GUIDELINE Color Line Guide Sensor
with Operator Interface

User Manual
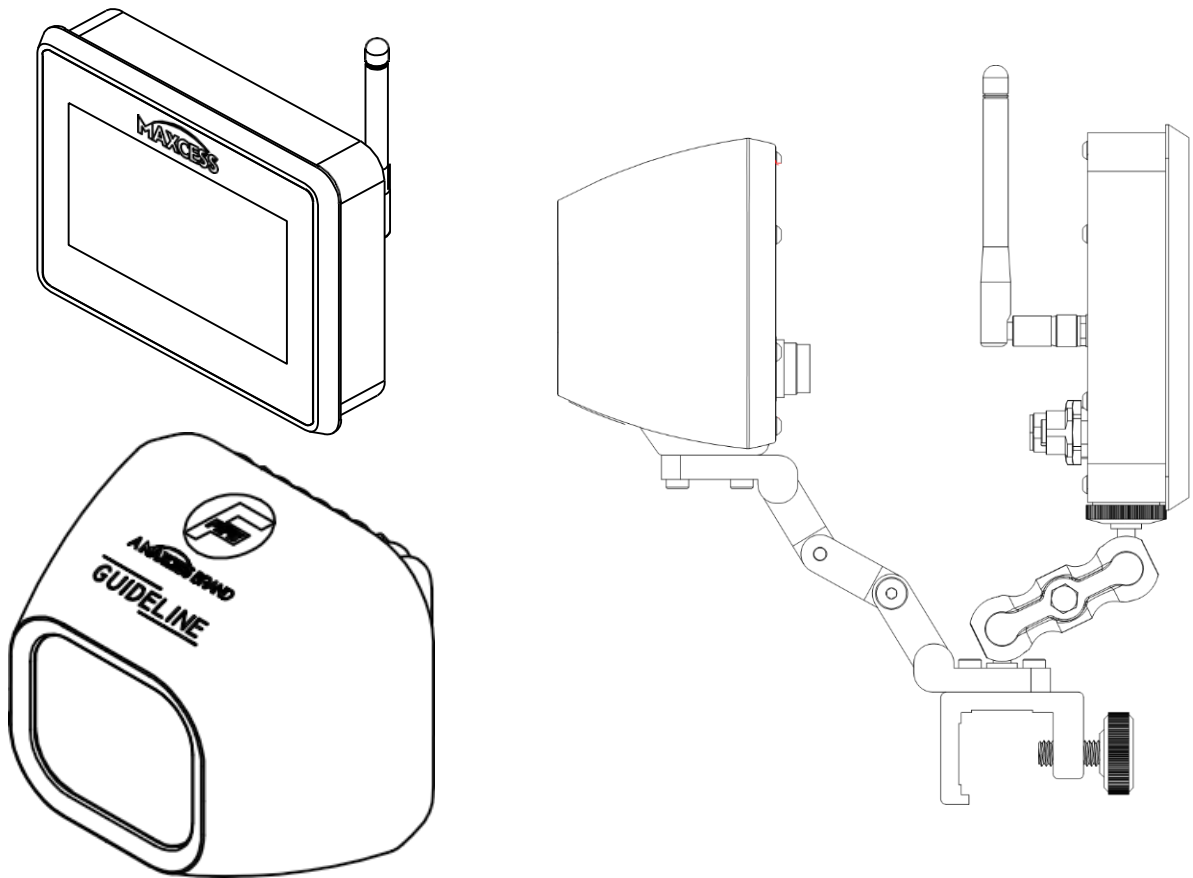
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1.0 Introduction

1.1 Operating Instruction Overview

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The GUIDELINE Colo Line Guide Sensor with Operator Interface must not be installed or used in a machine or system which does not comply with the machinery directive 2006/42/EC.

The GUIDELINE was designed and manufactured to be installed as Partly Completed Machinery into a machine or partly completed machine.

The instructions must be read and used by all persons who have the responsibility of installing and maintaining the GUIDELINE.

These instructions must be retained and incorporated in the technical documentation for the machine or partly completed machinery into which the GUIDELINE is installed.

CE marking
The GUIDELINE is marked with the CE sign according to the EMC directive 2014/30/EC.

Conventions used in this manual
All dimensions and specifications are shown in the format mm [inches] unless specified otherwise.

Language
These are the original instructions, written in English.

1.2 Product Overview

The GUIDELINE Color Line Sensor is a smart sensor product, packaged with a powerful and simple to use operator interface. The GUIDELINE sensor is based on a color machine vision digital image sensor providing a line sensor for web guiding systems with an optical viewing range of 32mm. The sensor supports various line calibration modes to generate guide signals for use with a web guide controller for precise guiding of the material web.

The Color Line Guide sensor is designed for continuous use in IP54 environments.

The GUIDELINE sensor is based on a wide angle, far-looking NIR (Near Infra-Red) digital image sensor.

The GUIDELINE Sensor has two independent analog outputs and up to four digital sensor signals when used in conjunction with a compatible controller. One analog output is used to signal the validity of the primary guiding signal

The GUIDELINE Operator Interface (OI) offers a list of built-in functions for diagnostic, testing and calibration. The OI also has Gateway capability that can automatically sense a smart actuator connected to the system and provide a pop-up menu screen so the customer can interact with the smart actuator.

1.3 Model Number

GUIDELINE SENSOR for the GUIDELINE Color Line Sensor.
MAX OI 1 for the GUIDELINE Operator Interface.
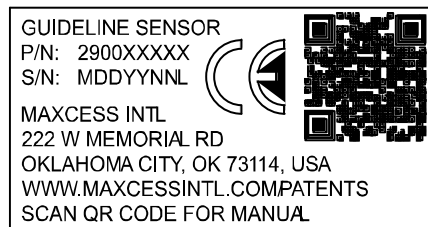
INTRODUCTION

1.4 Serial Number

Serial Number format is MMDDYYNNNL

MM = month

DD = day

YY = last two digits of the year

NNN = a sequence number

L = manufacturing location

1.5 GUIDELINE Components

Figure 1 – Component Identification and Ordering Information
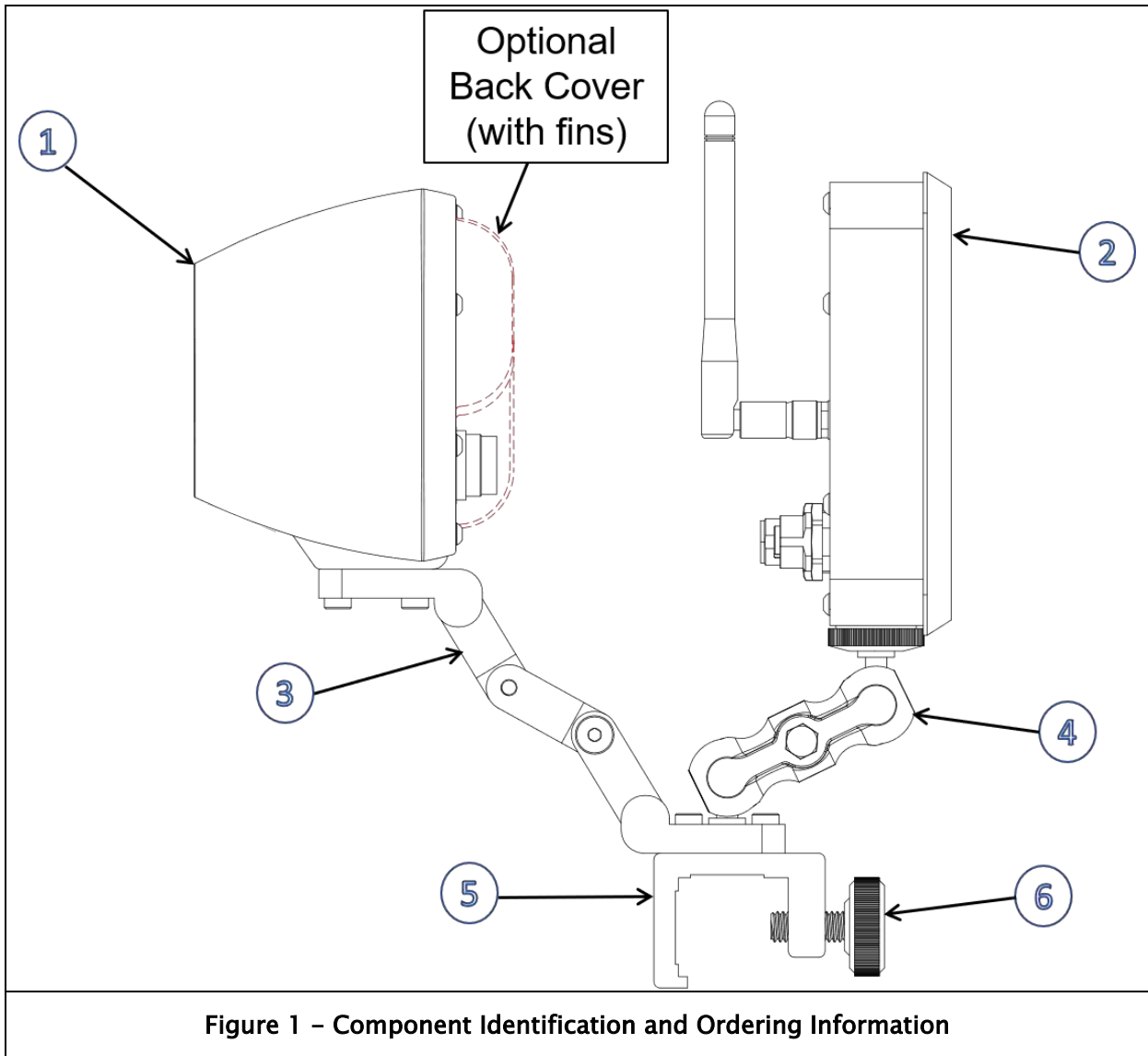
1.6 Ordering information

Item No.	Description	Fife Part number	Drawing (reference)
1	GUIDELINE Color Line Sensor (w/fins)	290014438	228188
1	GUIDELINE Color Line Sensor (w/o fins)	290014842	228188
2	Operator Interface (OI) Assembly	290014386	228185
3	Mounting Bracket (3 Links)	290014395	228421
4	Mini Double Ball Head Extension Arm 1/4-20 UNC	290014214	228354
5	Sensor Positioner for 1" Square Bar	29L71815002	71815
6	Adjusting Knob 5/16-18 UNC	29L90304002	90304

SAFETY

2.0 Safety

2.1 Instructions for Use

To ensure safe and problem free installation of the GUIDELINE, it must be properly transported and stored, professionally installed and placed in operation. Proper operation and maintenance will ensure a long service life of the device. Only persons who are acquainted with the installation, commissioning, operation and maintenance of the system and who possess the necessary qualifications for their activities may work on the GUIDELINE.

Note: The safety information may not be comprehensive.

Please note the following:
- The content of these operating instructions
- Any safety instructions on the device
- The machine manufacturer's specifications
- All national, state, and local requirements for installation, accident prevention and environmental protection

2.2 Symbols Used

The following safety identification symbols may be used in these operating instructions.

	WARNING/CAUTION – General danger or important note. Reference to general hazards that may result in bodily injuries or damage to device or material.
	WARNING/CAUTION – Danger due to crushing. Reference to danger of injury caused by crushing.
	WARNING/CAUTION – Danger due to cutting. Reference to danger of injury caused by cutting.
	WARNING/CAUTION – Danger due to voltage, electric shock. Reference to danger of injury caused by electric shock due to voltage.
	WARNING/CAUTION – Danger due to hot surfaces. Reference to risk of injury caused by burning.

SAFETY

2.3 Basic Safety Information

Proper use

The GUIDELINE Color Line Guide Sensor with Operator Interface is intended to be used on machines or systems to aid in the guiding of a variety of web materials.

For indoor operation, see environmental specifications on page 54.

Improper use
- Operation outside the technical specifications
- Operation in an Ex-area or intrinsically safe area.
- Outdoor operation.
- Any other use than the proper use shall be deemed inappropriate.

Installation and commissioning
- Any GUIDELINE that is damaged must not be installed or put into operation.
- Only perform installation, maintenance or repair tasks on the GUIDELINE when the machine into which it has been installed has been stopped and is secured from being turned on.
- Only perform installation, maintenance or repair tasks on the GUIDELINE when there is no electrical power in the system.
- The GUIDELINE must be securely mounted before being placed in operation.
- Only replacement parts obtained from Maxcess may be used.
- No modifications may be made to the GUIDELINE.
- Do not place electrical cables under mechanical strain.

WARNING – Death or injury can result from static electric shocks.

Moving webs of material can produce large static voltage potentials. Protect against electric shocks by ensuring that the GUIDELINE is properly connected to a Maxcess Color Line Guide controller and that the controller is properly grounded via the PE circuit of the building or machine.

WARNING – Death or injury can result from unexpected movement of the machine into which the GUIDELINE is installed.

Protect against unexpected movement by removing electrical power from the GUIDELINE and the machine into which the GUIDELINE is being installed.

Operation
None, as tasks from the operator are generally not required.

Maintenance and repair
WARNING – Death or injury can result from unexpected movement of the machine into which the GUIDELINE is installed.

Protect against unexpected movement by removing electrical power from the GUIDELINE and the machine into which the GUIDELINE is installed.

WARNING – Danger of injury from crushing.

Maintenance and repair tasks on the GUIDELINE must be performed only when the machine into which it has been installed has been stopped and has been secured from being turned on again.

Decommissioning
The GUIDELINE must be disposed of in accordance with all the applicable national, state and local regulations.

3.0 Installation

⚠️ Use shielded cable for all cables except power cable.

