

## DELTALITE CONTROLLER



## DELTALITE CONTROLLER

### USER MANUAL



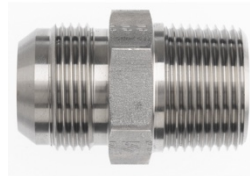
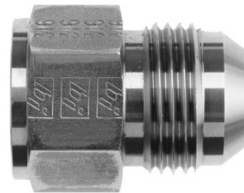
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## 1.0 COMPONENTS

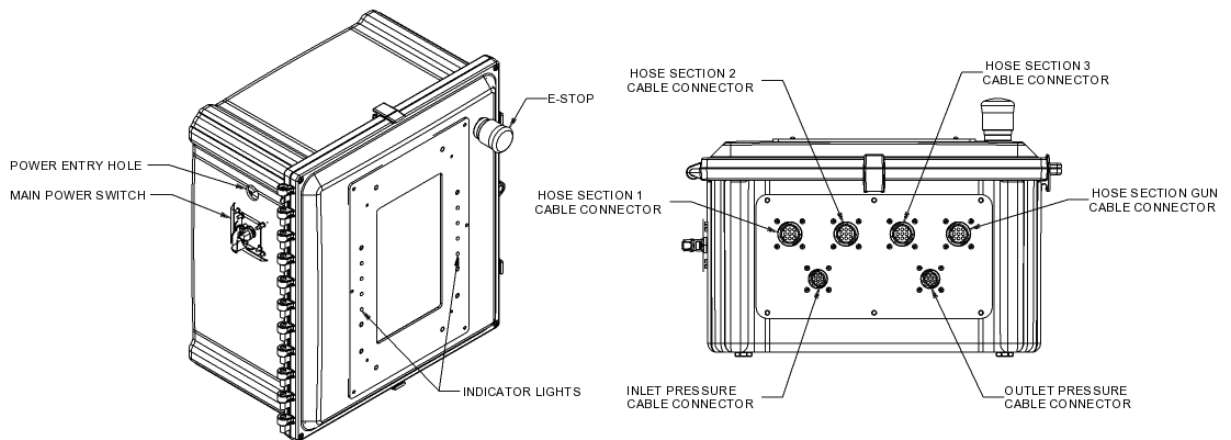
### 1.1 DELTALITE CONTROLLER COMPONENTS

- Deltalite Controller Enclosure
- Akurate Dynamics Heated Hose
- Hydraulic Adapter Fitting (2406-05-06) [1X]
- Hydraulic Adapter Fitting (2404-06-02) [2X]



## 1.2 DELTALITE CONTROLLER ENCLOSURE INSTALLATION

The Deltalite Controller comes with a parts kit that should be used to mount the unit. It is advised to mount the Deltalite Controller close to your spraying unit for ease of connections that need to be made. Once the enclosure is mounted, use the supplied fittings to connect the heated hoses to your spraying unit. The 08 F-JIC  $\square$  06 M-JIC (2404-08-06) hydraulic fitting is used as an adapter to get the Akurate ISO heated hose to connect to your unit. The other two hydraulic fittings (2404-06-02) are used to adapt Akurate hoses to the standard gun manifold. The next step in installation will be to wire power into the 7/8" hole on the left side of the box. The wire used should be **10 Ga 4** wire and the power requirements are as follows: 240V Single Phase, 30A fuse.



1. Mount the Deltalite Controller to the wall *using supplied mounting hardware*.
2. Make sure all of the breakers inside the controller are off.
3. Connect hoses to spraying system *using supplied adapter fittings*.
4. Use supplied adapter fittings to mount manifold *and supplied unheated whips to hoses*.
5. *Connect power cables to Deltalite Controller according to corresponding labels. Connect pressure cable to the pressure out connector.*
6. Run power wire into box and terminate into power switch. *NOTE: must have neutral and a ground for the Controller to work properly.*
7. **FILL THE HOSES WITH CHEMICAL BEFORE THE DELTALITE CONTROLLER IS TURNED ON. FAILURE TO DO SO WILL CAUSE THE HEATING ELEMENT IN THE HOSE TO FAIL WHICH WILL IN TURN CAUSE THE HOSE TO FAIL. AKURATE DYNAMICS WILL NOT BE HELD LIABLE FOR HOSES BURNED WITHOUT CHEMICAL IN THEM.**
8. Turn the breakers inside the controller back on and check that the hoses are heating.

