011 2:14 PM	1120551377	0	0	
7/28/2011 2:19 PM	1120551395	0	0	
7/28/2011 2:13 PM	1120551196	0	0	
7/28/2011 2:12 PM	1120551185	0	0	
7/27/2011 3:29 PM	1120554469	0	0	
7/27/2011 3:06 PM	1120554353	0	0	
7/28/2011 1:21 PM	1120148180	0	0	

Search by Order Number

View by Date/Order Number

Text	Count	Percent
Learn	8	100%
Problem with image	8	100%
Braille Pattern	8	100%
Braille Horizontal Position	8	100%
Braille Vertical Position	8	100%

Order Number: 1120551679

Braille - Camera 1

Camera: Braille 1
Failure Reason: Braille Horizontal Position
Failure Date: 7/28/2011 1:52:03 PM
Number: 33
Order Number: 1120551679


33 of 33

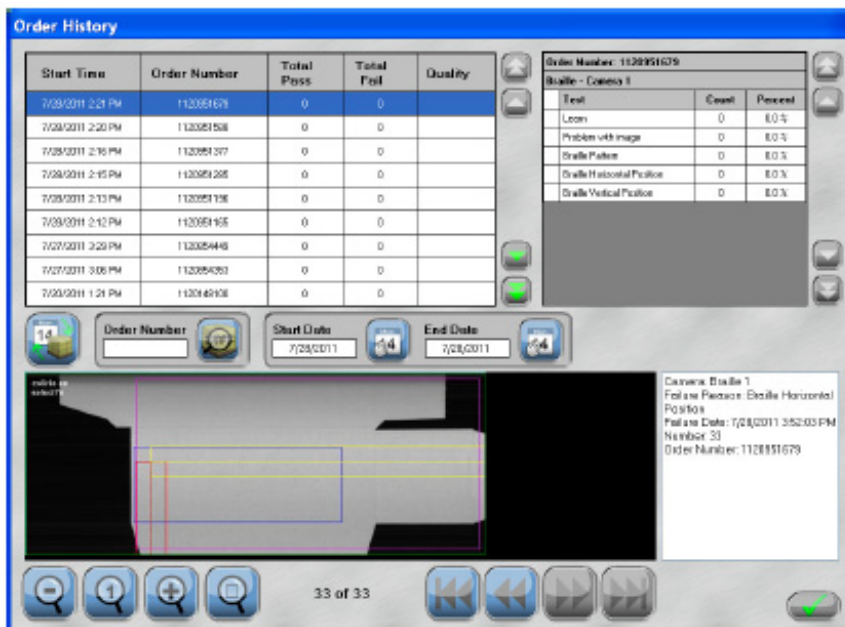
Order History Dialog



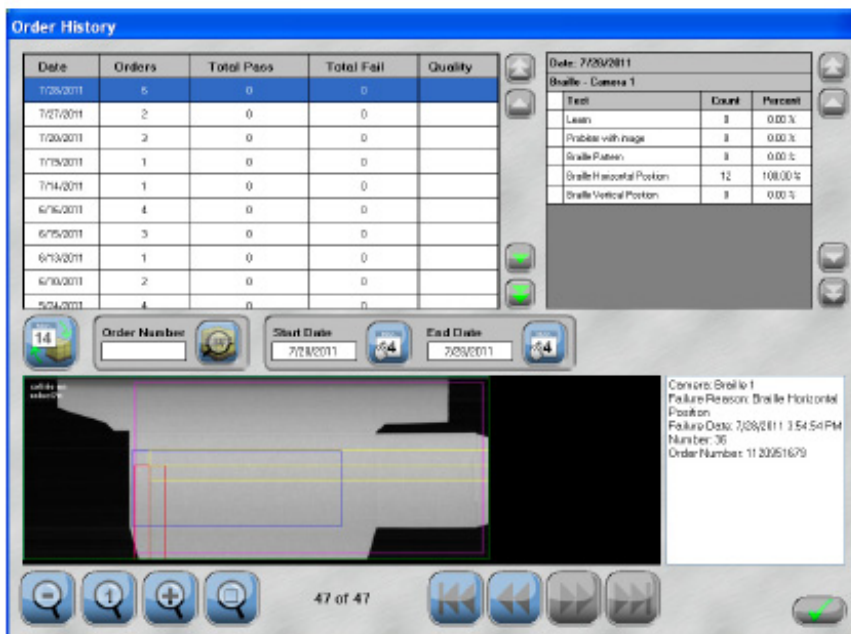
The images are kept on the hard drive according to the programmed parameters. The hard drive will keep approximately 12 months of images or up to 90% of hard drive capacity. Then older images will be deleted as new images are added.

Viewing Failures - Continued

- Pressing the View by Date/Order Number Button  switches between displaying order history filtered by date, or by the order number.



Screen showing search filtered by Order Number

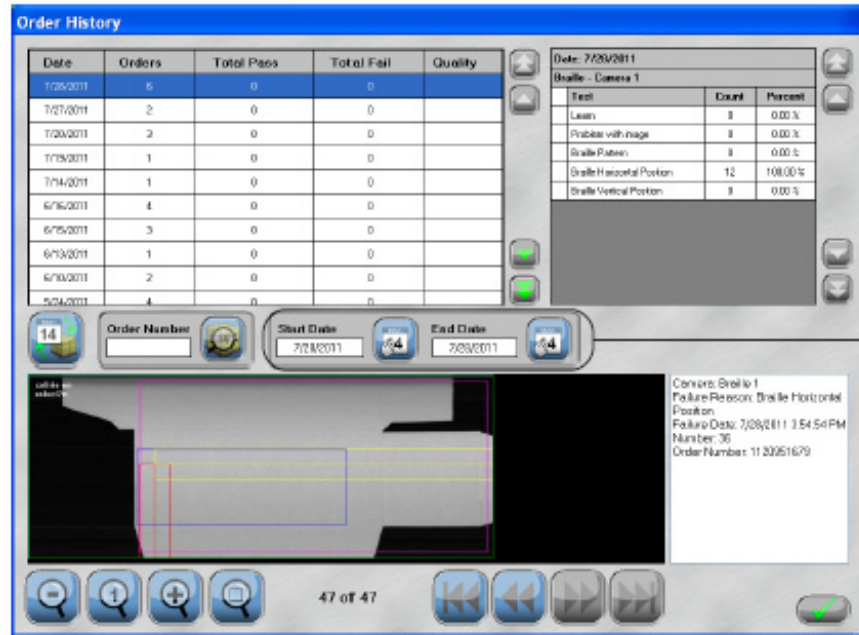


Screen showing search filtered by Date

Order History Dialog - Order History Screens

Filtering Failure Incidents by Date

1. Make sure the "Filter by Date" mode is selected.
2. The "Start Date" and "Stop Date" calendar filter buttons each open a calendar that allows the user to enter a date range for the search. The list display updates automatically after the range is set.



Filtering By Date

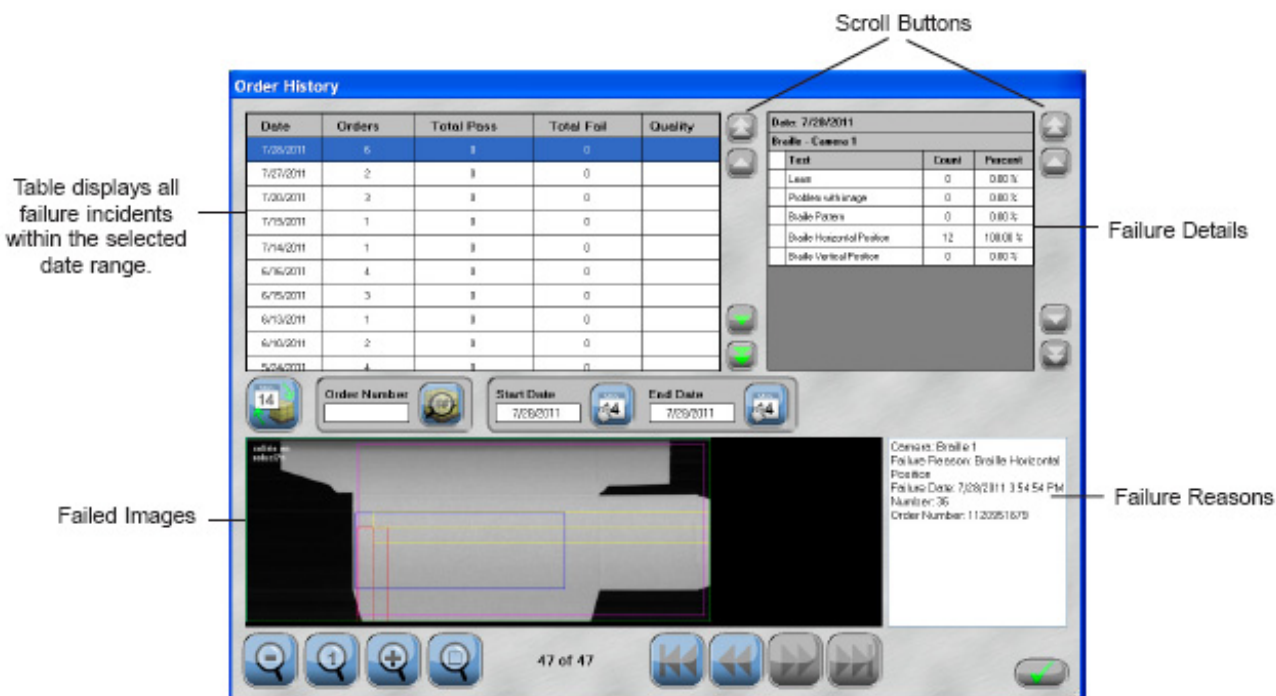


Start or Stop Date Calendar

- a. The calendar top scroll bar scrolls between calendar months.
- b. Select the appropriate Start and/or Stop date, and then touch outside of the calendar window. The window will close and the date will be entered.


Filtering Failure Incidents by Date - Continued

3. With the dates entered, the upper left window lists all failure incidents within that date range.
4. Scroll buttons at the right of the window allow the operator to scroll through failure incident entries. Selecting an entry will highlight it.
 - a. When an entry is highlighted, the upper-right table displays the failure details, and the lower half of the window displays the failed images and reasons for failure.
5. The failure details table displays the total number of failures for each test, and what percentage of all failures are represented by specific test failures types.

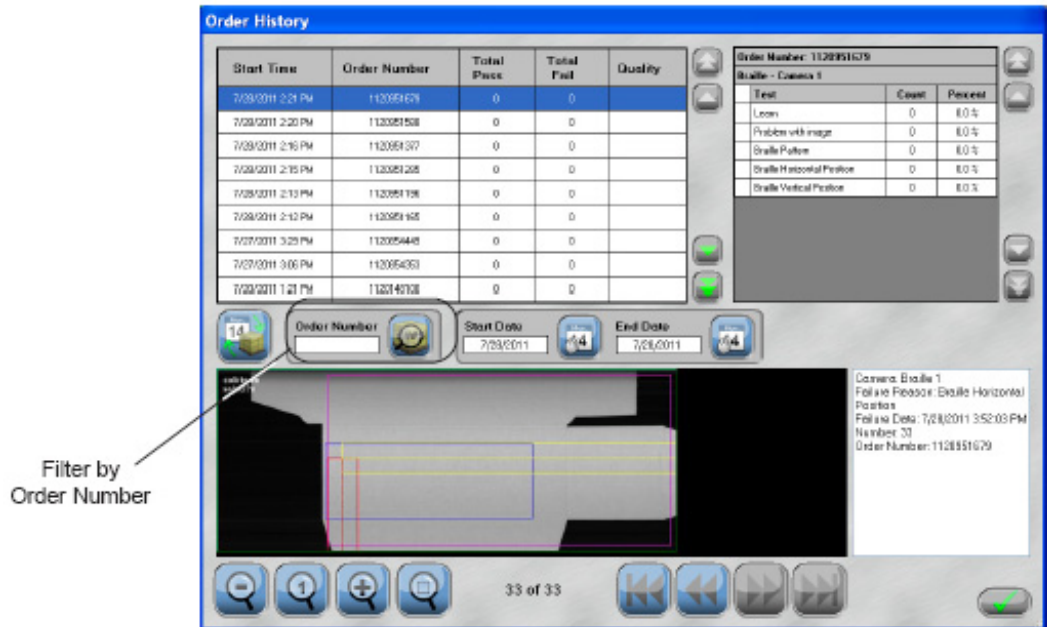


Failure Incidents Filtered by Date

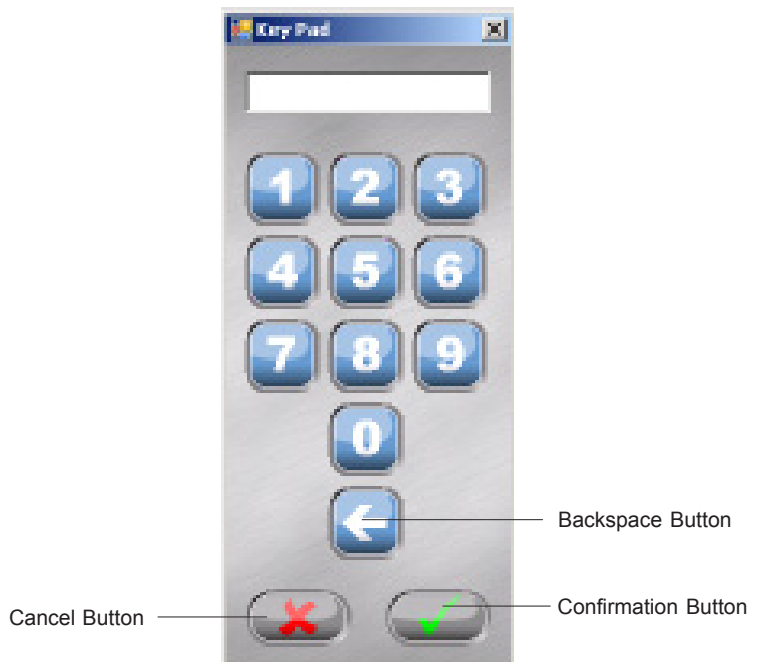
Filtering Failure Incidents by Order Number

1. Make sure the "Filter by Order Number" mode is selected.
2. Select the Order Number field  to open the Keypad.

a. Enter the order number and press the confirmation button.



