

DoraniX

## DLA Series User Manual



## Table of Contents

1 Introduction .....	4
1.1 Overview .....	4
1.2 Safety Precautions .....	5
1.3 Accessories .....	5
2 Setup .....	5
2.1 Specifications and Requirements .....	5
2.2 Assembly .....	5
2.3 Gap Adjustment .....	5
2.4 Label Threading .....	6
2.5 Using the Label Applicator .....	6
2.6 Connecting to a Printer (accessories required) .....	6
3 Operation .....	7
3.1 Keypad Functions .....	7
3.1.1 About Key .....	7
3.1.2 Reset Counter Key .....	7
3.1.3 Move Label: Lead Key .....	7
3.1.4. Move Label: Trail Key .....	7
3.1.5 Label On/Off Key .....	7
3.1.6 Program Key .....	7
3.1.7 Missing Label Key .....	7
3.1.8 Label Position 1 Key .....	8
3.1.9 Label Position 2 Key .....	8
3.1.10 Feed On/Off Key .....	8
3.2 LCD Screen .....	8
3.2.1 Menus .....	8
3.2.2 Error Messages .....	9
3.3 Feed Speed Slider .....	9
3.4 Calibrating Sensors .....	9

3.5 Programming Label Position..... 10

3.6 Using Stop Count ..... 10

3.7 Calculating Life Count ..... 10

4 Operation Modes..... 11

    4.1 Print Only ..... 11

    4.2 Apply Only ..... 11

    4.3 Print Apply ..... 11

        4.3.1 Setting Up A Print Apply System..... 11

        4.3.2 Setting for Printers during Print Apply ..... 13

5 Troubleshooting ..... 14

6 Maintenance..... 16

    6.1 Routine Cleaning..... 16

    6.2 Regular Maintenance ..... 16

    6.3 Service and Support..... 16

# 1 Introduction

## 1.1 Overview

This manual will go through how to setup, operate, troubleshoot, and maintain the DLA-5000. Below is a series of call-out images with the commonly referenced items shown and named. For the purposes of this manual, the front of the machine is to the left when viewed from the side with the LCD screen and keypad, and contains the static brush. The rear is to the right when viewed from the side with the LCD screen and keypad, and contains the power socket, power switch, guide adjustment knobs, and the gap adjustment knob.

