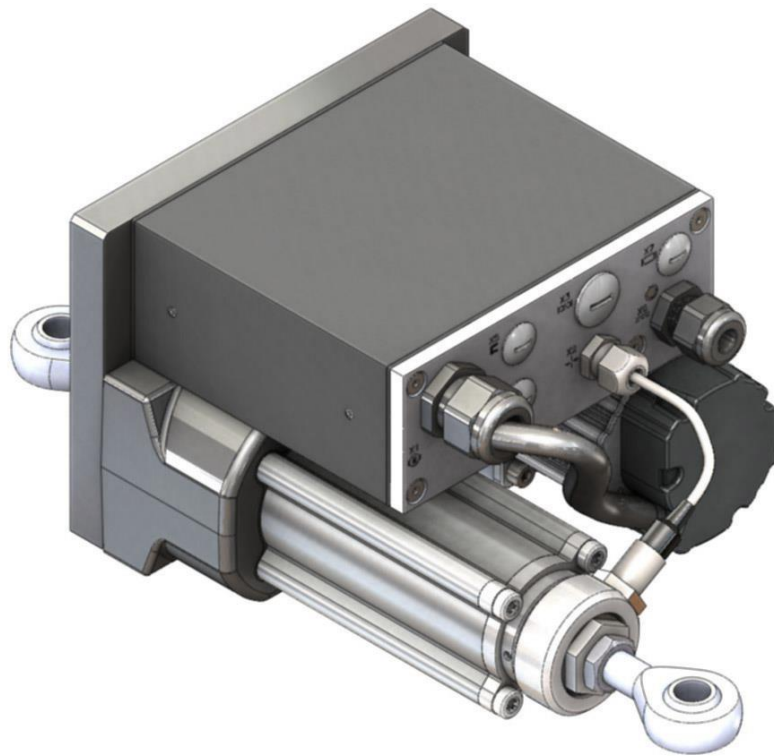




# Fife GMA-BL Actuator Controller

## Quick-Start Manual

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## Copyright information

All of the information herein is the exclusive proprietary property of Maxcess International, and is disclosed with the understanding that it will be retained in confidence and will neither be duplicated nor copied in whole or in part nor be used for any purpose other than for which disclosed.

This Instruction Manual is intended to be used in addition to the *GMA-BL Actuator Controller User Manual, Figure Sheet 2-265*.

## General information

The instructions contained in this Quick Start Setup Manual are written to support operation of the GMA-BL Actuator Controller. For further assistance contact your regional Maxcess office. See back page for telephone numbers.

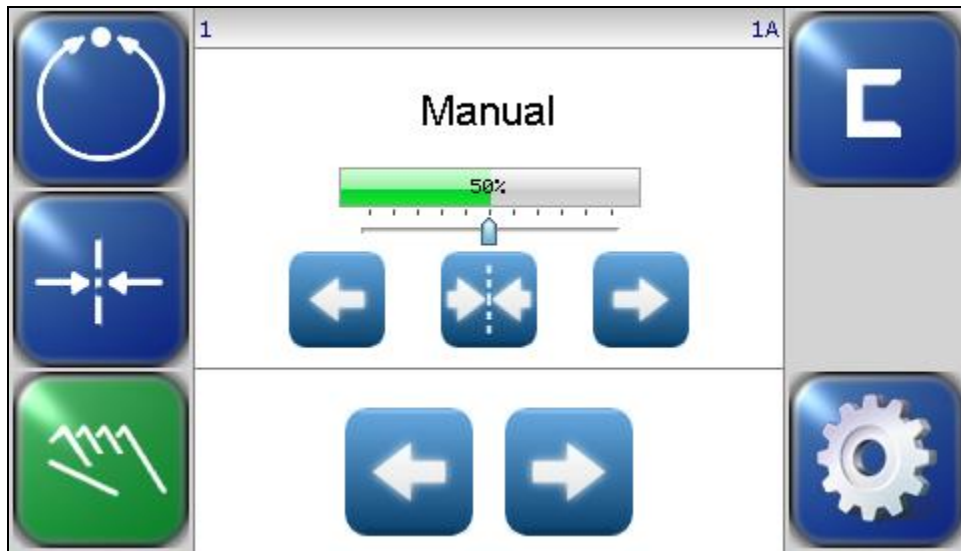
## Language

These are the original instructions, written in English.

## Display definitions

The GMA-BL Actuator Controller uses a QVGA Touchscreen for Operator command inputs and status displays. This Control Panel is divided into 5 sections of information for which a brief description is listed below. Refer to the Figure 1, for the button locations in the standard, horizontal Control Panel. Also refer to the *GMA-BL Actuator Controller User Manual, Figure Sheet 2-265* for complete display definitions.

