

# FlexWeigh Systems 201 and 202

Basic Filler  
Version 1

## Operation Manual



920i FlexWeigh  
Systems

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WEIGHING SYSTEMS

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# 1.0 Introduction

The 920i FlexWeigh Systems 201 and 202 formula batching system are for filling a container that is placed on a scale. It offers user simplicity of one-button operation and will automatically tare the empty container, automatically begin and end filling of the container and automatically store, display and transmit each fill weight and ongoing production accumulations. Built-in safety interlocks prevent startup of a fill cycle if an empty container is not in place, or if the previously filled container has not been removed.

This manual is intended for use by service technicians and operators responsible for installing and operating the 920i FlexWeigh Systems 201 and 202 formula batching systems. Additional information on the actual hardware features of the 920i are explained in the 920i Installation and Operation manual (PN 67887) and is included with this product.

## Safety Signal Definitions:



**DANGER** Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.



**WARNING** Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.



**CAUTION** Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.



**IMPORTANT** Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

## General Safety



**Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.**



**Failure to heed could result in serious injury or death.**

**Failure to heed may result in serious injury or death.**

**Some procedures described in this manual require work inside the indicator enclosure. These procedures are to be performed by qualified service personnel only.**

**Do not allow minors (children) or inexperienced persons to operate this unit.**

**Do not operate without all shields and guards in place.**

**Do not step on the unit.**

**Do not jump up and down on the scale.**

**Do not use for purposes other than weight taking.**

**Do not place fingers into slots or possible pinch points.**

**Do not use any load bearing component that is worn beyond 5% of the original dimension.**

**Do not use this product if any of the components are cracked.**

**Do not exceed the rated load limit of the unit.**

**Do not make alterations or modifications to the unit.**

**Do not remove or obscure warning labels.**

**Do not use near water.**

**Before opening the unit, ensure the power cord is disconnected from the outlet.**

**Keep hands, feet and loose clothing away from moving parts.**

## 1.1 Standard Features

The FlexWeigh Systems 201 and 202 come with the following standard features:

- Wallmount stainless steel enclosure
- Front panel switches including E-Stop, Reset/Resume, Start
- Softkeys for presets, CN#, Alpha-numeric ID#1, Alpha-numeric ID#2, and Totals
- Accumulating subtotal and total registers
- Transmitted audit trail
- Digital I/O board
- Relay rack and SSR relay outputs
  - Fast feed
  - Slow feed
  - Fill complete (optional)
  - Zero tolerance (optional)



### Note

*The iRite program and source code that make up the 920i FlexWeigh 101 Basic Filler are property of the manufacturer. Modifications to this program and equipment must be performed by Rice Lake Weighing Systems. For more information on the iRite compiler utility program, refer to the 920i Installation and Operation Manual (PN 67887) and is included with this product.*

## 1.2 Button Functions

Front panel buttons for FlexWeigh Systems 201 and 202 are described in the table listed below.

Front Panel Button	Function
E-Stop	Stops the filling process and removes power from the relays. It also puts the process into a paused state.
Start	Starts the filling process.
Resume	Resumes the filling process.
Reset	Resets the current fill process.
Discharge	Available on System 202 only.