3.1 Product Dimensions

Units are in millimeters [inches]
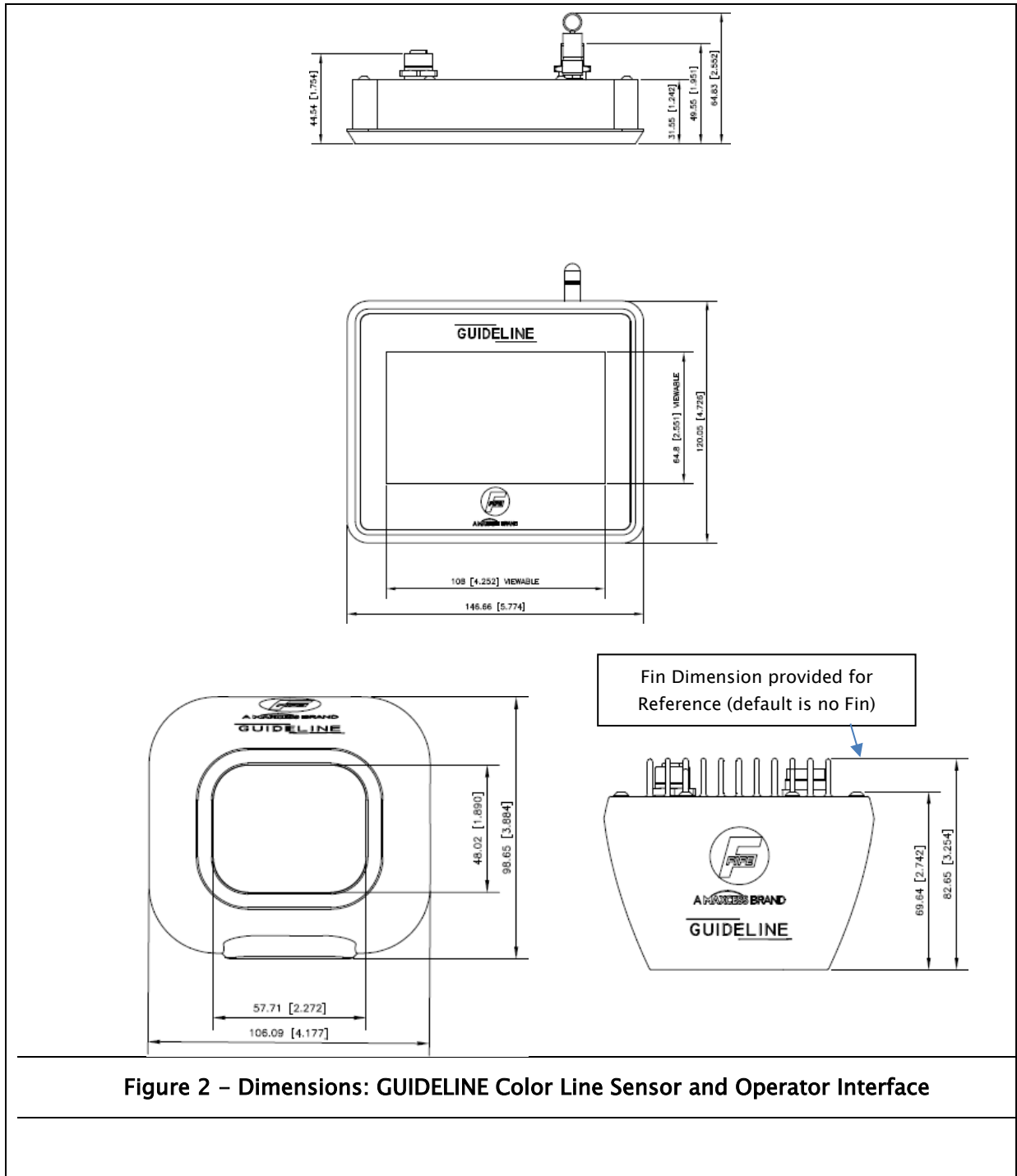
Figure 2 – Dimensions: GUIDELINE Color Line Sensor and Operator Interface

INSTALLATION

3.2 GUIDELINE Operator Interface Installation

⚠️ CAUTION – Never place electrical cables under mechanical strain. Always provide mechanical support of wiring with either clamps or flexible or rigid conduit.

Units are in millimeters [inches]

Longer screws replace 4 screws removed from rear of OI

Customer to provide a panel or door with these dimensions cut out for Installation

1 –   Operator interface
2 –   Panel cut-out (customer-provided)
3 –   Panel mounting bracket, 2 Each, Fife P/N 290013967
4 –   Dog Point Set Screw M4x40, 4 each, Fife P/N 29L92374011
5 –   Socket Cap Screw M3x12, 4 each, Fife P/N 29L92017004

Figure 3 – Operator Interface Panel Mount Installation

Instructions

- Remove four (4) existing screws from left and right sides of OI backplate. Discard screws.
- Install OI from front of opening and attach two (2) brackets (Item 3) to OI, using four (4) cap screws (Item 5). Ensure all 4 screws are tightened securely.
- Install four (4) Dog Point set screws (Item 4) and tighten securely to ensure OI does not move in opening.

INSTALLATION

3.3 GUIDELINE Sensor Mounting Bracket Installation

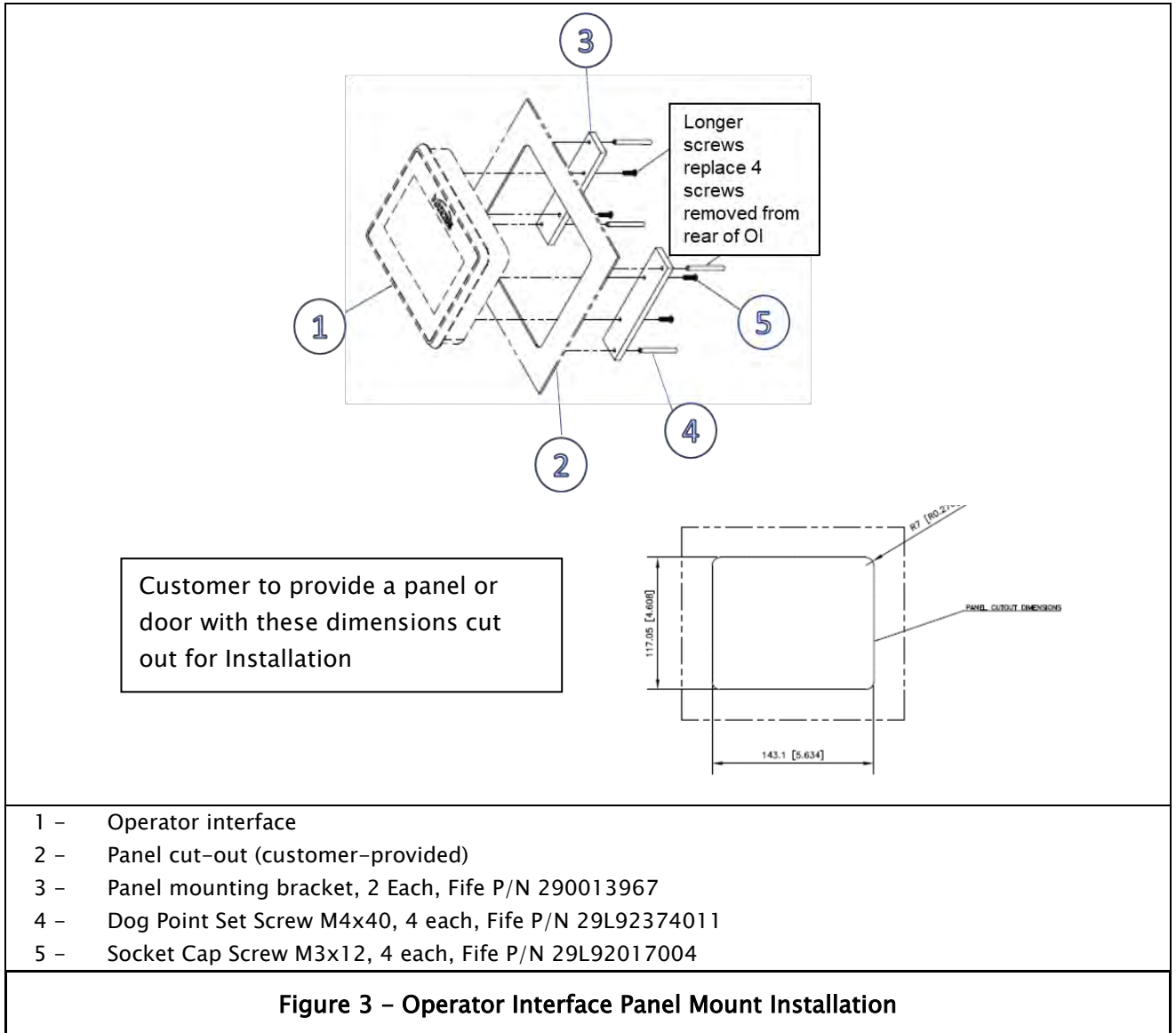⚠️ CAUTION – Never place electrical cables under mechanical strain. Always provide mechanical support of wiring with either clamps or flexible or rigid conduit.
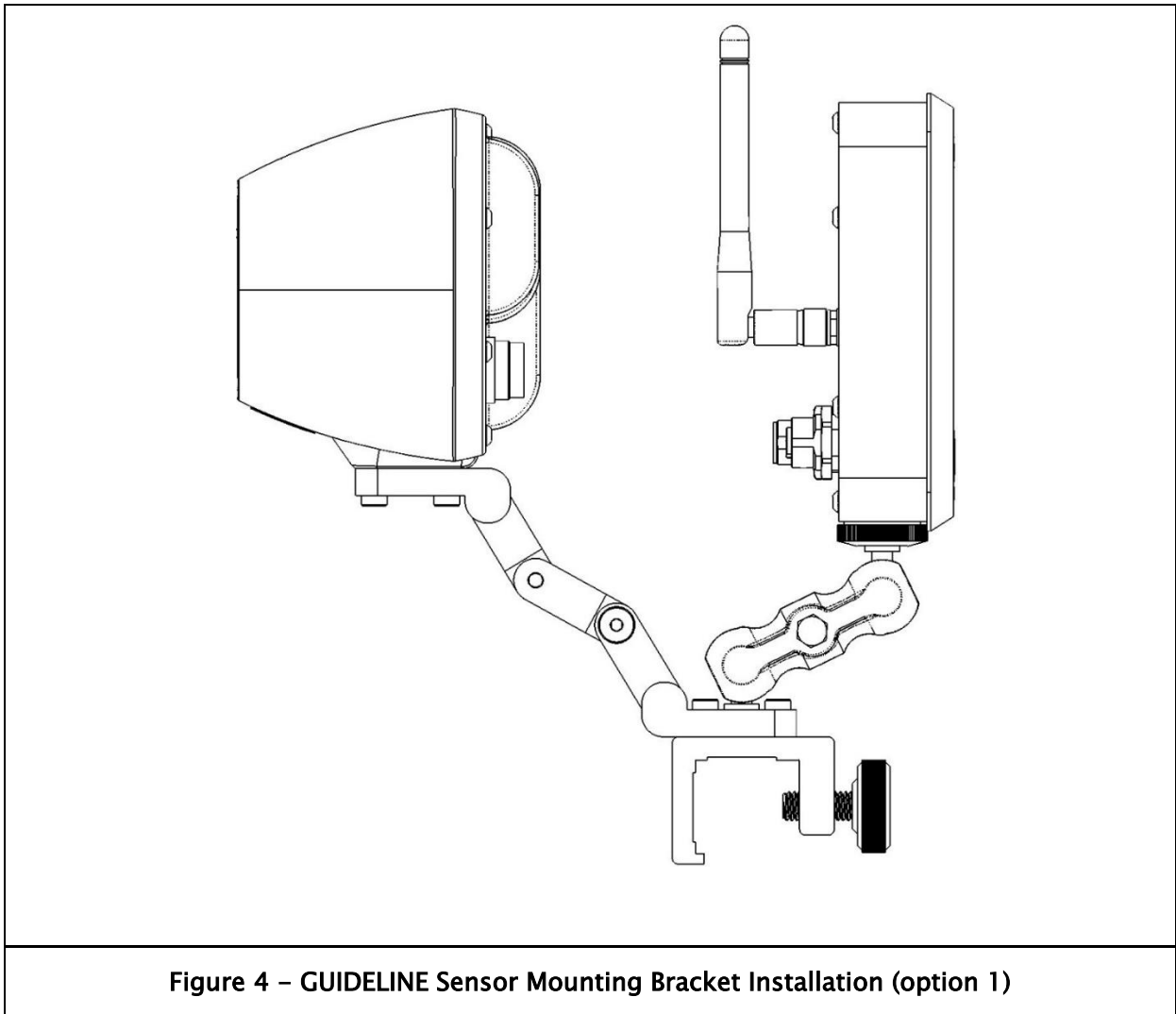
Figure 4 – GUIDELINE Sensor Mounting Bracket Installation (option 1)

Instructions
- Ensure suitable structure and location for proper sensor mounting. *Sensor must be mounted so scan area of sensor is perpendicular to the flattest surface of a roller. (See Figure 6, below)*

- Loosen knob to allow mounting bracket to fit over web surface 1" square bar and tighten using knob,

INSTALLATION

Figure 5 – GUIDELINE Sensor Mounting Bracket Installation (option 2)
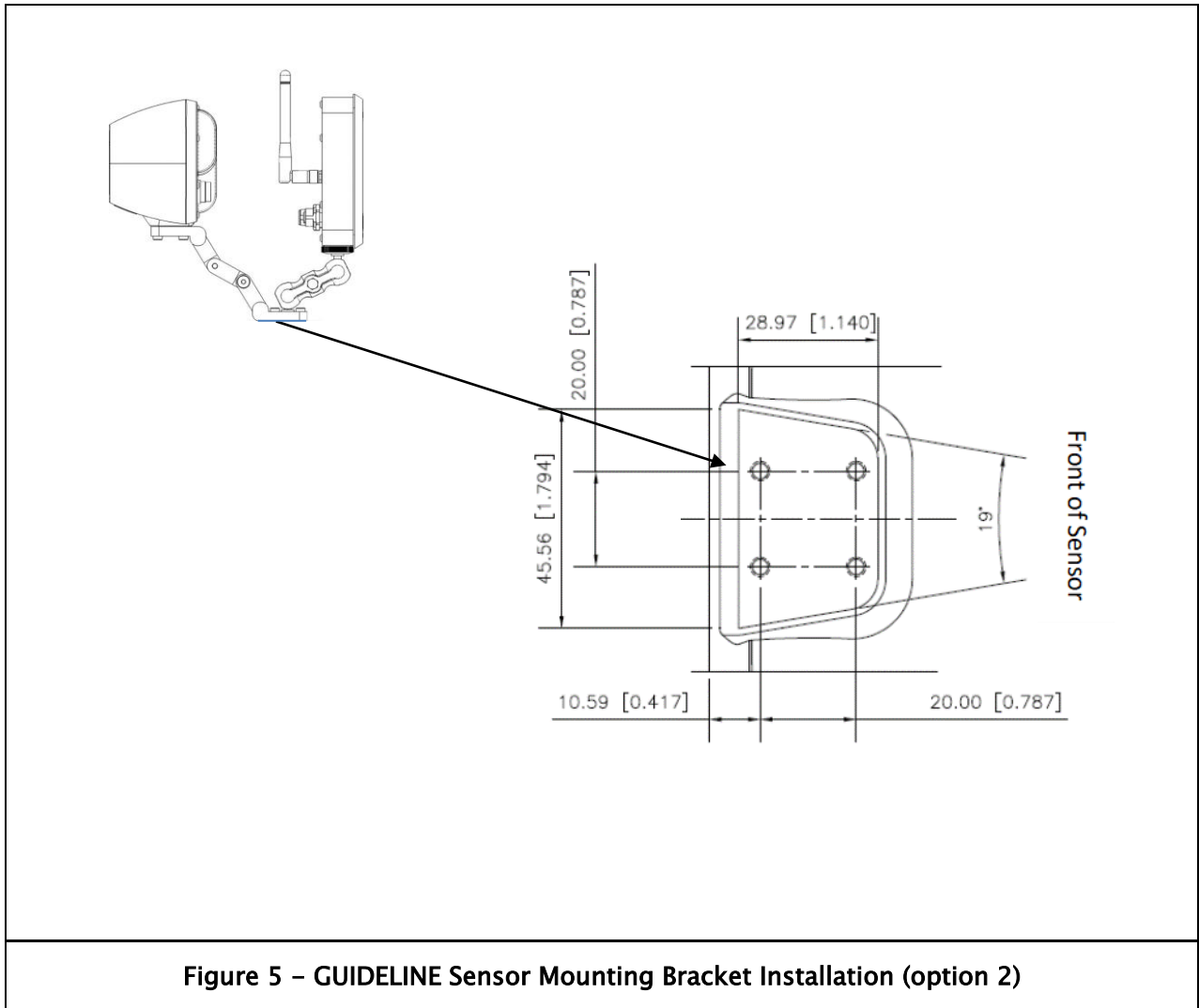
Instructions

- Drill four (4) holes in accordance with above dimensional drawing. Ensure suitable structure and location for proper sensor mounting. *Sensor must be mounted so scan area of sensor is perpendicular to web surface. (See Figure 6, below)*

- Use four (4) M4 screws to attach sensor to structure.