Filter By Order Number




Keypad - Enlarged View

Filtering Failure Incidents by Order Number - Continued

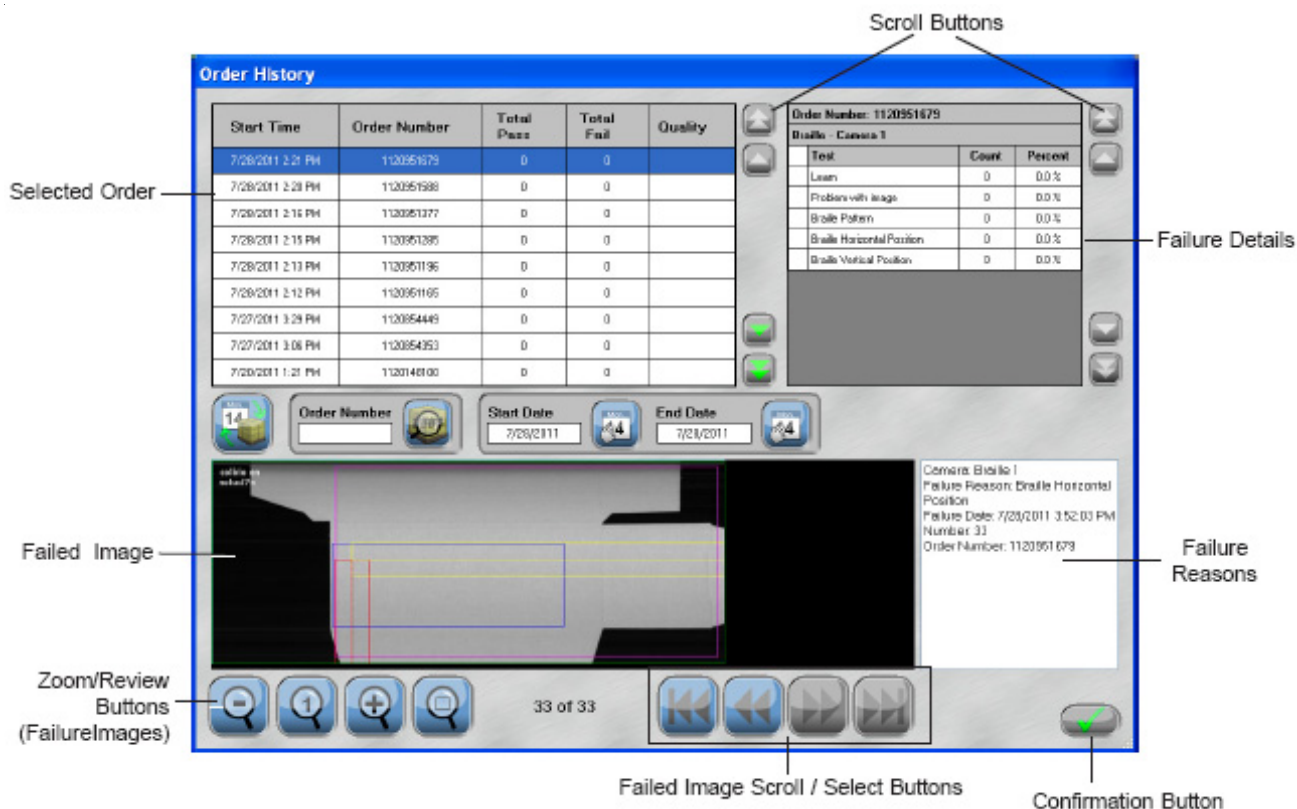
3. Press the Filter By Order Number Button .

- a. The most recent failure incident entry for that order number will be highlighted.
- b. Pressing the button again will highlight the next failure incident entry in the series for that order number.

4. When an entry is highlighted, the upper-right table displays the failure details, and the lower half of the window displays the failed images and reasons for failure.

 Selecting on an entry manually will also highlight it.


5. The failure details table displays the total number of failures for each test, and what percentage of all failures are represented by specific test failures types.

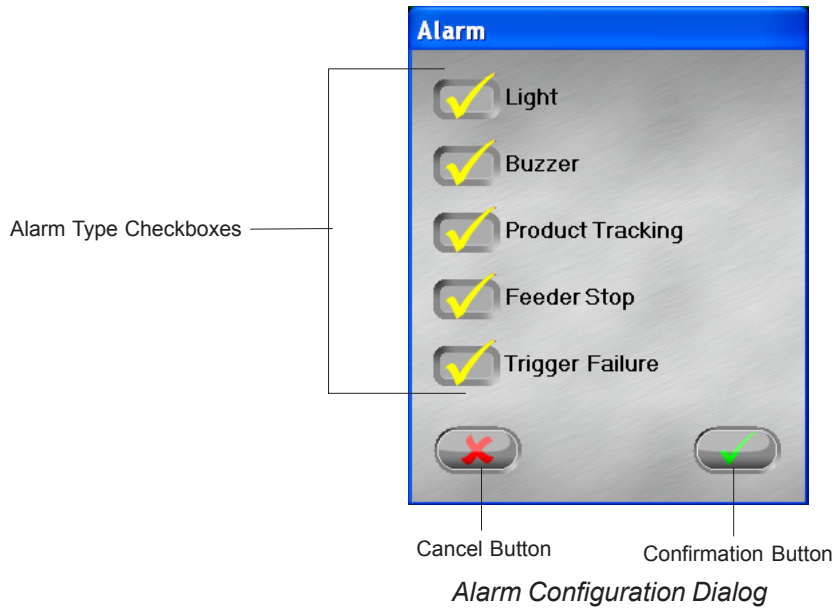



Selecting and Viewing a Failed Image Archive File

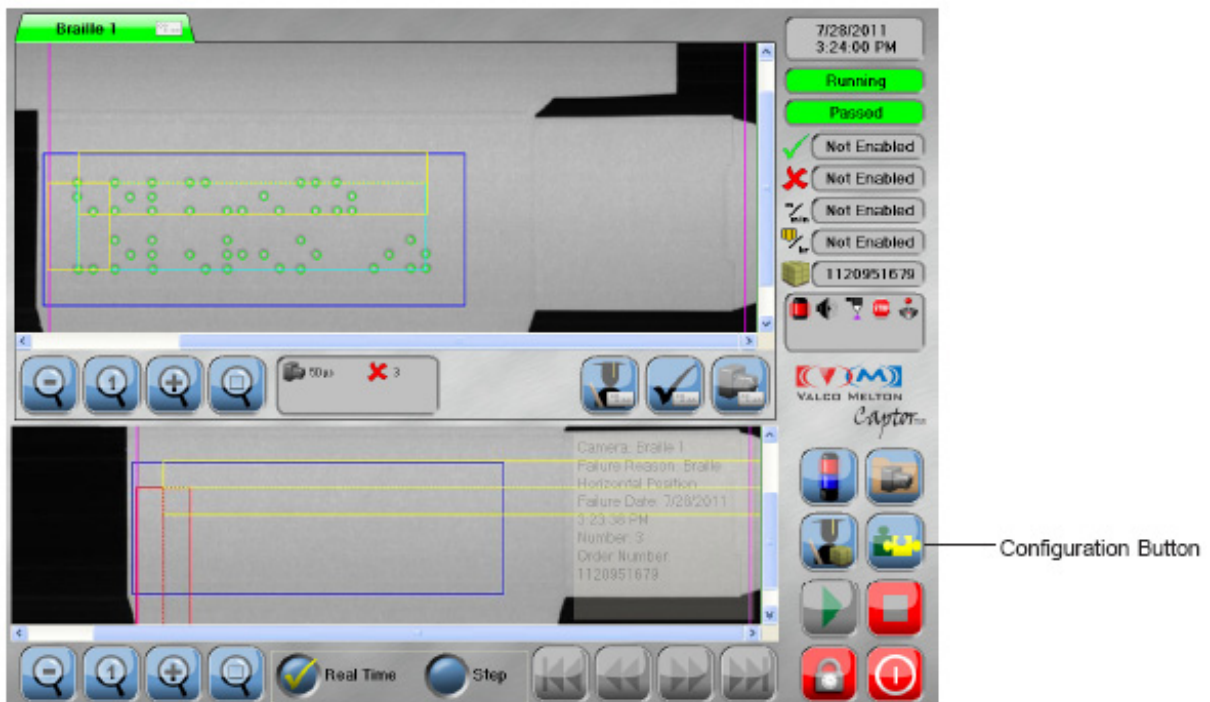
6. Press the Confirmation Button  to close the Order History Screen.

Alarm Selection/ Configuration

The Alarm Selection  Button opens the Alarm Selection Dialog. This Dialog has checkboxes to choose the light alarm, the buzzer alarm, and/or the marking valve to activate when an alarm is triggered. Press to check/ uncheck a box.



To configure the light alarm and/or the buzzer alarm, press the Configuration Button .



Light Alarm Settings Dialog - Continued

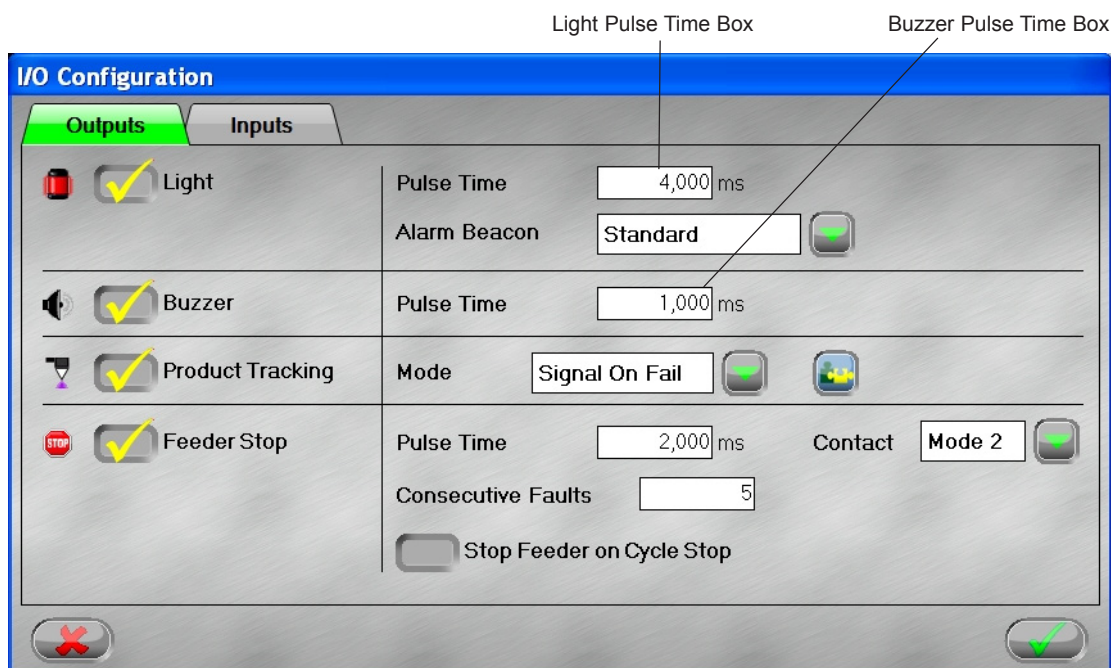
1. Press the I/O Configuration Button to open the I/O Configuration Dialog.



I/O Configuration Button on Configuration Dialog

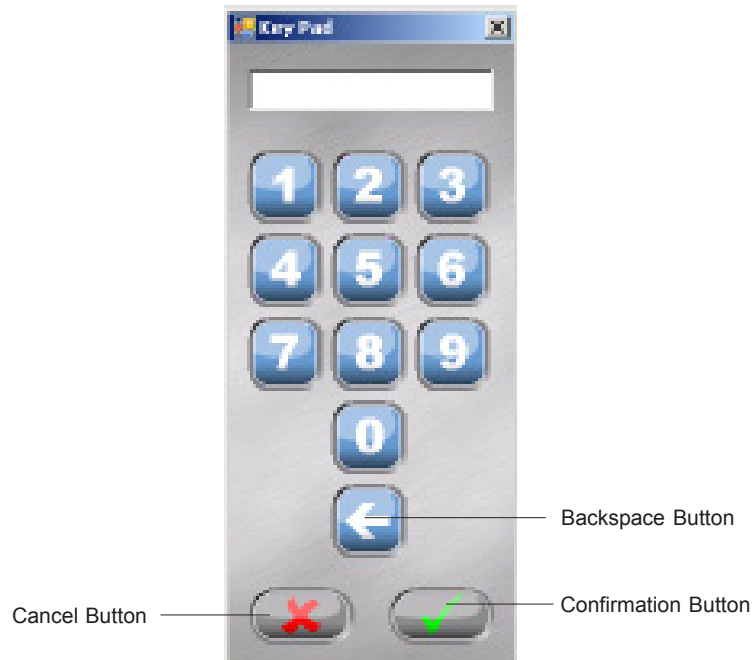
i The I/O Configuration Dialog includes two tabbed dialogs: "Inputs" and "Outputs."

2. Select the 'Outputs' dialog, and press the Pulse Time Box or Buzzer Pulse Time Box for a Keypad.









I/O Configuration Dialog - Output Tab


Light Alarm Settings Dialog -
Continued



Keypad - Enlarged View

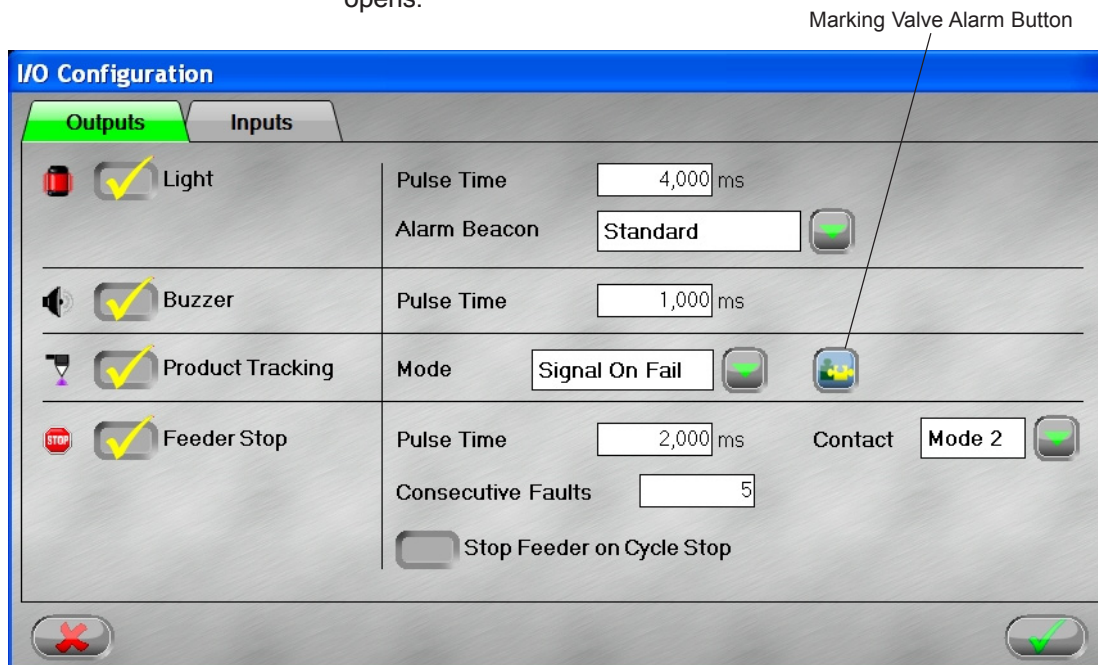
3. Enter the pulse time in milliseconds on the Keypad.
4. Press the Confirmation  Button on the Keypad to enter the changes. To cancel the operation, press the Cancel  Button.
5. If finished setting **all** desired I/O configurations, press the Confirmation  Button on the I/O Configuration Dialog for the changes to take effect. To cancel the operation, press the Cancel  Button. Otherwise, continue to set the other I/O configuration settings.
6. If finished setting **all** desired configurations, press the Confirmation  Button on the Configuration Dialog for the changes to take effect. To cancel the operation, press the Cancel  Button.