Table 1-1. Front Panel Button Functions

## 1.3 Display and Softkeys

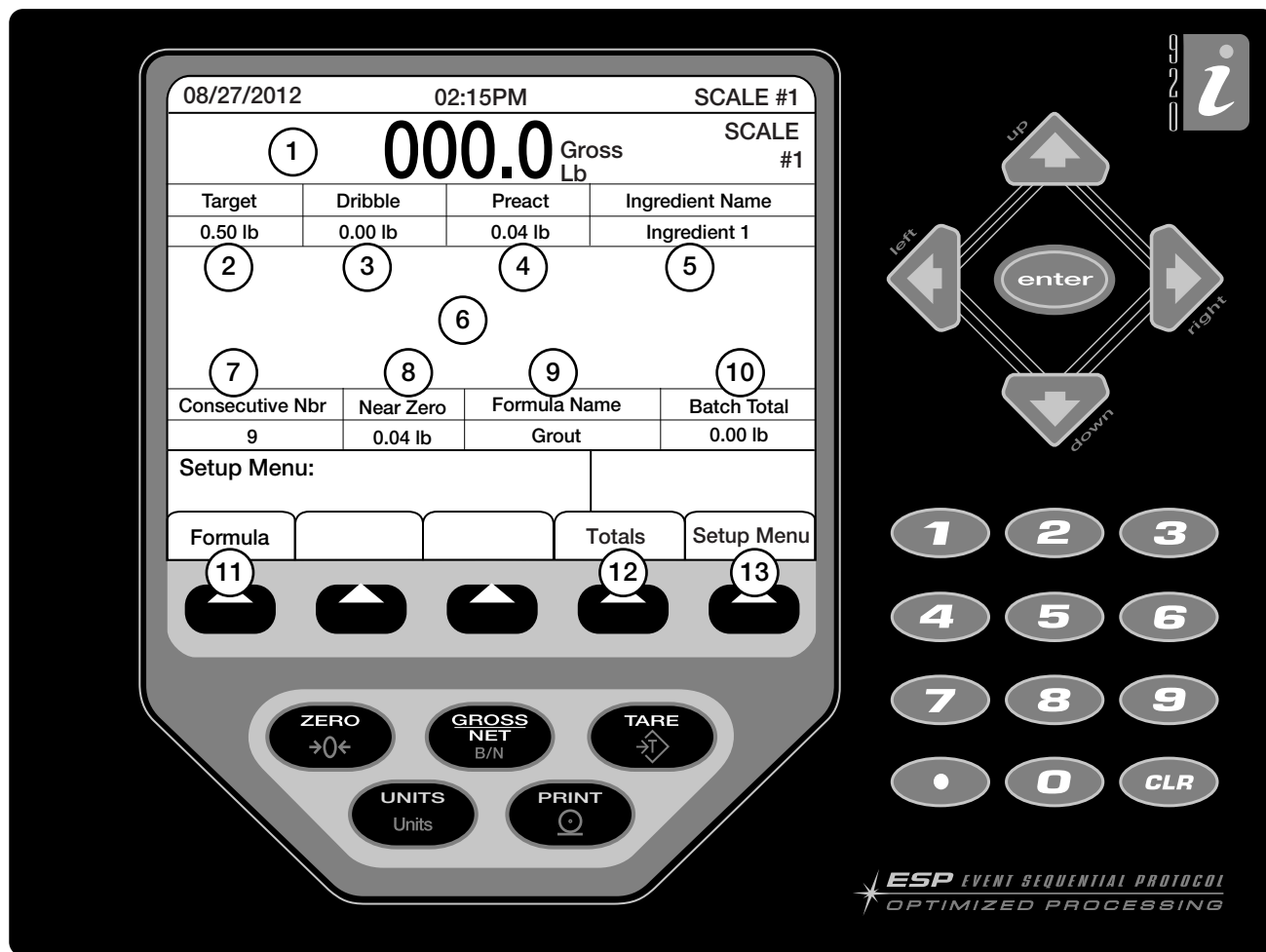


Figure 1-1. Display

## 1.4 Display Functions

Item #	Description	Function
1	Weight Bar	Actual weight on scale
2	Target Weight	Weight required for current ingredient
3	Dribble weight	Point to switch from fast to slow speed of loading
4	Preact	Amount of material still falling after cutoff has been activated
5	Ingredient Name	Name of current stored ingredient that is currently being loaded
6	Information Bar	Display the current process being carried out by the scale
7	Consecutive Nbr	Current batch number being loaded
8	Near Zero	Dictates the tolerance of zero that the scale will be allowed to start
9	Formula Name	Name of current stored formula being processed
10	Batch Total	Total for most recent batch processed

Table 1-2. Display Functions

## 1.5 Operation Menu Softkeys

Operation Menu Softkeys are defined to provide flexibility of operator functions for specific applications. Softkey assignments are listed on the tabs shown at the bottom of the LCD display and softkey functions are activated by pressing the arrow keys below the softkey tabs (Figure 1-1). They are password protected and offer access to the following:

The particular set of softkeys shown on the display is determined by the indicator configuration and program.

