FIFE GUIDING SYSTEMS

A MAXCESS BRAND

FIFE-500 MAX

User Manual

Narrow Web Guiding System

EN

2-323

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CONTENTS

1. Introduction

1.1 Copyright information

1.2 Language

These are the original instructions, written in English.

1.3 Theory of operation

The FIFE-500 MAX Web Guiding System is designed for use in industrial equipment that is involved with processing a moving web. It is typically installed in line with web travel to provide lateral steering of the web in critical areas such as winding, rewinding, or any important mid-stream process. It is not uncommon to find multiple web guides steering the same web at different locations of web travel. Guiding a web is accomplished by applying several concepts with each directed at a particular part of the task. The basic concepts are:

- Sense the lateral position of the web edge (sensors)
- Generate a correction signal proportional to the error (signal processor)
- Apply forces to the web to non-destructively move it to the desired location (motor-controlled mechanical pivoting rollers)

Sensing

Sensing the lateral position of the web edge can be done by a variety of sensing technologies with the most common being infrared or ultrasonic. The sensing technology employed in any given application is driven by the respective web properties in combination with the amount sensor proportional band that is needed. For optically opaque webs, infrared sensors are common, but for webs that are highly transparent, ultrasonic methods are more successful.

Theory of operation
(continued)

Infrared sensing

Infrared sensors direct infrared light from a transmitter through the sensing gap to the opposing receiver. In this arrangement, web lateral position is determined by the amount of light that arrives at the receiver. Modulation techniques and infrared filtering is commonly used to combat interference from ambient light sources.

Ultrasonic sensing

Ultrasonic sensors work similar to infrared methods except they use high frequency sound waves instead of light.

Correction signal

The sensor information is provided to a signal processor that can provide many types of signal conditioning, including amplification, guide point offset compensation, etc. The final result however, is simply a motor drive signal of the proper polarity to cause web movement to the desired web position. Additional provisions are present in the signal processor to control manual guide positioning, select from multiple sensor inputs, perform automatic guide centering, and remote control support.

Web guiding

The output of the signal processor is fed to a motor that is coupled to a set of pivoting rollers. In order to ensure enough friction exists between the moving web and the guide rollers, the web path and location of the guide rollers are designed to ensure a certain amount of surface area contact with the roller surface. Under these conditions, the pivoting roller set in combination with web movement over the rollers, provides the forces needed to control lateral web displacement.

As a system, these concepts work together to sense the web lateral position and generate a motor drive signal of proper polarity to cause the web to move toward the desired location. This cycle is repeated continuously thus forming a closed loop control system to actively maintain the web at the desired position.

2. Safety Instructions

2.1 Instructions for use

To ensure safe and problem free installation of the FIFE-500 MAX web guiding system, the web guiding system 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 web guiding system.
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

Information about safety instructions

The safety instructions and symbols described in this section are used in these operating instructions. They are used to avoid possible dangers for users and to prevent material damage.

SIGNAL WORD
Source of danger and its results
Avoiding dangers

The signal word **DANGER** refers to the danger of death or serious bodily injuries.
The signal word **WARNING** refers to the danger of moderate to severe bodily injuries.
The signal word **CAUTION** refers to the danger of slight to moderate bodily injuries or material damage.
The signal word **NOTICE** refers to the possibility of damage to equipment.

2.2 Symbols used

The following safety identification symbols are used in these operating instructions.

WARNING /CAUTION–DUE TO ROTATION ROLLING
Reference to danger of injury caused by rolling.

2.3 Basic safety information

Proper use

- The web guiding system is intended to be used on machines or systems to guide a web of material.
- For indoor operation, see environmental specifications.

Improper use

- Operation outside the technical specifications.
- Operation in an Ex-area or intrinsically safe area.
- Operation as a safety component. The web guiding system does not hold the web position if power fails.
- Outdoor operation.
- Any other use than the proper use shall be deemed inappropriate.

Installation and commissioning

- Disconnect power from the FIFE-500 MAX before connecting or disconnecting any cables.
- All cable connectors must be tightened sufficiently to provide the required connection for the cable shielding.
- Any web guiding system which is damaged must not be installed or put into operation.
- Only perform installation, maintenance or repair tasks on the web guiding system when the machine has been stopped and is secured from being turned on.
- Only perform installation, maintenance or repair tasks on the web guiding system when there is no electrical power in the system.
- The web guiding system 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 web guiding system.
- 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 installing a conductive connection between the terminal marked with the PE symbol on the power connector and the PE circuit of the building or machine.

Basic safety information (continued)

WARNING – The web guiding system contains rotating and moving parts which could cause injury due to crushing. Appropriate protective guards must be installed by the user according to his use of this product.

WARNING – Death or injury can result from unexpected movement.
Protect against unexpected movement by removing electrical power from the web guiding system and the machine into which the web guiding system is being installed.

WARNING – Danger of falling down or muscle or skeletal injury during installation.
These web guiding systems, especially the larger designs, are heavy. Appropriate equipment is to be used and the safety rules of the company must be observed.

Operation

WARNING – The web guiding system contains rotating and moving parts which could cause injury due to crushing. Do not touch anything on or in the vicinity of the moving or rotating parts. Appropriate protective guards must be installed by the user according to his use of this product.

Maintenance and Repair

WARNING – Death or injury can result from unexpected movement.
Protect against unexpected movement by removing electrical power from the web guiding system and the machine into which the web guiding system is installed.

WARNING – Danger of injury from crushing.
Maintenance and repair tasks on the web guiding system must be performed only when the machine has been stopped and has been secured from being turned on again.

WARNING – Danger of falling down or muscle or skeletal injury during maintenance and repair.

These web guiding systems, especially the larger designs, are heavy. Appropriate equipment is to be used and the safety rules of the company must be observed.

Decommissioning

The web guiding system must be disposed of in accordance with all the applicable national, state and local regulations.

2.4 Warnings

The FIFE-500 MAX Web Guiding System may be remotely controlled via a digital port connection. As with any remotely-controlled device, when remote control of the device is implemented, there is the possibility of movement of the guiding structure when remote commands are issued. Therefore, any time personnel are near the guiding structure, it is recommended that standard safeguards be taken to prevent injury. During servicing of the equipment, to prevent injury to personnel, it is recommended that standard Lockout/Tagout procedures be used.

The FIFE-500 MAX Operator screen should not be used while the machine is running. If it is necessary for the operator to use the Operator screen while the machine is running, precautions must be taken to protect the operator from injury due to moving material and machinery. This can be accomplished by either surrounding the Operator screen with a safety screen, or by remote mounting the Operator screen in a safe location.

3. Display Definitions

The FIFE-500 MAX uses a 5 inch Touchscreen for Operator command inputs and status displays. This Control Panel is divided into 5 sections of information for which brief descriptions follow. Refer to Figure 1 for the button locations in the standard, horizontal Control Panel.

- The vertical section on the left side (Section **A**) contains the Operation Mode selection buttons(Automatic, Servo Center, and Manual) and indicates the current Operation Mode selection by displaying the corresponding button in a green color. (Other buttons are blue)
- The horizontal section (Section **B**) contains the status bar which always contains the screen number. It may also indicate statuses, errors, and digital I/O.
- The text in the middle section (Section **C**) shows the current "operating mode", bar graph showing web position information in this active sensor mode, and the slider below it indicates the position of the system guide point. S1/mm and S2/mm indicate the web position information acquired by the sensor (Unit:mm).This section also contains buttons for Guidepoint Shift and Reset.
- The lower middle (Section **D**) contains the Left/Right Jog button and Jog speed slider.
- The vertical section(Section **E**) on the right side contains the Sensor Selection and Setup buttons and indicates the current Sensor Mode selection by displaying the proper sensor symbol in the Sensor Select button.This section also contains Lock screen button that can lock or unlock the the screen.

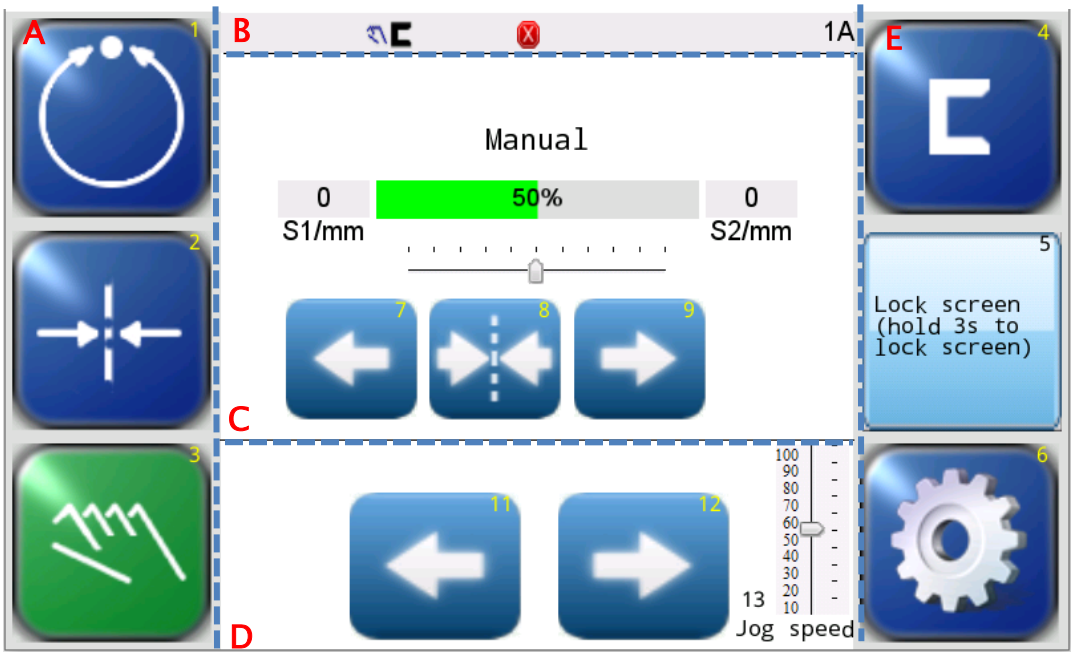


Figure 1.
FIFE-500 MAX CONTROL PANEL
(0° AND 180° ROTATION)

The Control Panel can also be configured in a vertical orientation. For the vertical orientation, the following display descriptions apply. Refer to Figure 2 for the button locations.

- The horizontal section (Section **A**) along the top, above the line, contains the status bar which always contains the menu number. It may also indicate statuses, errors, and digital I/O.
- The horizontal section near the top (Section **B**), just below the line, contains the Operation Mode selection buttons (Automatic, Servo Center, and Manual) and indicates the current Operation Mode selection by displaying that button in a green color.
- The section (Section **C**) just below the Operation Mode buttons, indicates the current Operation Mode, the selected sensor signal level in a bar graph, and the position of the system guide point. S1/mm and S2/mm indicate the web position information acquired by the sensor (Unit:mm).This section also contains the Guidepoint Shift buttons and the Guidepoint Reset button.
- The section (Section **D**) below that, just above the Sensor Select and Setup buttons, contains the Left and Right Jog buttons, Jog speed slider.
- The horizontal section along the bottom (Section **E**) contains the Sensor Selection and Setup buttons and indicates the current Sensor Mode selection by displaying the proper sensor symbol in the Sensor Select button. This section also contains Lock screen button that can lock or unlock the screen.

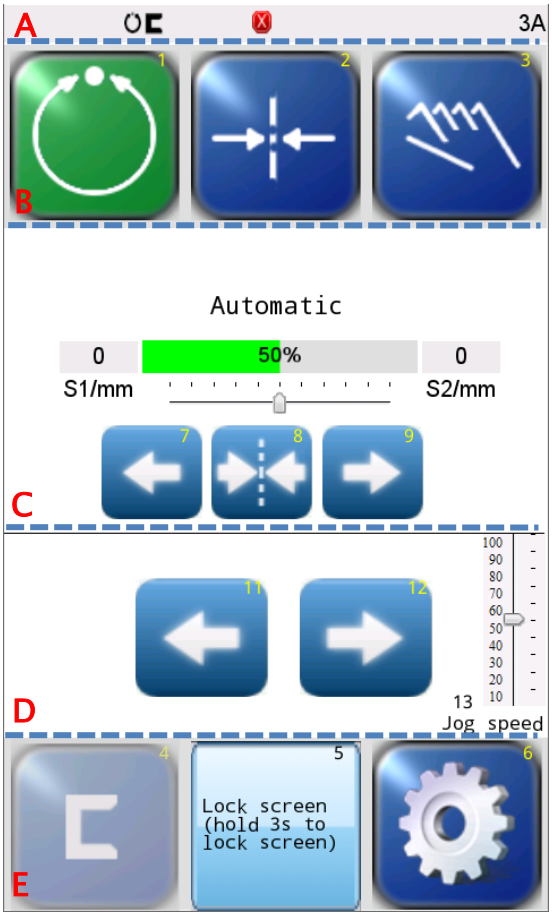


Figure 2. FIFE-500 MAX CONTROL PANEL (90° AND 270° ROTATION)

3.1 Button Functions and Definitions

AUTOMATIC Initiates the Automatic mode. Correction is applied to the web by moving the guide in response to the output of the sensor(s) that have been selected.