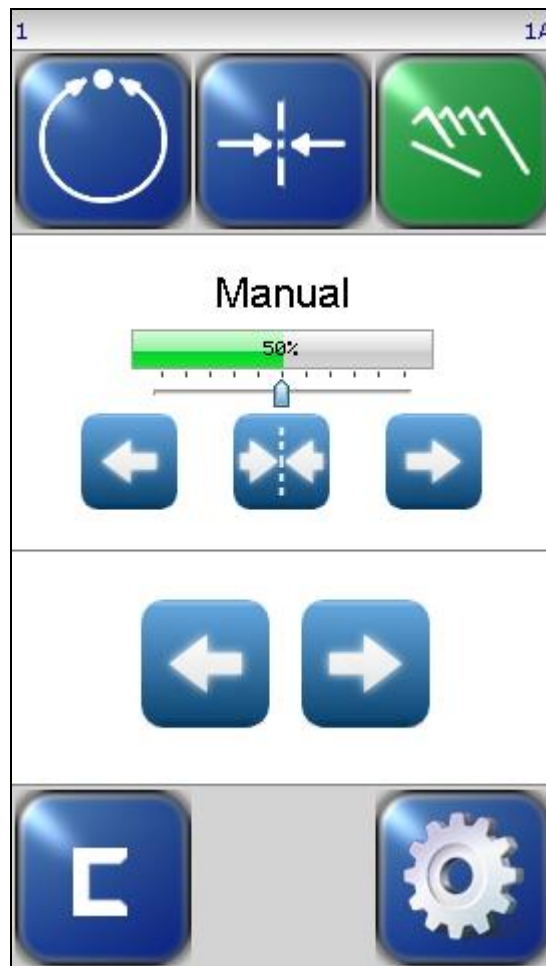
1. The vertical section on the left side contains the Operation Mode selection buttons (Automatic, Servo Center, and Manual) and indicates the current Operation Mode selection by displaying the corresponding button in a green color. (Other buttons are blue).
2. The horizontal section along the top, above the line, contains the status bar which always contains the menu number. It may also indicate statuses, errors, and digital I/O.
3. The middle section indicates the current Operation Mode, the selected sensor signal level in a bar graph, and the level of Guide Point Shift. This section also contains buttons for Guide Point Shift and Guide Point Reset.
4. The lower middle section contains the Left and Right Jog buttons.
5. The vertical section 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.



**Figure 1.**  
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.

1. The horizontal section 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.
2. The horizontal section near the top, 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.
3. The section just below the Operation Mode buttons, indicates the current Operation Mode, the selected sensor signal level in a bar graph, and the level of Guide Point Shift. This section also contains the Guide Point Shift buttons and the Guide Point Reset button.
4. The section below that, just above the Sensor Select and Setup buttons, contains the Left and Right Jog buttons.
5. The horizontal section along the bottom 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.



**Figure 2.**  
CONTROL PANEL  
(90° AND 270° ROTATION)

## Button functions and definitions

The table below gives the name along with an operational function description of each button displayed on the operator interface.



**AUTOMATIC** This button initiates the Automatic mode. Correction is applied to the web by moving the actuator in response to the output of the sensor(s) that have been selected.



**SERVO-CENTER** This button initiates the Servo-Center mode. The actuator is centered in its travel in response to the output of the internal Servo-Center transducer.



**MANUAL** This button initiates the Manual mode. No correction is applied to the actuator.



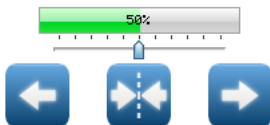
**SENSOR** This button is used to select the sensor(s) to be used for monitoring the web position when the system is in Automatic mode. Sensor selection is allowed in Manual and Servo-Center modes only.



**SETUP** This button is used to enter the Setup Menus for configuring and adjusting the guiding system.



**ARROWS** These buttons are used to jog the actuator. The direction of actuator movement is configurable.



**GUIDE POINT ADJUST** The two arrow buttons near the bar graph are used to adjust the System Guide Point while in Automatic Mode or Manual Mode. The button in the center is used to reset the System Guide Point to the default value, which is 50% of the sensor bandwidth.



**BACK** This menu navigation button is used to return to the previous menu level.



**HOME** This button is used to return to the Operator Level screen.



**MENU ARROWS** These buttons are used in the menu system to page forward/backward when multiple pages of menu choices are available. The arrows will appear disabled (grayed-out) when no more choices are available in the respective direction.