3.4 Sensor Adjustment and Positioning

NOTE – Ensure sensor is mounted perpendicular to web surface. Sensor can be mounted in any of the positions below and can be mounted upside down if necessary.

Figure 6 – GUIDELINE Sensor Adjustment and Positioning
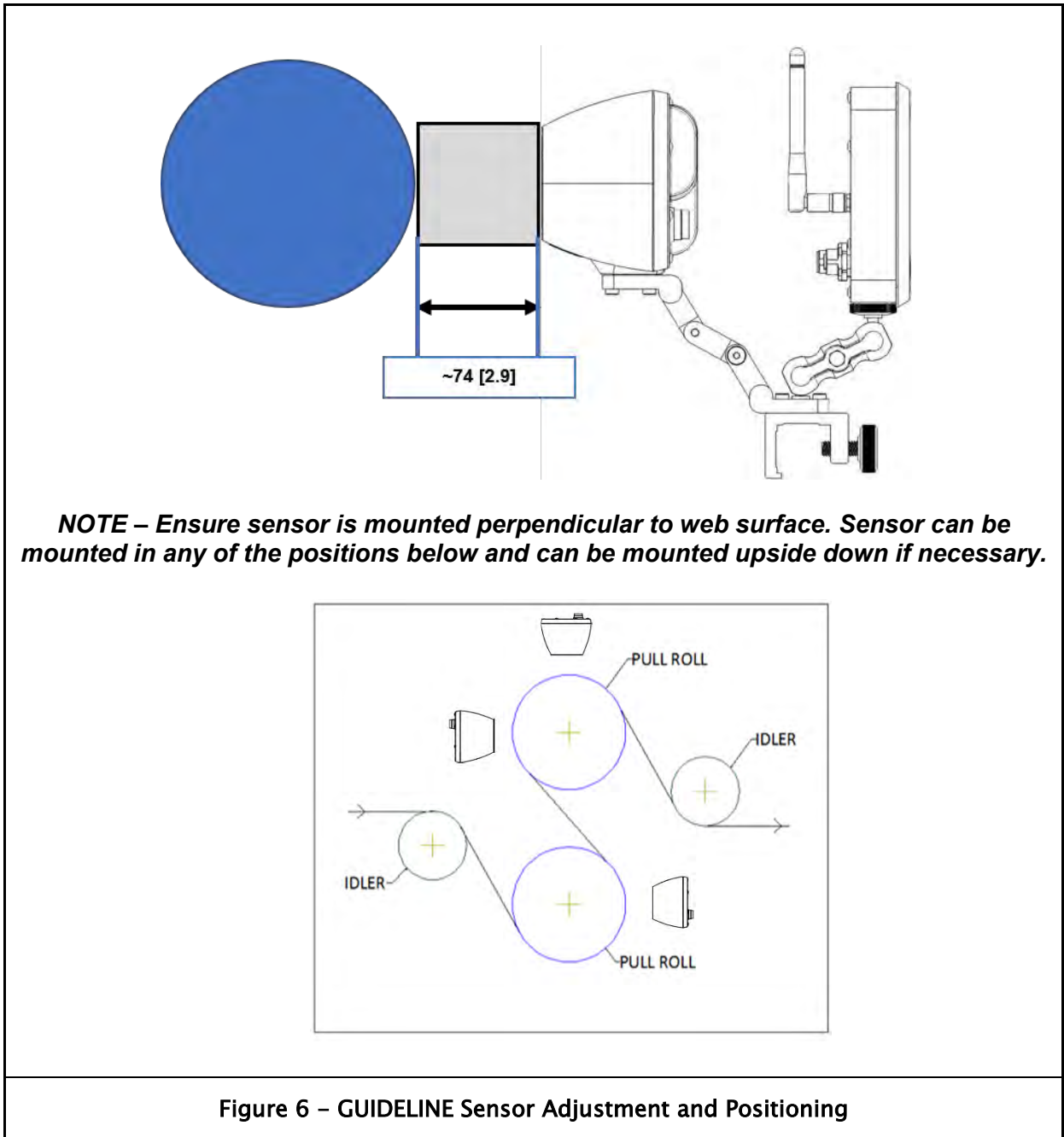
Instructions

NOTE – Ensure web is stationary before performing this procedure

- Using Maxcess-supplied measuring block, mount sensor perpendicular to web surface and ensure distance of ~74 [2.9].

- Sensor can be mounted in any of the above locations, depending on available structure to provide support for mounting bracket (Option 1 or 2).

## 3.5 Guideline Cable Assemblies

Guideline Cable Assemblies are provided in figures 7 and 8 below:

FIFE P/N	'L' CABLE LENGTH METERS [FEET]	AMISSIONTECH P/N*	SAIKANG P/N
290014408-003	0.3 [1.0]	AM12P0411D231-003	SEE FIFE P/N
290014408-005	0.5 [1.6]	AM12P0411D231-005	SEE FIFE P/N
290014408-010	1 [3.3]	AM12P0411D231-010	SEE FIFE P/N
290014408-050	5 [16.4]	AM12P0411D231-050	SEE FIFE P/N

MALE END VIEW
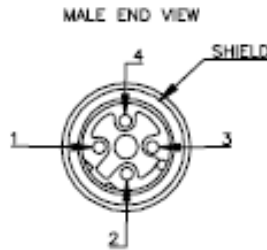
Cable Pinout	
Pin 1	EIN TXP
Pin 2	EIN RXP
Pin 3	EIN TXN
Pin 4	EIN RXN

Figure 7 – Sensor to OI 4 Pin Cable Assembly

NOTE

Trigger Pins 2 and 3 below are not active at this time.

FIFE P/N	'L' CABLE LENGTH METERS [FEET]	AMISSIONTECH P/N	SAIKANG P/N
290014409-003	0.3 [1.0]	F43525	SEE FIFE P/N
290014409-005	0.5 [1.6]	F43526	SEE FIFE P/N
290014409-010	1 [3.3]	F43527	SEE FIFE P/N
290014409-050	5 [16.4]	F43528	SEE FIFE P/N

Guideline Sensor Connector layout (viewed from the back side)	Operator interface pinout	
	Pin 1	Power input, positive
	Pin 2	Trigger input, positive
	Pin 3	Trigger input, negative
	Pin 4	RS485 input, positive
	Pin 5	Output 2
	Pin 6	Common return, ground
	Pin 7	RS485 input, negative
	Pin 8	Output 1

Figure 8 – D-MAXE or Maxcess Guide to Sensor 8 pin Cable Assembly

INSTALLATION

3.6 Guideline Block Diagram

GUIDELINE Sensor connector X1 can receive 24 VDC/1 Amp power from any Maxcess guide or D-MAXE unit. Sensor connector X2 can provide 54VDC POE out to the OI, which regulates the POE down to 24 VDC.

The sensor can also be powered by a machine-safe 24 VDC/1 Amp power supply input to sensor connector X1 and then output analog signals to PLCs and other non-Maxcess devices via sensor connector X1.

GUIDELINE OI draws 54 VDC POE from the sensor via X102 and regulates the POE down to 24VDC. See Figure 9 below. Cable between OI connector X102 and sensor connector X2 also provides communication between OI and Sensor.

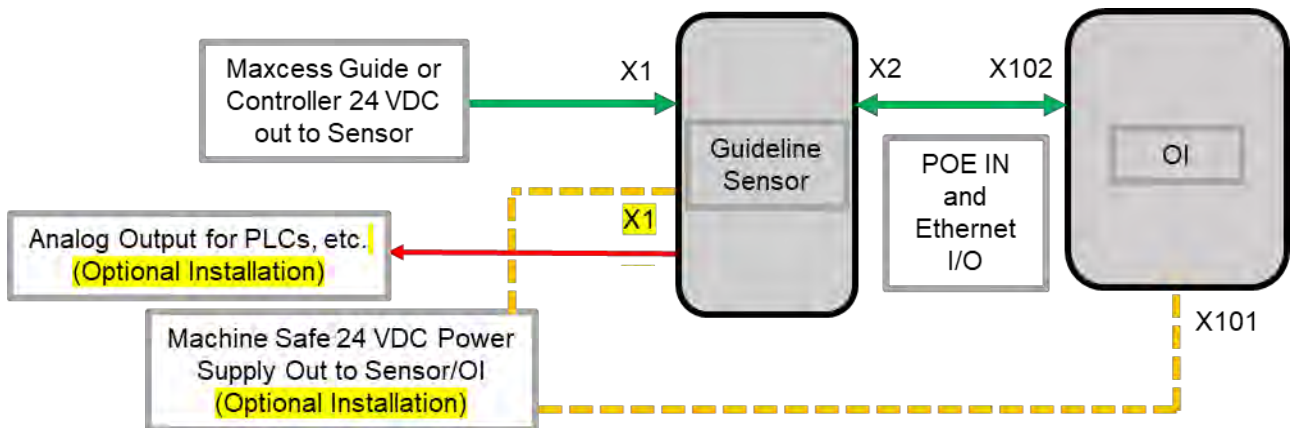The OI can also be powered from a machine-safe 24 VDC/1 Amp power supply via OI connector X101 (Optional).

Figure 9 – Guideline Block Diagram

INSTALLATION

3.7 Analog outputs

3.7.1 GUIDELINE Analog Outputs 1 and 2

The outputs are designed to provide real-time control signal to a web guide system. They provide proportional response to detected web offset.

Both of the outputs are formed by open-drain transistor pins and the Common Return signal.

Each output requires an external load resistance value of 100 Ohms, connected between the output and return. (This applies only if a voltage output is needed in a stand-alone configuration.)

Outputs can be independently configured to deliver range of 0 to10, 0 to 20 or 4 to 20 mA over the input load.

Outputs can be independently configured for an inverted polarity. For example, 0 to10 can be switched to 10 to 0 output.

The default range setting for the Output 1 is 0 to 10 mA.

The default range setting for the Output 2 is 10 to 0 mA.

Figure 10 – Typical Output Wiring Schematic
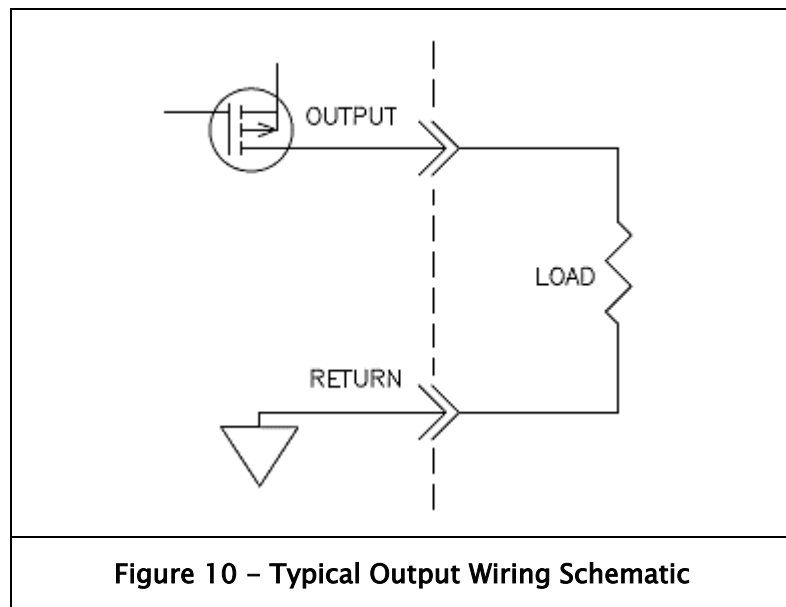
4.0 GUIDELINE Password Security

4.1 Overview

Password security settings allow administrators or privileged operators to protect selected functions from being changed or performed by personnel who do not have the authority.

Definitions for the purpose of this chapter:

Admin (or privileged operator) has a password and full access to all menus.

Operator does not have a password and can only access unlocked button functions.
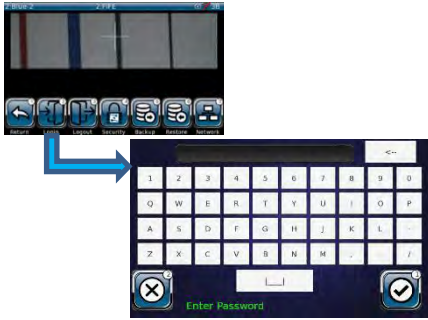
Locked out = password protected

Login screen = password entry number pad/keyboard

Basic steps to activate security
- Login to Admin menu
- Select the Menus you wish to protect
- Set and save a password
- Log out of the Admin menu
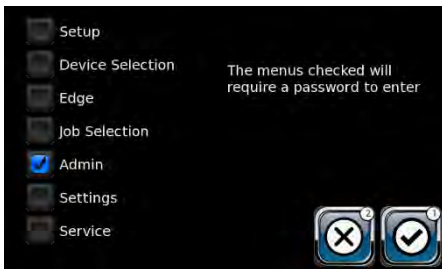
SECURITY

4.2 Set Password (first time use)

LOGIN and Set Password

From the main screen, select SETUP > ADMIN > LOGIN to access the password screen.

Type password and press to Login.

This sets your password at first time use

Menu Access Protection

Select the functions you wish to protect. In this example only Admin is selected for password protection. Admin should always be protected as Security is a sub menu of Admin.

Menu item	Password locks out
SETUP	All SETUP menu items
DEVICE SELECTION	Device Selection
EDGE	All EDGE menu items
JOB SELECTION	Select and Enable/Disable Jobs
ADMIN	All ADMIN menu items
SETTINGS	All SETTINGS menu items
SERVICE	All SERVICE menu items

ⓘ If no functions are selected when security is activated, only the ADMIN Login menu will be locked.
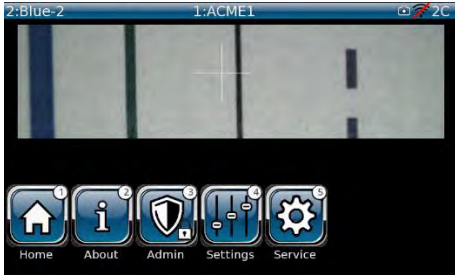
PASSWORD TYPE

Passwords can contain any character available on the GUIDELINE keyboard.