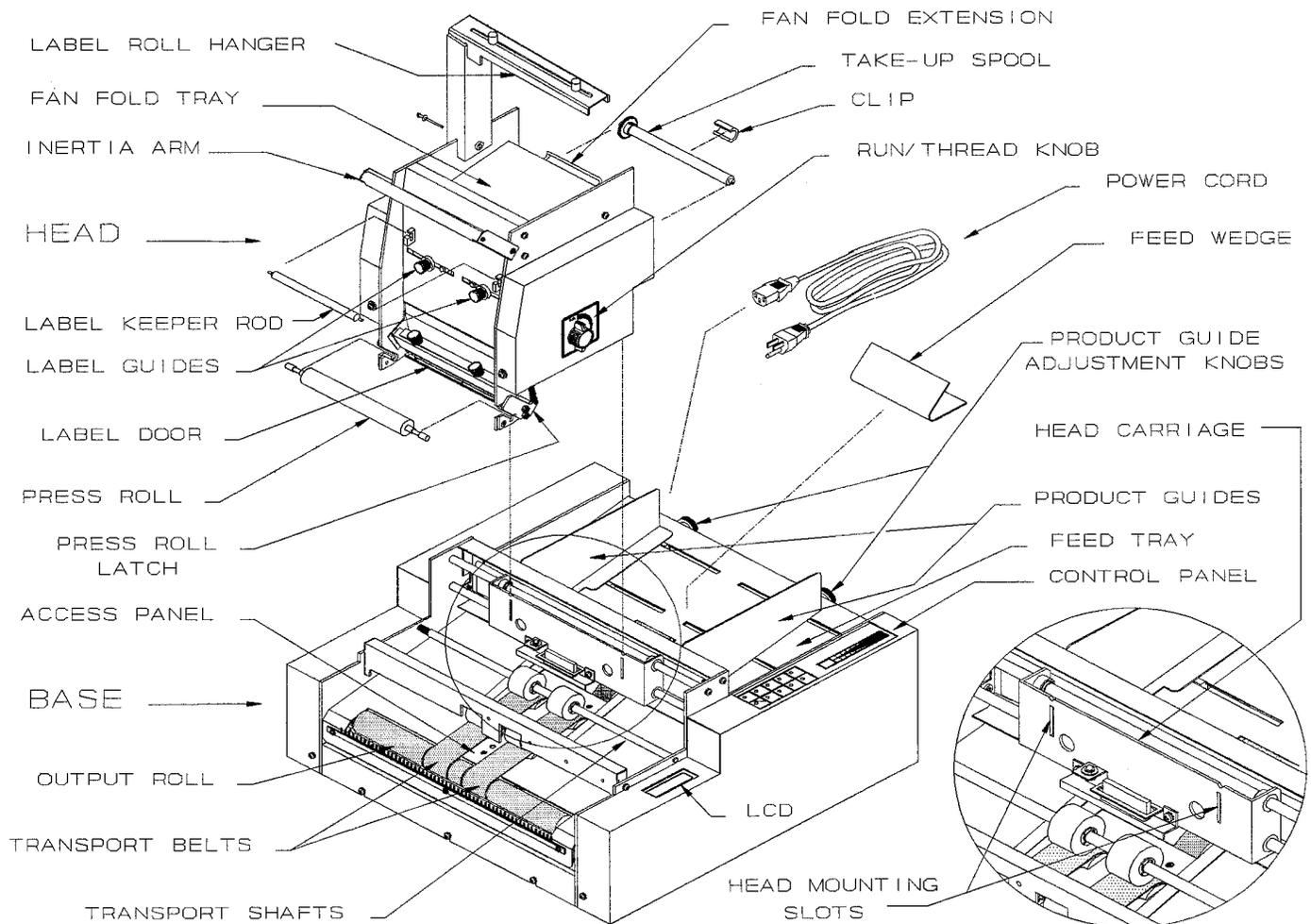


Figure 1.1.1 Exploded View with Call-outs

## 1.2 Safety Precautions

The rollers, wheels, and belts can pinch skin if pressed against it while in operation. The DLA-5000 will detect jams in the feeder and turn off the machine. When plugging in the machine ensure that the machine is switched off, which means that on the power switch the circle is depressed.

## 1.3 Accessories

Optional accessories include custom catch trays, feed assist ramps, and print/apply modules. Custom catch trays can be ordered based upon product size and can be either table or floor based trays. The machine will ship with any feed assist ramps necessary for proper feeding of product. Print/apply modules are only available with the purchase of a self-integrated print/apply label applicator.

# 2 Setup

## 2.1 Specifications and Requirements

The DLA-5000 requires access to a 120V, 60 Hz wall outlet, and a workstation or table suitable to securely rest it upon. It uses labels no wider than 6 inches and can handle product up to 16 inches wide and 1/4" thick.

## 2.2 Assembly

Remove the applicator base and head from their shipping cartons and place on a table or workstation. Save the cartons and packing material for future use. Place the head onto its sliding mount, being careful to ensure that the connectors have a solid mating, and that the mounting hooks enter their appropriate slots. Remove the foam hold-down blocks from underneath the primary crossbar. Install the label roller hanger using the provided hardware. Plug the label applicator into a socket using the provided power cable.

## 2.3 Gap Adjustment

Using the gap adjustment knob on the rear of the machine, widen the gap by rotating the knob in the direction labeled as thicker, until there is a visible gap of roughly 1/8<sup>th</sup> of an inch between the feed wheels and the separator assembly. Turn on the feed and transport motors by pressing the feed on/off key and setting the feed speed slider to any non-zero value. Hold a single quantity of the desired

product to be run through the label applicator between the feed wheels and feed rollers. Tighten the gap by rotating the gap adjustment knob in the direction marked thinner until the product is pulled from a loose grip by the label applicator. Some minor adjustment may be needed from this point, thinner if double feeds occur, and thicker if there is difficulty with the products feeding.