Marking Valve Alarm Settings Dialog

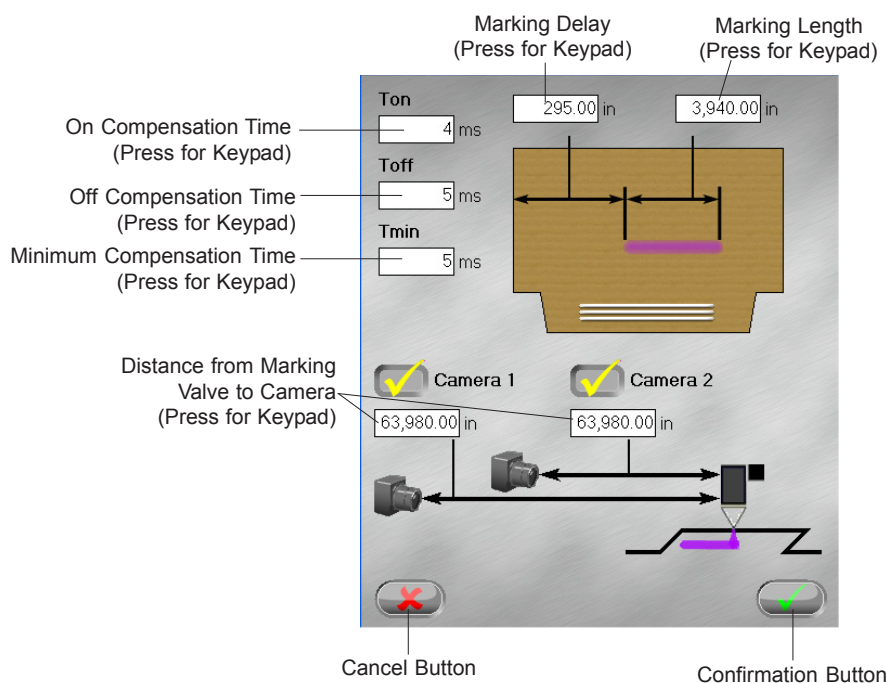
 Apply to ALL cameras.

To configure the marking valve alarm settings, do the following:

1. Click on the Marking Valve Alarm Button on the I/O Configuration (Outputs) Dialog. The Marking valve Alarm Settings Dialog opens.



I/O Configuration Dialog - Outputs

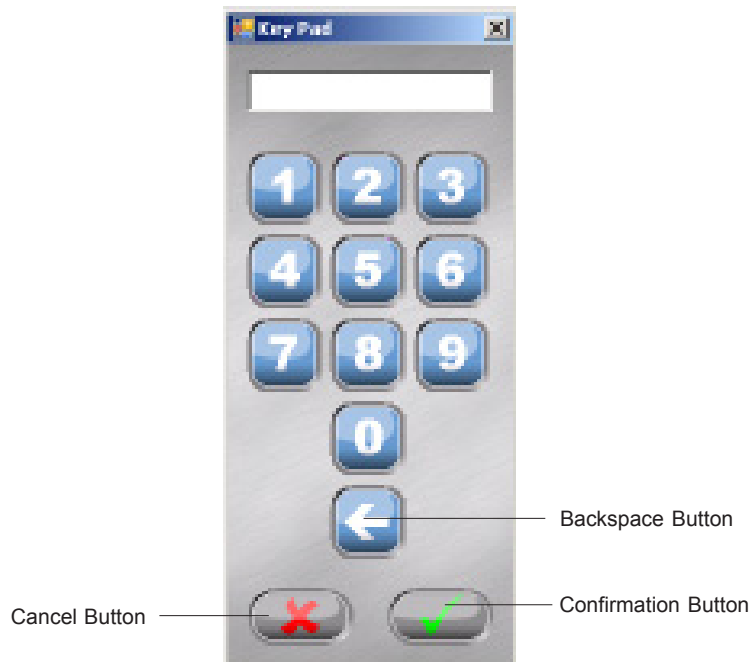


Marking valve Alarm Settings Dialog

Marking valve Alarm Settings
Dialog - Continued









Term	Use
Marking Delay Length	The distance (inches or mm, depending on unit setting) from the leading edge of the product to the start of the marking substance pattern.
Marking Length	The length (inches or mm, depending on unit setting) of the marking substance pattern.
Distance from the Marking Valve to the Camera	The length (inches or mm, depending on unit setting) from the marking valve to the camera.
On Compensation Time (Ton)	This is the amount of time (in milliseconds) from when the valve is activated to when the marking substance is applied. Increasing the "ON" Compensation Time will move the start of the pattern forward.
Off Compensation Time (Toff)	This is the amount of time (in milliseconds) from when the valve is turned off to when the marking substance application is stopped. Increasing the Off compensation time will make the marking substance application line shorter.
Minimum Compensation Time (Tmin)	This is the time the valve will be open, no matter how the pattern length, the machine speed, and the "OFF" Compensation Times are set.

2. Press any of the Boxes on the Marking valve Alarm Settings Dialog for a Keypad.



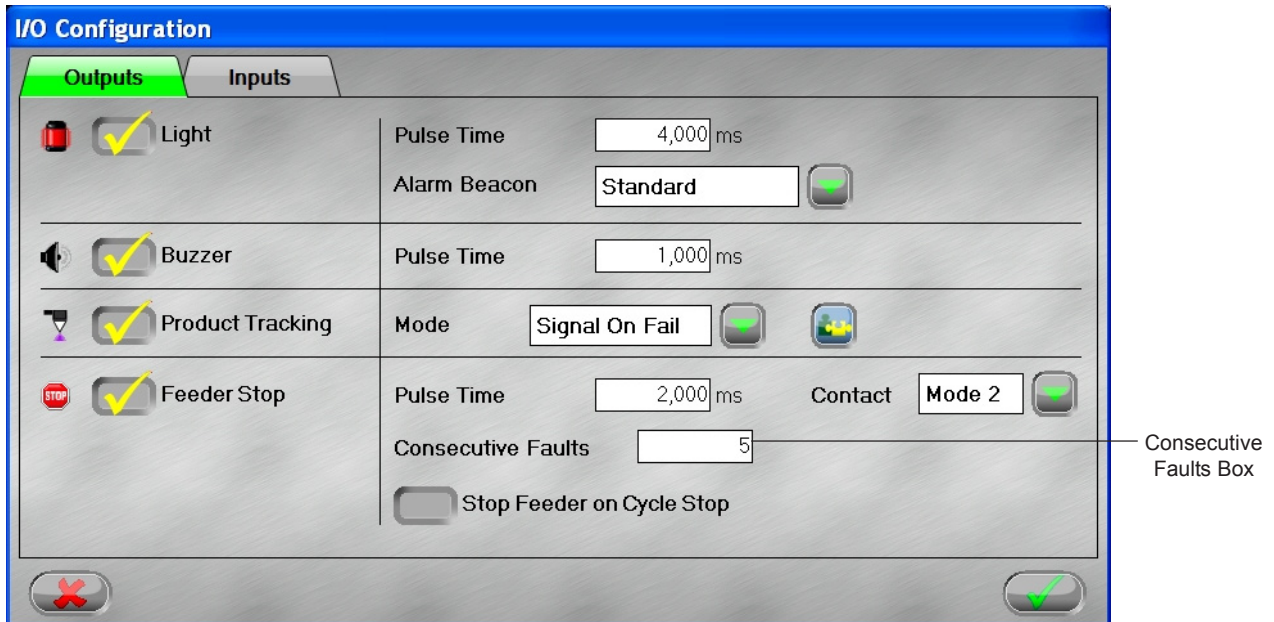
Keypad - Enlarged View

*Marking valve Alarm Settings
Dialog - Continued*

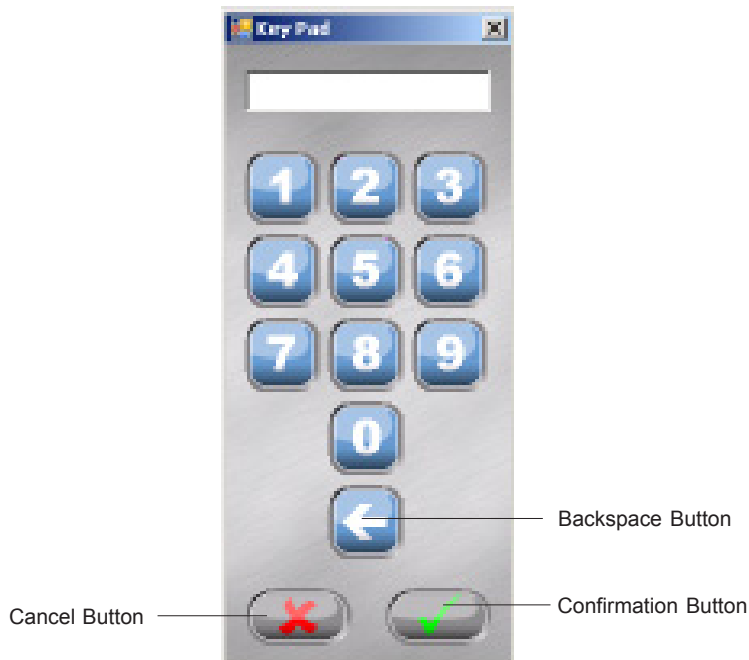
3. Press the Confirmation  Button on the Keypad to enter the changes. To cancel the operation, press the Cancel  Button.
4. Repeat Steps 2 and 3 to change the other settings, if desired.
5. Press the Confirmation  Button on the Marking valve Alarm Settings Dialog to save the changes. To cancel, press the Cancel  Button.
6. If finished setting **all** desired I/O configurations, press the Confirmation  Button on the I/O Configuration Dialog for the changes to take effect. To cancel the operation, press the Cancel  Button. Otherwise, continue to set the other I/O configuration settings.
7. If finished setting **all** desired configurations, press the Confirmation  Button on the Configuration Dialog for the changes to take effect. To cancel the operation, press the Cancel  Button.

Feeder Stop Alarm Settings Dialog

1. Press the Consecutive Faults Box on the I/O Configuration (Outputs) Dialog for a Keypad.









I/O Configuration Dialog - Outputs



Keypad - Enlarged View

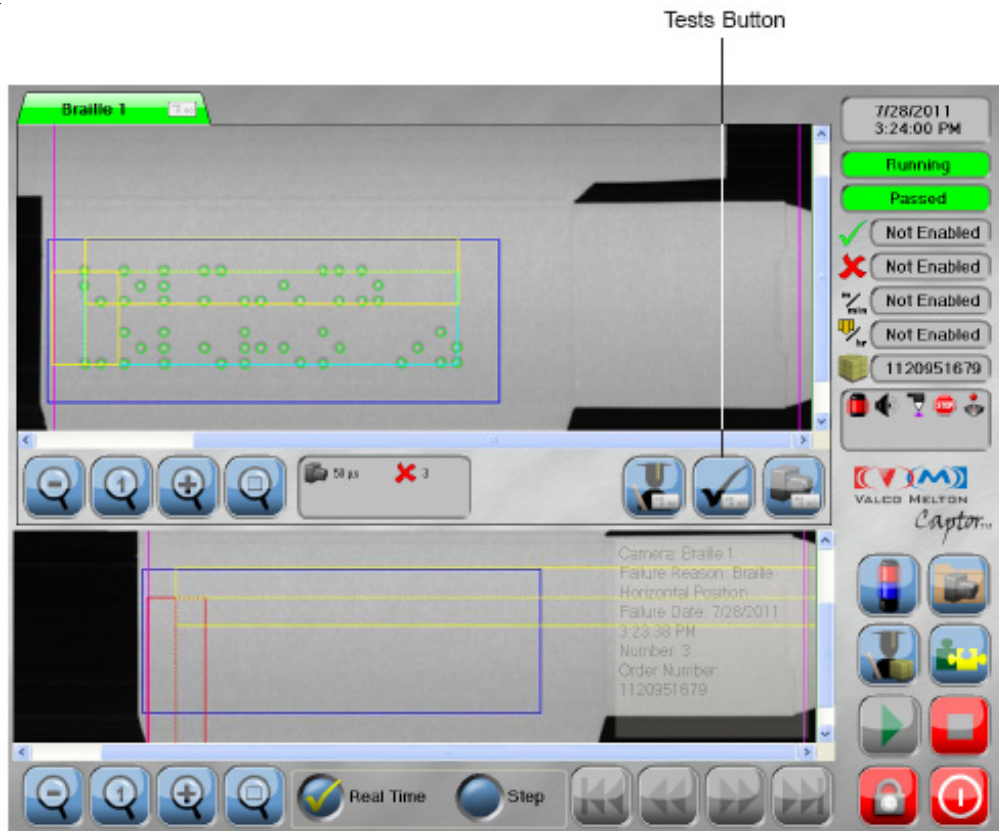
Feeder Stop Alarm Settings Dialog
- Continued

3. Enter the maximum number of consecutive faults you want on the Keypad.
4. Press the Confirmation  Button on the Keypad to enter the changes. To cancel the operation, press the Cancel  Button.
6. If finished setting **all** desired I/O configurations, press the Confirmation  Button on the I/O Configuration Dialog for the changes to take effect. To cancel the operation, press the Cancel  Button. Otherwise, continue to set the other I/O configuration settings.
7. If finished setting **all** desired configurations, press the Confirmation  Button on the Configuration Dialog for the changes to take effect. To cancel the operation, press the Cancel  Button.



Box Inspection Camera

Test parameters are used by the Captor to compare learned products against the products tested for faults. If an inspected product is out of a specified parameter range (as compared with learned products), the inspected product will fail. To set the test parameters, do the following:

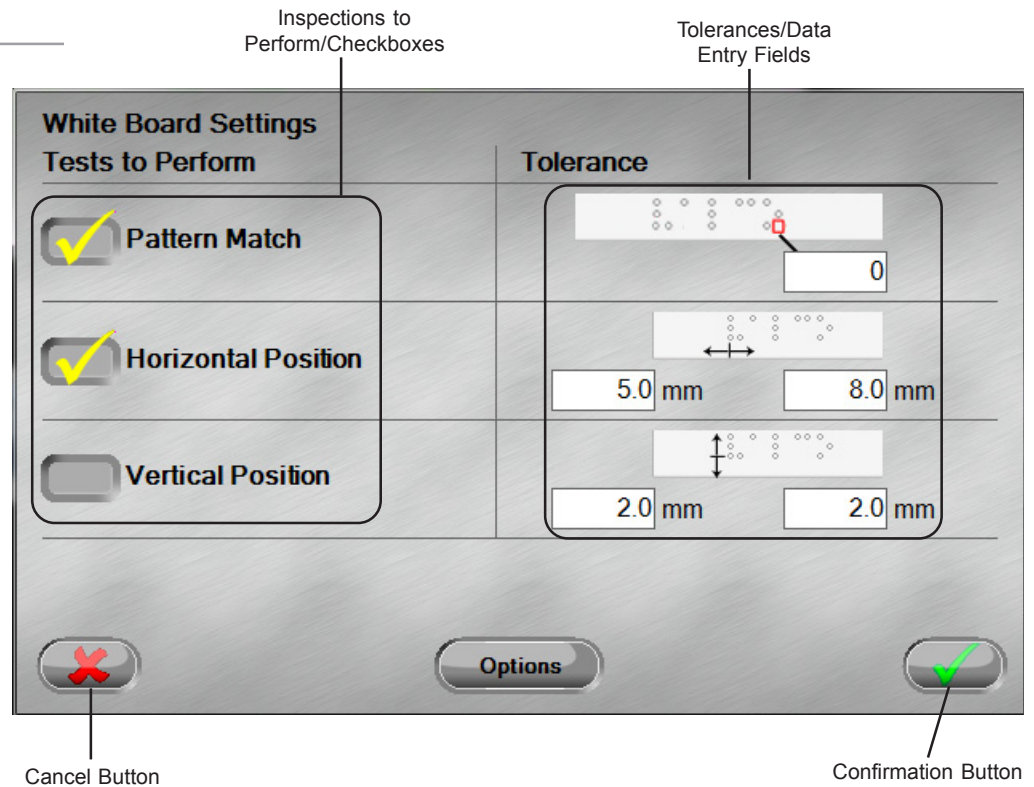
1. Press the Tests Button  to open the Tests Dialog.