Password must be at least 1 character in length.

SECURITY

4.3 Identifying Security Status

Admin is Protected, Security NOT Enabled
- Admin menu protection is enabled but not activated.
- Admin needs to log in to Enable security.
- Locked buttons require a password for access; operators cannot access any function with a lock icon on its button.
- Admin can press any locked menu to open a password entry screen.


Security IS Enabled.
- Key icon is present at upper right of menu and Login Timeout (example 195) is counting down.
- When Login Timeout counts down to Zero (0), the Key icon disappears and Security is disabled, but all Protected Menus are valid.

4.4 Admin Login
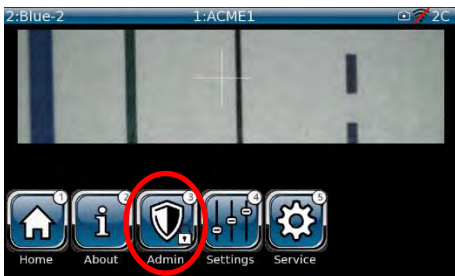
From the main screen, select
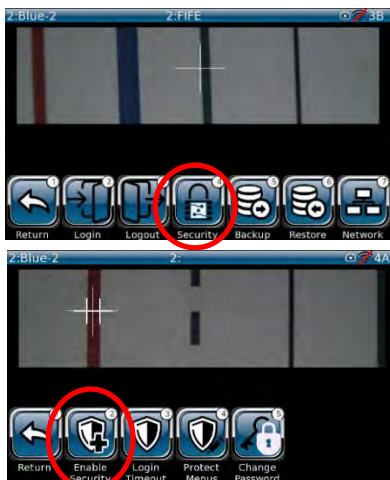
SETUP > ADMIN > PASSWORD

If the lock icon is present, enter password when prompted by the appearance of the login keyboard. Enter password and press the Enter Key
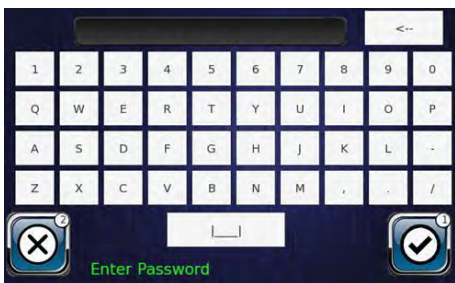
At the Admin menu screen, select Login and re-enter password when prompted. Then select OK checkbox
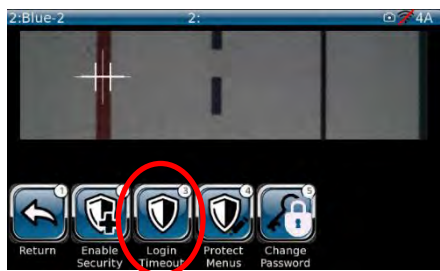
4.5 Enable Security

From the Admin screen,

Select Security screen

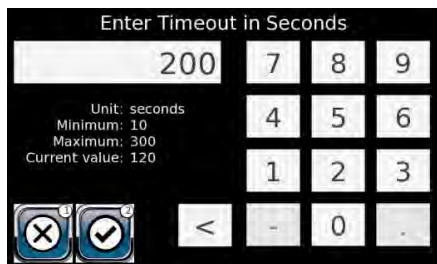**At the Security screen:**

1. Select Enable Security
2. When prompted, Select Yes checkbox to Enable security.
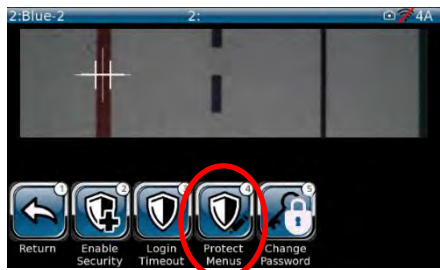
4.6 Login Timeout

At the Security screen:

1. Select Login Timeout
2. The Timeout screen shows Minimum Value = 10, Maximum = 300, Selected shows 200. Administrator can choose any value within the range.
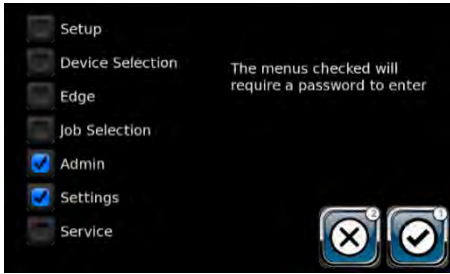

4.7 Protect Menus

At the Security screen:

1. Select Protect Menus

SECURITY

2. The Lock Menu screen shows which menus are currently protected. Admin is recommended for protection, because of Security access. Settings menu may need to be accessed by operators to make changes to existing Jobs or to setup new jobs.

4.8   Change Password

At the Security screen:

1.   Select Change Password
2. A pop-up keyboard appears and prompts user to enter current Admin password

3. Press the Return Key and then press Logout key at the Admin menu

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5.0 Operator Interface (OI) and Sensor Setup

5.1 White Balance and Brightness Setup

The White balance setup should be done at installation and can be done any time the Color screen has been changed or compromised.
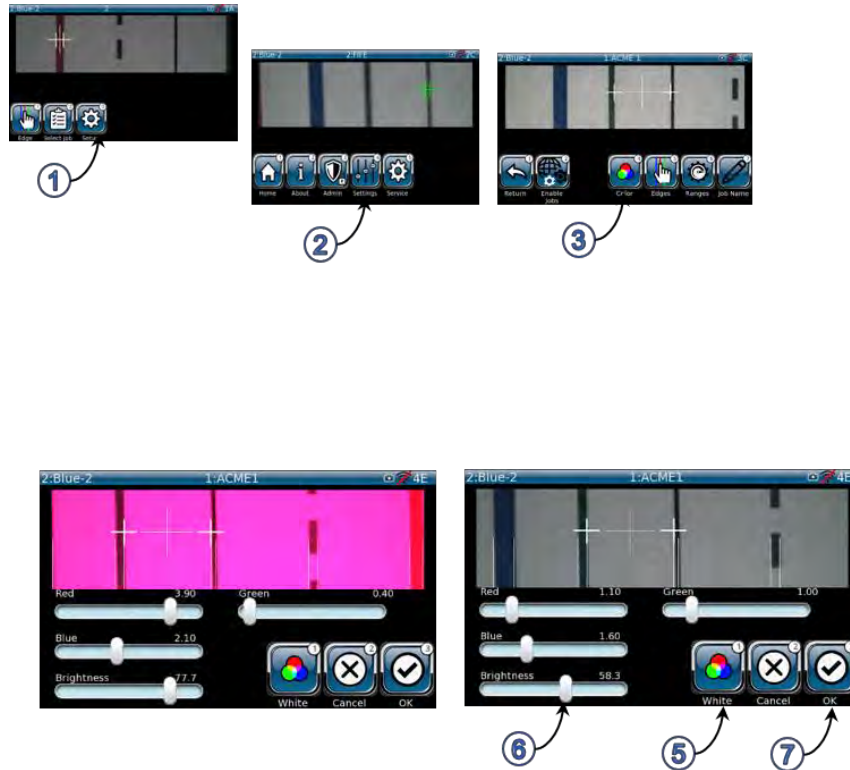

Figure 11 – Sensor White Balance and Brightness Reset

Perform the following steps to set/reset the White Balance and Brightness of the sensor:

Step 1 – Select Setup from Main   menu

Step 2 – Select Settings from Setup   menu

Step 3 – Select Color from Settings   menu

Step 4 – Place a white card or clean sheet of paper in front of the sensor. Refer to Figure 6 for reference points and distance from sensor to white card/paper.

Step 5 – Press the   White button and ensure the RGB sliders automatically balance sensor color adjustment.

Step 6 – Manually adjust Brightness to operator discretion.

Step 7 – Press OK   to save changes and exit

5.2 Enable Jobs

The GUIDELINE has five (5) generic Jobs, Job1 through Job5. These Jobs must be enabled before they can be set up for production. For this example, the customer has two (2) Jobs that they normally use.
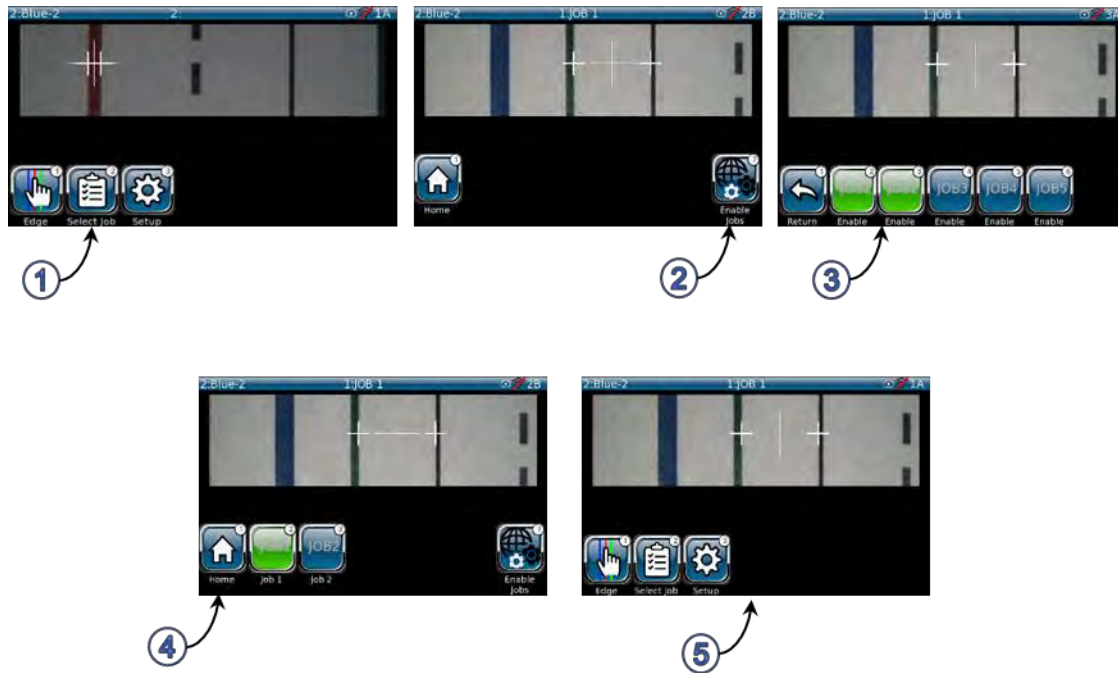
Figure 12 – Enabling Jobs

Perform the following steps to Enable Jobs:

Step 1 – Press Select Job ⬚ from the Home screen.

Step 2 – Press Enable Jobs ⬚ from the next screen.

Step 3 – Select Job 1 and Job 2, The enabled Jobs are now highlighted in Green. Press the Return Key ⬚ to exit.

Step 4 – The two selected Jobs are now Enabled. Press the Home Key ⬚ to return to the main screen. Note that Job1 is shown in the middle top of screen.

OPERATION

5.3 Name Jobs

The GUIDELINE uses a built-in list of five (5) Jobs (JOB1 through JOB5). This procedure shows how to Name these Jobs to match each customer's naming convention.
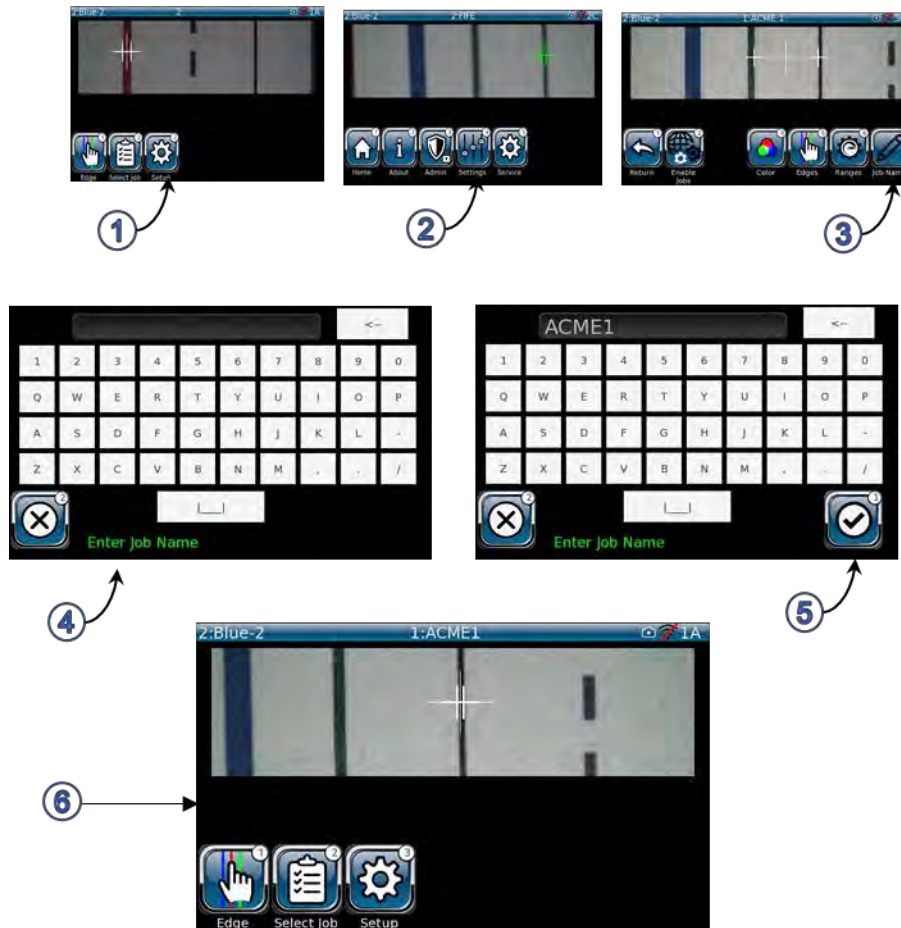
Figure 13 – Naming Jobs

Perform the following steps to Name Jobs:

Steps 1 thru 3 – Press Setup, [icon] then Settings, [icon] then Job [icon] Name.

Steps 4 and 5 – After pressing Job Name, a Keyboard appears and shows only a a Cancel button. Type in the new Job name. For our example, the Job name is ACME1. Press Enter and then Home to return to the main screen.

Step 6 – Note that ACME1 is now shown as the active Job at the top of the screen.

OPERATION

5.4 Set-Up Jobs

The following procedures show how to enter all necessary parameters for each of your pre-existing or any new Jobs that you may run.

Figure 14 – Edges Menu Access

Steps 1 thru 3 – Press Setup, [icon] then Settings, [icon] then Edges. [icon]

Step 4 shows the three (3) options for defining your job (s).

Line – Allows selection of Line Center or Line Edge for products with well-defined lines.

Pattern – The 'Pattern' mode is useful when the web has a poorly-defined line structure. In Pattern mode, the complete sensor field of view is used instead of tracking to a specific line feature. Note in Pattern mode, the guided "center" will be the middle of the learned web pattern. For best results, position the web at the preferred location before "learning" the pattern.