## 2.0 SYSTEM CONTROLS

### 2.1 MAIN TAB

Upon start up, the system defaults to the “Main” Tab (see Figure 1). From here, the operator has the control of turning the unit on and off from this page. The operator can also see what sections are active and what temperature the chemical inside of each hose is per section; the operator can also see the dynamic, average and differential pressure at the gun. Differential pressure is simply the difference between A and B pressure. Active hose sections are marked by the Red and Blue LED’s on the bezel which are in-line horizontally with the corresponding hose section on the screen. When the Red LED is lit up, that means power is being sent to that hose section for ISO. When the Blue LED is lit up, that means that means power is being sent to that hose section for RESIN. Similarly, for active sections the area around the temperature reading is highlighted in the color respective to the chemical that is being heated (see Figure 2). Inactive hose sections are not highlighted and the LED is not on.

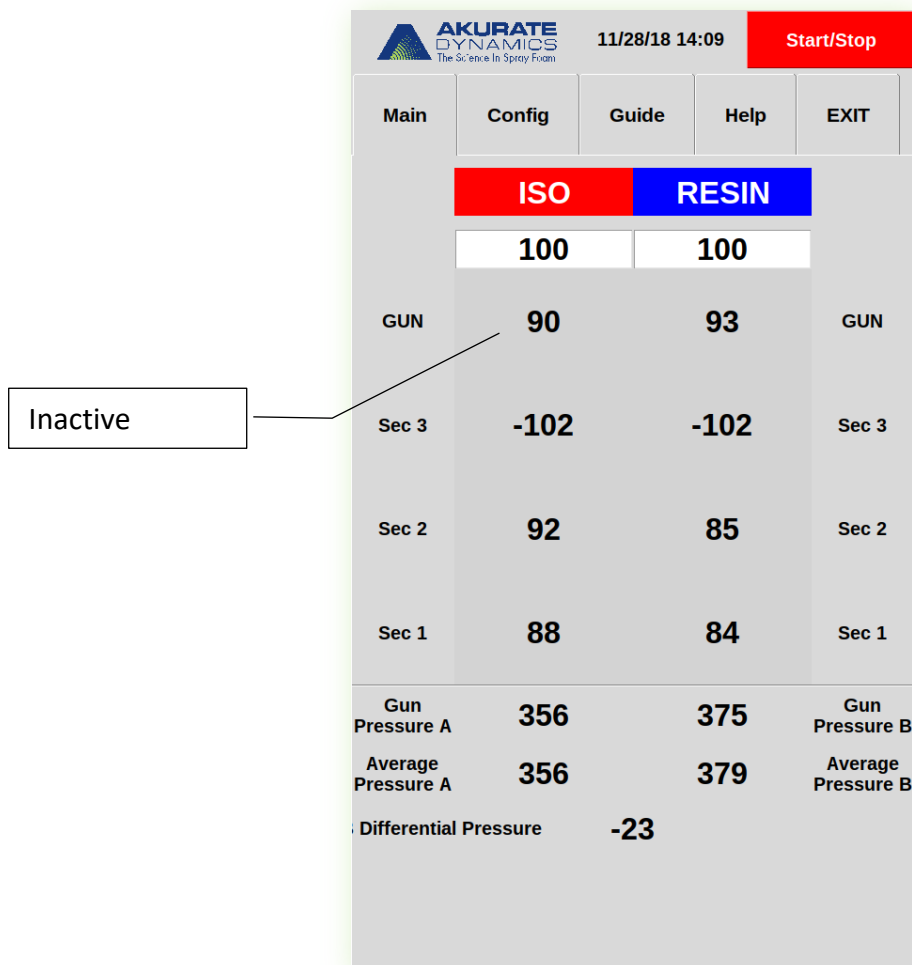


FIGURE 1

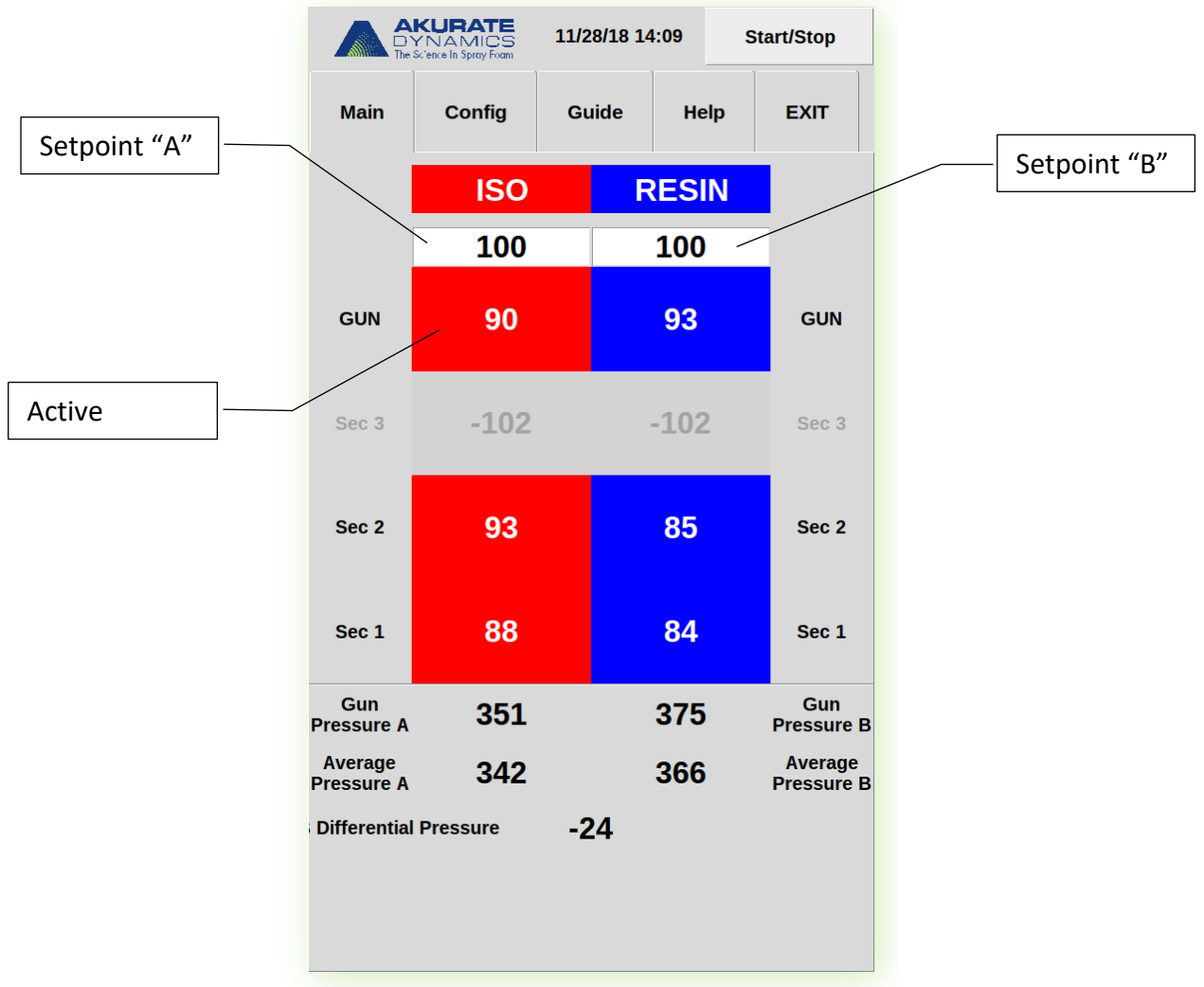
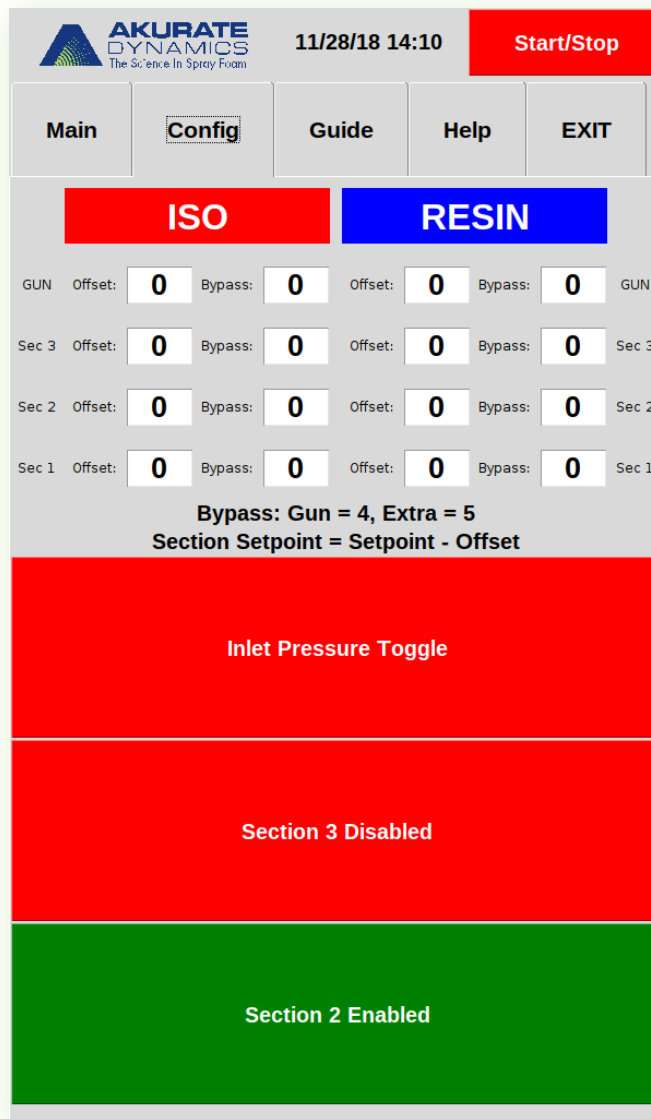