Item #	Softkey	Softkey	Description
11	Formula	Page Up Page Down Exit	Refer to <a href="#">Section 4.0</a> for detailed information on these functions.
12	Totals	Consecutive Number Print Sub Total Print Total Print All Usage Exit	Refer to <a href="#">Section 4.0</a> for detailed information on these functions.
13	Setup Menu	Time/Date Setup Password ID #1 ID #2 Single-Spd Enabled Dual-Spd Enabled Paralell-Spd Enabled Auto Print Enabled Database Setup Delay after Disch Test Digital IO Zero Toler Weight Discharge Enabled	See <a href="#">Section 3.3</a> for more information

Table 1-3. Configurable Softkeys



## 2.0 Installation

---

This section describes procedures for setting up the FlexWeigh Systems 201 and 202 to weigh.



*Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.*

*The supply cord serves as the power disconnect for the unit. The power outlet supplying the indicator must be installed near the unit and be easily accessible.*



*The FlexWeigh Systems has no on/off switch. Before opening the unit, ensure the power cord is disconnected from the power outlet.*

### 2.1 Unpacking and Assembly

Immediately after unpacking, visually inspect the unit to ensure all components are included and undamaged.

The shipping carton should contain the FlexWeigh System and this manual. If any parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

### 2.2 Enclosure Disassembly

The FlexWeigh Systems 201 and 202 must be opened to install option cards and to connect cables for installed option cards. Ensure power to the indicator is disconnected, then open the enclosure.

### 2.3 Cable Connections

The FlexWeigh Systems 201 and 202 provide eleven cord grips for cabling into the indicator. The parts kit includes cord grip plugs to prevent moisture from entering the enclosure. Install these plugs into all cord grips that will not be used in your application.

Use the cable grounding instructions for wiring into the indicator.



*An additional adhesive label (121108) is included in the parts kit and can be installed at the installer's discretion indicating correct terminal block numbering.*