Edge Scan provides manual control over the edge selection process, with configuration options for scan direction and edge polarity.
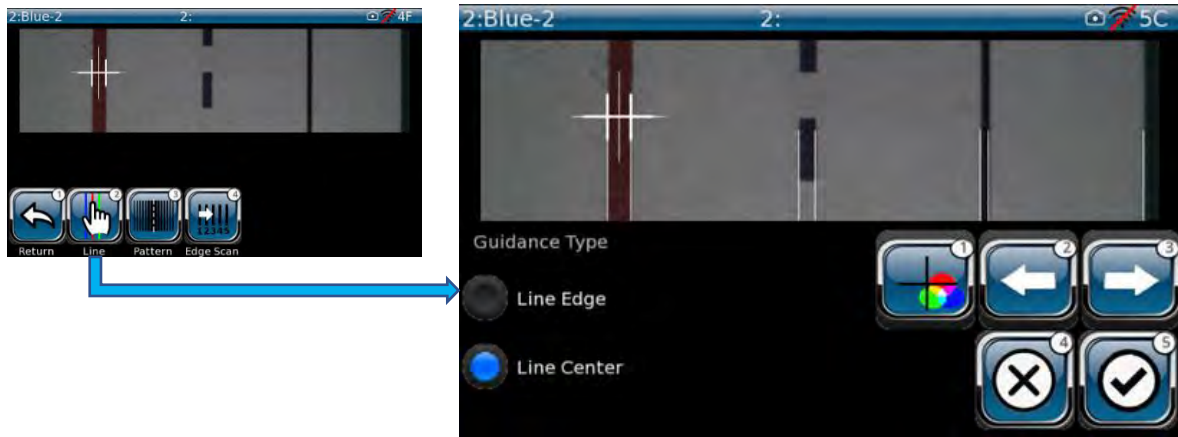
OPERATION

Figure 15 – Line Menu

Allows operator to select between Line Edge and Line Center, depending on the Job selected or by manual change by operator. Line Center option selects center tracking point between two lines chosen by operator. Line edge selects edge of line chosen by operator. Changes made by the operator are seen "live" on screen as changes are made.

Allows operator to toggle between 5 pre-selected edge markers (cursors).

Select the next valid edge to left for guiding. If line mode is active, this will move to the next complete line or lane (between lines). The button is ignored if no valid guiding candidates are available in this direction.

Select the next valid edge to right for guiding. If line mode is active, this will move to the next complete line or lane (space between lines). The button is ignored if no valid guiding candidates are available in this direction.

Allows the operator to exit the job without "saving" any changes made by the operator.

Allows the operator to exit the job without "saving" any changes made by the operator.

OPERATION

5.4.2 Pattern Menu
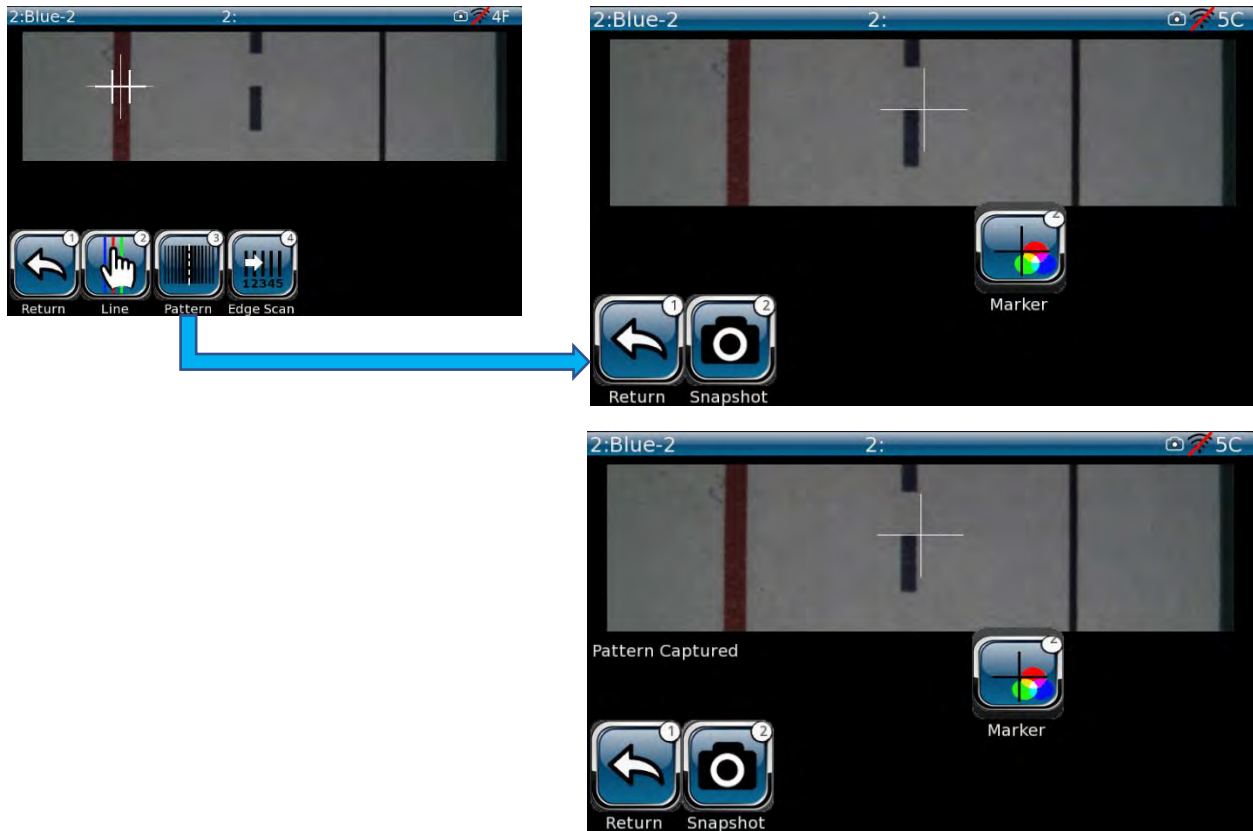
Figure 16 – Pattern Menu

Pattern mode uses the complete sensor field of view to identify the horizontal location of the complete learned pattern, as opposed to tracking a single line. Changes made on this screen are seen live.

Snapshot - For best results, place the web at the desired guided location before pressing the Snapshot button. The learned location will be the guided center setpoint. Press the Snapshot button and ensure "Pattern Captured" appears on screen (this signals sensor has self-adjusted and "captured" the pattern in the selected job.)

Allows operator to toggle between 5 pre-selected edge markers (cursors)

Allows operator to return to the previous menu

OPERATION

5.4.3 Edge Scan Menu

Figure 17 – Edge Scan Menu

The Edge Scan menu allows operator to choose tracking points from web material that has multiple edges and colors: The Scan Direction function enables cursor Left to Right or Right to Left. Operator selects Polarity (Transition from Dark to Light or Light to Dark) or Any Edge. This menu is "live", so changes made are seen in real-time.

 Allows operator to toggle between 5 pre-selected edge markers (cursors).

 Select the next valid edge to left for guiding. If line mode is active, this will move to the next complete line or lane (between lines). The button is ignored if no valid guiding candidates are available in this direction.

 Select the next valid edge to right for guiding. If line mode is active, this will move to the next complete line or lane (between lines). The button is ignored if no valid guiding candidates are available in this direction

 Allows the operator to exit the job without "saving" any changes made by the operator.

 Allows operator to save sensor settings under current job number.
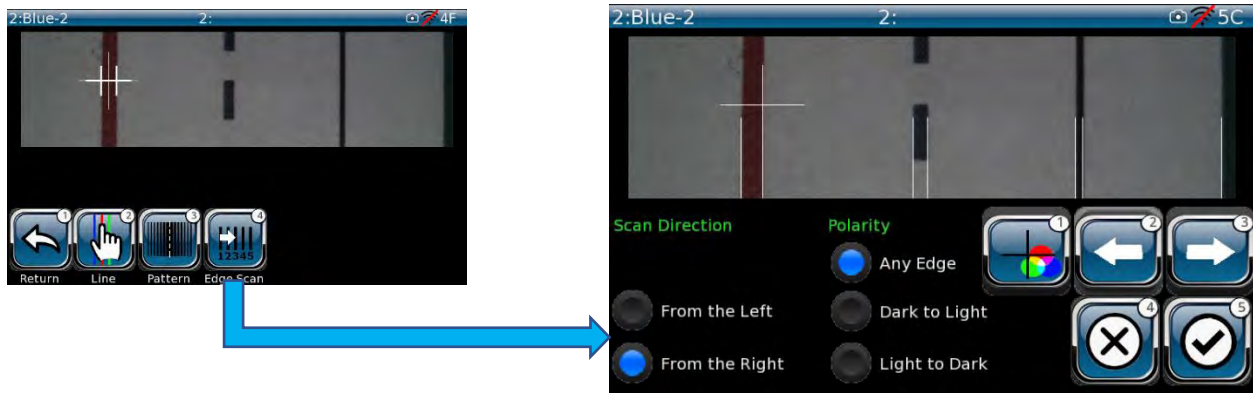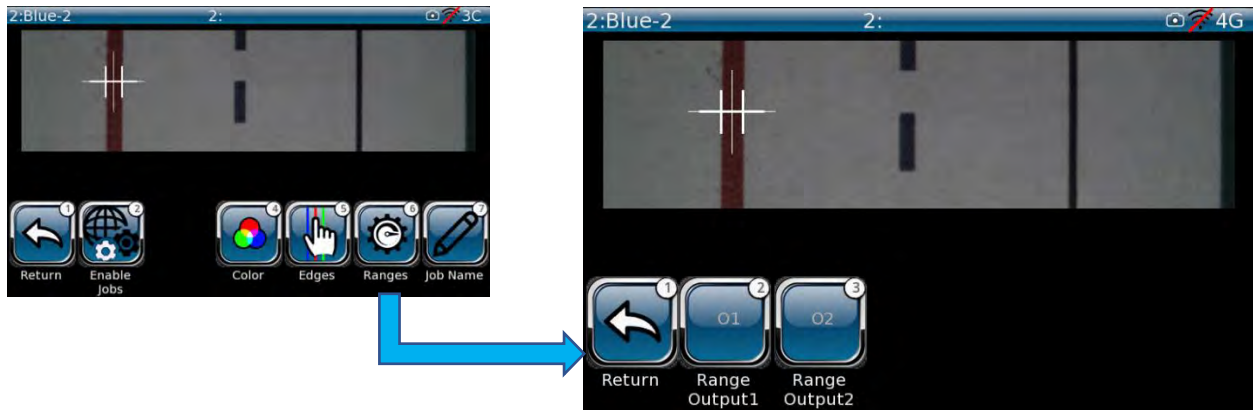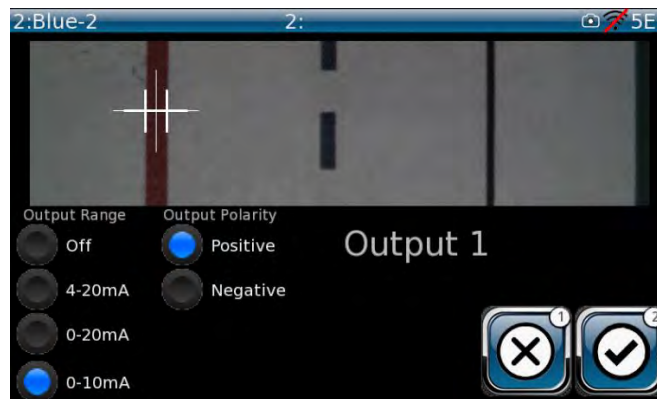
OPERATION

5.5   Ranges Set Up

Figure 18 – Ranges Menu

These settings define the full-scale output range and polarity for each of the two independent analog outputs. Change these settings as needed to match input requirements of receiving devices. The default 10mA settings are typical for Maxcess controllers.

Note: While some settings are considered job-related and can be configured independently for each job, these settings are global for the sensor and apply to all jobs.

Allows the operator to exit the job without "saving" any changes made by the operator.

Allows operator to save sensor settings under current job number.

ℹ *- NOTE – Range Output 2 functions the same as Output 1, except Negative.*

OPERATION

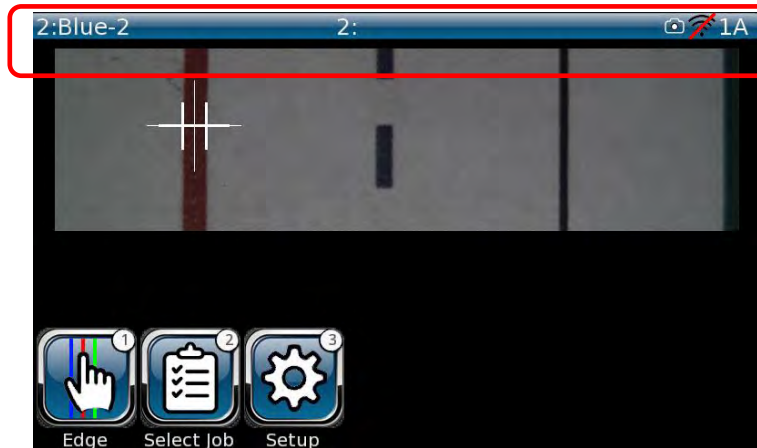## 6.0 GUIDELINE Menus

6.1 Main Menu

Figure 19 – Operator Interface Main Menu

All dynamic menus (those that display an active screen, as shown above) have a header that displays:

- Connected sensor Maxnet Id and configured sensor name. (Top Left)

- Job Number (1-5) and Configured Name (Center)

- Upper Right Quadrant displays (Left to Right)

  o Sensor Present

  o Wi-Fi connectivity (shown not connected)

  o Screen Identification Number

The middle of the menu displays real-time (Dynamic) output from selected sensor.

The buttons in the lower left quadrant are:

 Edge – Allows user to select Line Edge or Line Center for each job

 Select Job – Allows user to select pre-defined jobs

 Setup – Used to perform initial setup and to display all menus required to perform device maintenance activities
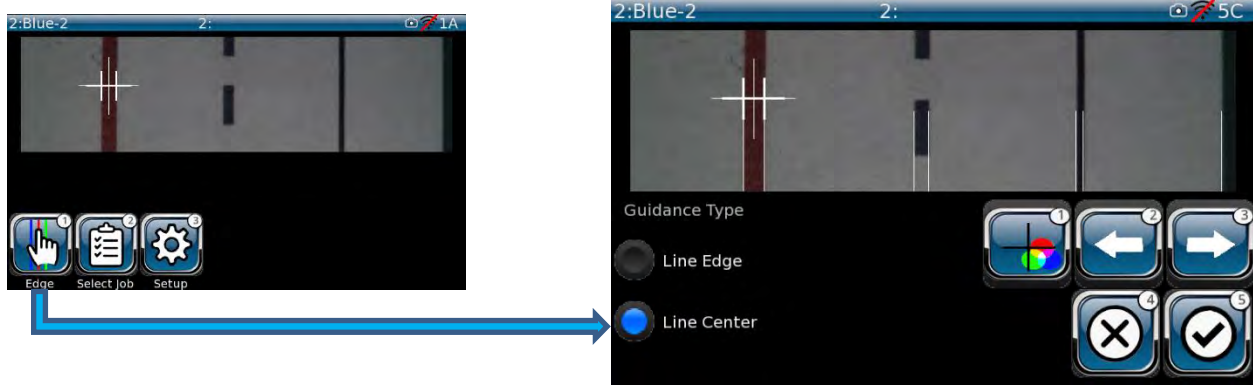
OPERATION

6.2 Edge Menu

<div align="center">

Figure 20 – Edge Menu

</div>

Allows operator to select between Line Edge and Line Center. The current settings of the selected Job are reflected here.