FIGURE 2

## 2.2 CONFIG TAB

The primary function of the Config tab is to adjust settings on the unit depending on the hoses purchased and for troubleshooting. The defaults for each section offset/bypass is “0”; this means there is no bypass or offset in effect. (See Section 3.2 and 3.3 for instructions on Bypass and Offsets.) This tab also gives the operator control over enabling/disabling sections.



**AKURATE DYNAMICS**  
The Science In Spray Foam

11/28/18 14:10 **Start/Stop**

Main **Config** Guide Help EXIT

**ISO** **RESIN**

GUN Offset:  Bypass:  Offset:  Bypass:  GUN

Sec 3 Offset:  Bypass:  Offset:  Bypass:  Sec 3

Sec 2 Offset:  Bypass:  Offset:  Bypass:  Sec 2

Sec 1 Offset:  Bypass:  Offset:  Bypass:  Sec 1

**Bypass: Gun = 4, Extra = 5**  
**Section Setpoint = Setpoint - Offset**

**Inlet Pressure Toggle**

**Section 3 Disabled**

**Section 2 Enabled**

FIGURE 3

## 2.3 GUIDE TAB

The Guide Tab contains a few simple operation steps and behaviors to consider while operating the Deltalite Controller.

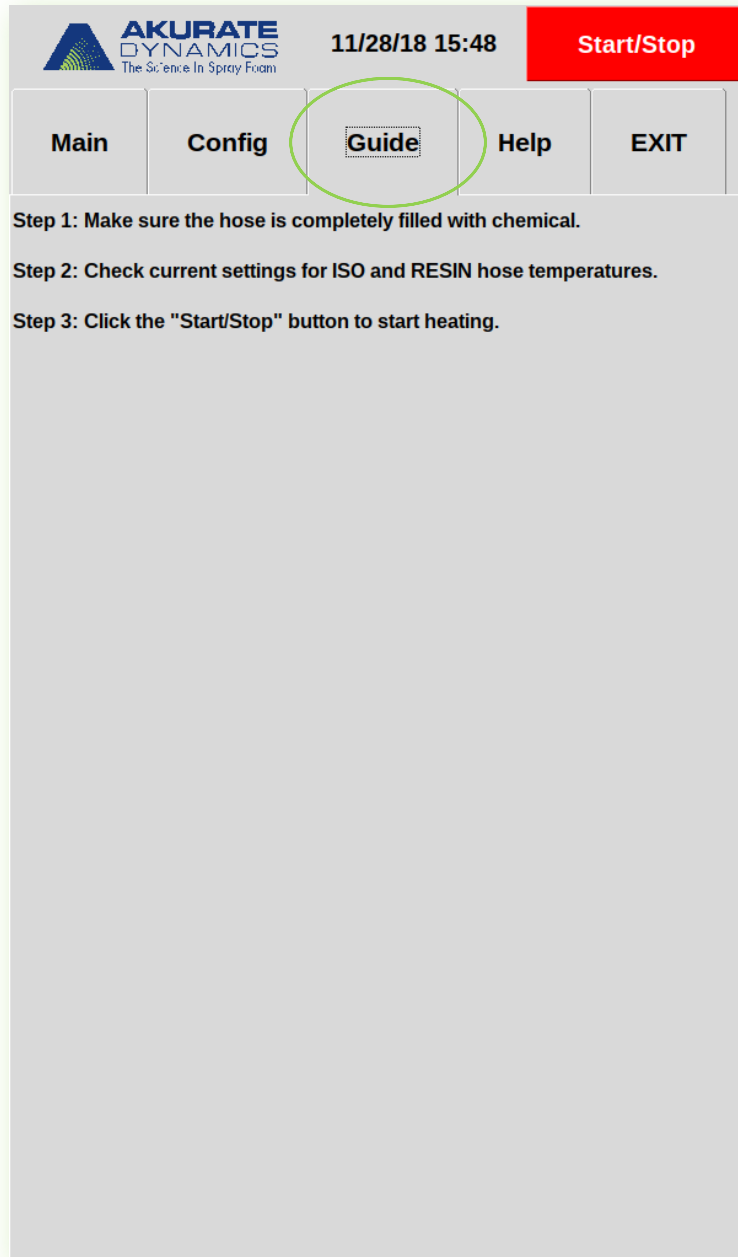


FIGURE 4



## 2.4 HELP TAB

The Help Tab displays troubleshooting information. If any problems occur, first consult this tab before contacting technical support.

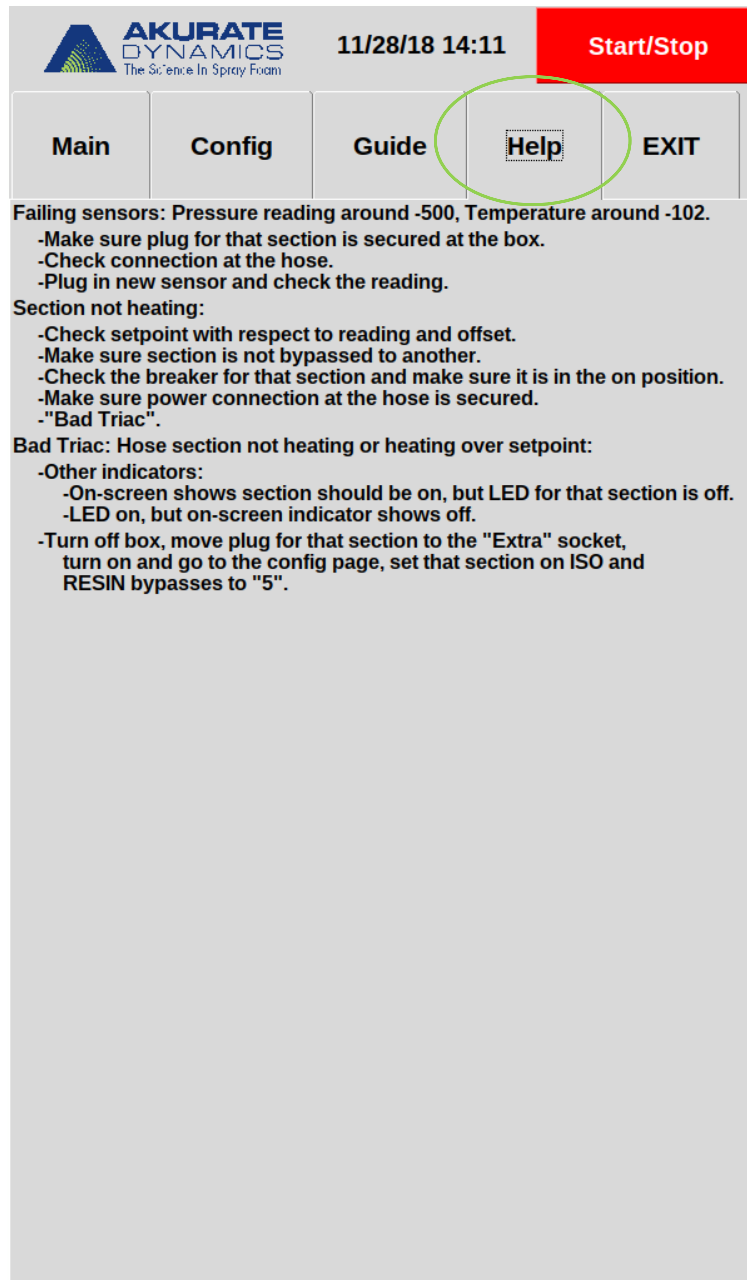


FIGURE 5

## 2.5 EXIT TAB

The Exit Tab is simply used to Shutdown or Reboot the system. Before turning the system off after each use, be sure to navigate to the Exit Tab, select “Shutdown”, and wait for the screen to read “No Input”. Once the screen shows “No Input” it is safe to turn the power switch off.