## 2.4 Label Threading

Place a roll of labels on the roller hanger, and remove enough labels so that there is approximately 12" of backing exposed at the leading edge of the roll. Rotate the Run/Thread knob on the side of the head to the Thread position. Run the label and backing over the sway bar, and underneath the ribbon hold down bar, and down through the ribbon chute at the bottom of the front. Ensure that the labels go over the sensor in the middle of the head. Open the head and use the internal kickstand to prop it open. Next thread the ribbon between the two grit rollers, and into the back of the head. If the backing has significant curl, folding it over will help. Pull it through from the back of the machine, fold the kickstand back in and close the front door. Place the take-up spool on top of the gear and in its slot. Ensure that the label backing runs straight through the entire machine and is not askew. Clip the backing to the take-up spool with the plastic clip. Once this is finished, return the Run/Thread knob back to the Run position and clear the error message on the LCD screen by pressing any button. Adjust the side guides on the front of the head so that they stand off from either side of the backing by approximately 1/8<sup>th</sup> of an inch.

## 2.5 Using the Label Applicator

Thread the ribbons as described in section 2.3. Place the product into the center of the catch tray and adjust the side guides to provide a good fit. Ensure the guides are straight. Set the desired label position on the LCD screen using the move label arrow keys. Pressing Lead (left arrow) reduces the gap between the front edge of the product and the point of application, while trail increases this gap.

## 2.6 Connecting to a Printer (accessories required)

See included addendum concerning the Digital Printer/Label Applicator system.

## 3 Operation

### 3.1 Keypad Functions

#### 3.1.1 About Key

On the main menu, this key does nothing. In the program menu, this key will toggle through the available operation modes. In the stop count menu, this key will change the incrementing type from 1 to 10 to 100 and then back to 1.

#### 3.1.2 Reset Counter Key

On the main menu, this key resets the product count to 0 and updates the life count. In the program menu, this key will display the life count (see section 3.7).

#### 3.1.3 Move Label: Lead Key

In the main menu this key will decrease the label position, moving the point of application closer to the leading edge of the product. In the program menu, this key will change the transport speed. The adjustment keys are the Move Label: Lead Key and Move Label: Trail Key. The transport speed value should be set from the factory and should be in the 85-100% range. Setting this too low can cause double labeling – too fast can cause flimsy products to curl upward as the label is applied. In the stop count menu, this key decreases the stop count by the value shown.

#### 3.1.4. Move Label: Trail Key

In the main menu this key will increase the label position, moving the point of application further from the leading edge of the product. In the program menu, this key will recalibrate the take-up sensor (See Section 3.4). In the stop count menu, this key increases the stop count by the increment value shown.

#### 3.1.5 Label On/Off Key

In the main menu, this key enables or disables the label motor. The LED off the key indicates whether the motor is engaged or not. In the program menu, this recalibrates the label sensor (see Section 3.4).

#### 3.1.6 Program Key

In the main menu, this key enters into the program menu. In the program menu, this key leaves the program menu. In the stop count menu, this key saves the currently displayed stop count and returns to the main menu.

#### 3.1.7 Missing Label Key

In a print apply system, pressing this key will make the printer print another label to make the slack loop larger. In the program menu, this key enters the stop count menu (see Section 3.6).

### 3.1.8 Label Position 1 Key

In the main menu, this key sets the label position to the pre-programmed label position 1. In the program menu, this programs label position 1 with the current label position.

### 3.1.9 Label Position 2 Key

In the main menu, this key sets the label position to the pre-programmed label position 2. In the program menu, this programs label position 2 with the current label position.

### 3.1.10 Feed On/Off Key

In the main menu, this key enables or disables the transport and feed motors. The LED off the key indicates whether the motor is engaged or not. In the program menu, this recalibrates the product sensor (see Section 3.4).