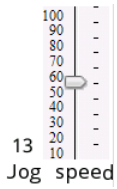
SERVO-CENTER Initiates the Servo-Center mode. The guide is centered in its travel in response to the output of the internal Servo-Center transducer.

MANUAL Initiates the Manual mode. No correction is applied to the guide.

SENSOR Use to select the sensor(s) to be used for monitoring the web position when the system is in Automatic mode. Sensor selection is allowed in Manual and Servo-Center modes only.

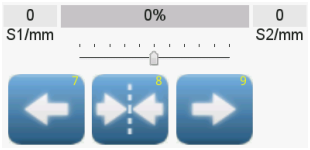
SETUP Use to enter the Setup Menus for configuring and adjusting the guiding system.

ARROWS Use these buttons to jog the guide. The direction of guide movement is configurable.



JOG SPEED The slider is used to adjust the speed of jogging the guide.

LOCK SCREEN Hold 3s to lock the screen or unlock the screen.



GUIDE POINT CONTROL Use the two arrow buttons to adjust the System Guide Point while in Automatic Mode or Manual Mode. Use the center button to reset the System Guide Point to the default value, which is 50% of the sensor bandwidth. The slider control indicates the guide point position.

GUIDE POINT CAPTURE This optional button (which can be enabled from the "OI Settings" menu) sets the guide point of the active sensor mode to the current web location. This allows guiding to begin at the current web location when the Automatic mode is initiated.

BACK Use this menu navigation button to return to the previous menu level.

HOME Use to return to the Operator Level screen.

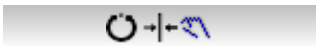
MENU ARROWS Use in the menu system to page forward or backward when multiple pages of menu choices are available. The arrows are disabled (grayed-out) when no more choices are available in the respective direction.

ACCEPT Use to save a changed value and return to the previous screen.

REJECT This button is used to discard a changed value and return to the previous screen.

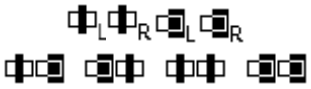
3.2 Status Bar Definitions

The status bar located horizontally across the top of the FIFE-500 MAX Web Guide Operator Level screen remains visible at all times. The number on the right side of the status bar indicates a hierarchical screen number. The first numerical value indicates the operation mode (1=Manual, 2=Servo-Center, 3=Automatic). The second alphabetic character indicates the sensor mode (A=S1, B=S2, C=S1-S2). This screen number uniquely identifies each screen of the FIFE-500 MAX Web Guiding System(Refer to Figure 2 status bar "1A"). The status bar also displays various icons which are described below. You can view the description of the icons by clicking on them when needed.



OPERATION MODE One of these icons will appear to indicate the operation mode of the FIFE-500 MAX Web Guiding System.

SENSOR SELECTION One of these icons will appear to indicate the currently selected sensor mode.
These are the icons of the horseshoe ultrasonic sensor. You can select only the left or right sensor or both.



If you have a DLS-8 Sensor installed, then one of these icons will appear in the status bar.You can select only the left or right sensor or both.The icons can also show line edge or line center status according to your calibration.

Indicates that the left sensor and the right sensor are in use at the same time, and the current status of both is line edge.

Indicates that the current status of the left sensor is line edge.

Indicates that the current status of the right sensor is line center.

MENU TIMEOUT The menu screens in the FIFE-500 MAX Web Guiding System close automatically after 3 minutes of touch screen inactivity. The inactivity timeout option and the timeout value are configurable. The clock icons will appear during stages of the timeout process as the inactivity timer counts down. If a timeout occurs, the respective menu will abort any changes applied and return to the Operator Level screen. Some service-related screens are immune from the timeout option and are indicated by the presence of the orange clock icon.

LOGIN AUTHORIZATION LEVEL When security has been configured, one of these icons will appear to indicate the authorization level of the current user. Level 1 has the least access while level 3 has the most. Security is disabled in the factory default configuration so these icons will not be displayed. All menu screens are accessible when security is disabled.

READ ONLY MENU When security is enabled, options are available to make menus "read only", allowing an operator to view the settings but not change them. This icon will appear when the active menu is a "read only" menu.

DIGITAL INPUT COMMAND This icon appears when a valid digital input command is present. Depending on the command, some touch panel controls may be disabled during this time. A red arrow in the down direction indicates digital input influence is disabled. A red up arrow indicates the digital outputs are disabled.

GUIDE POINT CHANGED This icon appears when a new System Guidepoint has been applied. This icon will appear on the status bar until the System Guidepoint remains unchanged for approximately 20 seconds.

EXTERNAL LOCK This icon indicates the acceptance of the "External Lock" digital input command. Automatic guide movement is prohibited while in this state.

ASC ON Automatic Sensor Control (ASC) is enabled for the current sensor mode. See the menu description for ASC for more information about ASC operation.

ASC ACTIVE Automatic Sensor Control (ASC) is enabled and the ASC state has been triggered. Automatic guide movement is prohibited. See the menu description for ASC for more information about ASC operation.

MOTOR BLOCKED This icon indicates the motor is blocked.

COMMUNICATION ERROR This error icon indicates communication is not working between the operator screen and the motor controller.

VOLTAGE ERROR This error icon appears when the input voltage, motor rail voltage, or internal 12 volt power is outside acceptable range.

MOTOR TYPE FAULT This icon appears when the motor type is incorrect.

MOTOR HALL STATE FAULT This icon appears when a problem is detected with the motor hall state transitions or the encoder signals from the motor.

Target tracking This green icon indicates the tracking target of the DLS-8sensor is in the field of view.
Red icon means the target is not in the field of view of the DLS-8 sensor.
If two DLS-8 sensors are used and either one of them loses the target or one of the sensors is disconnected, a red icon will be displayed.

3.3 Manual Menu Tree

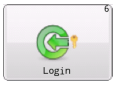
The menus that are available in the FIFE-500 MAX Web Guiding System vary depending on the active operation mode. The following information provides a quick reference to summarize the menu tree for each mode. Each menu is described in more detail later in this document.

1X MANUAL

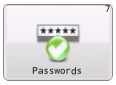
SETUP

1X.1.1 SECURITY

1X.1.1.1.1 LOGOUT



1X.1.1.1.2 LOGIN



1X.1.1.1.3 PASSWORDS

1X.1.1.1.4 MENU PROTECTION

1X.1.2 DISPLAY

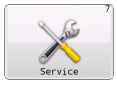
1X.1.2.1.1 LANGUAGE

1X.1.2.1.2 BRIGHTNESS

1X.1.2.1.3 ROTATE

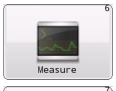
1X.1.2.1.4 CALIBRATE TOUCH SCREEN

1X.1.2.1.5 OI SETTINGS

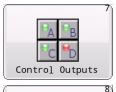


1X.1.3 SERVICE

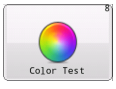
1X.1.3.1.1 ABOUT



1X.1.3.1.2 MEASURE

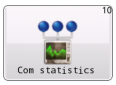


1X.1.3.1.3 CONTROL OUTPUTS



1X.1.3.1.4 COLOR TEST

1X.1.3.1.5 MOTOR TYPE



1 X.1.3.1.6 COM STATISTICS

1X.1.4 REMOTE CONTROL

1X.1.5 ASC

1X.1.5.1.1 ASC OFF

1X.1.5.1.2 ASC ON

1X.1.5.1.3 ASC SETTINGS

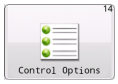
1X.1.6 GAIN

1X.1.7 SENSOR SETUP

1X.1.8 AUTOSETUP

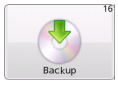
Page forward/back

1X.2.1 GUIDE SETTINGS

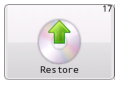


1X.2.2 CONTROL OPTIONS

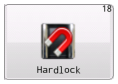
1X.2.3 POWER ON MODE



1X.2.4 BACKUP



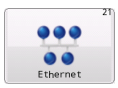
1X.2.5 RESTORE



1X.2.6 HARDLOCK

1X.2.7 NAME

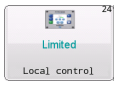
Page forward/back



1X3.1 ETHERNET

1X3.2 ETHERCAT

1X3.3 DLS-8



1X3.4 LOCAL CONTROL

1X3.5 Settings...

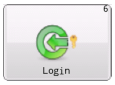
3.4 Servo-Center Menu Tree

2X SERVO-CENTER

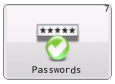
SETUP

2X.1.1 SECURITY

2X.1.1.1.1 LOGOUT



2X.1.1.1.2 LOGIN



2X.1.1.1.3 PASSWORDS

2X.1.1.1.4 MENU PROTECTION

2X.1.2 DISPLAY

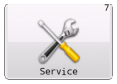
2X.1.2.1.1 LANGUAGE

2X.1.2.1.2 BRIGHTNESS

2X.1.2.1.3 ROTATE

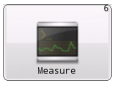
2X.1.2.1.4 CALIBRATE TOUCH SCREEN

2X.1.2.1.5 OI SETTINGS



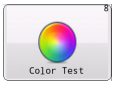
2X.1.3 SERVICE

2X.1.3.1.1 ABOUT



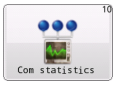
2X.1.3.1.2 MEASURE

2X.1.3.1.3 CONTROL OUTPUTS



2X.1.3.1.4 COLOR TEST

2X.1.3.1.5 MOTOR TYPE



2 X.1.3.1.6 COM STATISTICS

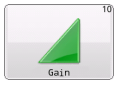
2X.1.4 REMOTE CONTROL

2X.1.5 ASC

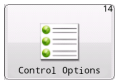
2X.1.5.1.1 ASC OFF

2X.1.5.1.2 ASC ON

2X.1.5.1.3 ASC SETTINGS



2X.1.6 GAIN



2X.1.7 CONTROL OPTIONS

Page forward/back

2X2.1 LOCAL CONTROL

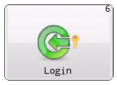
3.5 Automatic Menu Tree

3X AUTOMATIC

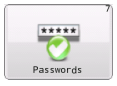
SETUP

3X.1.1 SECURITY

3X.1.1.1.1 LOGOUT



3X.1.1.1.2 LOGIN



3X.1.1.1.3 PASSWORDS

3X.1.1.1.4 MENU PROTECTION

3X.1.2 DISPLAY

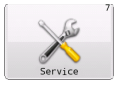
3X.1.2.1.1 LANGUAGE

3X.1.2.1.2 BRIGHTNESS

3X.1.2.1.3 ROTATE

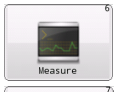
3X.1.2.1.4 CALIBRATE TOUCH SCREEN

3X.1.2.1.5 OI SETTINGS

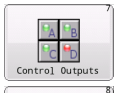


3X.1.3 SERVICE

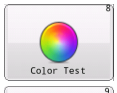
3X.1.3.1.1 ABOUT



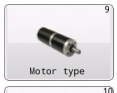
3X.1.3.1.2 MEASURE



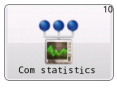
3X.1.3.1.3 CONTROL OUTPUTS



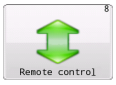
3X.1.3.1.4 COLOR TEST



3X.1.3.1.5 MOTOR TYPE



3 X.1.3.1.6 COM STATISTICS



3X.1.4 REMOTE CONTROL

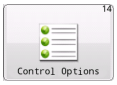
3X.1.5 ASC

3X.1.5.1.1 ASC OFF

3X.1.5.1.2 ASC ON

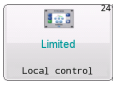
3X.1.5.1.3 ASC SETTINGS

3X.1.6 GAIN



3X.1.7 CONTROL OPTIONS

Page forward/back



3X.2.1 LOCAL CONTROL

3.6 Security Strategy

The FIFE-500 MAX Web Guiding System can be configured with security features to prevent unauthorized changes to the various settings that can be changed from the menu system, such as gain, polarity, etc. Security features are disabled by default but are easily configured and enabled. Access to every menu is individually programmable for one of three authorization levels. The following text describes the customer-configurable security strategy.

3.6.1 Authorization Levels

Security features are designed around three authorization levels with three access modes for each level. When security is enabled, the current login authorization level is indicated by a “key” icon in the status bar with the authorization level next to it. Level 1 has the lowest privileges and level 3 has the highest. If security is not in use, these icons will not appear. The three authorization levels and their associated icons are described below.

OPERATOR LEVEL 1 This level requires no password knowledge and is intended to have the most restrictions.