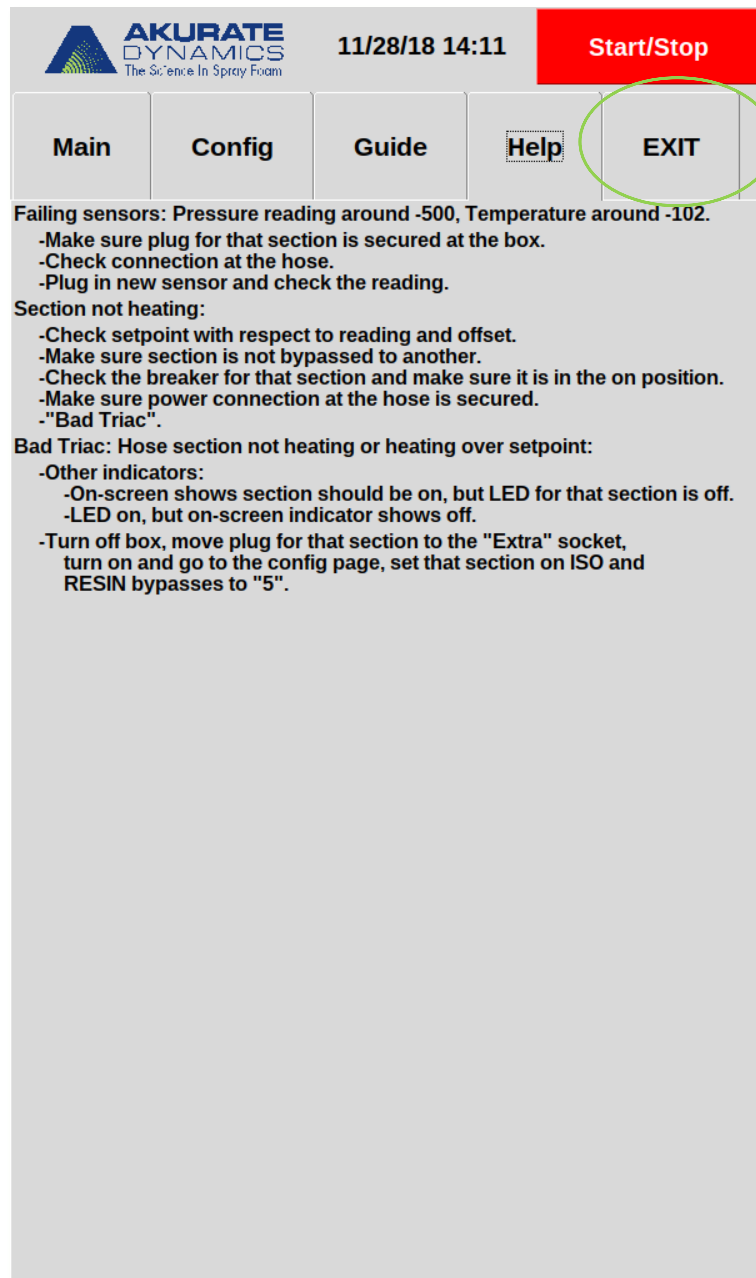


FIGURE 6

## 3.0 OPERATION

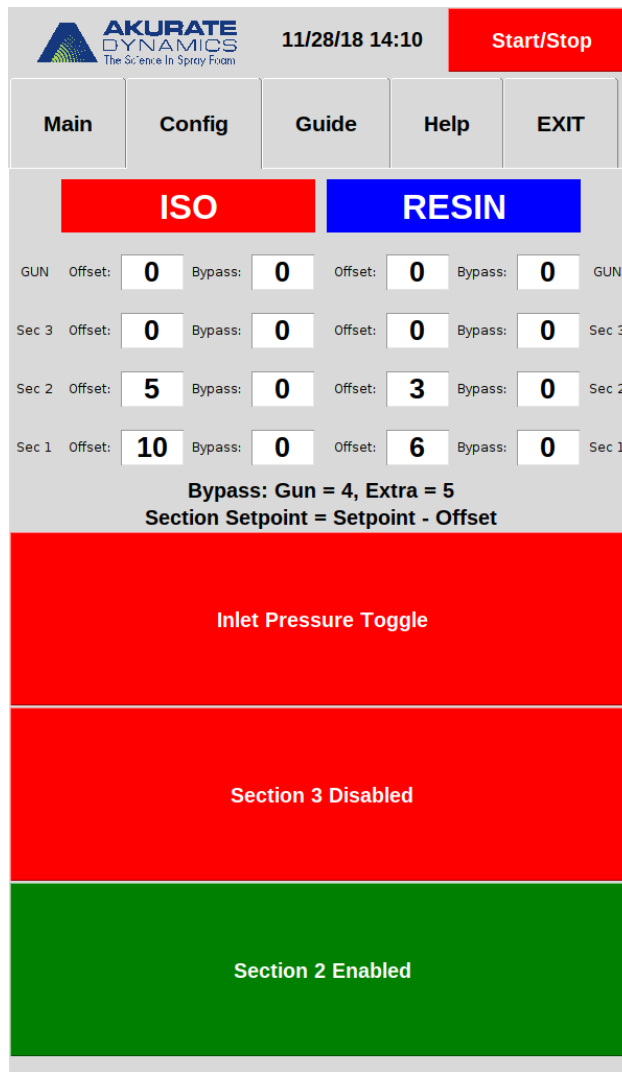
### 3.1 BASIC OPERATING PROCEDURE

Once the hoses have been filled with chemical, the system can then be turned on. A simple start-up procedure is as follows:

- 1) Power on the Deltalite Controller.
- 2) **MAKE SURE ALL OF THE GREEN SECTIONS OF THE HOSE ARE OUT OF THE TRUCK ON THE GROUND OR THAT THEY ARE ALL AT THE TOP OF THE HOSE RACK WITH THE ARROWS FACING TOWARD THE TOP.**
- 3) Enter desired chemical temperatures respectively on the home page.
  - a) At this point, if any bypass or offsets need to be entered, proceed to the Config Tab and make sure the desired values are entered in the appropriate field.
  - b) Also check to make sure the proper sections are enabled.
- 4) Once you have checked these values, select the “Start/Stop” button in the top right-hand corner. The hoses will operate themselves at this point; heating material to and maintaining desired setpoint. If there is a point in which spraying ceases, press the Start/Stop button to prevent overheating the chemical.
- 5) Once the day/job is finished, press the Start/Stop button to deactivate the unit.
- 6) To shut down the unit, select the “Exit” tab
- 7) Press “Shutdown”
- 8) Once the screen displays “No Signal” (**usually between 10-20 seconds**), flip the power switch to the off position.

### 3.2 OFFSETS PROCEDURE

The purpose of using temperature offsets follows the idea of “staging” chemical temperature in a hose. Instead of having all the chemical in the hose be at a specified temperature (Setpoint); the operator can input offsets and have the temperature in each hose section get hotter as the chemical approaches the gun. The simple formula used is: Section Setpoint = Setpoint – Offset. When inputting offsets, be sure to fill in the correct field as the Offset and Bypass fields are close together. Refer to Figure 7 for an example of offsets.



**AKURATE DYNAMICS**  
The Science In Spray Foam

11/28/18 14:10 **Start/Stop**

**Main** **Config** **Guide** **Help** **EXIT**

**ISO** **RESIN**

Component	Offset	Bypass	Offset	Bypass	Component
GUN	0	0	0	0	GUN
Sec 3	0	0	0	0	Sec 3
Sec 2	5	0	3	0	Sec 2
Sec 1	10	0	6	0	Sec 1