Tests Button on the Viewscreen

2. In the “Tests to Perform” column, press the appropriate checkboxes to check/uncheck inspections to be performed. Only the tests with checkmarks beside them will be performed.
3. Select the Data Entry fields in the “Tolerance” column to open a Keypad.
4. Enter the desired tolerance setting on the Keypad.
5. Press the Confirmation  Button on the Keypad to enter the changes. To cancel the operation, press the Cancel  Button.

Box Inspection Camera -
Continued



Inspection Parameters Dialog

6. Repeat steps 3 through 5 until all desired tolerance settings are entered.
7. Press the Confirmation  Button on the Inspection Parameters Dialog to save the changes. To cancel, press the Cancel  Button.

SECTION 5 - CUSTOMIZE SETTINGS

Configuration Setting

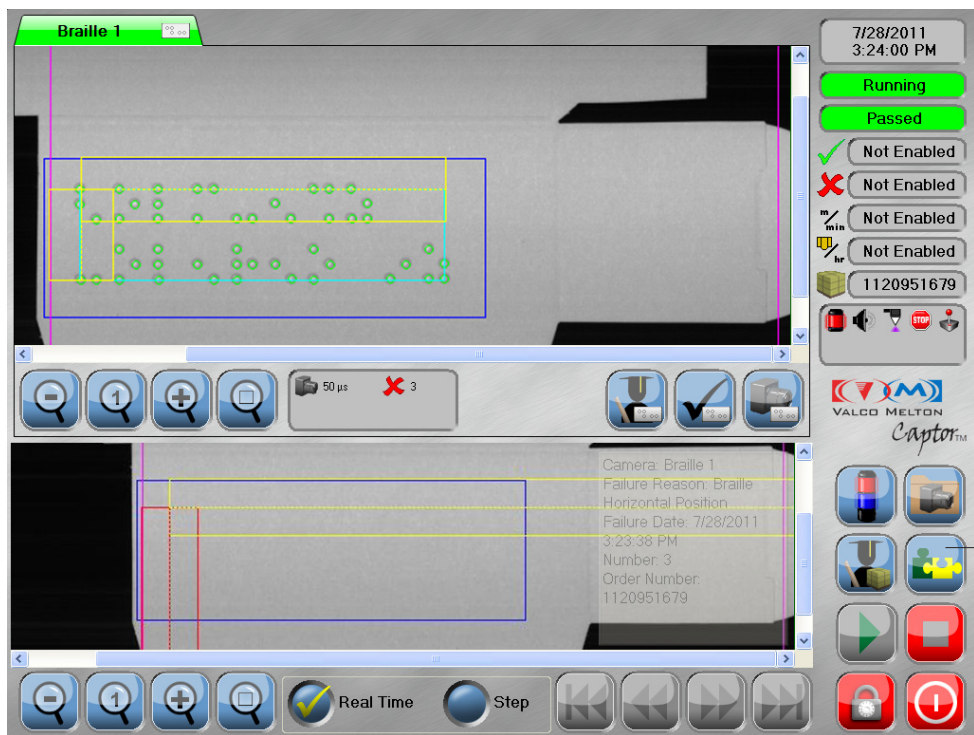
The Captor™ Inspection System allows client-specific customization with higher access passwords.

Caution!



It is highly advised that customization changes only be done by an authorized Valco Melton Technician. Otherwise the unit may not work properly and lost production time will result.

To open the Configuration Dialog, press the Configuration Button.




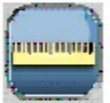













Configuration Setting - Continued





Confirmation Button
Configuration Dialog

To close the Configuration Dialog, press the Confirmation Button.

Configuration Setting Buttons

Configuration Dialog Button	Symbol	Use
Encoder Configuration Button		Press to open the Encoder Configuration Dialog (encoder pulses and distance settings)
Unit Configuration Button		Press to open the Unit Configuration Dialog (Imperial or Metric settings)
Image Configuration Button		Press to open the Image Configuration Dialog (width, length, and offset settings)
Image Logging Configuration Button		Press to open the Image Logging Configuration Dialog
Language Configuration Button		Press to open the Language Configuration Dialog (set unit language)
Button Configuration Button		Press to open the Button Configuration Dialog (password levels for buttons)
Learn Configuration Button		Press to open the Learn Configuration Dialog (learn settings)
Internal Communication Port Configuration Button		Press to open the Internal Communication Port Configuration Dialog (communication port settings)
Parameter Configuration Button		Press to open the Parameter Configuration Dialog Caution: Only Valco Melton Technicians should change parameter settings. Otherwise undesirable results may occur. 
Event Viewer		Press to Open the Event Viewer Log (not available to Level 0)
I/O Configuration		Press to Open the I/O Configuration Dialog
Order Configuration		Press to Open the Order Configuration Dialog
Simulator		Press to Open the Simulator Dialog
Downtime		Press to open the Downtime Configuration Dialog

Encoder Configuration

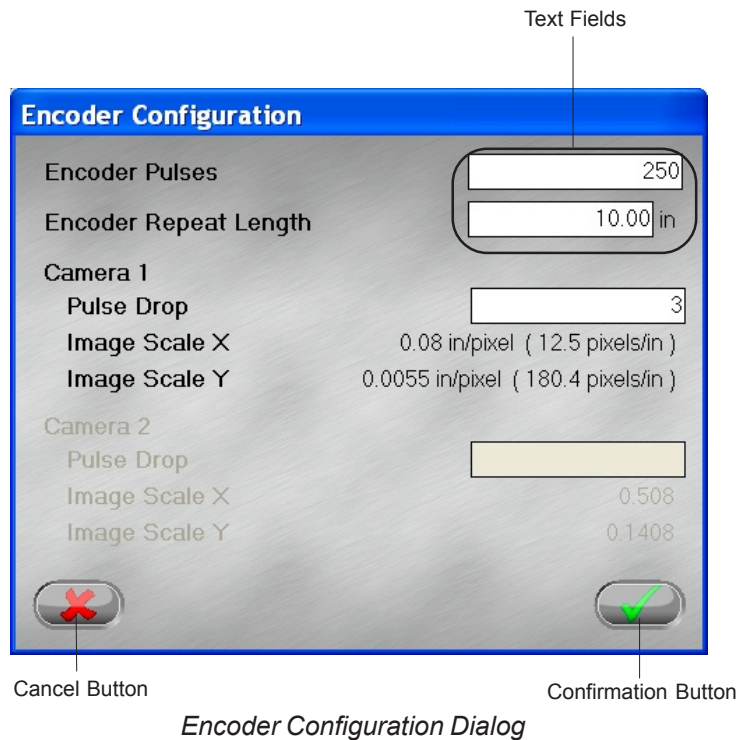
The Encoder Configuration Button  opens the Encoder Configuration Dialog. Press on a text field to open a keypad and enter information. Press the Confirmation Button  for the changes to take effect.

Information to edit on the Encoder Configuration Dialog includes:




- The number of encoder pulses per revolution
- The encoder repeat length
- Pulse Drop (Cameras 1 & 2)

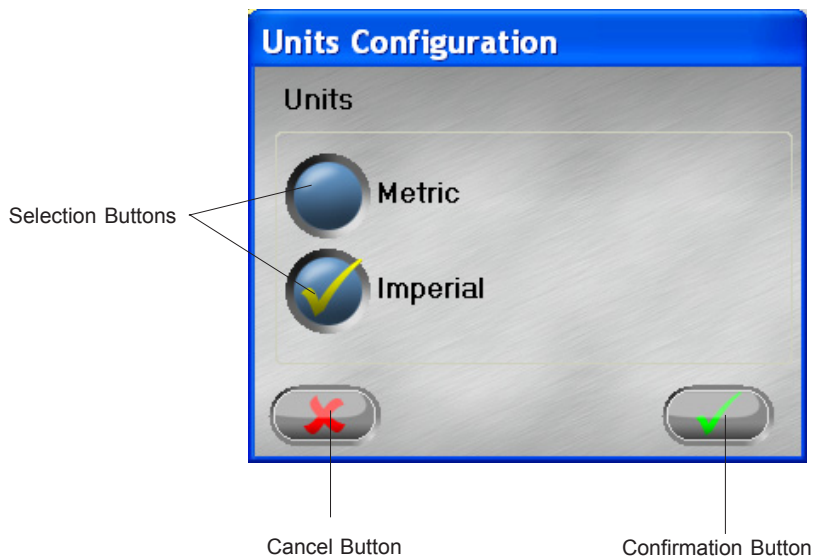
The dialog also shows the Image Scales for X and Y.

To cancel the operation, press the Cancel Button  .




Unit of Measure Configuration



The Unit Configuration Button  opens the Units Configuration Dialog. This Dialog has selection buttons to choose between Metric Units and Imperial Units. Press to check/uncheck a button. Press the Confirmation Button  for the changes to take effect. To cancel the operation, press the Cancel Button .

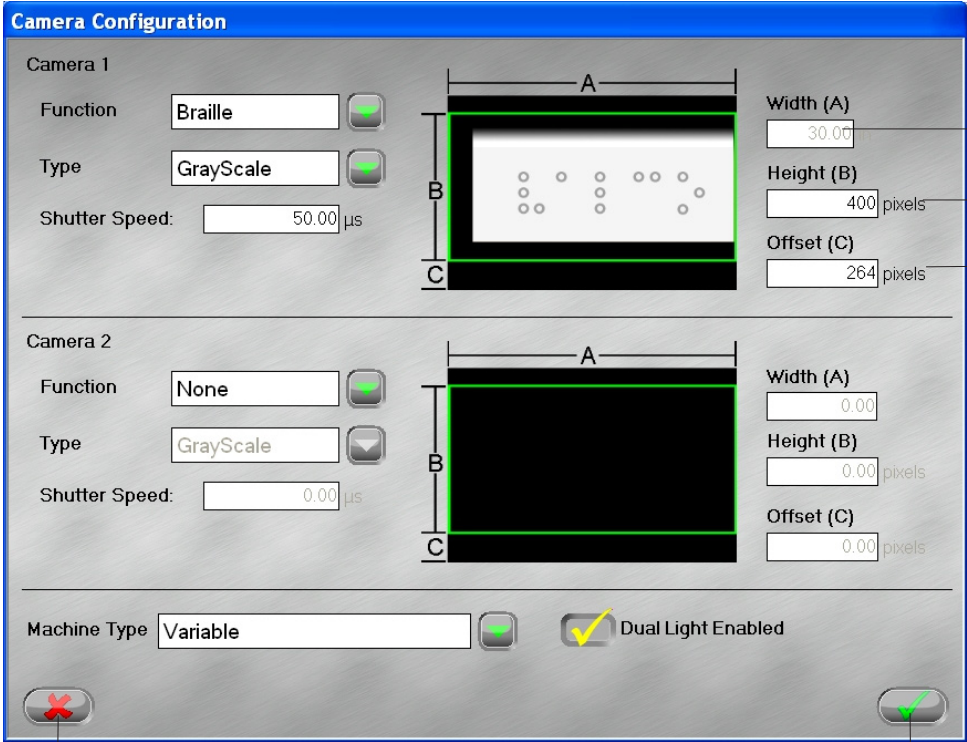


Units Configuration Dialog

Image Configuration

The Camera Configuration Button  opens the Camera Configuration Dialog. Press a text field to open a keypad and input the desired settings. The green outline around the image provides a visual representation of the settings.


Press the Confirmation Button  for the changes to take effect. To cancel the operation, press the Cancel Button .



The screenshot shows the 'Camera Configuration' dialog box. It is divided into two sections: 'Camera 1' and 'Camera 2'.
Camera 1:
 - Function: Braille (with a green checkmark icon)
 - Type: GrayScale (with a green checkmark icon)
 - Shutter Speed: 50.00 μs
 - A central image shows a Braille character 'A' with a green rectangular outline. Dimensions A, B, and C are indicated with arrows.
 - Width (A): 30.00
 - Height (B): 400 pixels
 - Offset (C): 264 pixels
Camera 2:
 - Function: None (with a green checkmark icon)
 - Type: GrayScale (with a dropdown arrow icon)
 - Shutter Speed: 0.00 μs
 - A central image shows a black area with a green rectangular outline. Dimensions A, B, and C are indicated with arrows.
 - Width (A): 0.00
 - Height (B): 0.00 pixels
 - Offset (C): 0.00 pixels
Machine Type: Variable (with a green checkmark icon)
 - Dual Light Enabled: (with a yellow checkmark icon)
 At the bottom, there is a 'Cancel Button' (red X icon) on the left and a 'Confirmation Button' (green checkmark icon) on the right. A bracket on the right side of the dialog points to the 'Width (A)', 'Height (B)', and 'Offset (C)' text fields, labeled 'Text Fields'.

Camera Configuration Dialog

Image Logging Configuration

The Image Logging Configuration Button  opens the Image Logging Configuration Dialog. This Dialog has buttons to choose what images will be saved to the memory.

Caution!



The images that are logged are Bitmaps, which are large files. It is best to check “failures only” or “never” depending on the advice of Valco Melton personnel. Otherwise, undesirable results may occur.





Press to check/uncheck a button. Press the Confirmation Button  for the changes to take effect. To cancel the operation, press the Cancel Button .

Image Logging Configuration

Log Image

- Always
- During Learn
- Failures Only
- White Board Failures Only
- Periodic
- Never

Periodic Interval






 *Image Logging Configuration Dialog* 

Images to Log Buttons

Cancel Button

Confirmation Button


Language Configuration

The Language Configuration Button  opens the Language Configuration Dialog. This Dialog shows a list of available languages. To configure the language, find the desired language in the list, using the scroll down arrows  and/or the scroll up arrows  if necessary. Highlight the desired language in the list by pressing it. Press the Confirmation Button  for the changes to take effect. To cancel the operation, press the Cancel Button .



Language Configuration Dialog

Button Configuration

The Button Configuration Button (“User Access”)  opens the Button Configuration Dialog. This Dialog lists the names of all of the buttons on the Captor.



On the right side of this list are editable boxes for each Password Level.

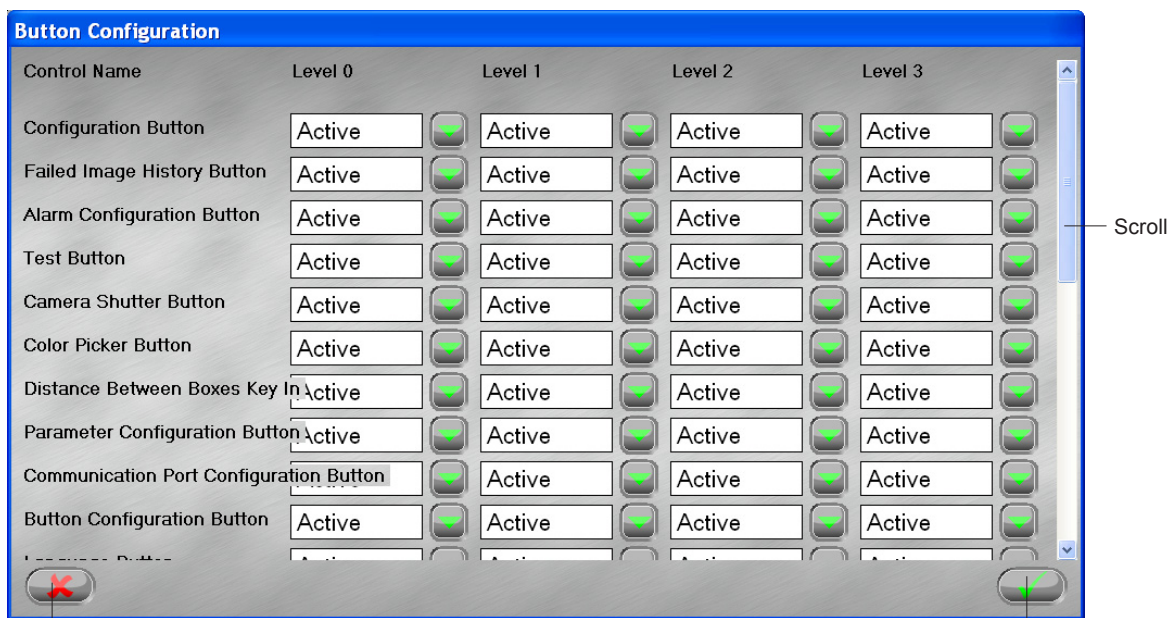
Press a Dropdown Menu Arrow Button  to see a dropdown menu. Press on “Show Only,” “Hide,” or “Active” as needed.