PRIVILEDGED OPERATOR/SUPERVISOR This level is intended for operators who are able to make some adjustments.

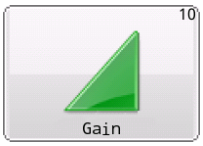
ADMINISTRATOR The administrator normally has unrestricted access to all menus, but if desired, even this level can be configured for restricted access to any menu as long as it is not related to administrative activities.

3.6.2 Access Modes

The SETUP button on the Operator Level screen and each menu in the FIFE-500 MAX Web Guiding System has programmable access modes for each of the three possible authorization levels. The button appearance of each menu item indicates which access mode is active for the current login authorization level. The possible button appearances are shown below using the GAIN button as an example.

NO ACCESS The “Lock” icon superimposed on a button indicates that access is not allowed from the current login authorization level. Pressing the button will prompt for numeric pass code entry and will only allow access if the entered code raises the login authorization level high enough to permit access.

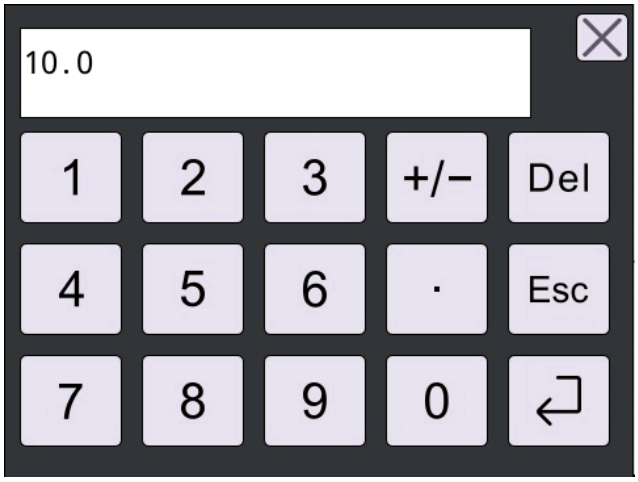
READ ONLY ACCESS The “Magnifier” icon superimposed on a button indicates that the menu has read-only access from the current login authorization level. The user is allowed to view the settings but not change them.



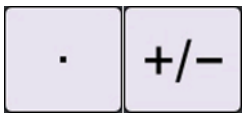
FULL ACCESS The button will appear with no access modifier when there are no restrictions for the menu. This is also the button appearance when security is disabled.

3.7 Keypad Operation

All of the menu screens that require numeric entry use a common keypad control. An example of the gain entry keypad is shown below.



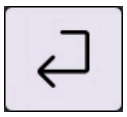
New values are entered using the numeric keypad buttons.



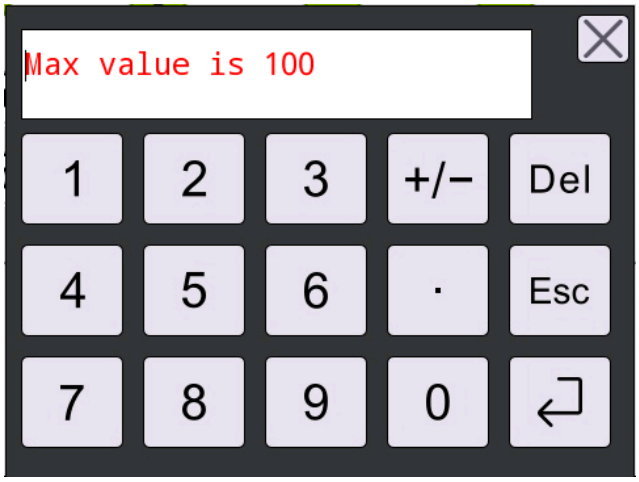
Some entries accept a decimal point and polarity. Click the "Positive and negative" button to switch the positive and negative values of the numbers.

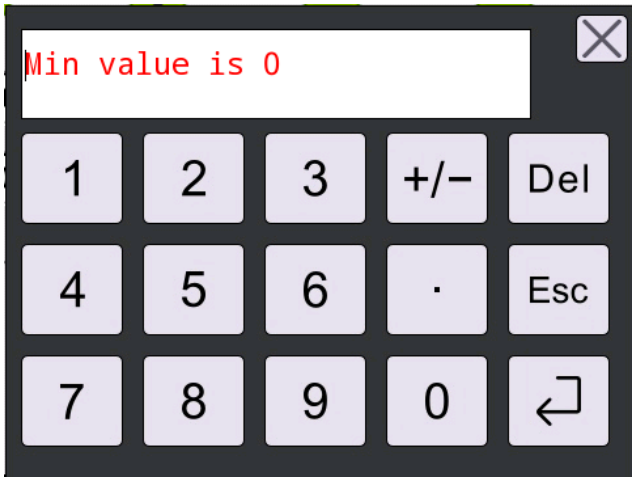
The DEL button erases the current entry.

The "ESC" button exits the editing window without saving any changes.



The ENTER button checks the value according to the maximum and minimum limits and applies the new value if it is within acceptable range. If the entered value is outside either of the applicable limits, the entered number and the violated limit are marked in red and as shown in the example below.
The system will prompt the current maximum and minimum values that can be set in red font.





If this occurs, the DEL button may be used to erase the entry and try again, or the ESC button will cancel the editing operation and close the window.

4. Menu Descriptions

4.1 SECURITY This submenu provides access to all security related menu items. They are each described below. The security submenu is available from all operation modes.

4.1.1 LOGOUT Logout sets the authorization level to one if security is enabled.

Navigation:

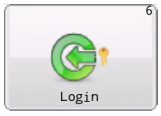
MANUAL / SERVO-CENTER / AUTOMATIC

SETUP

SECURITY

LOGOUT

This button is ignored if security is not enabled.



4.1.2 LOGIN If security has been enabled, login prompts for numeric code entry. The authorization level is changed according to the entered code.

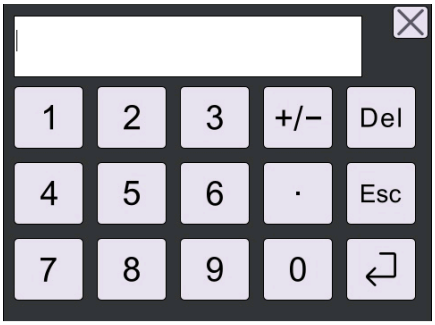
Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

SETUP

SECURITY

LOGIN

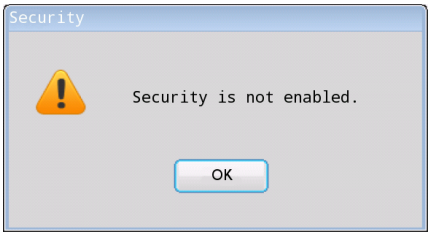


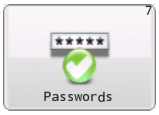
Enter the password and press the ENTER key.

Press the ESC key,

or this button to log out.

The following message appears if security is not enabled.





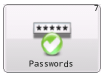
4.1.3 PASSWORDS This menu is intended for administration level use to assign passwords for level 2 and level 3 users. Other options configurable from this menu include overall security on/off control and automatic logout operation after a programmable time.

Navigation:

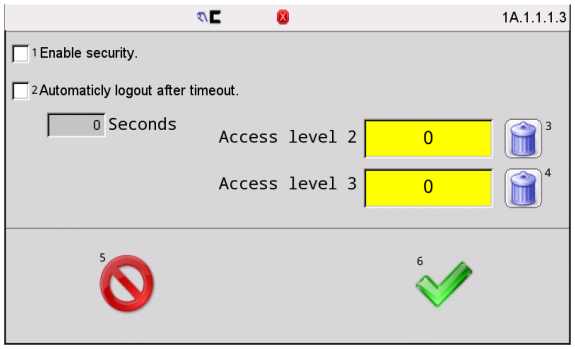

MANUAL / SERVO-CENTER / AUTOMATIC


SETUP

SECURITY



PASSWORDS



Enable Security – Turns security feature on when checked.
Automatically logout after timeout – When security is enabled, this option logs out after the specified time. This returns the login level to 1. Touch the 'seconds' edit control to modify the timeout value.
Access level 2 – The level 2 pass code. Touch the edit control to enter or modify the level 2 pass code and enter the new pass code when prompted.
Access level 3 – The level 3 (administrator) pass code. Touch the edit control to enter or modify the level 3 pass code and enter the new pass code when prompted.


Press ACCEPT to save changes made while in the menu. If Enable Security is checked but no level 3 pass code has been assigned, an error dialog will appear. This protection is present to prevent enabling security before having an administrative password in place.


Press CANCEL to exit the menu without saving any changes.

Note: Pass codes should be from 1 to 9 digits in length.

4.1.4 MENU PROTECTION This administration level menu is used to control the access protection for each individual menu.

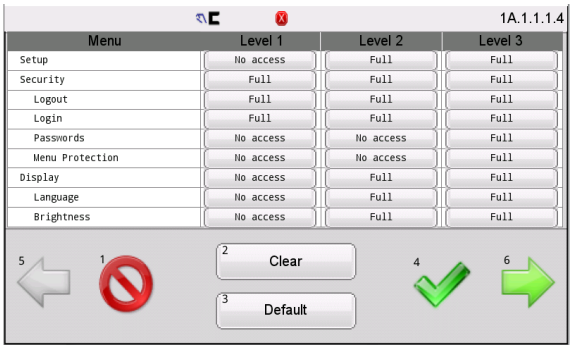
Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

SETUP

SECURITY

MENU PROTECTION



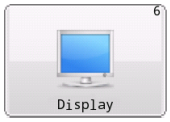
Each menu is represented in the list control along with the access permission for each of the three authorization levels. Submenu entries are indented according to the menu hierarchy. To modify an entry, select the menu entry in the list, and press the button in the columns labeled as level 1, 2, or 3 as needed to cycle through the permission options of Full, Read only, or No access.

The CLEAR button applies full access to all entries.

The DEFAULT button presets the factory default settings.

Press ACCEPT to apply changes and return to the previous screen.

Press CANCEL to exit this menu without saving changes and return to the previous screen.



4.2 DISPLAY

The display submenu provides access to the operator interface settings. The display submenu is available in all operation modes.

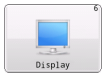
4.2.1 LANGUAGE

The FIFE-500 MAX supports multiple languages. Use this selection to choose from the supported list of languages.

Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

SETUP



DISPLAY

LANGUAGE

Use the page arrows to move forward or backward to see more choices.

Select the desired language and press ACCEPT to save. The screen will return to the previous screen.

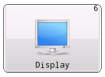
Press CANCEL to exit without saving changes and return to the previous screen.

4.2.2 BRIGHTNESS Adjusts the LCD backlight intensity.

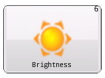
Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

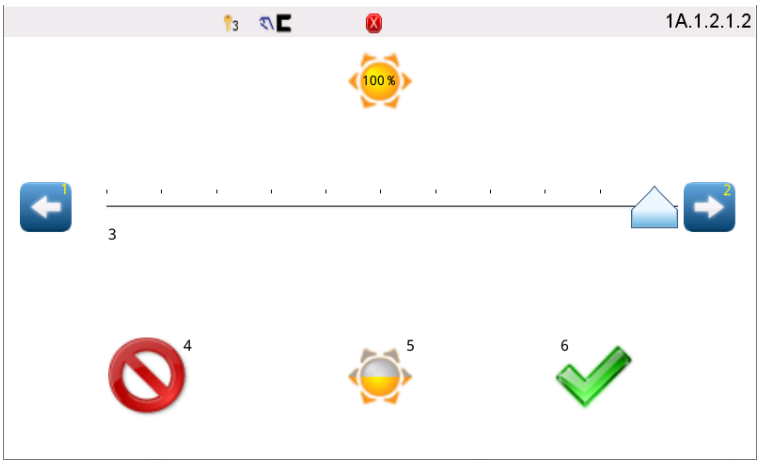
SETUP



DISPLAY



BRIGHTNESS



Press or hold the arrow buttons for fine control of the screen brightness or use the slider handle for quick movement.

Press this button to set the brightness level to 50%.

Press ACCEPT to save new brightness setting and return to the previous screen.

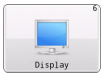
Press CANCEL to return to the previous screen without saving changes.

4.2.3 ROTATE The FIFE-500 MAX supports four rotation orientations of the operator interface. Choose from 0°, 90°, 180°, 270° settings.