The buttons in the lower right quadrant are:

Allows operator to toggle between 5 pre-selected edge markers (cursors).

Select the next valid edge to left for guiding. If line mode is active, this will move to the next complete line or lane (between lines). The button is ignored if no valid guiding candidates are available in this direction.

Select the next valid edge to right for guiding. If line mode is active, this will move to the next complete line or lane (space between lines). The button is ignored if no valid guiding candidates are available in this direction.

Allows the operator to exit the job without "saving" any changes made by the operator

Allows operator to save sensor settings under current job number.
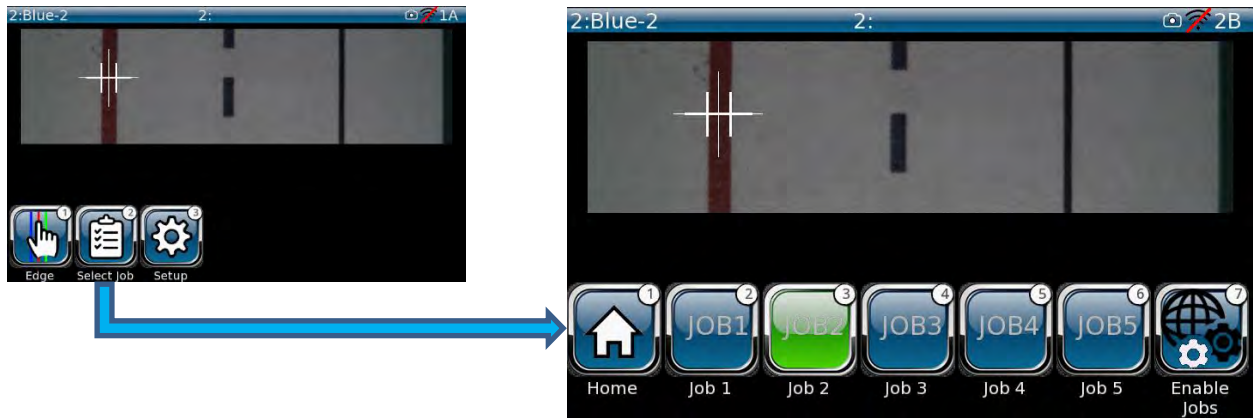
OPERATION

6.3   Select Job

Figure 21 – Select Job Menu

Allows operator to choose from a list of up to 5 enabled jobs. The buttons along the bottom are:

 Home – Allows operator to return to the Home menu

 Jobs – Selects Jobs 1 thru 5 (if job enabled)

 Enable Jobs – Allows operator to enable/disable jobs.

OPERATION

6.4 About Menu

Figure 22 - About Menu

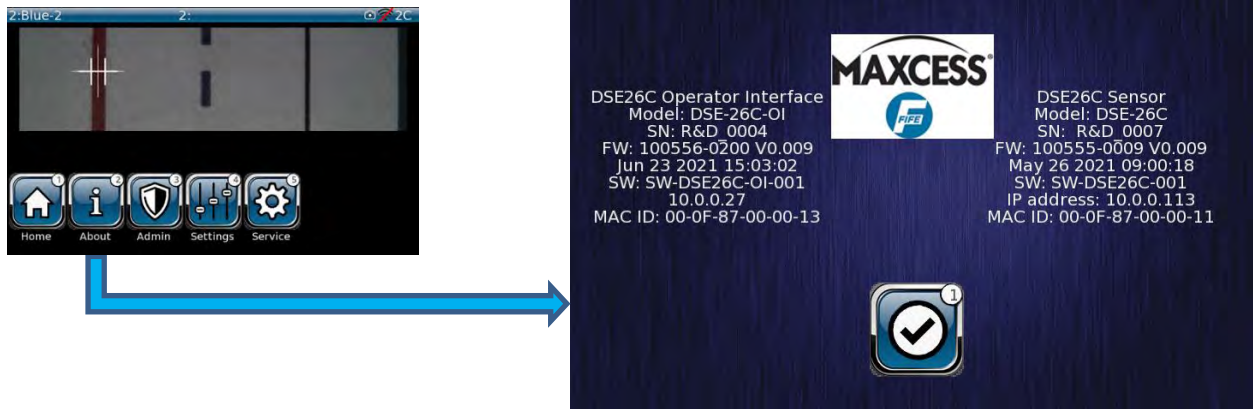The About menu contains important information about the OI and sensor. This information can be important to technical personnel in the field or non-technical personnel contacting Maxcess customer service. The menu contains:

- Model Number

- Serial Number

- Firmware (FW) version

- Software (SW) version

- Internet Protocol (IP) address

- MAC address

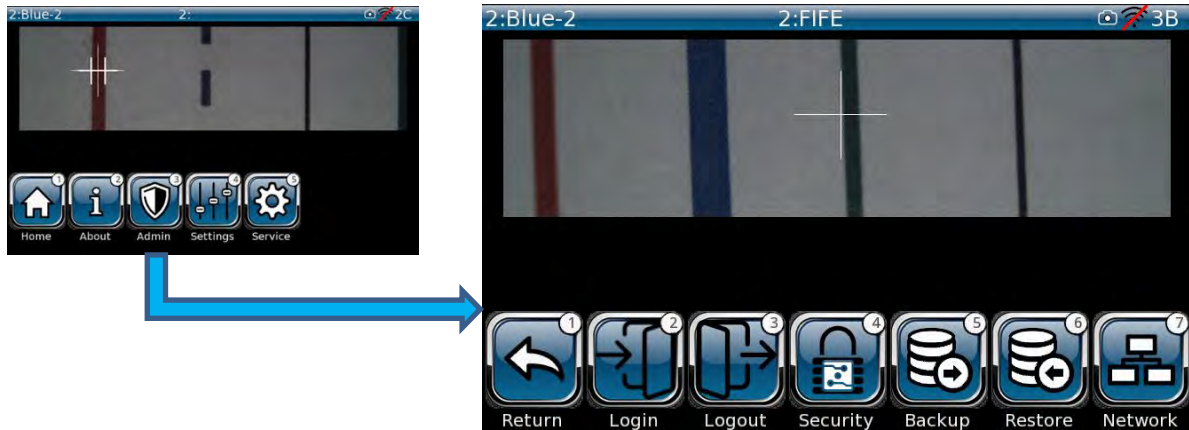   Allows operator to return to the previous menu

OPERATION

6.5 Admin Menu

<p style="text-align:center">Figure 23 – Admin Menu</p>

The Admin menu provides:

	Return – Allows operator to return to the previous menu
	Login – Allows authorized users to login to Administration and Security menus
	Logout – Allows authorized users to logout of Administration and Security menus
	Security – Allows authorized users access to Security menus
	Backup – Allows authorized users to backup current jobs to a special folder
	Resto re – Allows authorized users to restore backup jobs, as necessary
	Network – Allows authorized users to access Network menus

OPERATION
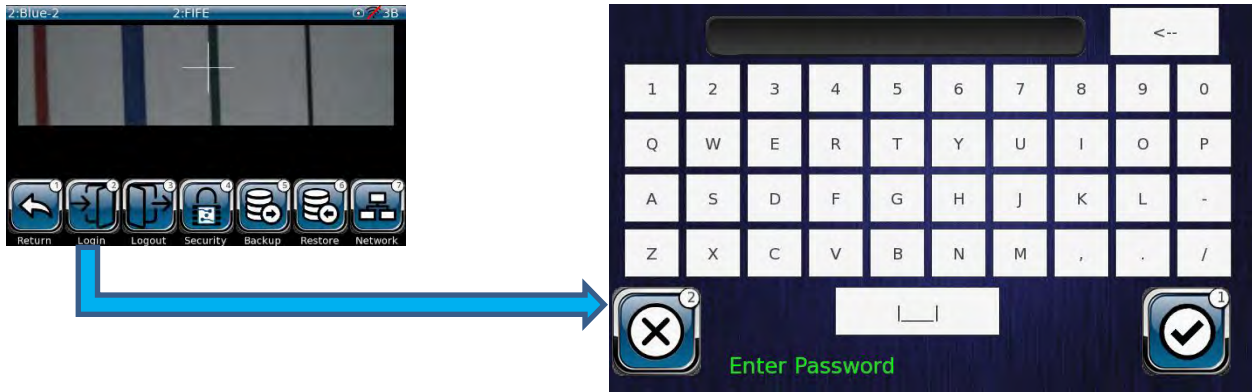
6.6 Admin Login Menu

Figure 24 – Admin Login Menu

Enter valid password and press [image: Enter key] Enter key.

6.6.1 Security Logout Menu

Figure 25 – Security Logout Manu

Press [image: Enter key] Enter key to Logout.
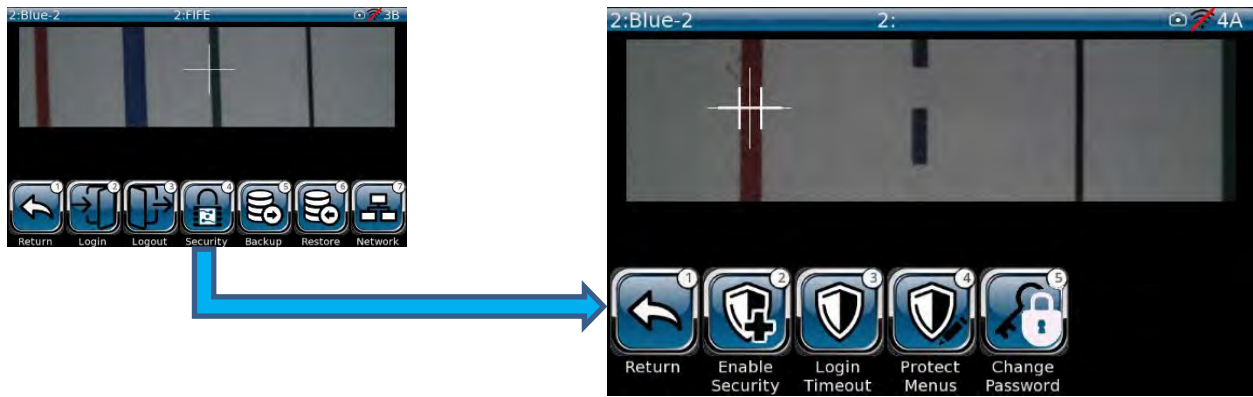
OPERATION

6.7 Security Menu

Figure 26 – Security Menu

The Security menus are to be used only by authorized personnel (Level 2 Access or higher). Authorized users must login at the Admin menu screen (shown above left), before accessing the Security menus.

 Enable Security – This option requires a secondary password to enable security protocols

 Login Timeout – Sets a Timeout between 20 and 300 seconds to ensure security login does not stay open indefinitely

 Protect Menus – Authorized user can dis-able certain setup and administrative menu access

 Change Password – Allows authorized user ability to change password

 Return – Allows user to return to the previous menu
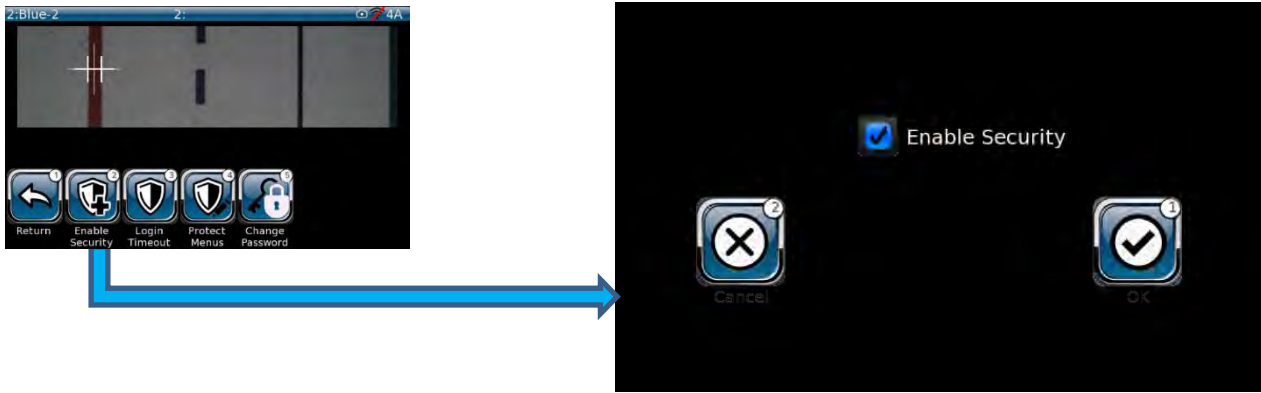
OPERATION

6.7.1 Enable Security Menu

Figure 27 – Enable Security Menu

Ensure checkbox is checked and press Enter key to Enable security protocols.

This menu is accessible only to authorized users.
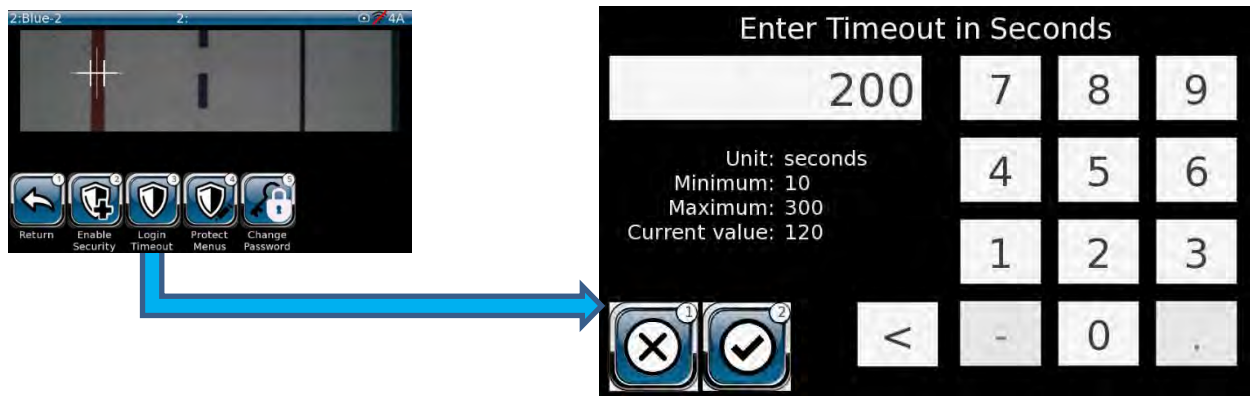
6.7.2 Login Timeout Menu

Figure 28 – Login Timeout Menu

Enter desired timeout duration. This feature ensures the Login for the authorized user will be disabled if authorized user neglects to logout of the security menu access.