Show Only - The button appears on the viewscreen but cannot be used.

Hide - The button does not show on the viewscreen.

Active - The button appears on the viewscreen and is fully functional.

Press the Confirmation  Button for the changes to take effect. To cancel the operation, press the Cancel  Button.



Cancel Button

Button Configuration Dialog.

Confirmation Button

Learn Configuration

The Learn Configuration Button



opens the Learn Configuration Dialog.


Text Fields and Checkboxes (See the following page for details)

Learn Configuration


Number of Products to Ignore During New Order

Fail Ignored Products

Standard Learn

 Number of Products to Learn
(recommend >= 2) Brown = 2 Retry After

White Glue on White Board

 Number of Products to Learn
Stage 1
(recommend >= 10) Stage 2
(recommend >= 2) White = 11 Retry After

Fail Learned Products

Number of Times To Retry Learn

Cancel Button

Confirmation Button

Learn Configuration Dialog

Learn Configuration - Continued

Number of Products to Ignore During New Order - This is the number of products the unit will ignore (not learn) when a new order is started. Select a Text field for a Numerical Keypad to set the value.

Fail Ignored Products Checkbox - Press to check/uncheck. When checked, all ignored products are considered “failed products.”

Brown Board Learn - Number of Products to Learn - This is the number of products the unit will use to learn parameters for the job. Future products will be tested against these parameters for the duration of the job. Select a Text field for a Numerical Keypad to set the value.

Brown Board Learn - Retry After - If the learn is struggling, add more boxes to get a good learn. If the number of products reaches the number of products to reset learn, then the learn is reset back to 0 and the box data collected is thrown out. Select a Text field for a Numerical Keypad to set the value.



White Board Learn - Number of Products to Learn - Stage 1 -Stage 1 is learning how to find the glue on a white board.

White Board Learn - Number of Products to Learn - Stage 2 - Stage 2 is learning where the glue should be on a white board.





White Board Learn - Retry After - If the learn is struggling, add more boxes to get a good learn. If the number of products reaches the number of products to reset learn, then the learn is reset back to 0 and the box data collected is thrown out. Select a Text field for a Numerical Keypad to set the value.

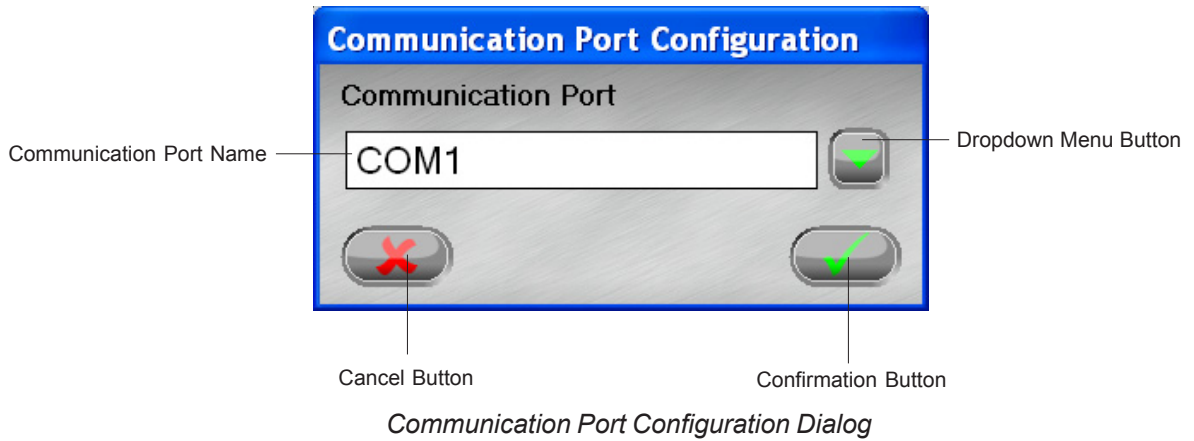
Fail Learned Products Checkbox - Press to check/uncheck. When checked, the products used to learn parameters are considered “failed products.”

Number of Times to Retry Learn - If the learn is not successful after the “retry after” boards, the unit will clear out all learned boxes and start over trying to learn up to this many times.

Press the Confirmation  Button for the changes to take effect. To cancel the operation, press the Cancel  Button.

**Internal Communication
Port Configuration**

The Internal Communication Port Configuration Button  opens the Internal Communication Port Configuration Dialog. This Dialog shows the name of the communication port. To change the communication port, press on the Dropdown Menu Button  to scroll through the names of the communication ports. Press on the desired communication port name and then press the Confirmation Button . To cancel, press the Cancel Button .



Parameter Configuration

Caution:



Only Valco Melton Technicians should change parameter settings. Otherwise, undesirable results may occur.

The Parameter Configuration Button  opens the Parameter




Configuration Dialog. This dialog lists the parameter index, description, current value, default value, minimum value, and maximum value.


Current Value Column
(Press for Keypad)


Jump to Top of the List


Vision Parameters

Index	Parameter Description	Value	Default	Minimum	Maximum
0x600001	algorithmSelection (OVERRIDDEN) - Brown = 0; White Edge = 1; White Contrast = 5	0	0	0	5
0x60000E	debugLevel - Debug level for video overlays etc.	0	0	0	999999
0x60000D	learnLevel (OVERRIDDEN) - Current learn level passed from the GUI	0	0	0	999999
0x600002	rowDecimation - Number of rows to skip after each row for decimation	0	0	0	7
0x600003	colDecimation - Number of cols to skip after each col for decimation	0	0	0	7
0x600004	contrastEnhancement - Pixels per thousand to saturate (0 to disable)	5	5	0	1000
0x600005	darkPixelValue - The level at which a pixel is considered to be dark	64	64	0	255
0x600006	backgroundLeftCols - Number of background columns to sample on the left	0	0	0	999999
0x600007	backgroundRightCols - Number of background columns to sample on the right	10	10	0	999999
0x600008	backgroundLowerRows - Percentage of lower rows used to find board sides	60	60	0	100
0x600009	backgroundColThresh - Column threshold to separate board from background	200000	200000	0	999999
0x60000C	boardUpperRow - Uppermost valid row of the board	10	10	0	999999
0x60000A	minBoardRoIRows - Minimum allowable board ROI height (in pixels)	20	20	0	999999
0x60000B	minBoardRoICols - Minimum allowable board ROI width (in pixels)	20	20	0	999999
0x61000D	brownGlueZoneHeight - Height of center glue zone (0 to disable)	0	0	0	999999
0x61001A	brownGlueZoneCenter - Center image row of glue zone (0 to use image center)	0	0	0	999999
0x610001	brownBoardThreshA - Brown board threshold (size of averaging filter)	16	16	0	999999
0x610002	brownBoardThreshB - Brown board threshold (percentage drop trigger)	4	4	0	999999
0x610003	brownBoardThreshC - Brown board threshold (threshold additive offset)	20	25	0	255

 Cancel Button
 Set Defaults Button
 Confirmation Button

Scroll Up 



Scroll Down 

Jump to Bottom of the List 

Yellow Value = Different from Default Value




Parameter Configuration Dialog

To configure a parameter value, find the desired parameter in the list, using




the scroll down arrows  and/or the scroll up arrows  if necessary.

Press on the Current Value of the parameter for a Keypad.


Parameter Configuration - Continued

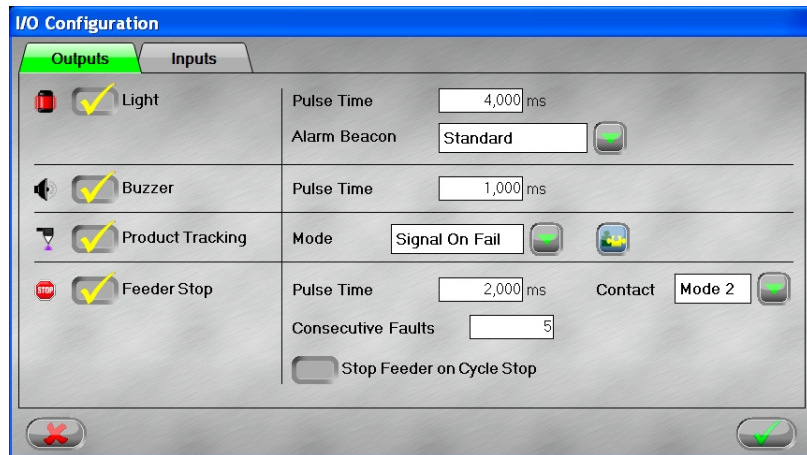
Enter the desired value on the Keypad and press the Confirmation Button  on the Keypad. Press the Confirmation Button  on the Parameter Configuration Dialog to save changes. To cancel, press the Cancel Button .

If a current value is different from a default value, the background of the different current value will be yellow. The background of the current values that match the default values will be white.

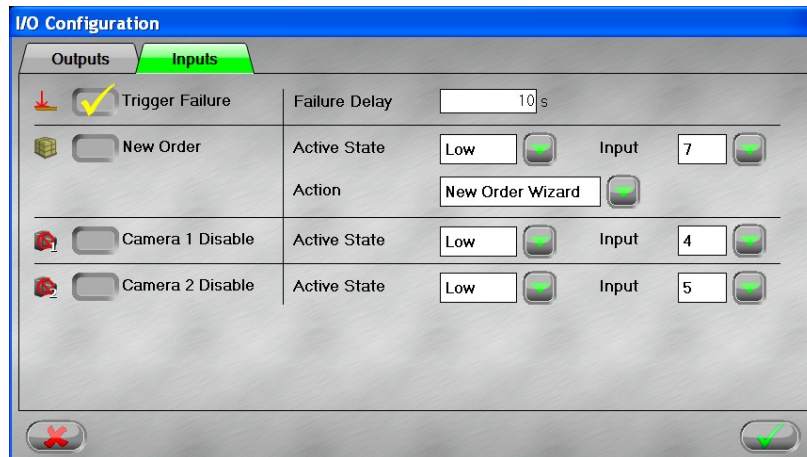
To reset all parameter values to the default value settings, press the Set Defaults Button . Press the Confirmation Button  on the Parameter Configuration Dialog to save changes. To cancel, press the Cancel Button .

I/O Configurations

The I/O Configuration Button  opens the I/O Configuration Dialog. This Dialog shows Input and Output configuration options in separate, tagged screens:



Outputs Dialog Screen



Inputs Dialog Screen


I/O Configurations - Continued

Outputs	Configurations
Light Alarm	Pulse Time (in milliseconds)
Buzzer Alarm	Pulse Time (in milliseconds)
Product Tracking	Mode (Signal on Fail/Pass)
Feeder Stop	Pulse Time (in milliseconds) Contact Mode (1 or 2) Consecutive Number of Faults Stop Feeder on Cycle Stop (check box)
Inputs	Configurations
Trigger Failure	Failure Delay (seconds)
New Order	Active State (Low/High) Input (# from 2-7)
Camera 1 Disable	Active State (Low/High) Input (# from 2-7)
Camera 2 Disable (If Used)	Active State (Low/High) Input (# from 2-7)

Press the Confirmation Button . To cancel, press the Cancel Button



Order Configurations

The Order Configuration Button  opens the Order Configuration Dialog.

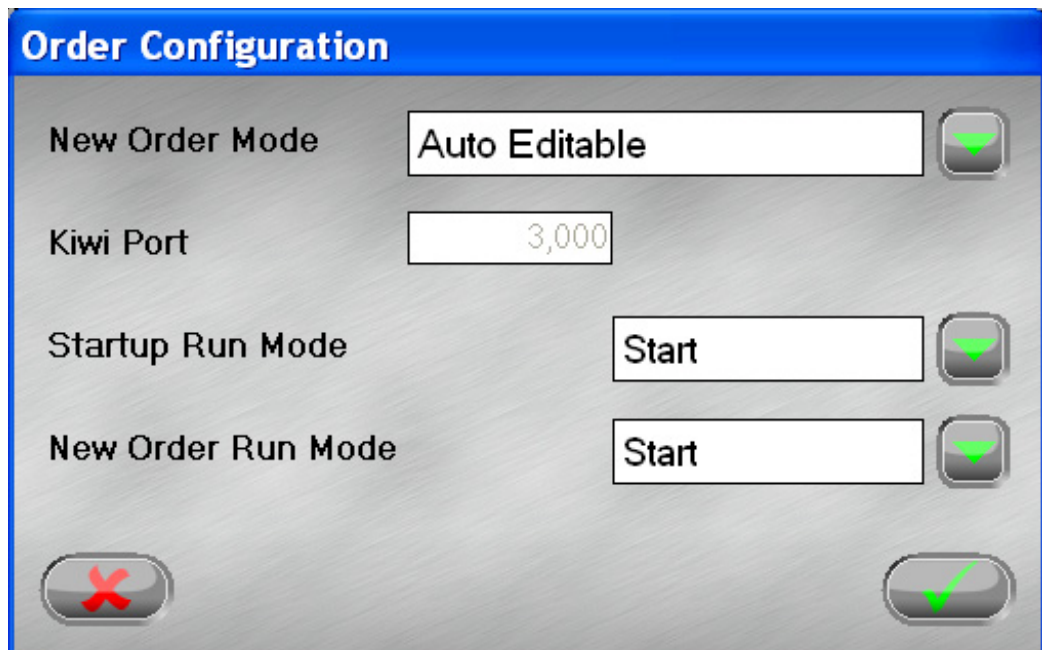
This Dialog Allows configuration changes:

New Order Mode: User Required/Auto Editable/Auto Restricted/
Kiwi Editable/Kiwi Restricted

Kiwi Port: Number (only if in Kiwi Editable or Restricted mode)

Startup Run Mode: Start/Stop


New Order Run Mode: Start/Stop



Press the Confirmation Button . To cancel, press the Cancel Button



Downtimes Configurations

The Downtimes Button  opens the Downtimes Dialog. This Dialog allows the monitoring of machine downtimes, and the option of monitoring reasons for downtime incidents, as specified by the customer.

Selected reason highlighted in yellow



Logging Enable Checkbox

Downtime Configuration

Logging Enable

Require Reason



Trigger Time min

Monitor

Machine Speed

Production Rate

 Downtime History

Code	Reason	
1	01-Setup	
2	02-Jam at Counter Ejector	
3	03-Jam at Lead Edge Feed	
4	04-Jam at Prefeeder	
5	05-Washing Printing Plates	
6	06-Jam in Folding Rails	
7	07-Tier	
8	08-Load Former	
9	09-Preventive Maintenance	
10	10-End of Shift Clean	
11	11-End of Week Clean	

 Import Downtime Reasons  Export Downtime Reasons

Clicking on 'Logging Enable' activates this function. 'Require Reason' is active as default, but may be disabled by clicking on it.

Options include monitoring either Machine Speed or Production Rate, importing or exporting reasons for downtime, viewing the downtime history, or editing reasons.

To edit a reason, select it on the screen. The selection will be highlighted in yellow, and a keyboard for editing will open.