Navigation:

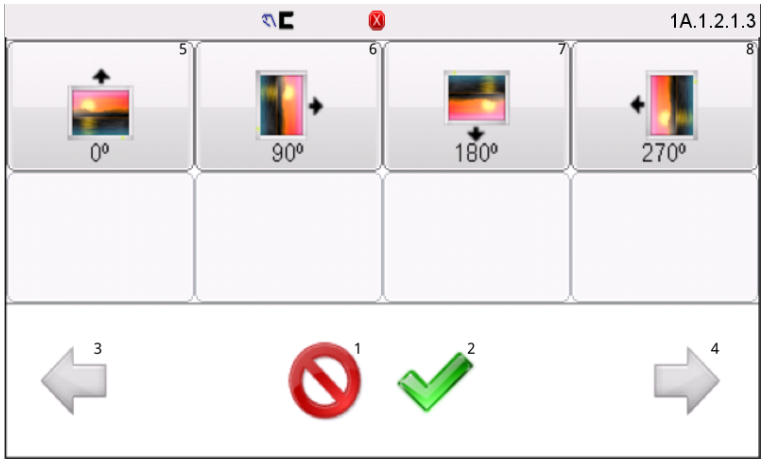
MANUAL / SERVO-CENTER / AUTOMATIC

SETUP



DISPLAY

ROTATE



Select the desired screen rotation and press the ACCEPT button to save. The screen will go blank for a moment and restart in the new orientation.

Press CANCEL to return to the previous screen without saving changes.

4.2.4 CALIBRATE TOUCH SCREEN Use this menu to recalibrate the touch panel sensitivity. This is only necessary if button reactions appear to be out of sync with the displayed button locations. The "Calibrate Touch Screen" button will appear on the screen, click on it then the calibration prompt appears, touch the screen in each of the 5 locations as prompted.
Note: A stylus is recommended to improve the accuracy of calibration.

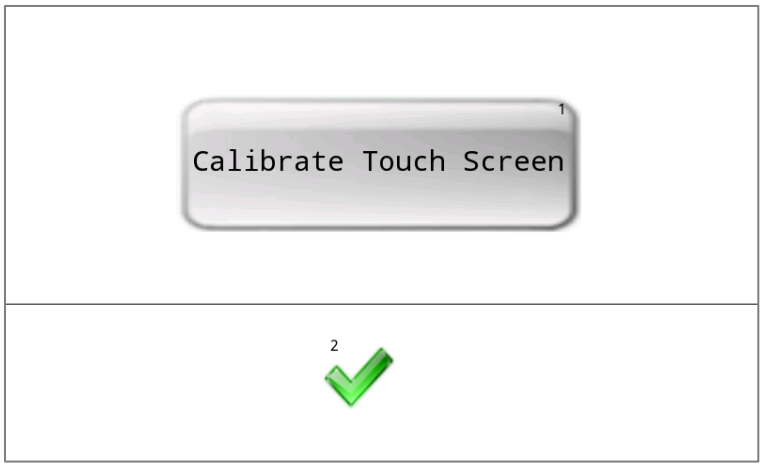
Navigation:


MANUAL / SERVO-CENTER / AUTOMATIC


SETUP

DISPLAY

CALIBRATE TOUCH SCREEN



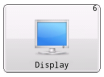

Press the ACCEPT button to save calibration results.

4.2.5 OI SETTINGS Provides access to various operator interface settings.

Navigation:

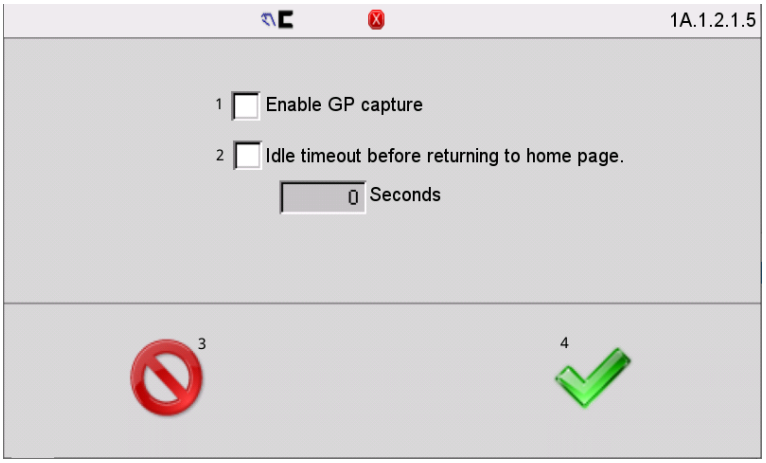
MANUAL / SERVO-CENTER / AUTOMATIC

SETUP



DISPLAY

OI-SETTINGS



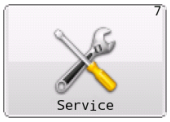
Enable GP capture – Enables the appearance of an additional button in the guide point control area of the Operator Level screen. The GP capture button sets the guide point of the active sensor mode to match the current location of the web. This allows guiding to begin at the current web location when the Automatic mode is initiated.

Idle timeout before returning to home page – Check this box to force menus to close after a specified number of seconds. To adjust the timeout value, press the button below to control and enter the desired value. Some menus are immune from the timeout option.

Menus that are immune from timeout will show this icon in the status bar (only when timeouts are enabled).

Press ACCEPT to save changes and return to the previous screen.

Press CANCEL to return to the previous screen without saving changes.



4.3 SERVICE

The service submenu provides access to maintenance screens. The service submenu is available in all operation modes.

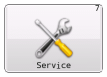
4.3.1 ABOUT

This screen provides firmware version information.

Navigation:

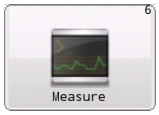
MANUAL / SERVO-CENTER / AUTOMATIC

SETUP



SERVICE

ABOUT

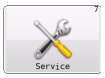


4.3.2 MEASURE This menu displays information using three additional tabbed screens. The “Main” tab displays information about the state of the digital inputs, outputs, sensors,and power supply values. The “Motor Current” tab provides indicators for monitoring motor current. The “Error” tab displays two possible errors of the motor, hall errors and encoder errors.Press the respective tab to bring it forward for viewing. This menu is immune from any configured menu timeouts.

Navigation:

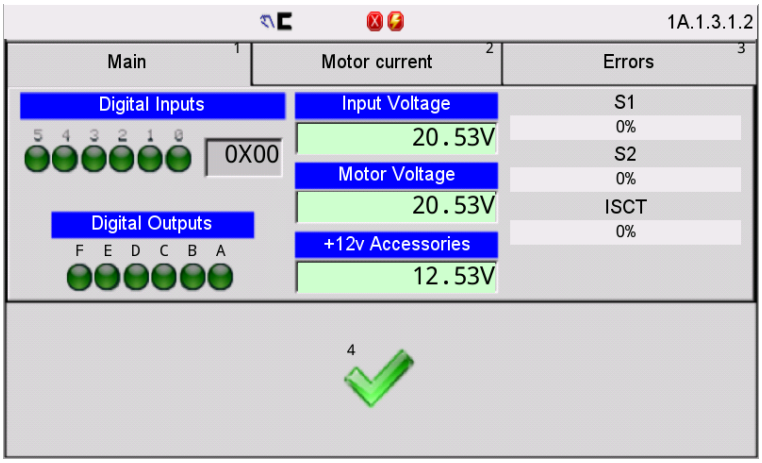
MANUAL / SERVO-CENTER / AUTOMATIC

SETUP



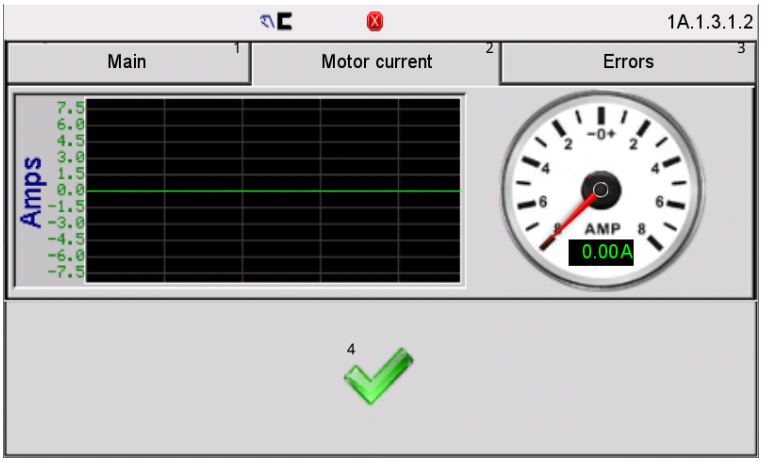
SERVICE

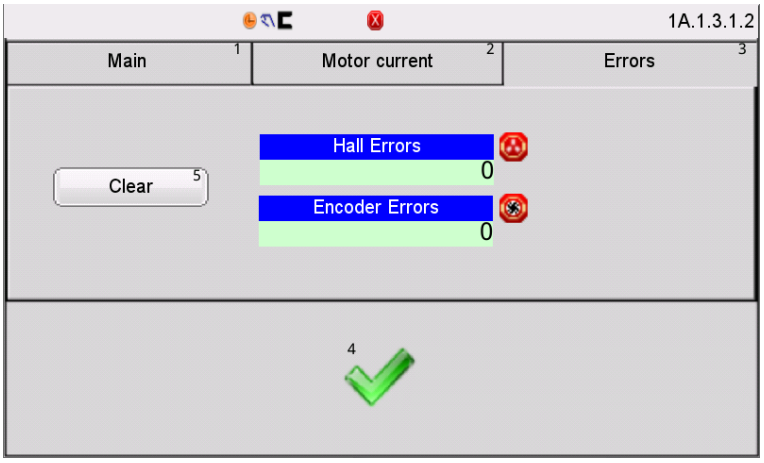
MEASURE



Notice that the voltage error icon is visible on the status bar. Since voltages are monitored at all times, the status bar can indicate this error regardless of which screen is active.

The “Motor Current” tab contains an analog/digital ammeter indicating the motor current and polarity. A graph is also present to display history of the recent motor current activity.

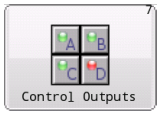




The “Errors” tab displays hall error and encoder error,if an error occurs, the corresponding value will be 1 .

The “Clear”button is used to clear the current record.

Press ACCEPT to close this menu and return to the previous screen.

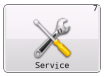


4.3.3 CONTROL OUTPUTS This screen contains buttons to test the output signals. Each signal can be individually set or cleared. Changes made in this screen are temporary, so the outputs resume their normal operation when exiting this screen. This menu is immune from menu timeouts.

Navigation:

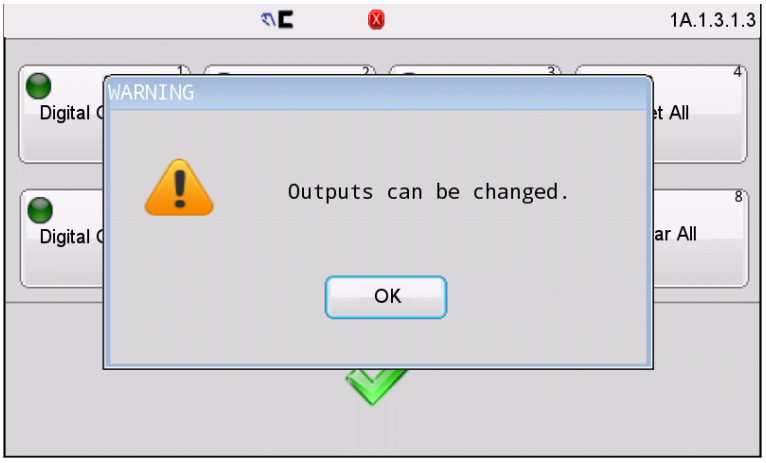
MANUAL / SERVO-CENTER / AUTOMATIC

SETUP

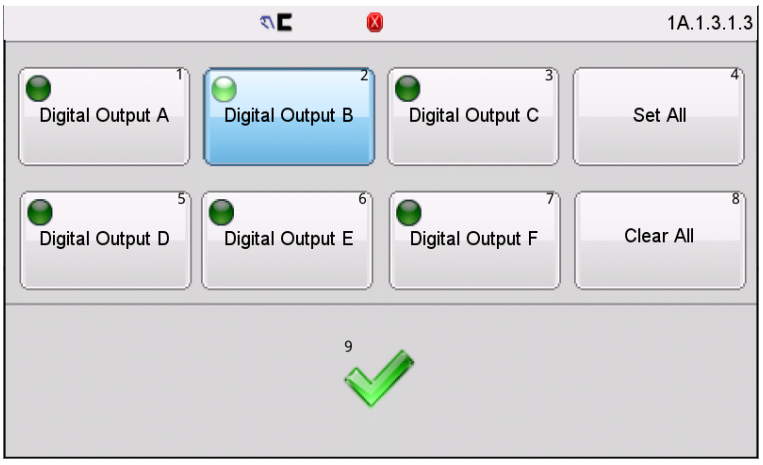


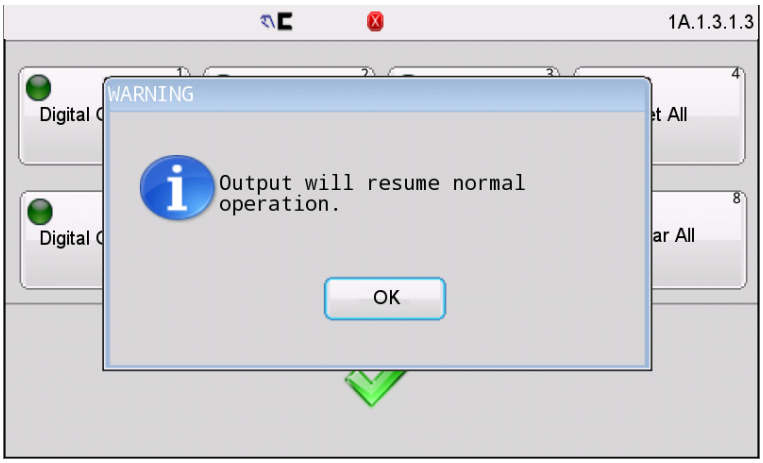
SERVICE

CONTROL OUTPUTS



Press OK to close this window.