## 3.2 LCD Screen

### 3.2.1 Menus

There are three menus within the label applicator: the main menu, the program menu, and the stop count menu. Below is a table listing what function each key has in each of the menus.

Key	Main Menu	Program Menu	Stop Count Menu
<b>About</b>		Changes Operation Mode	Changes Increment Type
<b>Reset Counter</b>	Resets Counter	Displays Life Count	
<b>Move Label Lead</b>	Reduces Label Position	Change Transport Motor Speed	Reduces Stop Count
<b>Move Label Trail</b>	Increases Label Position	Recalibrates Take-up Sensor	Increases Stop Count
<b>Label On/Off</b>	Toggles Label Motor	Recalibrates Label Sensor	
<b>Program</b>	Enter Program Menu	Returns to Main Menu	Returns to Main Menu
<b>Missing Label</b>	Print label (print apply)	Enters Stop Count Menu	
<b>Label Position 1</b>	Sets Position to Position 1	Programs Position 1	
<b>Label Position 2</b>	Sets Position to Position 2	Programs Position 2	
<b>Feed On/Off</b>	Toggles Feed System	Recalibrates Product Sensor	

Table 3.2.1 Keypad Functions

### 3.2.2 Error Messages

#### FEEDER JAM:

This means that the feed motor is jammed. Please ensure any jams are cleared, and then press any key to clear the message.

#### CHECK LAST LABEL:

This means that the label applicator senses that the last applied label is not fully on the product. Press any key to return to the main screen, and please ensure that the label position is correct for the label and product being used.

#### CHECK TAKEUP & RUN/THREAD:

The label applicator has detected that the take-up spool is nearly full, and should be removed, or that the run/thread switch is in the improper position for label application. Press any key to remove the error, and ensure the take-up is fixed, or that the run thread switch is set to run. If problem persists, recalibrate the take-up sensor (see section 3.4).

## 3.3 Feed Speed Slider

This slider controls the speed of the feed motor, and thereby the paddle wheel and feed wheels. The feed motor is only engaged when the Feed On/Off key is turned on, but the speed setting can be set at any time. When set to 0, the feed motor will not turn, and no pouches will be feed into the label applicator. Adjusting the feed speed will adjust the gap between products. The recommended feed speed is dependent upon product length, but varies from three to six.

## 3.4 Calibrating Sensors

To calibrate the sensors, first ensure that all of the sensors are cleared of any obstructions, including labels. Additionally, be sure the Run/Thread knob is in the Run position and the takeup area is clear (no large label backing roll blocking the sensor). Then when at the main screen, press the Program key. The LCD screen will now say Program Mode. There are 3 sensors, and each can be calibrated independently. To do so, press the corresponding key below in Table 3.4.1.

Sensor	Key
Take-up	Move Label: Trail
Label	Label On/Off
Product	Feed On/Off

Table 3.4 Sensor Programming Key

Once the appropriate key is pressed, the screen will briefly display the calibrated value of that sensor in the lower right. It should be a number between 1 and 15. If value displayed is -1, it means the calibration has failed, most likely due to something obstructing the sensor or a faulty sensor. After displaying the calibration value, the LCD display will return to the main screen.

### 3.5 Programming Label Position

Set the position to the desired value using the Move Label: Lead and Move Label Trail keys. Then, press the Program key. The LCD screen will now say Program Mode. Press either the Position Memory 1 or 2 key to program that key with the desired value. The screen will confirm the programming and then return to the main screen.

### 3.6 Using Stop Count

From the main menu, press the Program key followed by the Missing Label key. The screen will now read something similar to:

Stop Count: 0

Incr. Type: 1

The top row displays the current stop count, with 0 being no stop count enabled. The bottom row displays the increment type. The About key cycles the increment type between 1, 10, and 100. The move label buttons increase or decrease the stop count by the currently displayed increment type. When the desired value is displayed on the screen, press the program key to save that value and return to the main menu. Any value between 0 and 250 can be selected using this method, and the stop count will roll over from 250 to 0, and vice versa.