Downtimes Configurations - Continued

Downtime Configuration

Logging Enable

Require Reason

Trigger Time: min

Monitor

Machine Speed

Production Rate


Code	Reason
1	01-Setup
2	02-Jam at Counter Ejector
3	03-Jam at Lead Edge Feed
4	04-Jam at Prefeeder
5	05-Washing Printing Plates
6	06-Jam in Folding Rails
7	07-Tier
8	08-Load Former

Keyboard

Downtime:

Cancel (X) Confirm (checkmark)

Make desired changes and then press Confirm to close the keyboard and enter changes, or press Cancel to close the keyboard and abandon the changes.

 When a Downtime event does occur, a dialog appears, alerting the Operator and asking the Operator to select a reason from the list.


Downtime Event

A Downtime event has occurred. Please select the reason from the list below.

Code	Reason
-1	Unknown
1	Setup
2	Jam at Counter Ejector
3	Jam at Lead Edge Feed
4	Jam at Prefeeder
5	Washing Printing Plates
6	Jam in Folding Rails
7	Tier
8	Load Former
9	Preventive Maintenance
10	End of Shift Clean
11	End of Week Clean
12	Waiting on Product
13	Unscheduled Maintenance
14	Circles
15	Break
16	Lunch
17	Questions on Order
18	Power Outage

Confirm (checkmark)

Downtimes Configurations - Continued

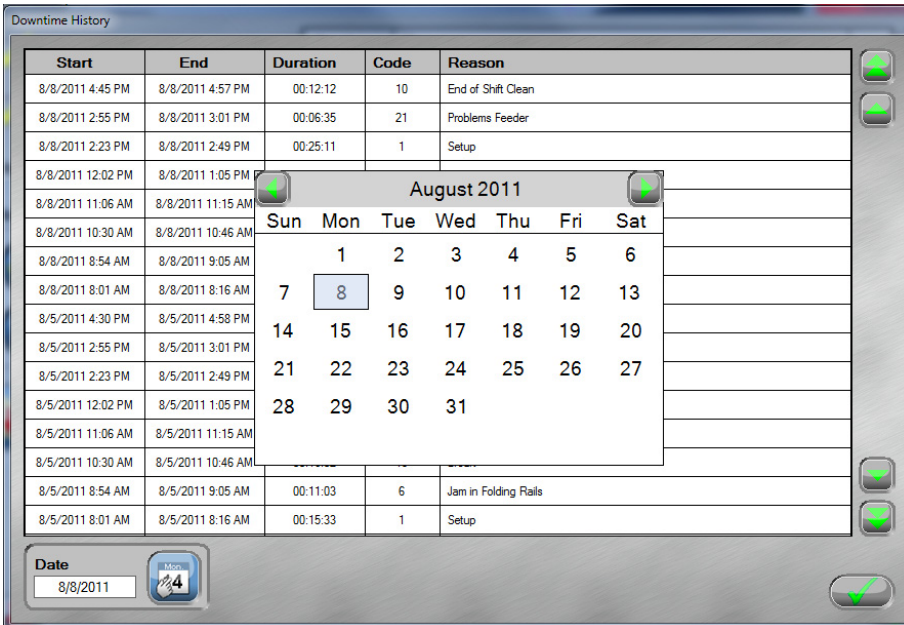
Pressing the Downtime History button  opens the Downtime History screen. This dialog shows all recorded downtime incidents, and also allows the programmer to set/reset the date via the 'Date' button. Pressing this button opens a calendar dialog for date selection.



The screenshot shows the 'Downtime History' dialog with a table of incidents. At the bottom, there is a 'Date' field showing '3/7/2012' and a calendar icon. An arrow labeled 'Date Button' points to the calendar icon.

Start	End	Duration	Code	Reason
8/22/2011 1:35 PM	8/22/2011 1:54 PM	00:19:00	5	Washing Printing Plates
8/18/2011 10:39 AM	8/18/2011 11:08 AM	00:28:52	1	Setup
8/18/2011 8:20 AM	8/18/2011 8:23 AM	00:02:41	15	Break
8/18/2011 8:17 AM	8/18/2011 8:20 AM	00:02:19	38	Safety Training
8/18/2011 8:04 AM	8/18/2011 8:17 AM	00:12:34	7	Tier
8/17/2011 4:51 PM	8/17/2011 4:59 PM	00:07:50	1	Setup
8/17/2011 3:36 PM	8/17/2011 3:39 PM	00:02:28	13	Unscheduled Maintenance
8/17/2011 3:06 PM	8/17/2011 3:10 PM	00:04:13	15	Break
8/17/2011 2:34 PM	8/17/2011 2:45 PM	00:10:49	11	End of Week Clean
8/17/2011 11:52 AM	8/17/2011 11:54 AM	00:02:25	18	Power Outage
8/17/2011 11:02 AM	8/17/2011 11:11 AM	00:08:58	1	Setup
8/17/2011 10:36 AM	8/17/2011 10:39 AM	00:02:59	12	Waiting on Product
8/17/2011 9:55 AM	8/17/2011 9:58 AM	00:02:46	15	Break
8/16/2011 3:43 PM	8/16/2011 3:56 PM	00:13:00	11	End of Week Clean
8/16/2011 1:30 PM	8/16/2011 1:40 PM	00:09:25	1	Setup
8/16/2011 1:07 PM	8/16/2011 1:09 PM	00:02:12	16	Lunch

Clicking on a date closes the Calendar dialog and enters the chosen date.



The screenshot shows the 'Downtime History' dialog with a calendar overlay for August 2011. The date '8/8/2011' is selected in the 'Date' field at the bottom.

Start	End	Duration	Code	Reason
8/8/2011 4:45 PM	8/8/2011 4:57 PM	00:12:12	10	End of Shift Clean
8/8/2011 2:55 PM	8/8/2011 3:01 PM	00:06:35	21	Problems Feeder
8/8/2011 2:23 PM	8/8/2011 2:49 PM	00:25:11	1	Setup
8/8/2011 12:02 PM	8/8/2011 1:05 PM			
8/8/2011 11:06 AM	8/8/2011 11:15 AM			
8/8/2011 10:30 AM	8/8/2011 10:46 AM			
8/8/2011 8:54 AM	8/8/2011 9:05 AM			
8/8/2011 8:01 AM	8/8/2011 8:16 AM			
8/5/2011 4:30 PM	8/5/2011 4:58 PM			
8/5/2011 2:55 PM	8/5/2011 3:01 PM			
8/5/2011 2:23 PM	8/5/2011 2:49 PM			
8/5/2011 12:02 PM	8/5/2011 1:05 PM			
8/5/2011 11:06 AM	8/5/2011 11:15 AM			
8/5/2011 10:30 AM	8/5/2011 10:46 AM			
8/5/2011 8:54 AM	8/5/2011 9:05 AM	00:11:03	6	Jam in Folding Rails
8/5/2011 8:01 AM	8/5/2011 8:16 AM	00:15:33	1	Setup

SECTION 6 - TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Image black; no box count	No trigger	Check scanner
	Camera disconnected or not connected properly	Reconnect camera
Image black w/box count	Camera dirty	Clean lens w/soft cloth & mild soap or citrus cleaner
	Exposure too low	Increase shutter speed
	Lights not on	Check Cables
	Lights not bright enough	Replace Light Bars
Image too bright	Exposure too high	Reduce shutter speed
Image out of focus	Camera too high or low	Check camera height against Setup Section
	Lens dirty	Clean lens w/soft cloth & mild soap or citrus cleaner
No image; no speed display	Encoder problem	Check encoder is touching belt
		Verify encoder cable works & replace if necessary
		Increase object row size

SECTION 7 - MAINTENANCE

Daily Maintenance Procedure:	Date	Shift	Initials
<p>1. Clean the Camera window.</p> <ul style="list-style-type: none"> a. Make sure the window is clean and clear with no scratches. b. Use a mild detergent with water and a soft cloth to clean the window. <p> CAUTION! Never use abrasive cleaners or pads, as they may scratch the glass. Never use solvents, as they may damage the unit.</p> <p>2. Marking Valve</p> <ul style="list-style-type: none"> a. Tank Full. b. Valve Purges c. Air pressure to tank correct (30 psi) d. Nozzle is present <p>3. Air knives on cameras working</p> <p>4. Check encoder for belt contact & inspect cable for damage</p> <p>5. Inspect camera cables for kinks or damage</p> <p>6. Record maintenance date, shift, and initials on this maintenance record form.</p>			

SECTION 8 - PART NUMBER LIST

How to Order Parts

To order parts, please contact your closest Valco office by mail, phone, or Email:

USA:

Valco Cincinnati, Inc.
411 Circle Freeway Drive
Cincinnati, OH 45246
TEL: (513) 874-6550
FAX: (513) 874-3612
Email: sales@valcomelton.com
Web: <http://www.valcomelton.com>

England:

Valco Cincinnati Limited
Hortonwood 32
Telford, TFI 7YN, England
TEL: (+44) 1952-677911
FAX: (+44) 1952-677945
Email: sales@valco.co.uk
Web: <http://www.valco.co.uk>

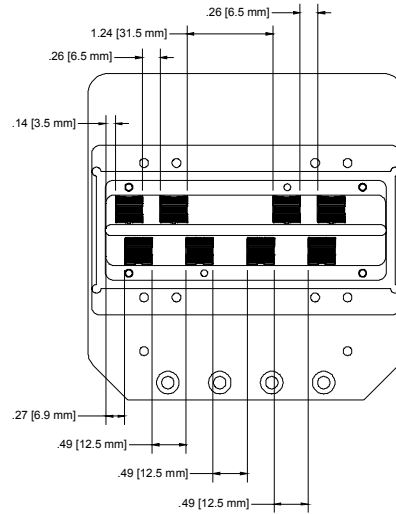
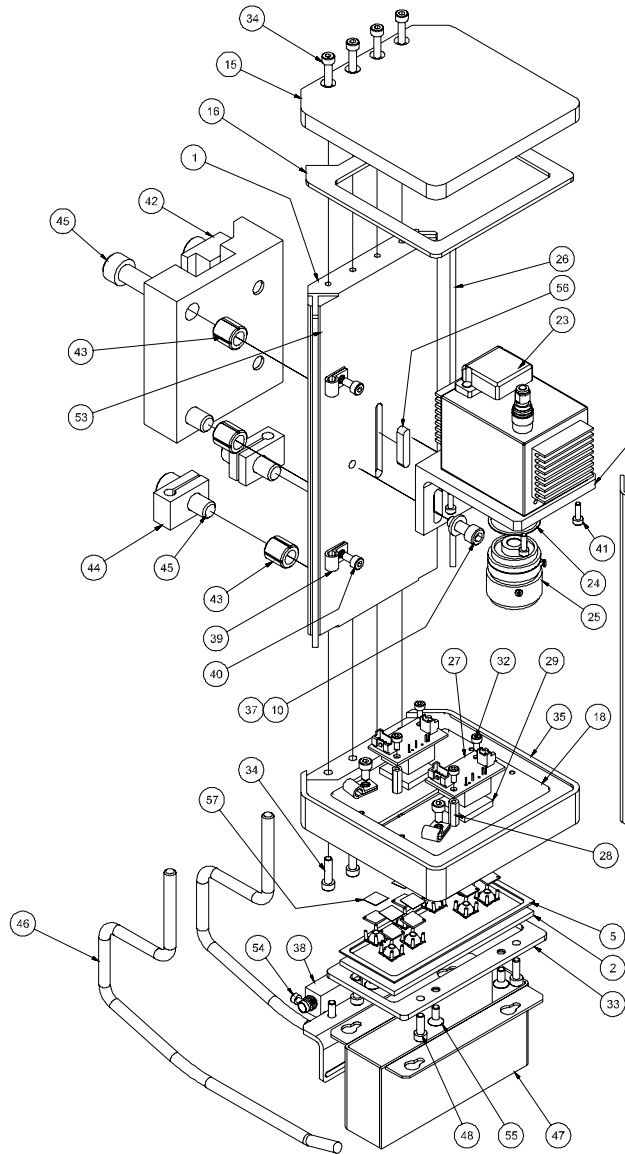
Germany:

Valco Cincinnati GmbH
Storkower Strasse 6
D-15749 Gallun, Germany
TEL: (+49) 337 648 700
FAX: (+49) 337 648 7070
Email: info@valcogmbh.de

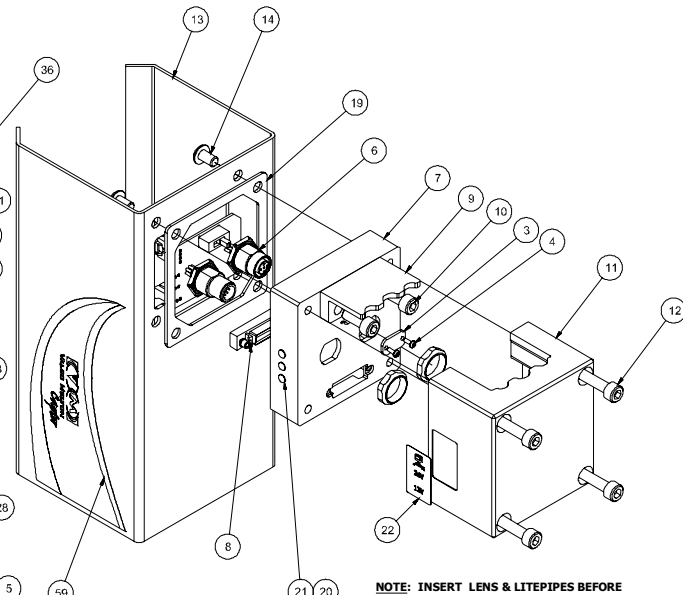
Spain:

Melton S.L.U.
Pol. Industrial Agustinos
calle G, n. 34
31160 Orcoyen, Navarra, Spain
TEL: (34) 948-321-580
FAX: (34) 948-326-584

Camera Assembly - Braille Captor (JWT4407)

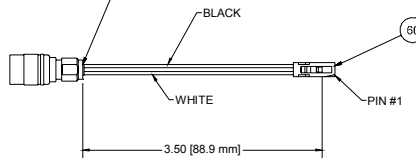


LED MOUNTING



NOTE: INSERT LENS & LITEPIPES BEFORE INSTALLING CIRCUIT BOARD. LONG SIDE OF LITEPIPE WILL BE TOWARD INSIDE OF ENCLOSURE.

TRIM CABLE TO 3.5" LENGTH. REMOVE BOTH RUBBER BOOTS. STRIP CABLE SLEEVE TO BASE OF CONNECTOR LEAVING BLACK & WHITE WIRES EXPOSED. DO NOT TRIM OFF INSULATION FROM BLACK & WHITE WIRES. USE AMP CRIMP TOOL #58336-1. THEN PUSH WIRES INTO CONNECTOR.