 Allows authorized user to exit without changing timeout value

 Allows authorized user to change timeout duration and save changes on exit

OPERATION

6.7.3 Protect Menus

Figure 29 - Protect Menu

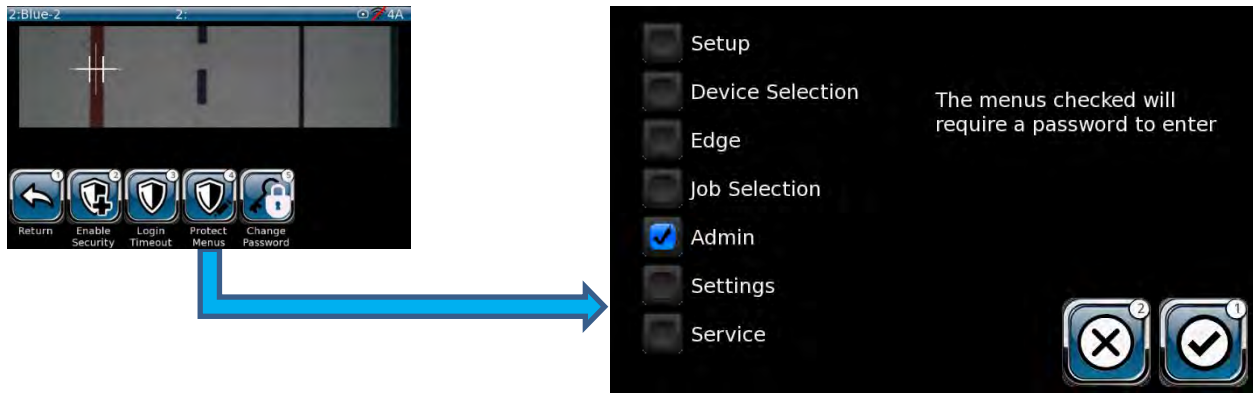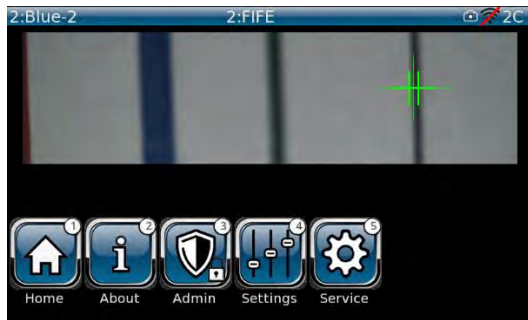Allows authorized user to restrict access to certain administrative, setup, and security menus.

Note below that after selecting Admin menu for password protection, there is now a lock icon added to the Admin menu access button.

	Allows authorized user to exit without changing selected menu (s)
	Allows authorized user to change selection (s) and save changes on exit

OPERATION

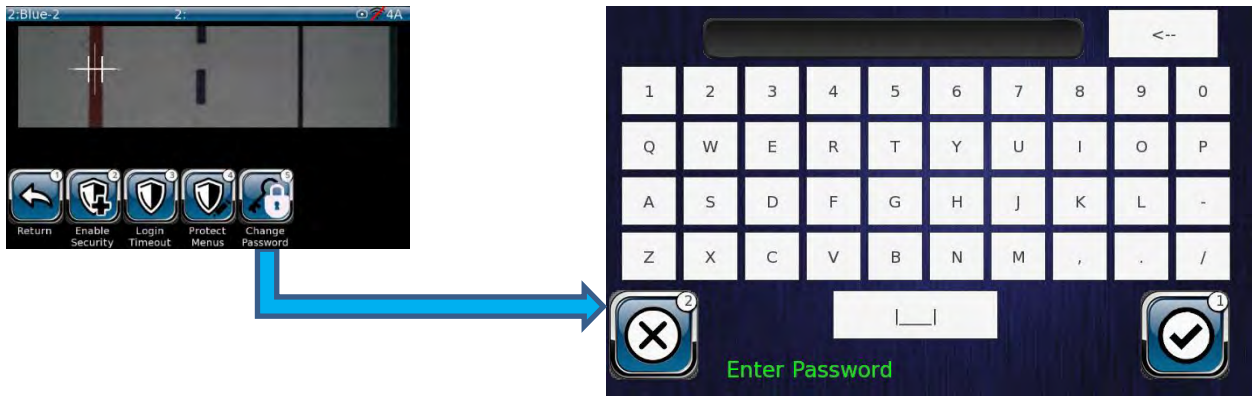**Change Password**

<center>**Figure 30 – Change Password Menu**</center>

Allows authorized user to change password.

   Allows authorized user to exit without changing password

   Allows authorized user to change password and save changes on exit

6.7.4 Backup Menu
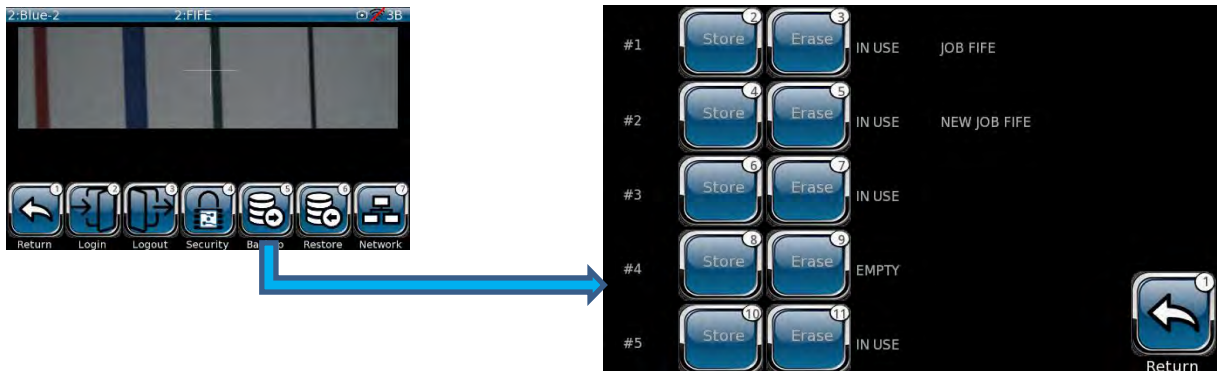
<center>**Figure 31 – Backup Menu**</center>

The Backup menu is used to save all sensor settings to a designated backup image. The sensor can store up to five separate backup images. A backup image contains ALL sensor settings, including job names, settings, network settings, analog output ranges, etc.

When combined with the five separate jobs that are available, 25 total jobs can be managed. The Store button will prompt for a backup name before creating the backup.

The Erase button will remove the respective back image.

   Return – Allows operator to return to the previous menu

OPERATION

6.7.5 Restore Menu
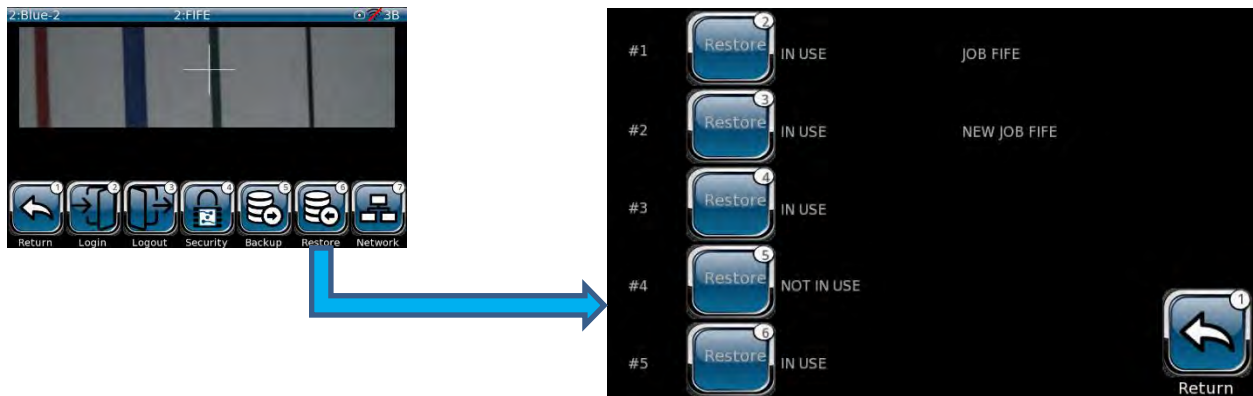
Figure 32 – Restore Menu

The Backup menu provides the complementary function for the Restore menu. A list of available backups is presented and may be recalled. A restore operation will recall ALL sensor settings that were in place when the backup was performed. This will include all five job configurations, network settings, analog output ranges, etc.

The Backup/Restore structure combined with the five jobs per backup can be used to manage up to 25 separate jobs.

 Return – Allows operator to return to the previous menu

OPERATION

6.8 Network Menu

Figure 33 - Network Menu

The Network menu provides information for:

 Sensor – This menu provides network information for the Sensor

 OI – This menu provides network information for the OI.

 Reset – This menu provides a Reset function for the sensor and/or OI, as needed.

 Return – Allows operator to return to the previous menu

OPERATION

6.8.1 Sensor Menu

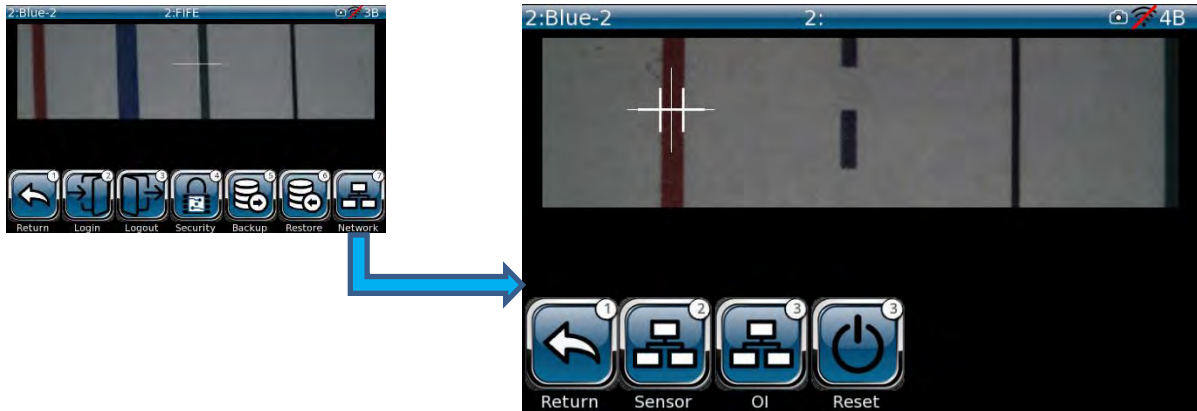

Figure 34 – Sensor Menu

The information on this menu should be treated with care to avoid loss of communication. To change settings, touch the white box for the setting (IP Address (shown above)). A new menu appears: Enter the appropriate data, check data, and press checkbox to save changes.

 Allows authorized user to exit without changing IP address

 Allows authorized user to change IP address and save changes on exit

OPERATION

Figure 35 – Sensor Maxnet Menu

Press Maxnet to open Sensor Discovery Method menu and select desired discovery method

Allows authorized user to exit without changing discovery method

Allows authorized user to change discovery method and save changes on exit
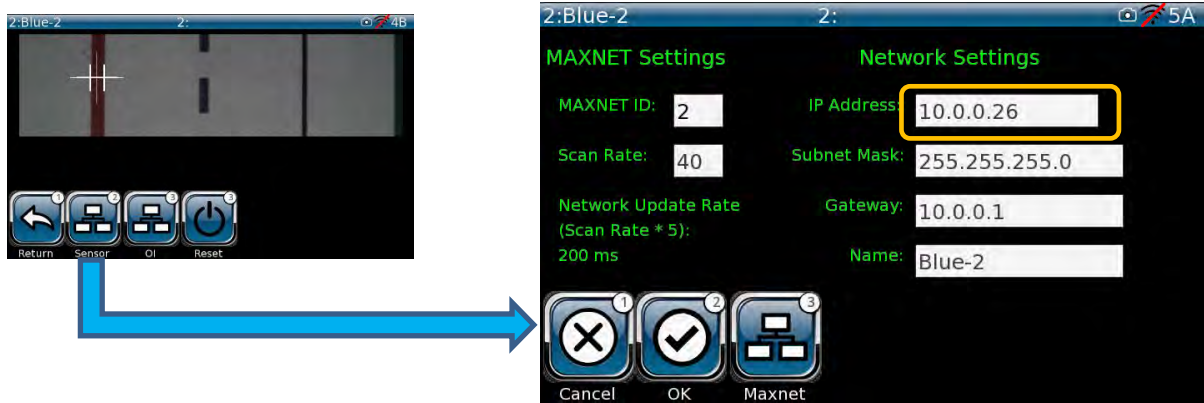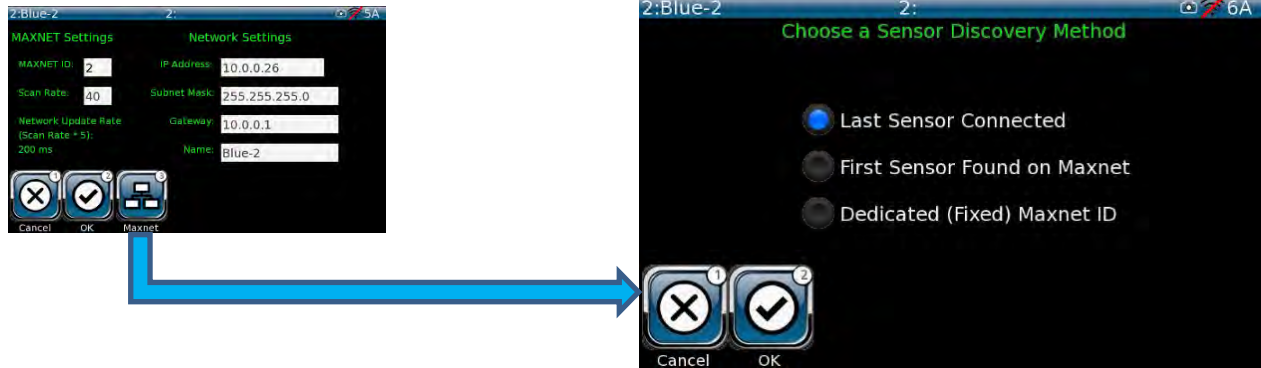
OPERATION

6.8.2 Operator Interface Menu

Figure 36 – OI Menu

The information on this menu should be treated with care to avoid loss of communication. To change settings, touch the white box for the setting (IP Address (shown above)). A new menu appears: Enter the appropriate data, check data, and press checkbox to allow changes made to be saved or reset to previous setting automatically after exiting the existing job.
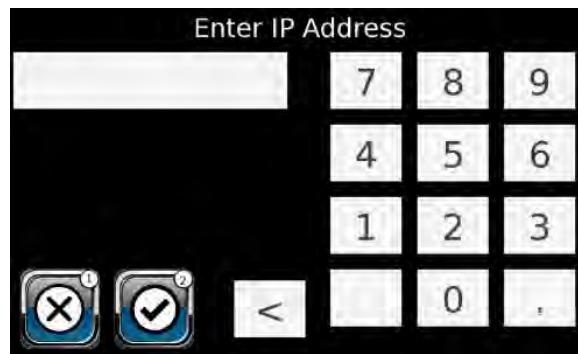
  Allows authorized user to exit without changing IP address

  Allows authorized user to change IP address and save changes on exit

  Allows authorized user to access available Wi-Fi networks.