**ACCEPT** This button is used 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.



## Status bar definitions

The status bar located horizontally across the top of the Operator Level screen remains visible at all times. The number on the left side of the status bar contains the numerical address of the connected motor controller and it should always be 1. 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 operator interface. The status bar also displays various icons which are described below.



**OPERATION MODE** One of these icons will appear to indicate the operation mode of the GMA-BL Actuator Controller. These do not appear on the Operator Level screen since the mode buttons already indicate this information. These will only appear while in the setup screens.



**SENSOR SELECTION** One of these icons will appear to indicate the currently selected sensor mode. These do not appear on the Operator Level screen since the SENSOR button already contains this information.



**MENU TIMEOUT** The menu screens in the operator interface 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 Guide Point has been applied. This icon will appear on the status bar until the System Guide Point remains unchanged for approximately 20 seconds.



**EXTERNAL LOCK** This icon indicates the acceptance of the “External Lock” digital input command. Automatic actuator 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 actuator movement is prohibited. See the menu description for ASC for more information about ASC operation.



**MOTOR BLOCKED** This icon indicates the motor is stalled.



**COMMUNICATION ERROR** This error icon indicates communication is not working between the operator interface 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.



**NETWORK ERROR** This icon appears when the operator interface is unable to gain network control.



**LINKED MODE** This icon appears when the “linked mode” is active. Linked mode is used in networked systems to send the Automatic, Manual, and Servo Center commands to all network devices simultaneously.



**MOTOR TYPE FAULT** This icon appears when there is no motor type configured.



**COMMUNICATION FAULT** This icon appears when a problem is detected with the communication signals. This can be caused by hardware or an addressing conflict in a networked system.



**LINE SPEED ZERO** This icon appears when line speed control is enabled and the sensed line speed is zero. Guide correction is inhibited in Automatic mode under these conditions.



**MCP-05 SEEK** If the MCP-05 option has been enabled, this icon will blink while a seek operation is in progress.



**MOTOR ENCODER FAULT** This icon appears when a problem is detected with the encoder signals from the motor.



**MOTOR HALL STATE FAULT** This icon appears when a problem is detected with the motor hall state transitions.

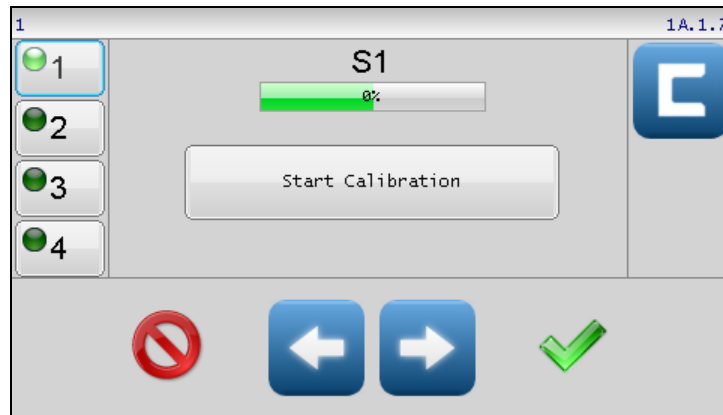
## System setup

1. Connect +24 VDC Power to the GMA-BL Actuator Controller power cable and connect the operator interface to the GMA-BL Actuator Controller. Refer to GMA-BL Actuator Controller Installation and Service Manual, Figure Sheet 1-916, which is supplied with each system.
2. Apply the proper power to the system.
3. Verify the system is in Manual Mode by pressing the MANUAL button on the Control Panel.
4. Switch the system to Servo Center Mode by pressing the SERVO-CENTER button.
5. Thread the web/strip to be used, through the system and pull proper tension, if possible.
6. Switch the system to Manual Mode by pressing the MANUAL button.
7. Perform "Sensor Calibration" on the sensor(s) that will provide position feedback for the web/strip. If two sensors are being used, they must be calibrated independently. Refer to Figure 3 and Figure 4, shown on the following page.
  - 1) Press the SETUP button to enter the Setup menus.
  - 2) Press the SENSOR SETUP icon to enter the Sensor Calibration menu.
  - 3) Select the desired sensor by pressing the SENSOR SELECTION button.
  - 4) Press the 'Start Calibration' button to begin the calibration.
  - 5) The Jog buttons at the bottom of the screen may be used to move the web material in and out of the sensor as needed during calibration.
  - 6) Follow the instructions displayed on the Control Panel.
  - 7) Be sure to use the web to be guided to calibrate the sensor(s).
  - 8) Repeat this procedure for each sensor, if two sensors are to be used.
  - 9) Once this procedure has been completed, Press the ACCEPT (✓) to save the changes.
  - 10) Press the BACK or HOME button to return to the Operator Level screen.