CABLE ASS'Y. PROCEDURE

(SUPPLIED WITH CAMERA)

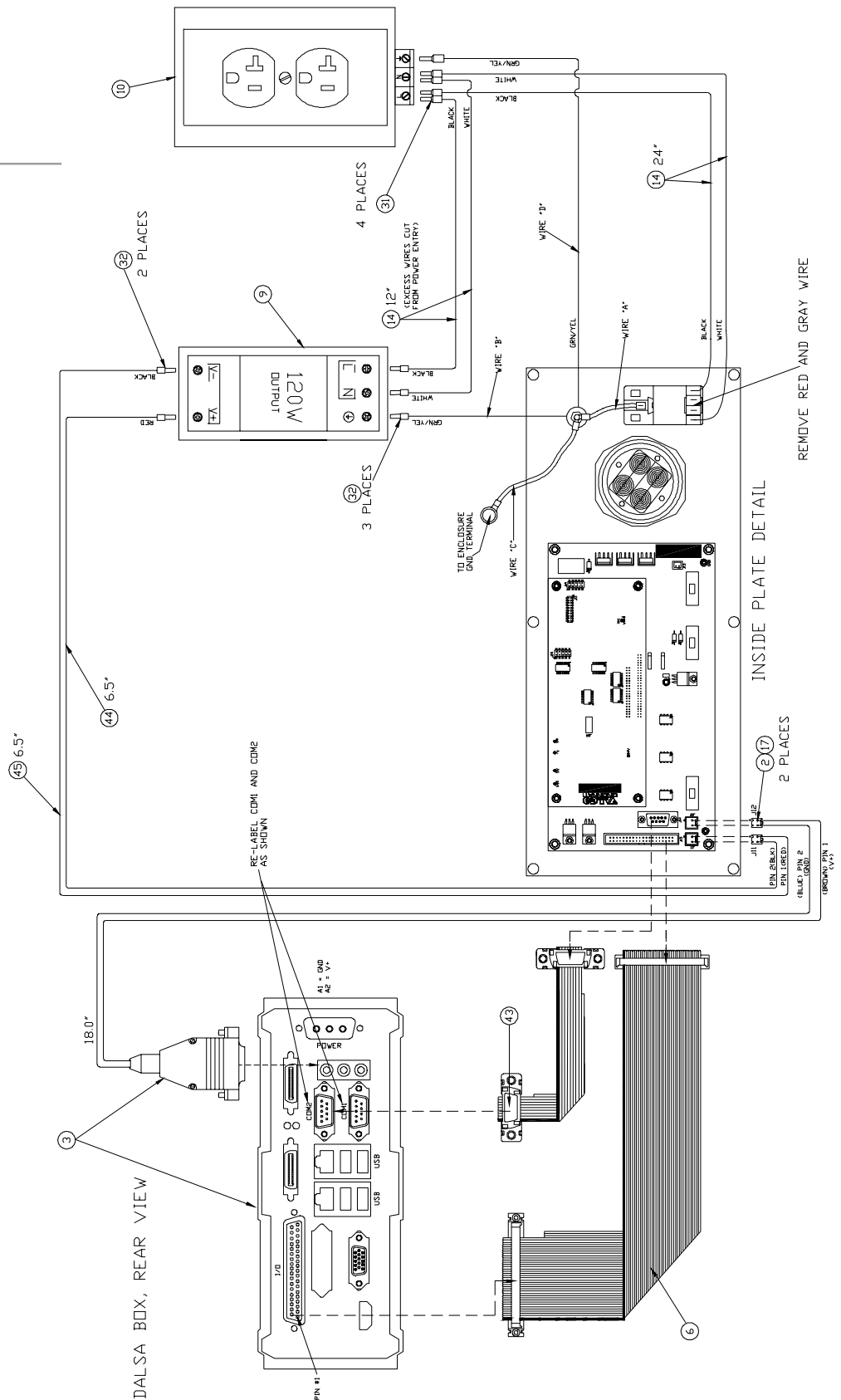
LOOSEN BOTH SCREWS. ROTATE LOWER FOCUS RING TO ALIGN MARKER TO 4.0 ROTATE UPPER FOCUS RING TO ALIGN MARKER TO 0.5 RE-TIGHTEN BOTH SCREWS

LENS SETTING

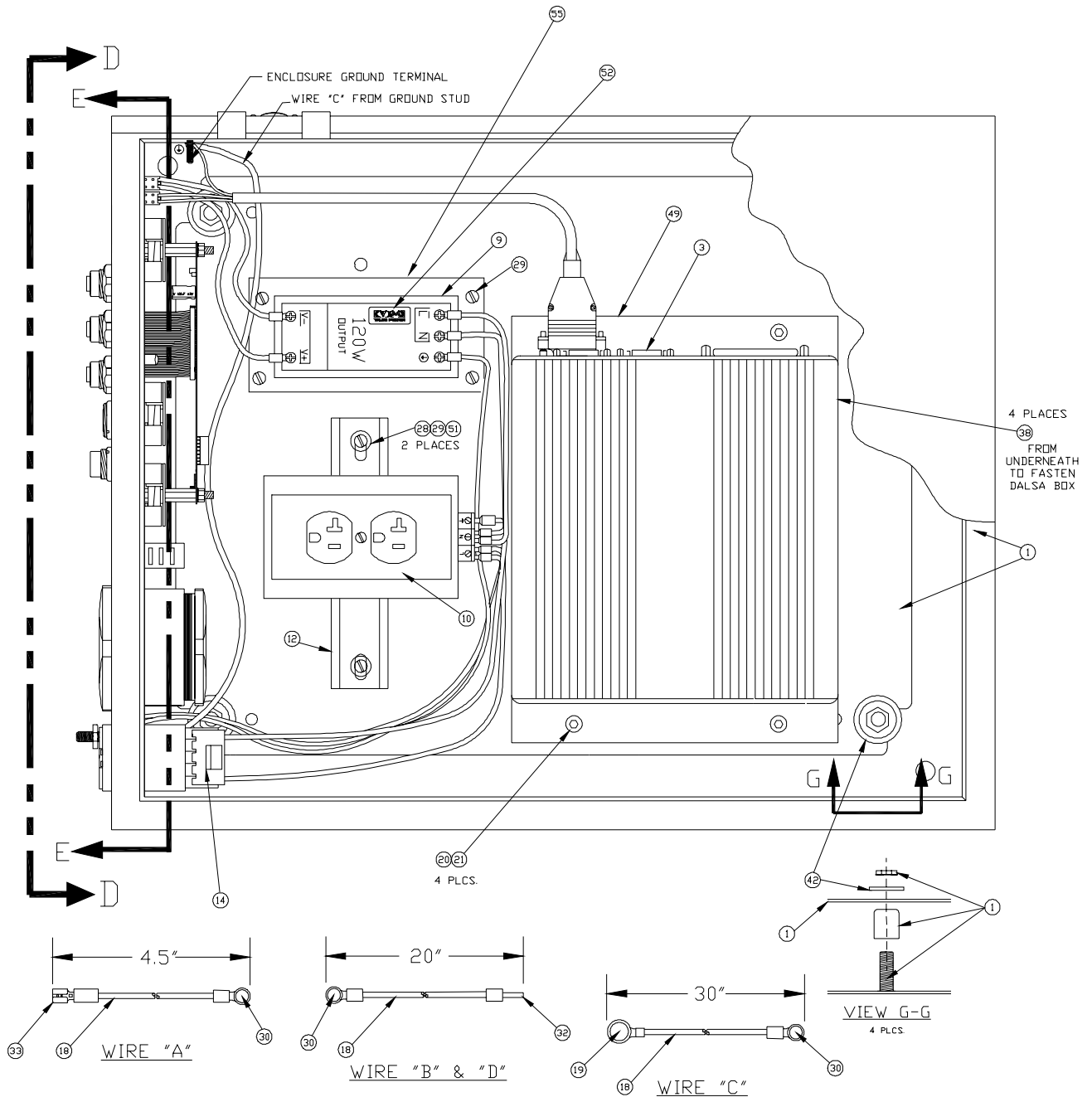
Camera Assembly - Braille Captor
(JWT4407) - Continued

Item	Description	Part Number	Quantity
1	BACK PLATE, BRAILLE CAPTOR	JWT4408	1
2	WINDOW; CAMERA ENCLOSURE	JWT4492	1
3	COVER PLATE, SWITCH	781XX555	1
4	SCREW	784XX358	2
5	GASKET; WINDOW	JWT4401	1
6	PCB ASSY, CAMERA CONN.	TSW1032	1
7	ADAPTER BOX; CIRCUIT BOARD	026XX299	1
8	RIBBON CABLE ASSY	033XX172	1
9	CLAMP; CABLE, L.P. CAPTOR	026XX298	1
10	SCREW	784XX091	4
11	CAP; CABLE COVER, L.P. CAPTOR	026XX297	1
12	SCREW	784XX137	4
13	ENCLOSURE	JWT4411	1
14	SCREW	784XX491	4
15	CAP-TOP, BRAILLE CAPTOR	JWT4409	1
16	GASKET; TOP CAP	JWT4412	1
17	SCREW	784XX996	4
18	GASKET; BOTTOM CAP	JWT4413	1
19	GASKET; ADAPTER BOX	026XX288	1
20	LITEPIPE	107XX073	3
21	LENS	107XX074	3
22	LABEL; LED INDICATOR	782XX302	1
23	CAMERA	135XX016	1
24	SPACER	135XX014	1
25	LENS, C-MOUNT	135XX018	1
26	GASKET; ENCLOSURE	JWT4397	2
27	PCB; ASSY, LED CURRENT	TSW1008	2
28	STANDOFF, HEX THD	091XX545	4
29	THERMAL PAD	101XX021	2
30	LED; PREMOUNT	RMK0499	11
31	LED; LENS	RMK0501	11
32	SCREW	784XX049	4
33	WINDOW CLAMP, BRAILLE CAPTOR	JWT4511	1
34	SCREW	784XX067	8
35	CAP, BOTTOM: BRAILLE CAPTOR	JWT4510	1
36	BRACKET, CAMERA MOUNT	JWT4414	1
37	WASHER	793XX489	2
38	SENSOR ASSY, NPN LASER W/CBL	280XX290	1
39	CLAMP; CABLE	JWT4415	4
40	SCREW	798XX188	4
41	SCREW	798XX051	4
42	CLAMP-BASE, SQ. BAR	579XX232	1
43	KEENSERT	781XX657	4
44	CLAMP, SPLIT	579XX493	2
45	SCREW	784XX582	4
46	GUIDE RAIL	JWT4416	2
47	GUARD; LIGHT	JWT4508	1
48	SCREW	784XX051	2
49	BRACKET; MOUNTING	JWT4509	1
53	NUT BAR, SCANNER BLOCK	582XX568	1
54	SCREW	784XX534	2
55	SCREW	784XX405	1
56	KEY	784XX639	1
57	TAPE; THERMAL ADHESIVE	RMK0500	1
58	CONNECTOR CABLE, CAPTOR CAMERA	MMO0020	2
59	LABEL - CAPTOR CAMERA	782XX306	2
60	CONNECTOR	070XX253	1

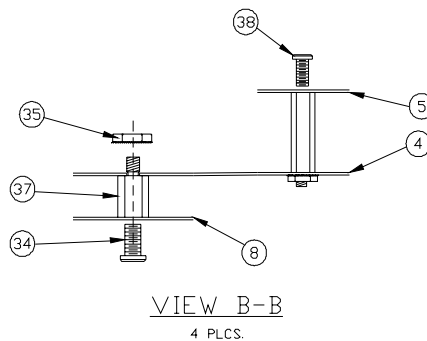
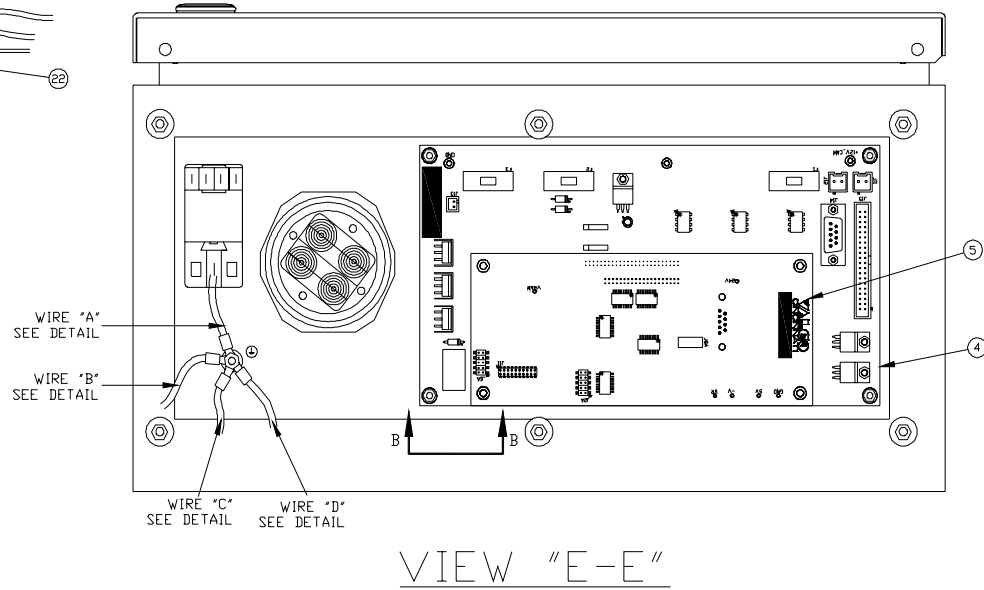
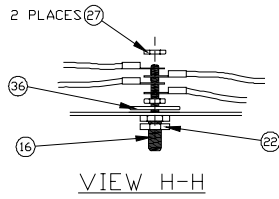
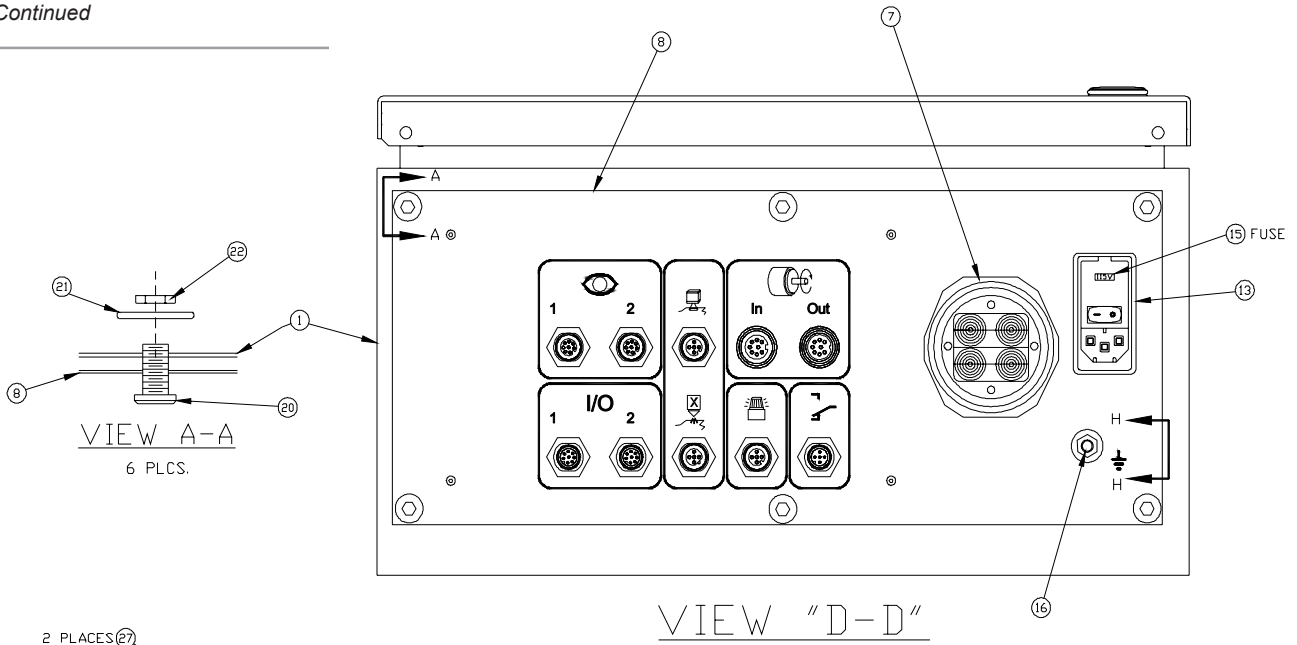
Companion Box (135xx020)