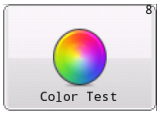




Press OK to close this window.

Press ACCEPT to return to the previous screen. A reminder message will be displayed indicating the digital outputs will resume their normal operation.

WARNING – Death or injury can result from unexpected movement. The web guiding system has four independent outputs that can be connected to other components into which the web guiding system is installed. Take appropriate precautions to ensure no one may be killed or injured by activation of any of these outputs.

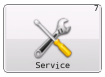


4.3.4 COLOR TEST This menu is used to detect if the screen has bad dots, wrong rows or pixel dots, abnormal colors, and similar problems by displaying the screen in different colors.

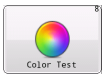
Navigation:


MANUAL / SERVO-CENTER / AUTOMATIC

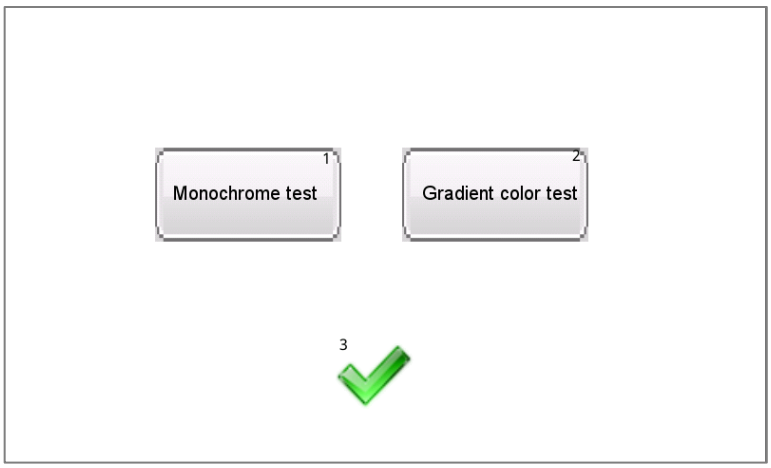

SETUP



SERVICE



COLOR TEST



You can click to select monochrome test or gradient test.

You can see 6 screen colors for each test.
Each click on the screen will switch one color until the last one, and then click again to exit the color test interface.

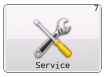

Press the ACCEPT button to return to the previous screen.

4.3.5 MOTOR TYPE This menu is used to view your system motor type.

Navigation:


MANUAL / SERVO-CENTER / AUTOMATIC

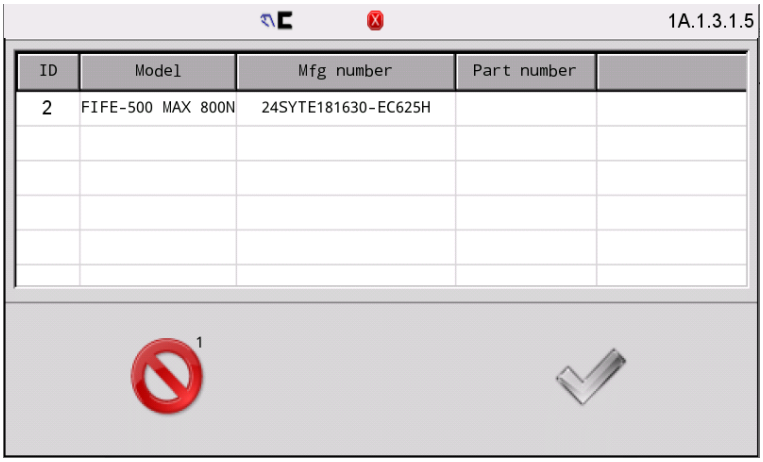

SETUP



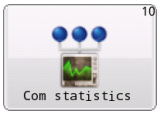
SERVICE

MOTOR TYPE

The motor type for your system shown below.




Press CANCEL to close this menu.

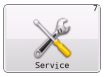


4.3.6 COM STATISTICS This menu is used to view the communication statistics maintained by each device.

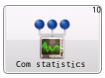
Navigation:


MANUAL / SERVO-CENTER / AUTOMATIC


SETUP

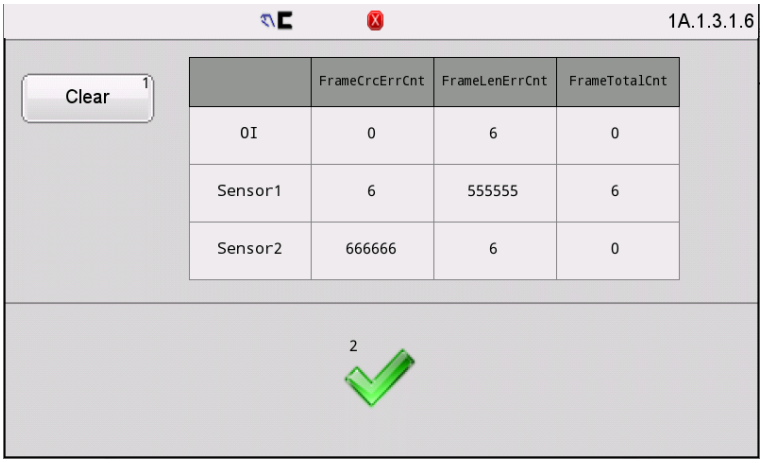


SERVICE



COM STATISTICS

The Operator Interface displays the communication status of the control board, including the communication data statistics of the control board with the OI, sensor 1, and sensor 2. The COM STATISTICS screen shows a live update of the running network communication statistics as shown in the following example.



FrameCrcErrCnt: Indicates the total number of packets with verification errors;
FrameLenErrCnt: Indicates the total number of packets with length errors;
FrameTotalCnt:Indicates the total number of packets normally communicated.

The “Clear”button is used to cleans up the current communication data.


Press the ACCEPT button to return to the previous screen.

4.4 REMOTE CONTROL

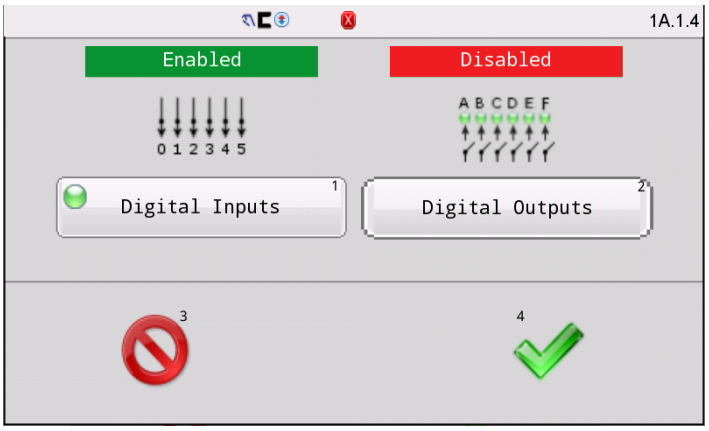
This menu is used to enable or disable influence from the digital inputs and turn off the digital output signals. This menu is immune from menu timeouts. An icon is displayed on the status bar if inputs, outputs, or both inputs and outputs are disabled.

Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

SETUP

REMOTE CONTROL



Status bar indicators:

Digital inputs disabled (red down arrow).

Digital outputs are disabled (red up arrow).

Both input and output signals are disabled (red arrows).

When the Digital Inputs are disabled, the extenal digital input signals cannot take effect. When the Digital Outputs are disabled, the system digital output signals cannot take effect. (The digital input and output interfaces are I/O1 and I/O2).

Press ACCEPT to save changes and return to the previous screen.

Press CANCEL to close this menu without saving changes.

WARNING – Death or injury can result from unexpected movement. The web guiding system has four independent outputs that can be connected to other components into which the web guiding system is installed. Take appropriate precautions to ensure no one may be killed or injured by activation of any of these outputs.

4.5 ASC

Automatic Sensor Control (ASC) can be used under certain conditions where it is desirable to ignore sudden sensor input changes. A typical use for ASC is to ignore a “tearout” in the web preventing the guide from reacting to the subsequent large sensor signal change.
ASC can be configured and enabled separately for each sensor mode. To prevent unintended ASC activation, it must be enabled for each sensor mode that is needed using the ASC SETTINGS menu before the ASC ON button will work.

4.5.1 ASC OFF Disable ASC operation for the selected sensor mode. This button has no effect if ASC is already off or has not been configured.

Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

SETTINGS

ASC

ASC OFF

4.5.2 ASC ON ASC ON enables ASC processing, if ASC control has been enabled in the configuration screen for the active sensor mode. Each sensor mode can be individually configured with different ASC settings. The availability of ASC for each sensor mode is among the configurable settings.

Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

SETTINGS

ASC

ASC ON

This icon will be displayed in the status bar when ASC is enabled.

The ASC icon will change to this when ASC is enabled and the configured ASC threshold has been triggered. When ASC is enabled, this icon works in manual mode also which provides an easy way to view the ASC trigger thresholds.
Note: ASC must be enabled for the active sensor mode before the ASC ON function will work.

4.5.3 ASC SETTINGS This menu controls all programmable aspects of ASC operation for each sensor mode and Digital inputs. The first three tabs have identical sets of controls for each sensor mode. The last tab contains polarity controls to set the polarity used for each sensor signal during ASC processing.

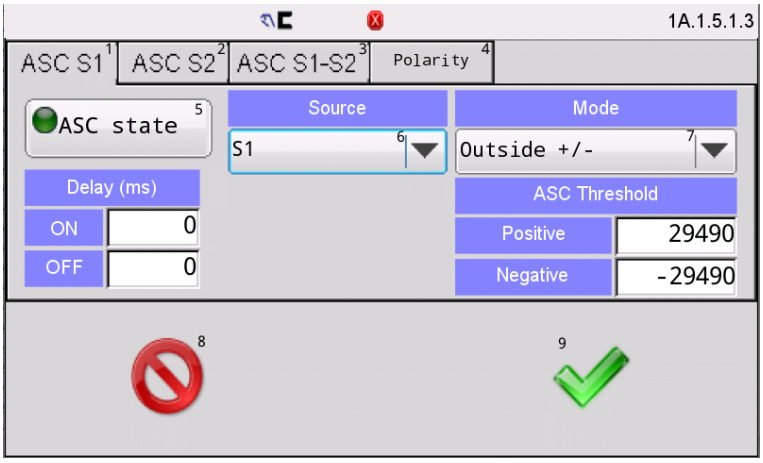
Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

SETUP

ASC

ASC SETTINGS



Touch the tab controls at the top as needed to switch to the desired page before making changes.

ASC State The ASC State button enables or disabled the availability of ASC use for the selected sensor mode. The LED displayed on the button indicates the present state. Press the button to toggle the ASC availability for this sensor mode on or off.

Source

a) S1, S2, S1+S2, or S1S2:

Selects the sensor that is monitored for ASC thresholds. Typically this is the same sensor used for guiding but in some applications it could be desirable to monitor a different input.

Mode The mode setting controls how the source signal threshold is processed. These modes are used to configure ASC operation for specific application requirements. There are 6 modes available:

Above +	Signal is greater than the positive threshold. The negative threshold is not used.
Below –	Signal is less than the negative threshold. The positive threshold is not used.
Outside +/–	Signal is less than the negative threshold or greater than the positive threshold.
Below +	Signal is less than the positive threshold. The negative threshold is not used.
Above –	Signal is greater than the negative threshold. The positive threshold is not used.
Inside +/–	Signal is greater than the negative threshold and less than the positive threshold.

ASC Threshold

Positive: The ASC signal positive threshold. Touch the threshold value to open an edit screen to change it.