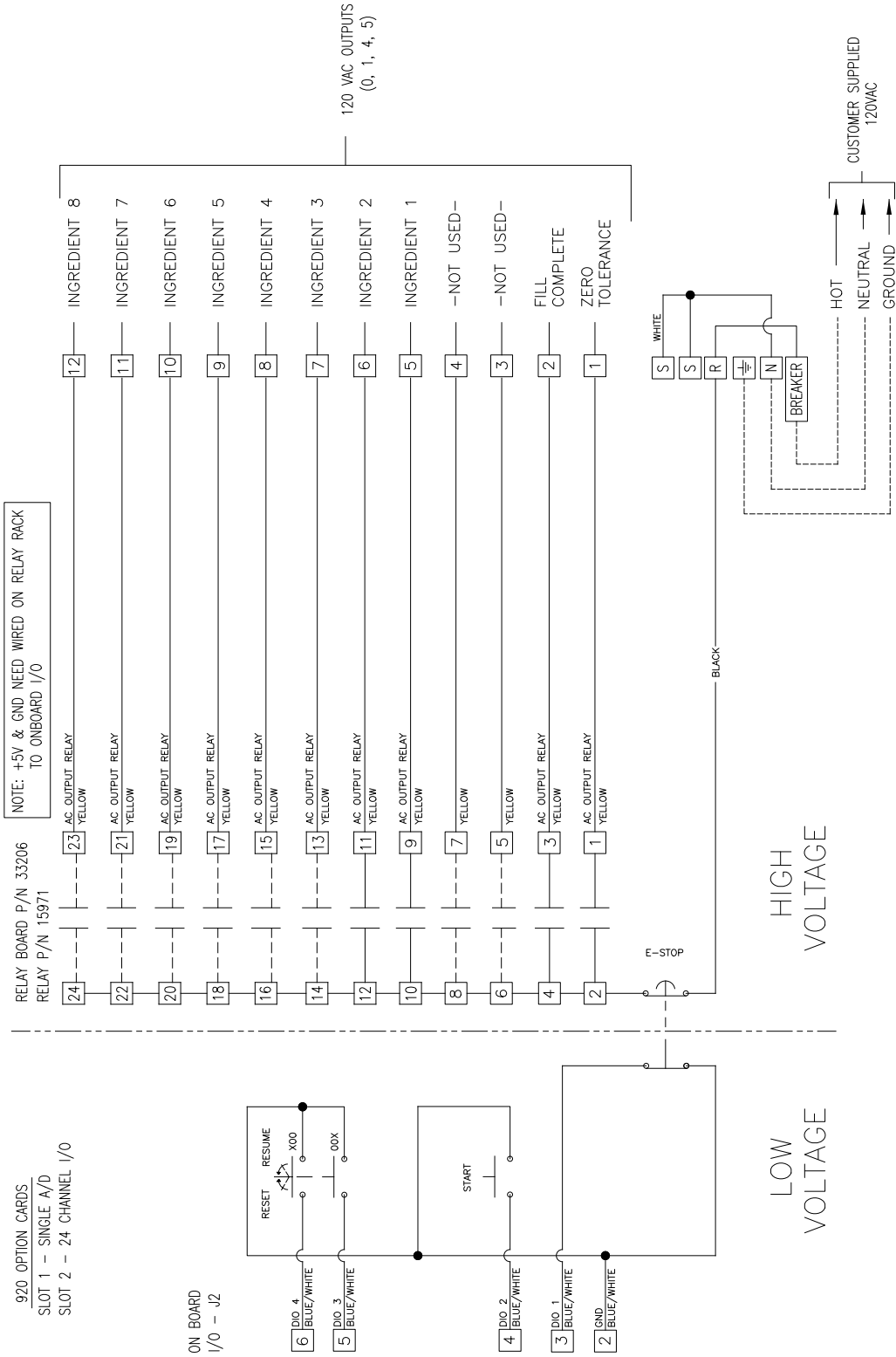


Figure 2-1. 201 FlexWeigh Standard Block Wiring Diagram



**Note** Circuit breaker = 4 A. All wires are 18 AWG unless otherwise specified. Dashed lines represent field wiring.

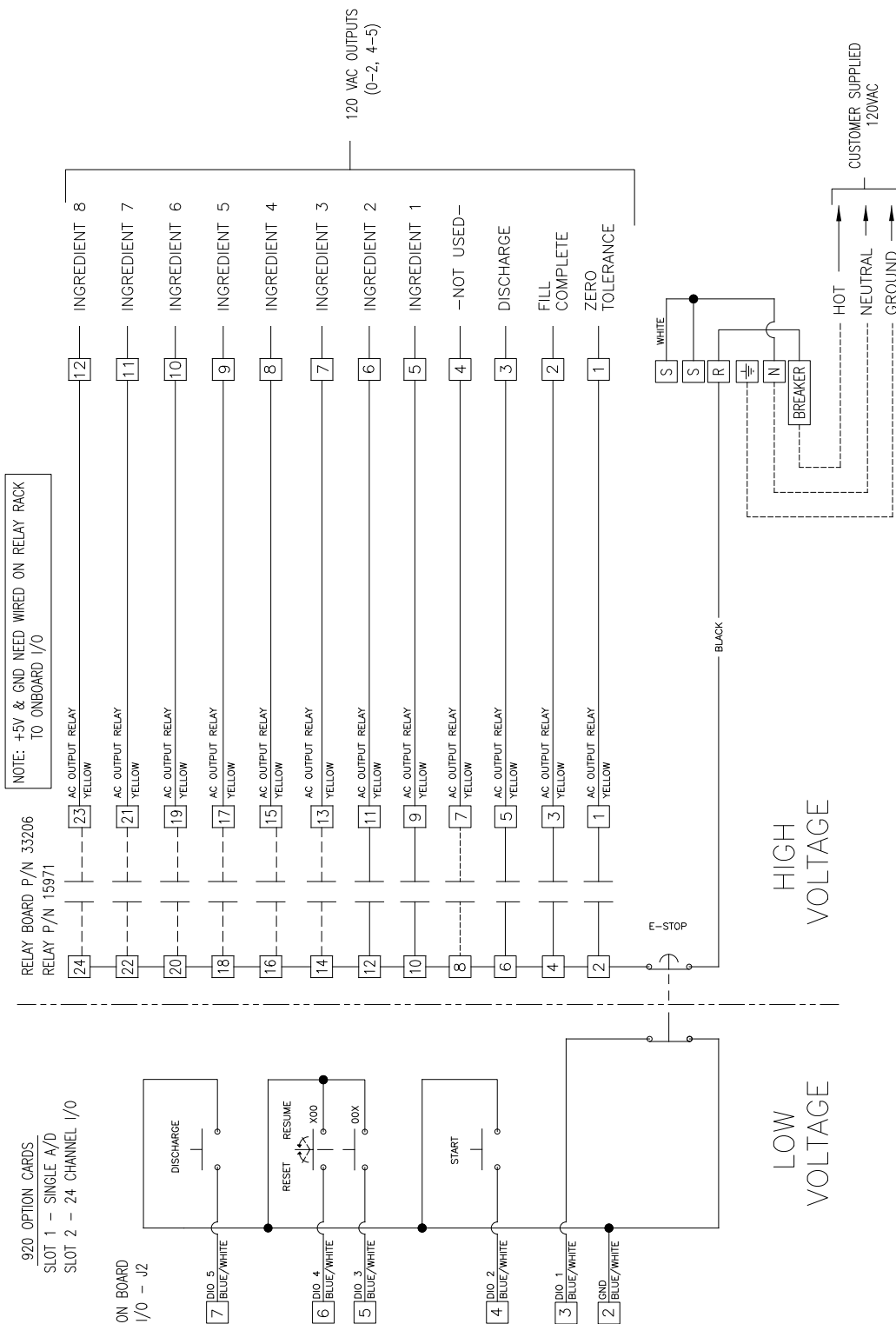


Figure 2-2. 202 FlexWeigh Standard Block Wiring Diagram



**Note** Circuit breaker = 4 A. All wires are 18 AWG unless otherwise specified. Dashed lines represent field wiring.

## 2.4 Cable Grounding

Cables routed through the cord grips should be grounded against the indicator enclosure. Follow cable grounding instructions in the 920i Installation and Operation Manual (PN 67887) which is also included with this product.

## 2.5 Parts Kit Contents

Table 2-1 lists the parts kit contents for the FlexWeigh System 101.

Part No.	Description	Qty.
14626	Keyp nuts, 8-32NC (6)	6
15133	Lock washers, No. 8, type A (6)	6
15631	Cable ties (4 single A/D, 6 dual A/D)	4
15665	Reducing glands for 1/2 NPT cord grips (11)	11
15887	6-position screw terminal for load cell connection (1-single A/D, 2-dual A/D)	1
19538	Cord grip plugs (10-single A/D, 9-dual A/D)	10
94422	Capacity Label (1-single A/D, 2-dual A/D)	1
53075	Cable shield ground clamps (6)	6
70599	6-position screw terminals for J2 and J10 (2)	2
71125	3-position screw terminal for J11 (1)	1
71126	4-position screw terminal for J9 and optional keyboard connection (2)	2