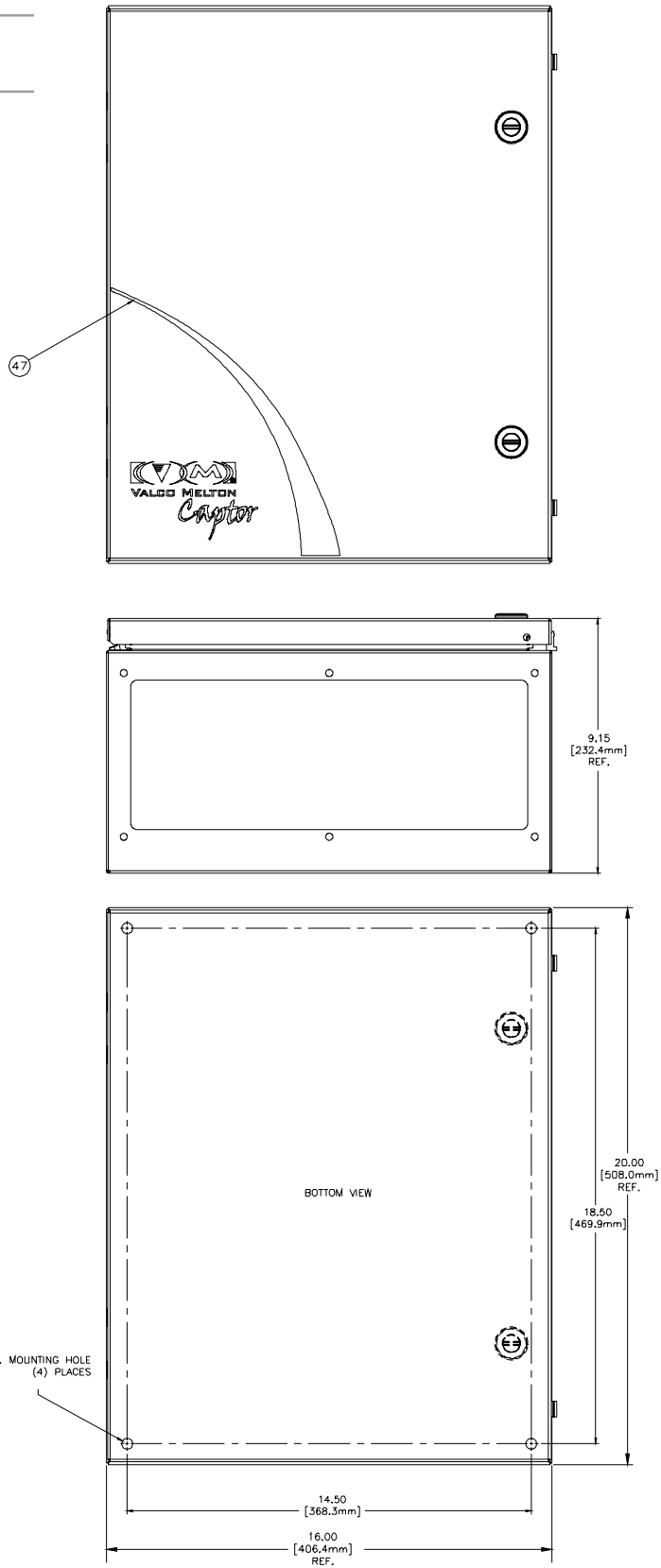
Companion Box (135xx020) -
Continued



Companion Box (135xx020) -
Continued



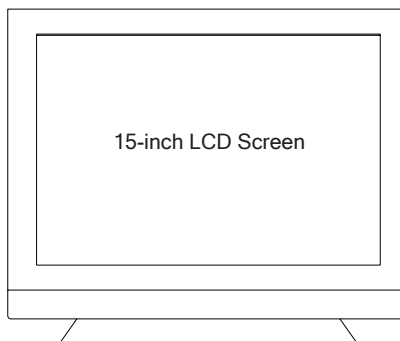
Companion Box (135xx020) -
Continued



Companion Box (135xx020) -
Continued

Item	Description	Part Number	Quantity
1	ENCLOSURE, CAPTOR ELECTRONICS	026XX270	1
2	CONTACT	070XX658	4
3	CONTROL ASSY	118XX183	1
4	PCB ASSY, CON INTERFACE-CAPTOR	151XX652	1
5	PCB;ASSY,CPU32MOD,VCX	151XX631	1
6	CABLE ASSY, RIBBON	033XX173	1
7	CORD GRIP, SPLIT HOUSING	066XX195	1
8	PLATE, CONN PCB MOUNT, CAPTOR	026XX268	1
9	POWER SUPPLY	148XX067	1
10	OUTLET	061XX426	1
12	MOUNTING. RAIL	091XX403	1
13	POWER ENTRY MODULE	086XX055	1
14	CABLE ASSY	030XX425	1
15	FUSE	085XX220	2
16	STUD, GROUND	091XX519	1
17	CONNECTOR	070XX655	2
18	WIRE	540XX072	75
19	WIRE TERMINAL	075XX099	1
20	SCREW	784XX367	10
21	FLAT WASHER	798XX302	10
22	HEX NUT	798XX301	7
27	HEX NUT	798XX299	2
28	LOCK WASHER	798XX731	2
29	SCREW	784XX359	4
30	WIRE TERMINAL	075XX070	4
31	FERRULE	075XX304	4
32	FERRULE	075XX305	6
33	WIRE TERMINAL	075XX244	1
34	SCREW	798XX887	4
35	KEP NUT	784XX318	4
36	FLAT WASHER	798XX752	1
37	STANDOFF	091XX633	4
38	SCREW	784XX968	8
42	FLAT WASHER	798XX764	4
43	CABLE ASSY	033XX174	1
44	WIRE	540XX047	6.5
45	WIRE	540XX045	6.5
47	LABEL; CAPTOR CABINET	782XX331	1
48	CAPTOR QUICK GUIDE, LAMINATED	IS0204	1
49	PLATE, MOUNTING, DALSA BOX	026XX269	1
51	FLAT WASHER	798XX754	2
52	LABEL VALCO MELTON	795XX614	1
53	CHANGEOVER TAG	781XX591	1
54	INSTALL KIT, CAPTOR SYSTEM	782XX249	1
55	MOUNTING PLATE: CAPTOR, POWER	026XX277	1
56	CAPTOR USB INSTALL DISK	119XX239	1

Monitor (138xx009)

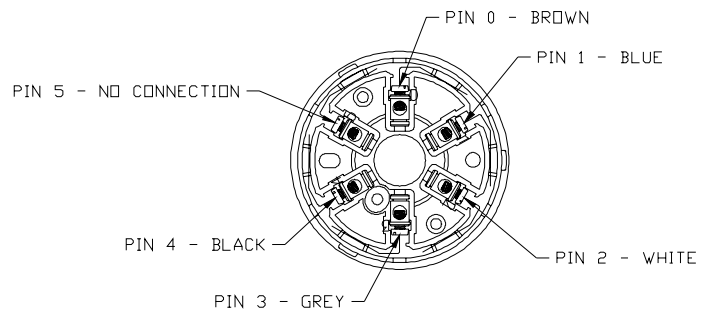
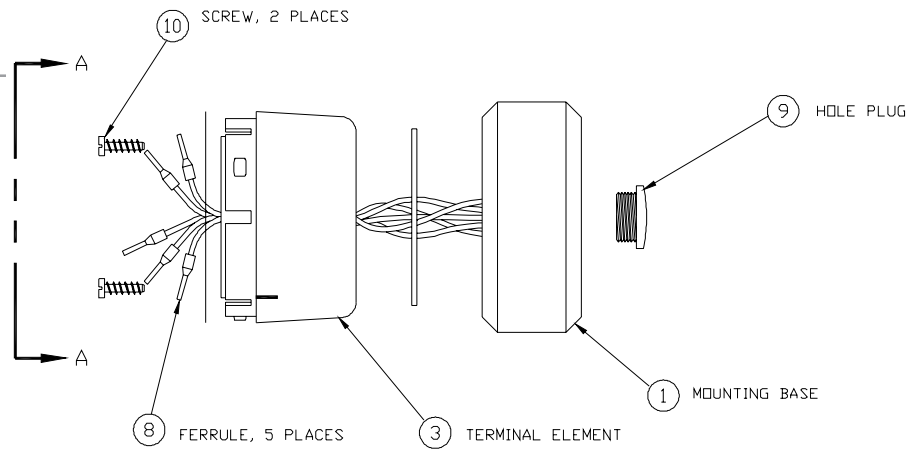


Approx. 11 inches high x 14 inches wide.

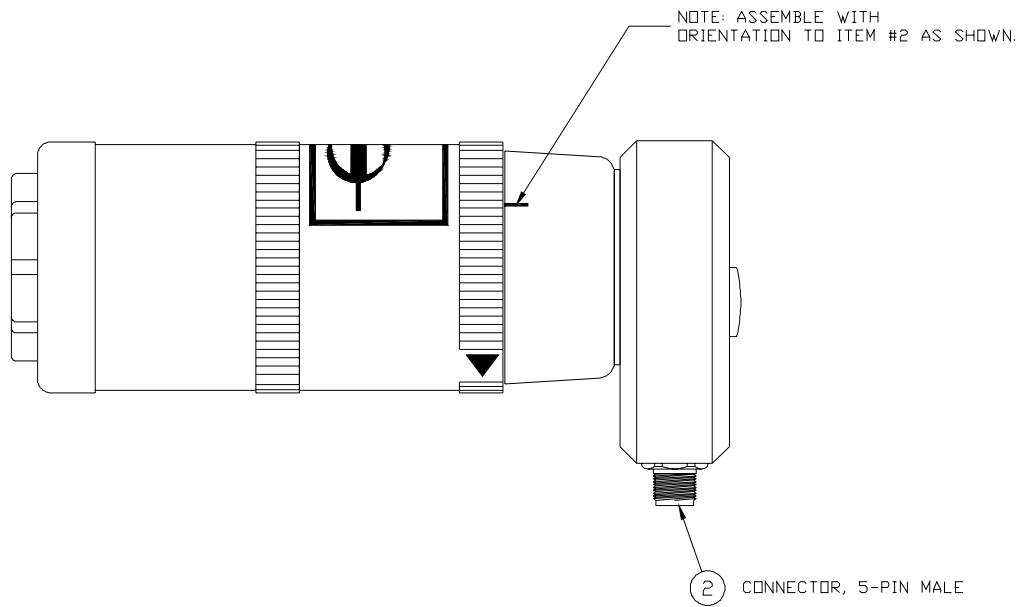


No user-serviceable parts are inside the monitor.

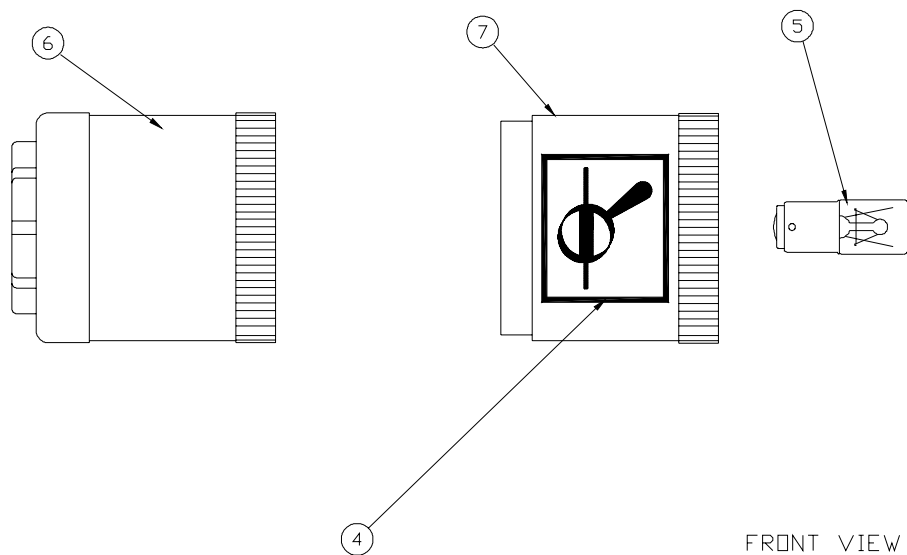
Alarm Beacon (481xx048)



VIEW A-A



Alarm Beacon (481xx048) -
Continued



Item	Description	Part Number	Quantity
1	Mounting Base	582xx119	1
2	Connector, Male	061xx211	1
3	Beacon Cover and Base	105xx055	1
4	Label	781xx227	1
5	Bulb	105xx050	1
6	Siren Element	105xx054	1
7	Blue Light Element	105xx051	1
8	Ferrule	075xx302	5
9	Hole Plug	781xx554	1
10	Screw	784xx313	2
11	Screw	798xx146	2
12	Flat Washer	798xx988	2
13	Lock Washer	784xx060	2
14	Hex Nut	798xx726	2
15	Screw	798xx047	2

SECTION 9 - WARRANTY

Warranty Information

Valco Cincinnati, Inc. warrants its equipment worldwide against defects in material and workmanship as outlined in this section.

Liability of the company is limited to repair of the product, or replacement of any part shown to be defective, and does not extend to defects caused by accidents, misuse, abuse, neglect, tampering or deterioration by corrosion. This warranty does not cover those items determined by Valco Cincinnati, Inc. to be normal wear items such as seals, O-rings, diaphragms, springs, etc.

Reconditioned equipment, unless specified otherwise at the time of purchase, will be warranted as described above for a period of ninety (90) days from the date of shipment by Valco Cincinnati.

Components purchased by Valco Cincinnati, Inc. from others for inclusion in its products are warranted only to the extent of the original manufacturer's warranty. In no event shall Valco Cincinnati, Inc. be liable for indirect or consequential damages arising out of the use of Valco Cincinnati products.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to Valco Cincinnati, Inc. for examination and verification. If claimed defect is verified, repairs or replacements will be made F.O.B. Cincinnati, Ohio, U.S.A. or ex-works Telford, U.K. If the inspection of the equipment does **not** disclose any defect of workmanship or material, any necessary repairs will be made at a reasonable charge and return transportation will be charged.

This is the only authorized Valco Cincinnati, Inc. warranty and is in lieu of all other expressed or implied warranties, representations or any other obligations on the part of Valco Cincinnati, Inc.

Cold Glue Equipment and Electronic Controls

The warranty for cold glue equipment and electronic controls for a period of one (1) year from the date of shipment by Valco Cincinnati, Inc.

Hot Melt Units, Hoses, Valves, Guns, and Related Equipment

All hot melt components except cast-in heating elements are warranted for a period of six (6) months from the date of shipment by Valco Cincinnati. Cast-in heaters carry an additional, pro-rated warranty not to exceed three (3) years from the date of shipment by ValcoMelton, a Valco Cincinnati, Inc. company.

SECTION 10 - SERVICE

If a problem with your system persists, contact a ValcoMelton Technical Support Representative. If your need is urgent, we encourage you to contact our corporate office in Cincinnati, Ohio, U.S.A. at (513) 874-6550. If the problem cannot be resolved, Valco Cincinnati will promptly arrange to have a technical representative visit your facility. Any charges for a service call will be quoted at that time. Any part that fails during the warranty period shall be returned prepaid to Valco Cincinnati, Inc. by the customer for disposition.



Upon request, ValcoMelton personnel are available to repair or replace such parts at the customer's facility. Charges for this service include travel time and expenses.

If an equipment problem is the result of customer abuse, improper installation or operation, all travel time, labor, parts, and expenses will be charged to the customer.

If the responsibility for a problem cannot be absolutely determined, the customer will be charged for travel time and expenses only. No charge will be made for parts and labor.