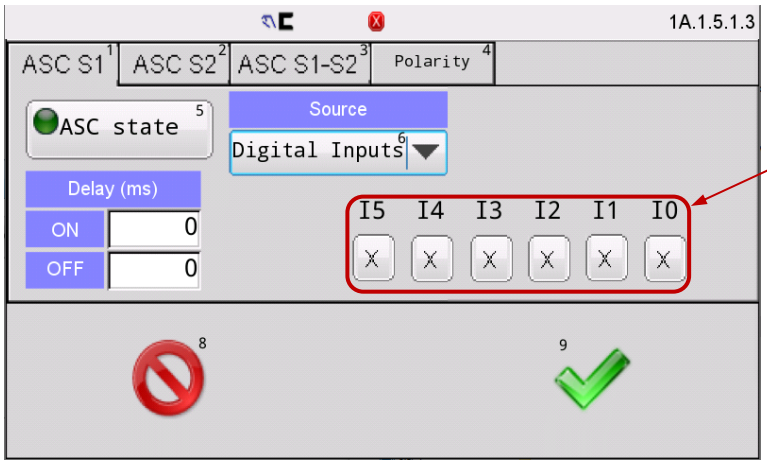
Negative: The ASC signal negative threshold. Touch the threshold value to open an edit screen to change it.

Delay:

On: ASC will be enabled after a set time when the configured ASC threshold reaches the trigger range.

Off: When the configured ASC threshold is not in the trigger range, ASC will be disabled after the set time.

Polarity： Used to set the polarities of each sensor signal during ASC processing . The original sensor polarities multiplied by the polarities set here, and then compared it with the ASC threshold value. If it is in the range of ASC threshold value, ASC can be triggered after the Delay ON time when ASC state is on.



(ASC state and Delay ON/OFF functions refer to the descriptions above)

Source

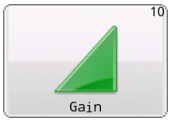
b) Digital Inputs:

Select and setup Digital Inputs according to applications,as shown in the figure above.

If configured digital inputs are the same as digital settings,ASC will be triggered after the Delay ON time when ASC state is on.(Also the remote digital input is enabled).

Press ACCEPT to save changes and return to the previous screen.

Press CANCEL to exit without saving changes and return to the previous screen.



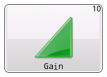
4.6 GAIN

The gain menu is used to view or set the system gain for the active sensor mode. In servo centering mode, it is used to view or set the gain of servo centering operation.

Navigation:

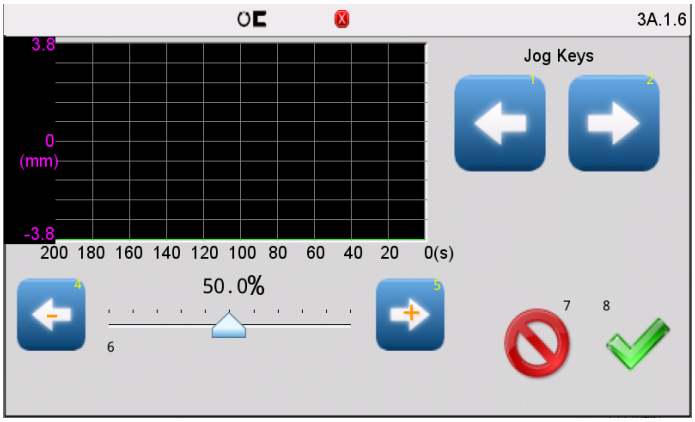
MANUAL / SERVO-CENTER / AUTOMATIC

SETUP



GAIN

If the gain screen is accessed while the system is in **AUTOMATIC/SERVO-CENTER** mode, it will appear as shown below.

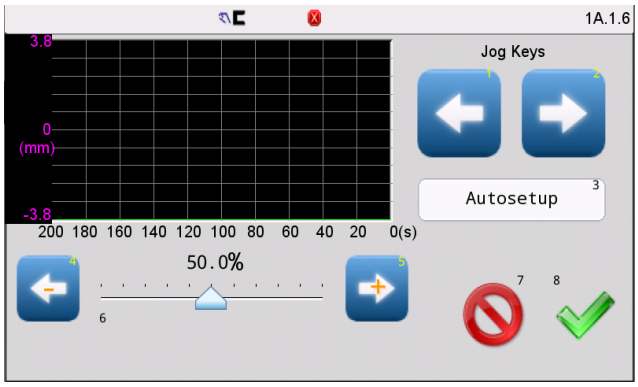


Use the smaller arrows buttons to decrease or increase the system gain, or for fast gain changes use the slider control. The gain value is applied as soon as it is changed while in this menu, so the effects of gain changes can be observed if the system is in Automatic mode. The graph area shows the amplified output of the SENSOR IN AUTOMATIC MODE or the amplified output of the SERVO-CENTERED sensor signal to provide feedback about guide movement as the gain is changed.

Press ACCEPT to save changes and return to the previous screen.

Press CANCEL to exit without saving changes and return to the previous screen. If the gain has been changed, it will be restored to its previous value.

If the system is in Manual mode, the Gain screen will have an additional button (as shown below) to allow the Autosetup function to be initiated from this screen, if desired.



When the gain menu is accessed from **MANAUL** mode, the AUTOSETUP button will be shown in one of the following two states, depending on the sensor signal level of the active sensor mode:

AUTOSETUP is available: The system is in Manual mode and the active sensor signal is within the allowable range.

AUTOSETUP is NOT available: The system is in Manual mode but the sensor signal is not within the allowable range.

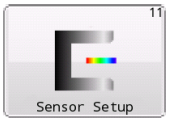

If the AUTOSETUP button is not available, use the these arrow buttons to jog the guide in either direction, until the sensor signal is within the allowable range and the AUTOSETUP button is available.

Press AUTOSETUP to initiate the auto setup gain and polarity. The guide will move a short distance and the system gain value will be automatically set.


Press ACCEPT to save changes and return to the previous screen.


Press CANCEL to exit without saving changes and return to the previous screen. If the gain has been changed, it will be restored to its previous value

WARNING – Death or injury can result from unexpected movement. Auto-setup operation causes guide movement. Take precautions to ensure no one is in the vicinity of the guide path of travel.



4.7 SENSOR SETUP

The factory sensor settings are for webs that are 100% opaque using the installed sensors. The sensor setup menu is used to calibrate the FIFE-500 MAX Web Guiding System to maximize sensor signal sensitivity when used with webs that are not totally opaque. This procedure involves teaching the FIFE-500 MAX Web Guiding System using a sample of the web material.

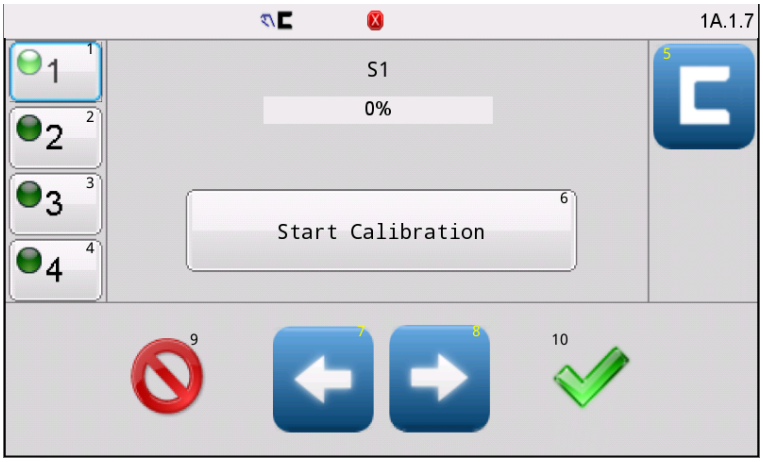
Navigation:

 MANUAL

 SETUP

SENSOR SETUP

The FIFE-500 MAX Web Guiding System stores separate calibration data for the S1 and S2 sensor inputs so the procedure should be done on each sensor input that will be used. The FIFE-500 MAX Web Guiding System can store/recall up to four sets of calibration settings for S1 and S2 supporting the possibility to store and quickly recall sensor settings for four different web opacities.



Button Descriptions:

CALIBRATION SET These buttons select one of four sets of calibration values. Only one calibration set may be active at any given time with the active set indicated by the green LED on the button face. Set 1 is active by default. Touch the button for the desired set to make it active. **Note: This change takes effect immediately after saving，and in this case, exiting this menu with the CANCEL button will not restore this calibration to its previous setting.**

Note: If calibration set 2, 3, or 4 is in use, the sensor button on the Operator Level screen will reflect this by displaying a 2, 3, or 4 as shown here. When calibration set 1 is active, the sensor button on the Operator Level screen will not display a number.

The arrow buttons are used to jog the guide in either direction. This can be used to move the web in and out of the sensor during the calibration process.

Use the sensor select button to select the sensor input channel before calibration. Pressing this button alternates between the S1 and S2 sensor input channels.

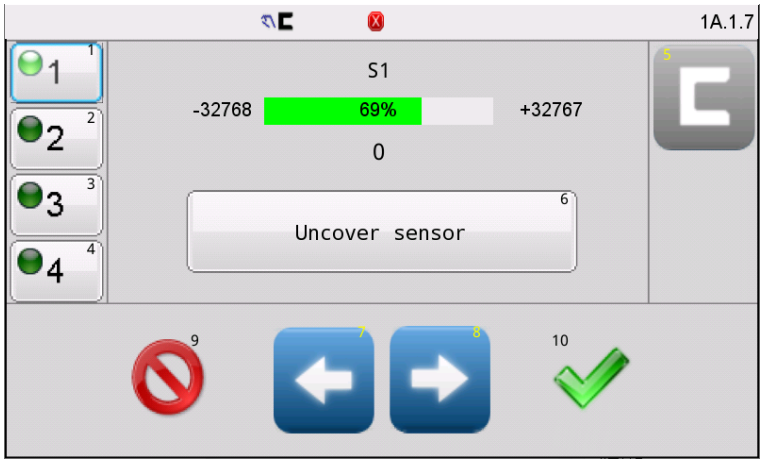
Press  or  to exit and return to the previous screen.

Calibration Procedure:

Select which set of calibration values will be used.


Select S1 or S2 sensor input.

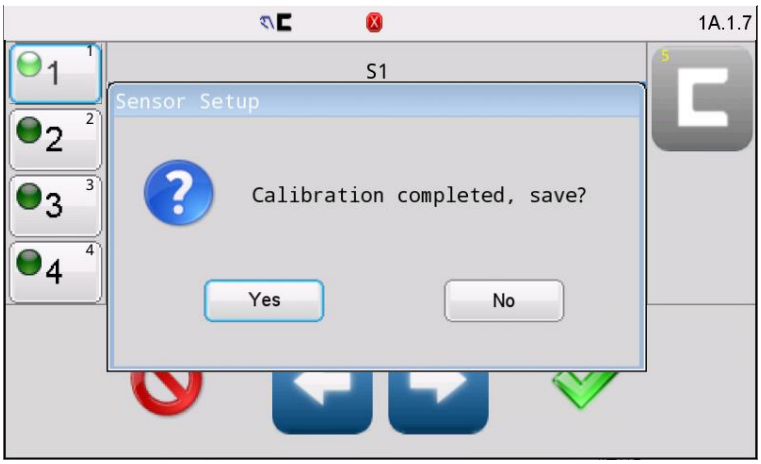
Press the START CALIBRATION button. The bar graph indicator will be rescaled to show the full signal range of -32768 to +32767 on the selected sensor input. The sensor signal level will also be displayed under the bar graph as shown is the example screen below.



Move the web material completely out of the sensor field of view and press the UNCOVER SENSOR button.

Move the web material into the sensor field of view until the entire proportional band of the sensor is covered, and press the COVER SENSOR button.

If the calibration was successful, the following message will appear.



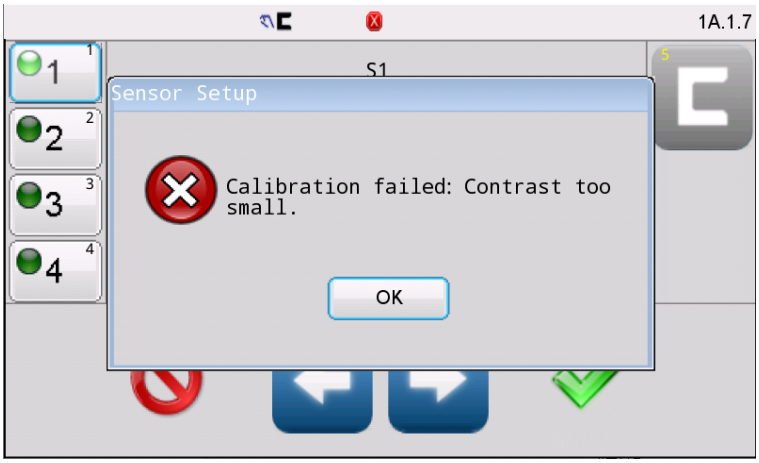
Press YES to save and close this window.

 If other calibrations (ie: the opposite sensor channel) need to be done, proceed with selecting it and repeat the calibration process.

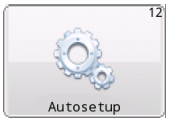
Otherwise, Press  or  to exit and return to the previous screen.

Note: The result will be permanently saved after a successful calibration has been completed. Exiting this menu with the CANCEL button will not restore this calibration to its previous setting.