### 3.7 Calculating Life Count

While the LCD screen is displaying the main screen, press the Program key. Then press the Counter Reset key. The screen will display 2 lines of text similar to:

UPPER 16: 2

LOWER 16: 2553

The way to calculate the life count is to take the upper number, multiply it by 65536, and then add the bottom number, so the above example would equal out to  $(65536*2)+2553 = 133,625$ . Press any key to return to the main screen.

## 4 Operation Modes

There are several different modes available on the applicator system. These include print only, apply only, and print apply. To change the mode the applicator is in press the Program button to enter Program Mode and then press the About key to change the mode. Once on the desired mode, press the program key again to save the setting.

### 4.1 Print Only

In a print apply system this setting allows the signal to bypass the applicator so that the printer prints the entire job without any labels being applied.

### 4.2 Apply Only

In an applicator only system the mode should always be on this setting. This allows labels to be applied without waiting on a signal from a printer.

### 4.3 Print Apply

In a print apply system this setting allows the printer to send a signal to the applicator telling it not to feed any product through until the printer has printed a label. Then as soon as a label is applied, another one will be printed. If using this mode make sure that there is a sufficient slack loop of around 5 labels (depending on their size) so that there is not tension between the applicator and printer. To add more labels to the slack loop with applying labels to any products press the Missing Label key.

#### 4.3.1 Setting Up A Print Apply System

1. Plug in the interface cable from the applicator into the applicator port

2. Make sure that the applicator is in print apply mode. Press the Program button on the keypad to enter Program Mode. Then press the About key to change modes. When Print Apply is reached, press the program key to save the setting.
3. With the applicator's Feed turned off, send a print job to the printer. No printing should take place, but a queue should be displayed on the printer's display showing the job is loaded.
4. Install labels in such a way that there is a slack loop as shown in the picture below. This can be done by printing around 5 labels (depending on the size of the label) without applying any. To print without applying, press the Missing Label button on the applicator while both the printer and applicator are turned on. Also, when the print job is first sent to the printer, 3 labels should be printed to ensure there being some slack in the system.