OPERATION
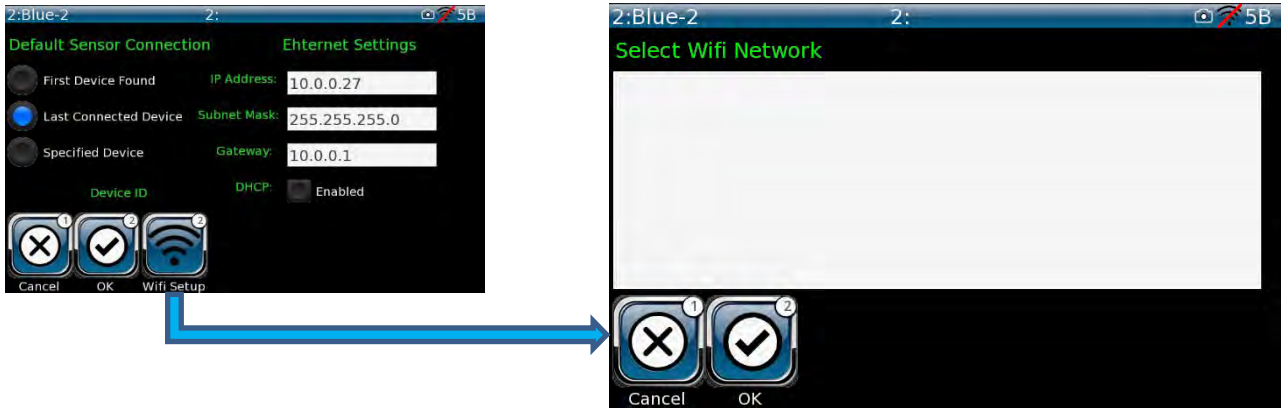
Figure 37 – OI Wi-Fi Setup Menu

Select desired Wi-Fi network and choose from the options below

Allows authorized user to exit without changing Wi-Fi network

Allows authorized user to change Wi-Fi network and save changes on exit

6.8.3 Reset Manu

Figure 38 – Reset Menu

This function allows authorized user to perform a Reset of the Sensor or OI (or both), as a maintenance or troubleshooting process.

CAUTION – Do NOT perform a reset of the sensor or OI during a product run. All web tracking can be lost.

Starts a complete reset of the system. NOT to be used during product run.

Allows user to return to the previous menu.
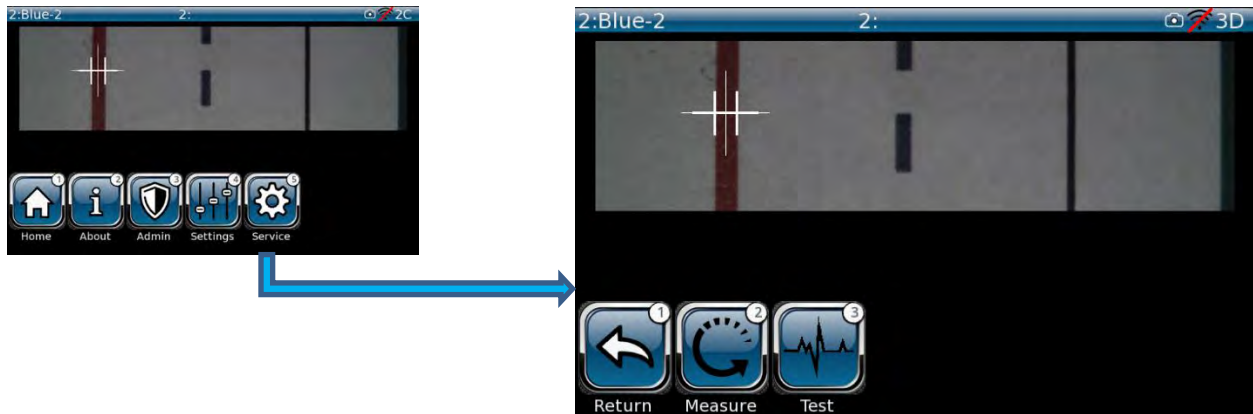
6.9 Service

Figure 39 – Service Menu

Allows authorized users to access information to assist in the troubleshooting and repair of the system.

Displays live signal status. This is safe to do at any time.

This menu allows user-control of the analog outputs and should only be done when the machine is not running.

6.9.1 Measure Menu

Figure 40 – Measure Menu

Allows viewing of "live" feedback of sensor outputs and statistics.

Allows authorized user to return to the previous menu

6.9.2 Test Menu

ℹ️ NOTE – This function WILL cause interruption of the sensor guiding signals. This diagnostic function should only be performed under machine-safe conditions
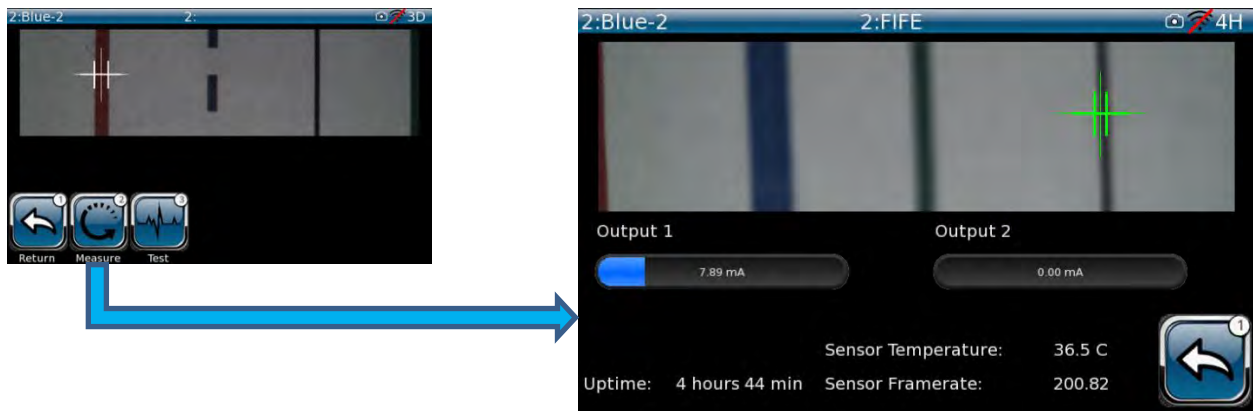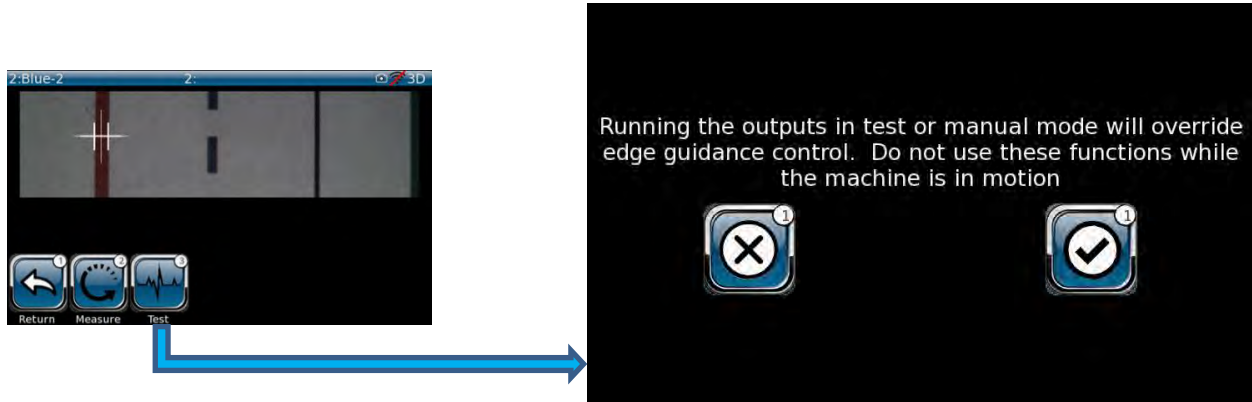

Figure 41 – Warning Screen

Figure 42 – Test Menus
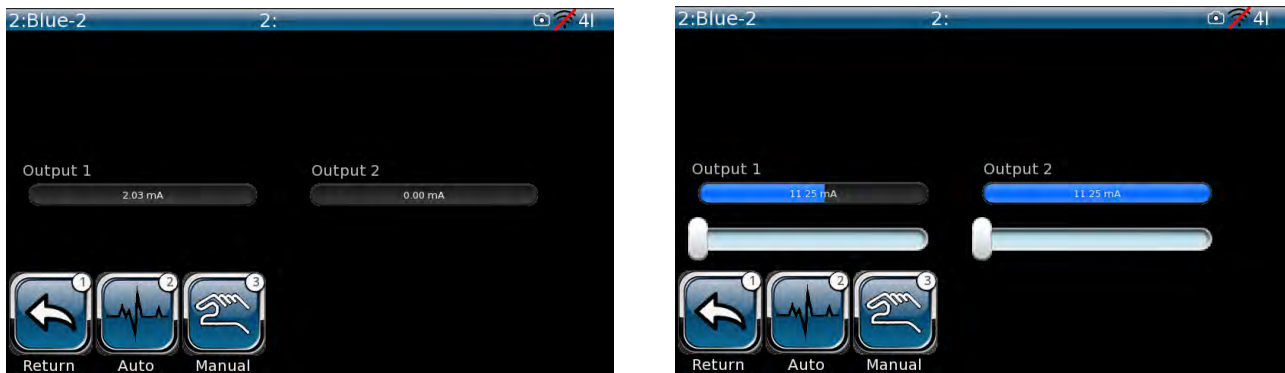
The user (in manual mode) adjusts the sensor analog outputs using the sliders. The range of the sliders depends upon the setup of the analog output (Highlighted below)
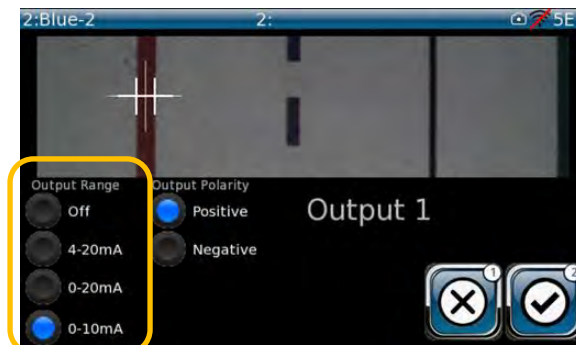
The progress bars show the current analog output values. Manual mode should NOT be used while the web is moving, as changing the analog outputs will change the web guidance hardware position and tracking will be lost.

DIGITAL COMMUNICATION INTERFACE

7.0 Fife Sensor Serial Bus (FSBUS)

GUIDELINE edge information is always presented using two analog outputs that are independently configurable for OFF, 0 to 10 mA, 0 to 20 mA, or 4 to 20 mA scales. When connected to a Fife controller with FSBUS capability, the GUIDELINE also supports digital delivery of edge data. This feature is automatically detected and enabled when connected to a supporting controller.

The controller may need additional configuration to use the digital data delivery.

8.0 Maintenance

Operator Interface (OI)

Cleaning OI Display

> **i** NOTE – Do not use any solvents or aggressive cleaning agents to clean the display. Doing so could damage the display.

Depending on how dirty the environment is, carefully wipe off the operator interface display at regular intervals with a soft dry cloth.

If the display becomes very dirty, a moist cloth can be used to clean it.

Sensor

Cleaning Sensor Window

> **i** NOTE – Do not apply excessive inward force to sensor outer window during cleaning. The outer window could become dislodged and render the sensor inoperative.

Depending on how dirty the environment is, carefully wipe off the sensor outer window at regular intervals with a soft dry cloth.

If the display becomes very dirty, a cloth moistened with Acetone can be used for cleaning the polycarbonate window.

9.0 Troubleshooting

Fault diagnostics and rectification

An incorrect setting on the GUIDELINE OI is often the cause of incorrect or undesirable guiding characteristics. Faults and the procedures for rectifying the faults are described below.

Fault Description	Probable Cause	Remedy
OI does not display a web image	OI does not see the sensor	Perform power cycle
	Sensor connection is lost	Re-set the cable and perform sensor power cycle
		Replace the sensor
OI web image display is poor quality	Sensor lens is dirty	Clean the sensor lens.
	Wrong sensor backlight settings	Perform White Balance reset IAW Figure 6 of this manual.
OI security access is denied	Password mismatch	Contact Maxcess technical support to re-set password
OI display is dark	OI power connection	Check power/signal connection and re-connect
	OI internal failure	Replace OI unit
Manual job setup procedure fails to find a web edge	Distance to a web	Check web setup
	Sensor backlight settings	Check backlight settings
	Incorrect edge function	Check edge detection function settings
	Incorrect ROI	Check ROI settings
	Special case web material	Contact Maxcess technical support

SPECIFICATIONS

10.0 Specifications

General specifications		
OI display type		Color, touchscreen, 800 x 480 px
OI connection type		PoE Internet 100 Mb
Sensor working spectrum		Color – Visible Light Spectrum
Operating temperature range	℃ [℉]	0 to 50 [32 to 122]
Operating temperature range with Fins	℃ [℉]	0 to 60 [32 to 140]
Storage temperature range	℃ [℉]	–10 to 80 [14 to 176]
Physical specifications		
Sensor dimensions	mm	106 x 83 x 99 (L x W x H)
OI dimensions	mm	147 x 65 x 120 (L x W x H)
Sensor weight	g [oz.]	312 [11]
OI weight	g [lbs.]	885 [1.9]
Electrical		
Operating current requirement	VDC/A	24/1
Operating voltage input range	VDC	18 to 26
Analog output range	mA	0 to 20 (at nominal load 100 Ω)
Analog output temperature drift	mA/℃	10^{-5} (in range 0 to 50℃)
Digital communication interface	RS–485	Fife Sensor Serial Bus

SPECIFICATIONS

Field of view	mm	32 X 8
Working Distance	mm	~ 85
Working resolution	mm	0.002
Sensor update rate	Hz	200
OI screen update rate	Hz	10
Boot time to operation state	Seconds	~ 30
Certifications		
Product certifications		CE
Protection class		Designed to IP 54

11.0 Service

If you have any questions about the products in this document or need to speak with a Customer Service representative, please use the contact information below.

MAXCESS®

ROTOMETRICS   FIFE   TIDLAND   MAGPOWR   WEBEX   ValleyRoller   COMPONEX

12.0   Menu Structure

The following graphic represents the overall layout of all menu screens displayed on the Guideline OI. This illustration is used by Maxcess technical staff to assist customers who are having issues with the Guideline OI functionality.