If the sensor signal difference between the uncovered and covered states is too low, the web opacity is beyond calibration compensation and the message shown below will be displayed.



Press OK to close this window.



4.8 AUTOSETUP

The FIFE-500 MAX Web Guiding System gain and polarity can be set manually as described in other areas of this manual. Using this menu however, the system gain and polarity can be determined automatically.

Navigation:

 MANUAL

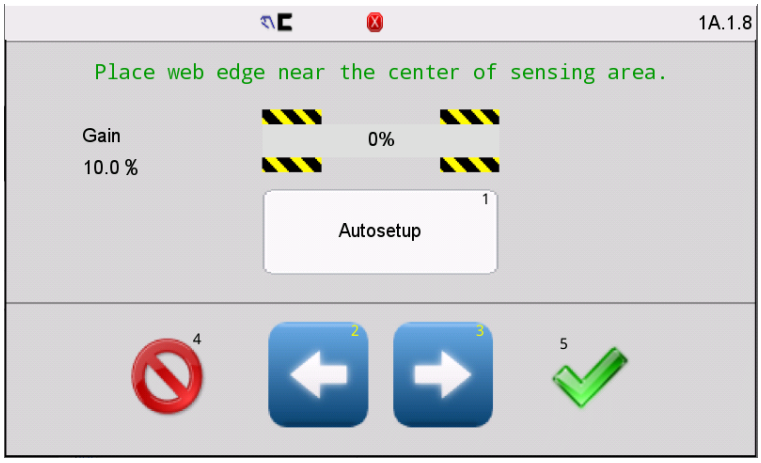
 SELECT SENSOR MODE

 SETUP

AUTOSETUP

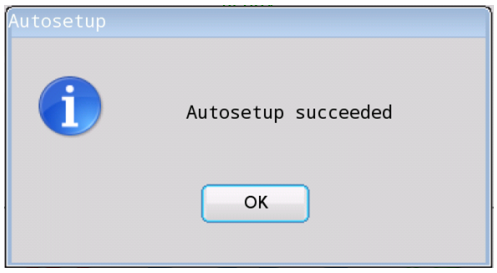
Note: The automatic setup procedure should be done with the web at a standstill.

Auto setup is performed using the sensor mode that has been selected from the Operator Level screen. Before auto setup can begin, the web must be within the selected sensor field of view. The bar graph indicator shows the acceptable limits for the sensor signal and the Autosetup button will remain disabled until the proper conditions are present.



 Use the jog buttons to position the web edge near the center of the sensor proportional band as shown below.

Press the Autosetup button to start. The guide will move a short distance as it completes the auto setup process. Successful completion is indicated by the message shown below.



Press OK to close this window.

Press ACCEPT to return to the previous screen. The gain and polarity settings are stored automatically when auto setup completes.

The gain and polarity settings are stored automatically when auto setup completes. Pressing the CANCEL button does not restore previous gain and polarity settings.

WARNING – Death or injury can result from unexpected movement.
Auto setup operation causes guide movement. Take appropriate precautions to ensure no one is in the vicinity of the guide path of travel.

Note: For most installations, the Auto Setup routine sets the system gain at the proper level for good guiding performance. However, in some applications, for optimum guiding performance, it may be desirable to adjust the system gain, manually. Refer to "Gain" in section "Menu Descriptions" in this document.

4.9 GUIDE SETTINGS

The guide settings screen provides controls to set the gain, polarity and dead band for all modes of operation. The jog polarity is also located on this screen.

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 SETUP

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GUIDE SETTINGS

Polarity – The polarity buttons display the current polarity settings active for servo-center, guiding (each sensor mode), and jog operations. Using these controls polarity can be set manually. To change polarity, touch the desired polarity button to toggle between positive and negative settings. The auto setup procedure for each sensor mode configures polarity automatically so changes to the sensor mode polarities are typically not needed.
Polarity changes are used to correct the situation if guide correction moves in the wrong direction. Jog polarity controls the direction of guide movement when the Jog buttons are pressed.

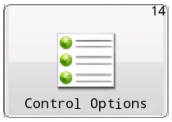
Gain – The gain controls display the gain settings for each mode of operation. The gain values are set automatically if the auto setup procedure is used. This screen provides controls to support manual gain tuning. To edit a gain setting, touch the desired gain value to open an edit window.

Dead band – The dead band value provides a configurable zone around the system guide point where no guiding correction occurs. A dead band setting of zero provides the most accurate guiding but in some applications where webs have ragged edges, dead band can be used to prevent guide reactions to these conditions. To edit a dead band setting, touch the desired dead band value and enter the new value in the displayed edit window.

 Press ACCEPT to save any changes made.

 Press CANCEL to exit without saving any changes.

.



4.10 CONTROL OPTIONS This menu provides the controls used to limit operation modes, sensor modes, and system guide point shift controls on the Operator Level screen.

Navigation: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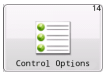
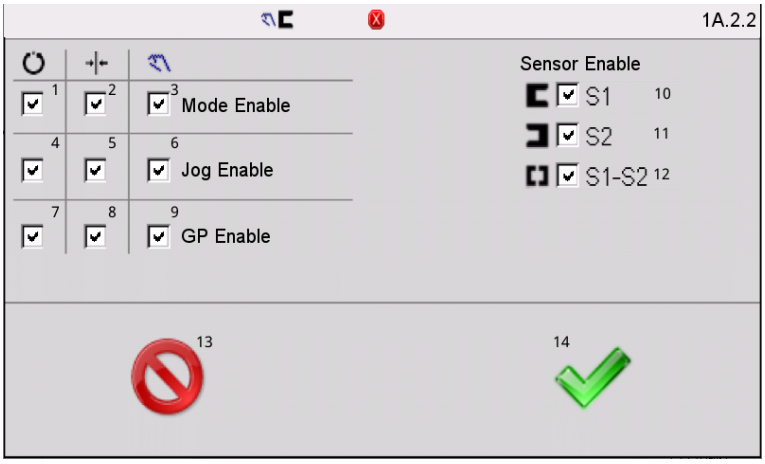
Page forward



CONTROL OPTIONS



Mode Enable – These checkboxes enable or disable use of automatic, servo- center, and manual operation modes. A "checked" box indicates the mode is available. At least one mode must remain enabled at all times. The menu will not permit saving a configuration with all checkboxes cleared.

Jog Enable – These three checkboxes enable or disable jog operations in automatic, servo-center, and manual operation modes. A "checked" box indicates jogs are permitted. When jogs are disabled, the jog buttons on the Operator Level screen are disabled.

GP Enable – These checkboxes enable or disable the system guide point controls on the Operator Level screen in automatic, servo-center, and manual operation modes. A "checked" box indicates guide point controls are enabled. When disabled, the guide point controls on the Operator Level screen are disabled. This control does not affect guide point control from the digital inputs.

Sensor Enable – These controls configure which sensor modes can be selected using the SENSOR button on the Operator Level screen. The menu will not permit saving a configuration with all sensor modes disabled.


Press ACCEPT to save changes made to this screen.


Press CANCEL to exit without saving any changes.

4.11 POWER ON MODE This menu controls the Power On mode for the FIFE- 500 MAX Web Guiding System. Default operation returns to the mode that was active when power was removed, however, configuration choices in this screen allow any mode to be selected as the Power On mode.

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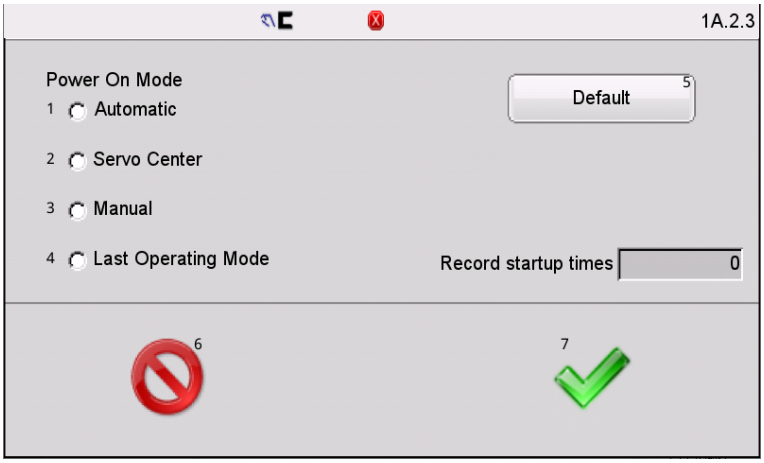
POWER ON MODE



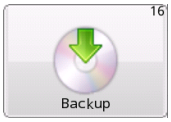
Default – The default button selects the factory setting which is "Last mode used".

Record startup times – Shows the number of power cycles the system has recorded.

 Press ACCEPT to save changes and return to the previous screen.

 Press CANCEL to close this screen and return to the previous screen without saving any changes.

WARNING – Death or injury can result from unexpected movement. Selecting Automatic or Servo-Center modes for power up options can cause guide movement when power is applied. Take appropriate precautions to ensure no one is in the vicinity of the guide path of travel when power is applied to the web guiding system.



4.12 BACKUP

Backup is used to make a copy of all configurable settings. These settings can be recalled using the RESTORE menu.

Navigation:

 MANUAL

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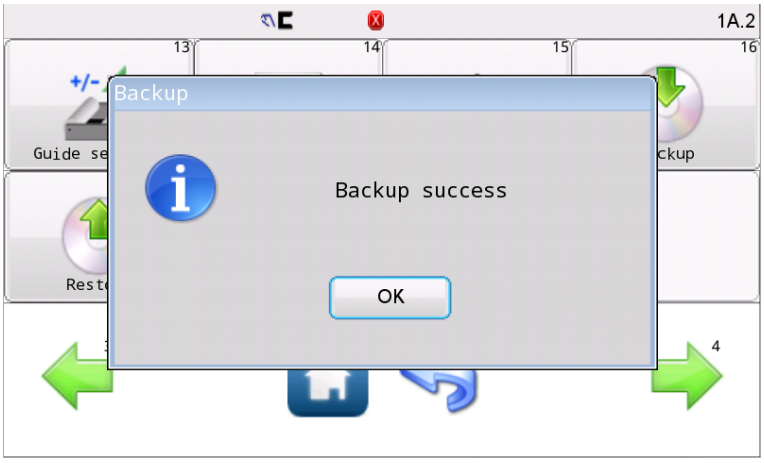
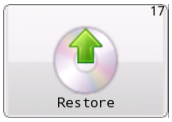
 Page forward

BACKUP

If a backup already exists, the system will ask for confirmation before replacing it. The screen below will be shown after the backup completes. Press the OK button to continue and return to the previous menu screen.



Press OK to close this window.



4.13 RESTORE

The restore function reloads all configurable options from a backup image if available.

Navigation:

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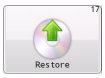
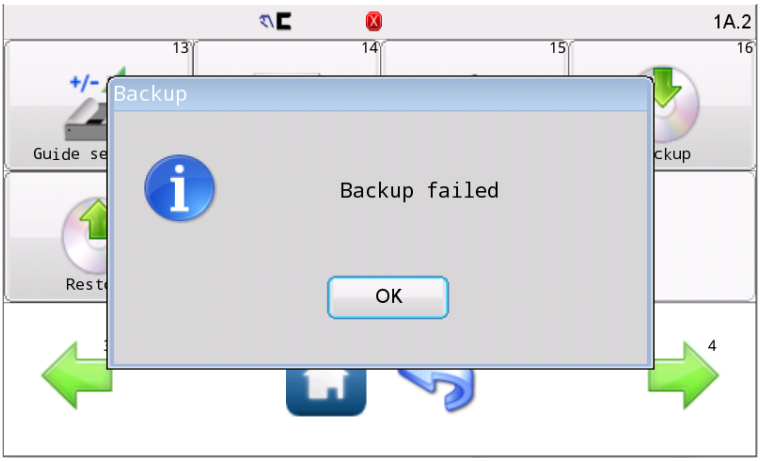


RESTORE

If no backup image is present or it is corrupted, the following message will appear. Restore is not possible in this case.



Press OK to close this window.

NOTE: Restore reloads all user-Configurable settings such as gains,polarities,etc.In order to prevent unintended password modification,restore does not replace active passwords from the backup from the backup image.

4.14 HARDLOCK

Hard lock modifies actuator reaction while in manual mode. Normal manual posture removes all motor drive signals. In some applications, forces due to gravity or web tension can cause unwanted actuator movement when the motor is not driven. The hard lock option changes manual operation so actuator position is actively maintained to prevent movement from outside forces while in manual mode. Hard lock, if enabled is applied in all cases where manual posture is active such as when external lock from the digital inputs is active.