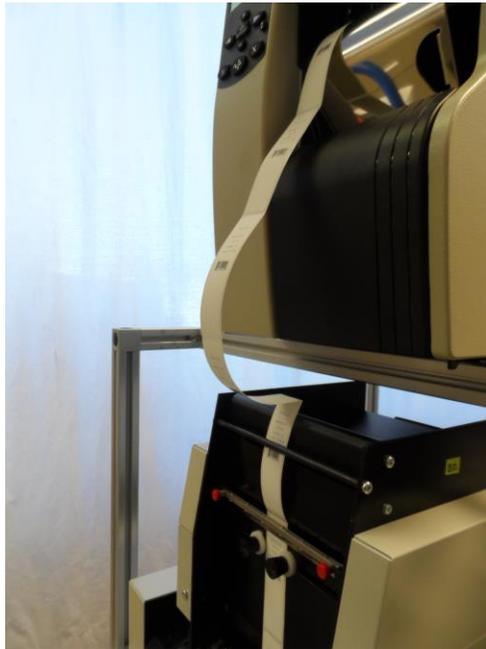


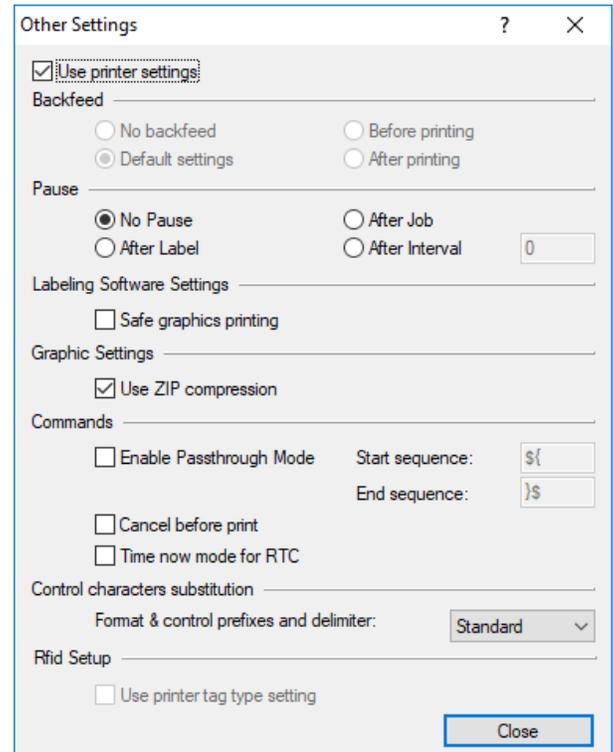
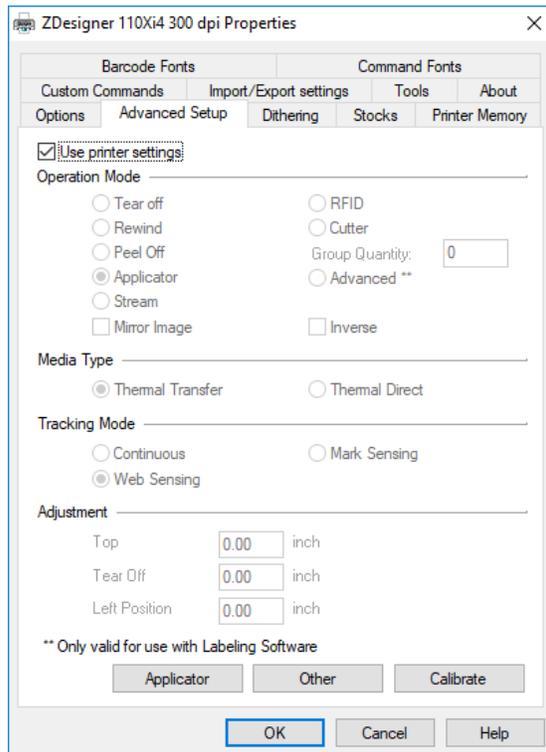
Figure 4.3.1.2: Example Slack Loop

If the slack loop is too large, remove the bottom 2-3 labels and press the label button. The backing will be advanced to put the next label in place, shortening the slack loop.

5. If the print apply process is interrupted for reasons such as the print job being completed, the printer being paused, labels needing to be reloaded, or any other reason, ensure that the printer is ready to print again and then press the Missing Label button to start the process again.

### 4.3.2 Setting for Printers during Print Apply

Make sure the printer driver is set to “Use Printer Settings” under the Advanced Setup tab of Document Properties as well as under the Other settings option in the Advanced Setup tab.



- Zebra
  - Print Mode – Applicator
  - Media Power Up – No Motion
  - Head Close – No Motion
  - Backfeed – Default
  - Verifier Port – Off
  - Applicator Port – Mode 1
  - Start Print Sig – Level Mode
  
- ThermaPrint 64
  - System Parameters
    - Miss. Label Tol. – 2
    - Periph. Device – None
    - External Signal – Singlestart

- Start Print Mode – Level Low Active
  - Foil Stretching – 20mm
- DP Interface
  - Interface Type – USI Interface
  - Start Print Mode – Level Low Active
  - End Print Mode – Mode 5
  - Reprint Signal – Off
  - Ribbon Signal – Off
  - Material Signal – Off
  - Material Signal Stop – Off
  - Feed Input – Standard
  - Pause Input – Standard
  - Start Error Stop – Off
  - Internal Inputs – Off
  - USI Profile – Default
  - Warning Signal – Level High Active
- Honeywell Datamax/O’Neil
  - Print Control
    - Reverse Speed – 4in/sec
    - Present Distance – 1.25”
    - Stop Location – Host
  - GPIO Port
    - GPIO Device – Applicator
    - Start of Print – Active Low
    - End of Print – Active High
  - System Settings
    - Imaging Mode – Single Label
- Honeywell Datamax/O’Neil **M-Class**
  - Print Control
    - Reverse Speed – 4in/sec
    - Present Distance – 1.25”
  - Printer Options - Modules
    - Present Sensor - Disabled
    - Cutter - Disabled
  - GPIO Port
    - GPIO Device – Applicator
    - Start of Print – Active Low (Needs 1 K $\Omega$  series resistor installed)
    - End of Print – Active High