*Once this procedure has been performed once for each sensor, it does not need to be repeated, unless the web/strip opacity has changed.*



**Figure 3.**  
CONTROL PANEL  
LEVEL 1 SETUP SCREEN



**Figure 4.**  
CONTROL PANEL  
SENSOR CALIBRATION SCREEN

## Auto setup configuration

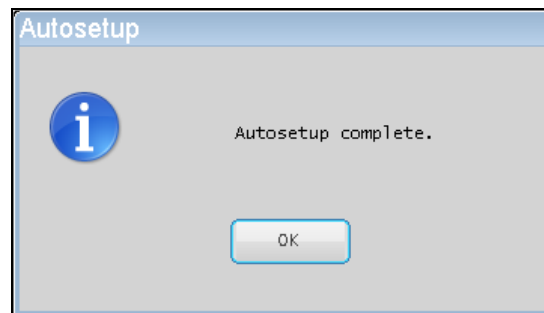
**NOTE: If Manual Configuration is desired go to Step #8\***

1. Place the web/strip in the proper position and then position the sensor(s) to align the center of the sensor(s) bandwidth with the edge of the web/strip to be guided.
6. Verify the system is in Manual Mode by pressing the MANUAL button on the Control Panel.
7. Perform “Auto Setup” to automatically determine the proper polarity and gain for the system. If two sensors are being used, the “Auto Setup” must be performed independently, in each sensor mode. Refer to “Control Panel Level 1 Setup Screen” on the following page for the location of the buttons.
  - 1) Select the desired sensor mode by pressing the SENSOR SELECTION button.
  - 2) Press the SETUP button to enter the Setup menus.
  - 3) Press the AUTOSETUP icon to enter the AUTOSETUP menu.
  - 4) Position the web edge near the center of the sensor proportional band as indicated in Figure 5.
  - 5) Press the AUTOSETUP button to start. The actuator will move a short distance and indicate the result as shown in Figure 6.
8. Press the ACCEPT button to save the setting.
9. Press the BACK or HOME button to return to the Operator Level Screen.
10. Repeat this procedure for each sensor mode that will be used.
11. Switch the system to Automatic Mode by pressing the AUTO button. This initiates the guiding function of the system.

*Once this procedure has been performed once for each sensor mode, it does not need to be repeated.*



**Figure 5.**  
CONTROL PANEL  
AUTOSETUP SCREEN

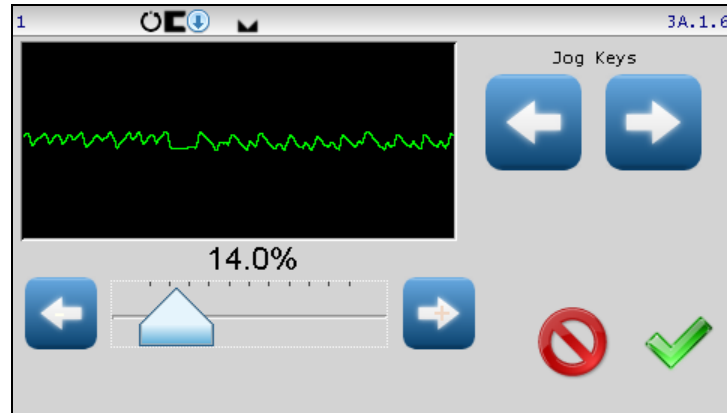


**Figure 6.**  
CONTROL PANEL  
SUCCESSFUL AUTOSETUP COMPLETION

## Optional manual configuration

1. To manually change the System Gain. Refer to Figure 7, shown on the following page.
  - 1) Press the SETUP button to enter the Setup menus.
  - 2) Press the GAIN icon to enter the Gain menu.
  - 3) Use the + and - ARROW buttons, or use the slider control to adjust the Gain to the desired level. (The display indicates the sensor signal stability to assist in the Gain adjustment).
  - 4) Press the ACCEPT (✓) button to save the new Gain value.
  - 5) Press the BACK or HOME button to return to the Operator Level screen.
12. To manually change the Guide Point while in Automatic Mode or Manual Mode.
  - 6) Press the right arrow button near the bar graph to move the Guide Point toward the right sensor.
  - 7) Press the left arrow button near the bar graph to move the Guide Point toward the left sensor.
  - 8) Press the center round button near the bar graph to reset the Guide Point to the default of 50%.

**Note:** If the Guide Point is changed while in Automatic Mode, the change is effective immediately, but if the Guide Point is changed while in Manual Mode or Servo-Center modes, the change is effective when Automatic Mode is initiated.



**Figure 7.**  
CONTROL PANEL  
SYSTEM GAIN SETUP SCREEN





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