Navigation:

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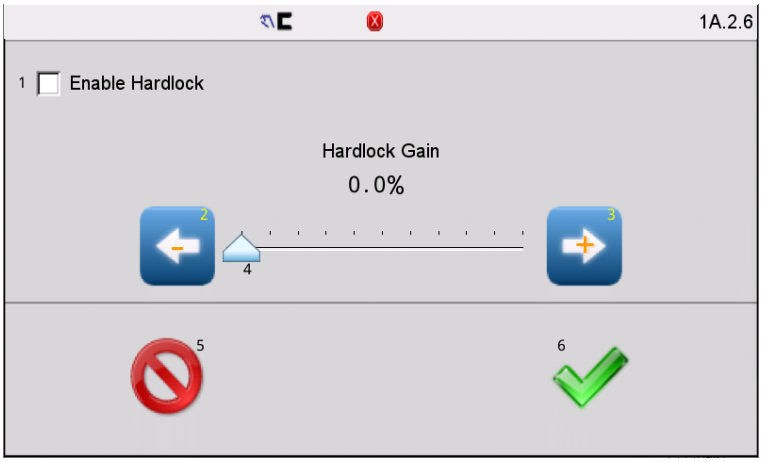
HARDLOCK



Enable Hardlock – Check this box to turn the hardlock feature on.
Hardlock Gain – Sets the hardlock control loop gain. This can be changed with the slider control or with the arrow buttons for finer control.

 Press ACCEPT to save changes made to this screen.

 Press CANCEL to exit without saving any changes.

4.15 NAME

Use the name menu to enter a drive name. The specified name can be 16 characters or less and is displayed on the Operator Level screen. This can be useful in a networked environment to identify the connected drive.

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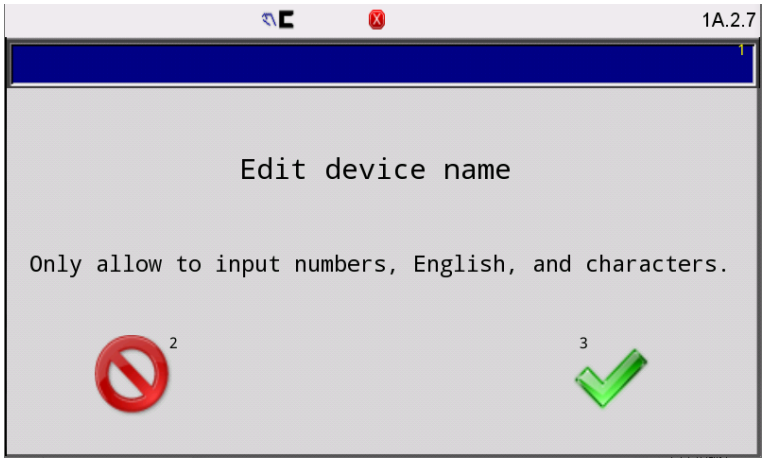
NAME



Enter up to 16 characters to describe the drive.

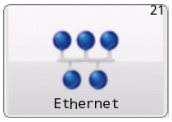
Edit functions include:

Del – Delete characters to the left of the cursor.

 Press ACCEPT to save changes made to this screen.

 Press CANCEL to exit without saving any changes.

Note:Only allow to input numeric, English, and characters.



4.17 Ethernet This menu is used to configure the internet when you want your device to be networked.And after modification,you need to restart the guiding system as prompted.

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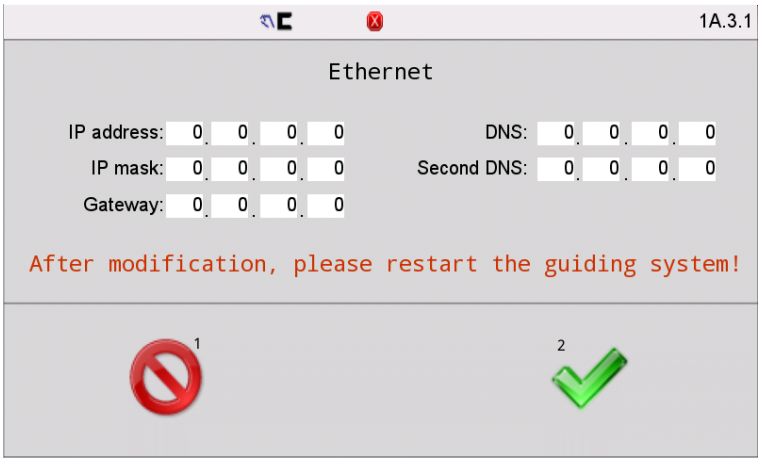
 Page forward

Ethernet



 Press ACCEPT to save changes made to this screen.

 Press CANCEL to exit without saving any changes.

4.18 EtherCAT This menu is used to view EtherCAT's network connection and working status if you have connected it.

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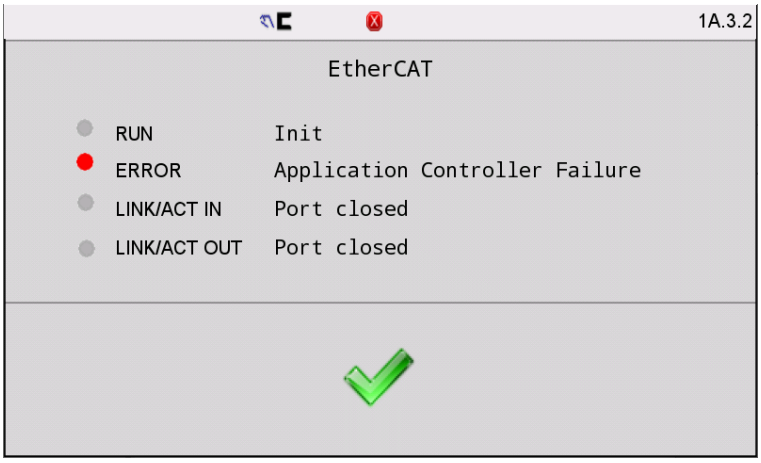
 ETHERCAT

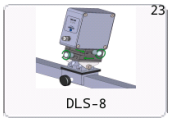


RUN: The RUN indicator shall show the status of the EtherCAT Statemachine.

ERROR: The ERROR indicator shall show errors such as watchdog timeouts and unsolicited state changes due to EtherCAT local errors (e.g. input error).

LINK/ACT IN: The Link/Activity indicators show the state of the EtherCAT physical link and activity input port on this link.

LINK/ACT OUT: The Link/Activity indicators show the state of the EtherCAT physical link and activity output port on this link.



4.19 DLS-8

This menu is used to guide the operation of the DLS-8sensor.

If you have not installed DLS-8, please disregard this section.
If needed, we have another document that provides a full explanation of how to use DLS-8. Please refer to *DLS-8 Quick start setup manual* for details.

4.20 LOCAL CONTROL

This menu is used for local operation when connected to remote communications such as Modbus TCP, PROFINET, EtherCAT, and CC-LINK IEF Basic.

Navigation:

MANUAL / SERVO-CENTER / AUTOMATIC

SETUP

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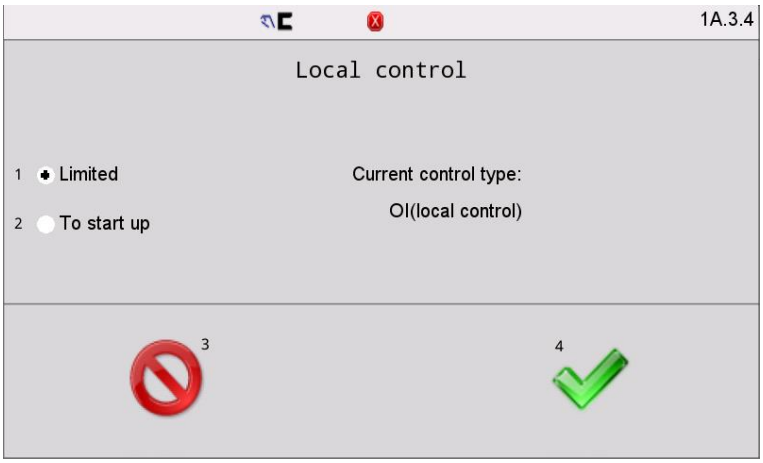
LOCAL CONTROL



OI operation is limited when connected to remote communications such as Modbus TCP, PROFINET, EtherCAT, CC-LINK IEF Basic. If you need to view or modify settings via OI, select **To start up**, you can have local control for a limited period of 5 minutes.

4.21 SETTINGS

This menu is used to show the detection range of the sensor and to set for manually changing the guide point and capture guide point on Automatic mode.

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 MANUAL

 SETUP

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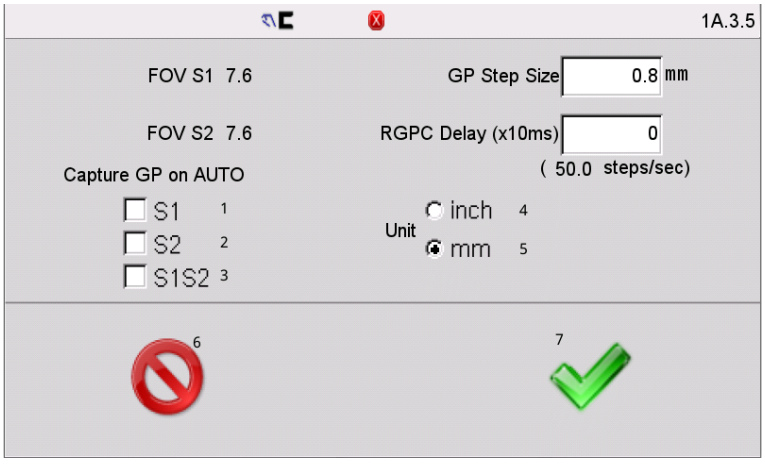
SETTINGS



FOV S1/FOV S2: When sensors S1 and S2 are connected to the guide, the detection range (width of the detection area) of the sensor is displayed. Units (inch/mm) can be selected on this page.

GP Step Size: Indicates the displacement of the correction point after one click when the guide point is changed manually, which can be edited by clicking on the numeric pane.

RGPC Delay (x10ms) : Indicates the response time of the system after manually changing the guide point, which can be edited by clicking on the numeric pane (the response speed in Step/sec is shown in parentheses and will change with the input value in the numeric pane).

Capture GP on AUTO: Select to turn on/off the automatic capture of the guide point in different sensor mode.

5. System Notes

1. Disconnect power from the FIFE-500 MAX before connecting or disconnecting any cables.
2. All cable connectors must be tightened sufficiently to provide the required connection for the cable shielding.
3. Sensor selection changes are allowed in Manual and Servo-Center modes, only..
4. In Automatic and Manual modes, the bar graph in the Control Panel indicates the signal level of the selected sensor(s).
5. In Servo-Center mode, the bar graph in the Control Panel indicates the signal level of the Servo-Center sensor.
6. When any command is detected on the Digital Port, a down arrow icon is displayed at the top of the display.
7. The External Lock command is used to temporarily disable all motor commands. If External Lock is commanded while in Automatic mode, when the External Lock command is removed, the system reverts back to normal guiding operation. The External Lock command is not to be used as an E-Stop.

6. Troubleshooting

6.1 Fault Diagnostics – Fault Rectification

Fault Description	Probable Cause	Remedy	Reference
Actuator does not move in Automatic mode.	System Gain set too low. or Sensor Calibration is not correct.	Increase the System Gain. Perform Sensor Setup.	1X.1.6, Gain or 3X.1.6, Gain 1X.1.7, Sensor Setup
Actuator is unstable in Automatic mode.	System Gain set too high. or Cable connectors are loose. or Sensor Calibration is not correct.	Decrease the System Gain. Tighten all cable connectors. Perform Sensor Setup.	1X.1.6, Gain or 3X.1.6, Gain 1X.1.7, Sensor Setup
Actuator moves the wrong direction in Automatic mode.	Guide Polarity is incorrect. or Incorrect sensor mode selected. or Sensor Calibration is not correct.	Perform Autosetup or Change the Guide Polarity manually. Select MANUAL mode, then verify the correct sensor mode is selected. If necessary, press the SENSOR key to select the correct sensor mode. Perform Sensor Setup.	Auto Setup Configuration, 1X.1.8, Automatic set gain or Manual Configuration, 1X.2.1 Guide Settings 1X.1.7, Sensor Setup
Actuator does not move in Servo-Center mode.	Servo-Center Gain is set too low.	Increase the Servo-Center Gain.	2X.1.6, Gain
Actuator is unstable in Servo-Center mode.	Servo-Center Gain is set too high.	Decrease the Servo-Center Gain.	2X.1.6, Gain
Actuator moves to either end of stroke in Servo Center mode.	Servo Center Polarity is set incorrectly.	Select MANUAL mode then change the Servo-Center Polarity.	Guide Settings, 1X.2.1, Servo-Center Polarity

An incorrect setting on the FIFE-500 MAX is often the cause of incorrect or undesirable guiding characteristics. Faults and the procedures for rectifying the faults are described below.

7. 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.

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