- System Settings
  - Imaging Mode – Single Label

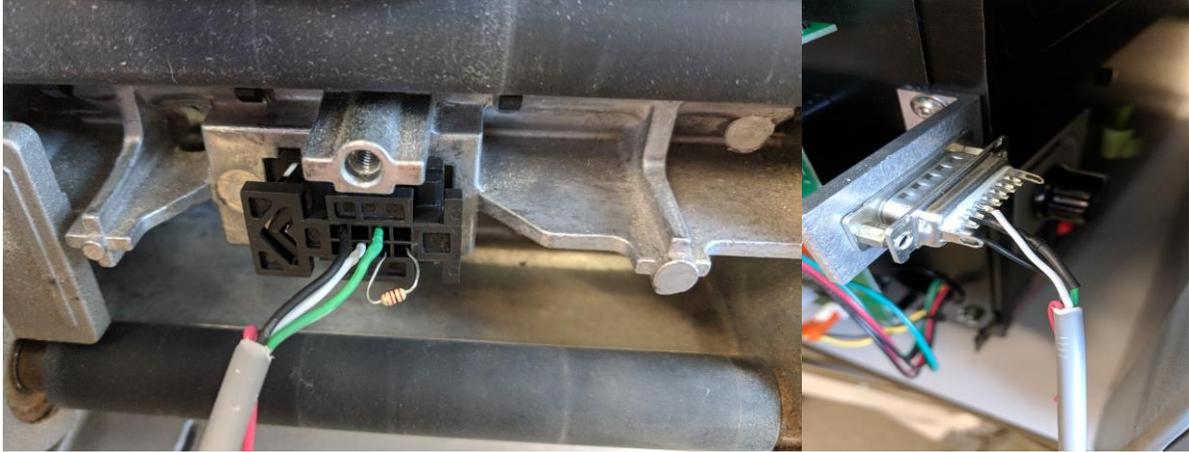


Figure 4.3.2: Visual Representation of Datamax M-Class GPIO connector

## 5 Troubleshooting

- Double feeding:
  - Tighten the gap using the adjustment knob on the back
  - Reduce the feed speed
- Not feeding:
  - Loosen the gap using the adjustment knob on the back
  - Increase the feed speed
  - Tap the back of the stack
  - Ensure the stack is properly shingled
  - Ensure applicator is on correct mode (see Table 3.2.1)
- Double labeling:
  - Ensure any hanger holes are offset
  - Ensure that the label position is properly set
  - Ensure the label backing is properly threaded
  - Ensure the transport speed is fast enough: try increasing transport speed
  - Ensure label tensioner bar is installed on the front of the head
- Not labeling:
  - Ensure the Label On/Off LED is On.

- Ensure that the label position is properly set
  - Ensure that the label backing is properly threaded
  - Ensure that the product LED is not blocked
- Feeding and applying more pieces than told by the print job:
    - Set the feeder speed to around 3. The feeder going too fast can make extra pieces of product be pulled into the transport.

## 6 Maintenance

### 6.1 Routine Cleaning

Routine cleaning consists of once a week rubbing down all exterior belts and rollers with an alcohol soaked rag. Also, once a month blow out the machine with compressed air to keep any dust or particulate from obscuring the sensors. If any labels or product ever get caught in the machine, they should be promptly removed.

### 6.2 Regular Maintenance

There is no routine maintenance that needs to be performed on the machine.

### 6.3 Service and Support

For service and support, please contact DoraniX at [support@DoraniX.com](mailto:support@DoraniX.com) or call us at (303) 271-0986.