**Bypass: Gun = 4, Extra = 5**  
**Section Setpoint = Setpoint - Offset**

**Inlet Pressure Toggle**

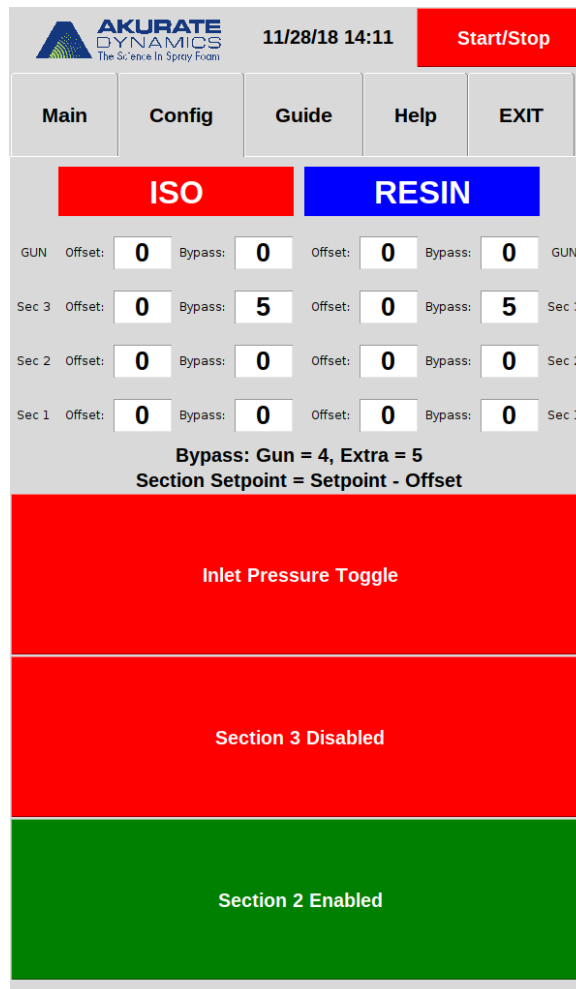
**Section 3 Disabled**

**Section 2 Enabled**

FIGURE 7

### 3.3 HOSE SECTION BYPASS PROCEDURE

The purpose of the Hose Section Bypass option is for troubleshooting issues and unexpected failures. The bypass option essentially creates a “Master/Slave” relationship between hose sections. For example: If the temperature sensor in Section 3 RESIN fails, the operator should fill in the bypass field for Section 3 RESIN with “2”. This will make Section 3 RESIN mirror Section 2 RESIN heating pattern; but the temperature reading on the screen will not change. In this way, Section 2 RESIN is the “Master” and Section 3 RESIN is the “Slave”. The best practice to apply with this is to bypass to the section closer to the proportioner. Another option provided for failure of more than one hose section is the Spare/Extra hose section. If the operator wants to use the spare section, first ensure that the system is powered off, then the connector of the failed section will need to be moved to the Spare Section connector on the bottom of the box. The field for failed section will need to be filled with “5”. **If the operator is going to use the spare section option, both the ISO and RESIN bypass field need to be filled with “5” for the failed section. The system will not function correctly if these steps are not followed.** (See Figure 8 for example)



The screenshot shows the AKURATE DYNAMICS DELTALITE CONTROLLER interface. At the top, there is a header bar with the logo, the date and time "11/28/18 14:11", and a red "Start/Stop" button. Below the header is a navigation bar with buttons for "Main", "Config", "Guide", "Help", and "EXIT". The main display area is divided into two sections: "ISO" (red background) and "RESIN" (blue background). Each section has a table of settings for different hose sections. The "ISO" section has settings for GUN, Sec 3, Sec 2, and Sec 1. The "RESIN" section has settings for GUN, Sec 3, Sec 2, and Sec 1. The "Bypass" field for Sec 3 in the RESIN section is set to 5. Below the tables, there is a summary of bypass settings: "Bypass: Gun = 4, Extra = 5" and "Section Setpoint = Setpoint - Offset". At the bottom, there are three large colored boxes: a red box labeled "Inlet Pressure Toggle", a red box labeled "Section 3 Disabled", and a green box labeled "Section 2 Enabled".

	ISO	RESIN
GUN	Offset: 0 Bypass: 0	Offset: 0 Bypass: 0
Sec 3	Offset: 0 Bypass: 5	Offset: 0 Bypass: 5
Sec 2	Offset: 0 Bypass: 0	Offset: 0 Bypass: 0
Sec 1	Offset: 0 Bypass: 0	Offset: 0 Bypass: 0

Bypass: Gun = 4, Extra = 5  
Section Setpoint = Setpoint - Offset

Inlet Pressure Toggle

Section 3 Disabled

Section 2 Enabled

FIGURE 8



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