121108	Label, Terminal Block Identification (1)	1

Table 2-1. Parts Kits Contents

## 2.6 Option Cards

Table 2-2 list the available option cards that are used in the FlexWeigh Systems 201 and 202. The single channel A/D card can be installed in slot 1 and the 24 channel I/O card in slot 2.

Slot	Type
1	Single Channel A/D Card
2	24 Channel I/O Card

Table 2-2. Option Card Locations

## Digital I/O

Slot	Bit	Type	Function
0	1	Programmability	E-Stop
0	2	Programmability	Start
0	3	Programmability	Resume
0	4	Programmability	Reset
0	5	Programmability	Ok to Discharge
0	6	Off	Currently Not Used
<b>Slot 2</b>			
2	1	Output	Zero Tolerance
2	2	Output	Fill Complete
2	3	Output	Discharge
2	4	Output	Currently Not Used
2	5	Output	Ingredient #1
2	6	Output	Ingredient #2
2	7	Output	Ingredient #3
2	8	Output	Ingredient #4
2	9	Output	Ingredient #5
2	10	Output	Ingredient #6
2	11	Output	Ingredient #7
2	12	Output	Ingredient #8
2	13-24	Off	Currently Not Used

Table 2-3. Digital I/O Assignments

## Serial Ports

Port	Type	Description	Setup
1	CMD	Currently not used	9600 baud 8 bit None 2
2	CMD/KEYBOARD	iRev downloads/operator input	115200 8 bit None 2
3	CMD	Audit trail printer	9600 baud 8 bit None 2
4	CMD	Currently not used	9600 baud 8 bit None 2

Table 2-4. Serial Port Setup

## 3.0 Setup Menu

This section describes the various setup parameters for the FlexWeigh Systems 201 and 202.

### 3.1 Formula Softkey Menu

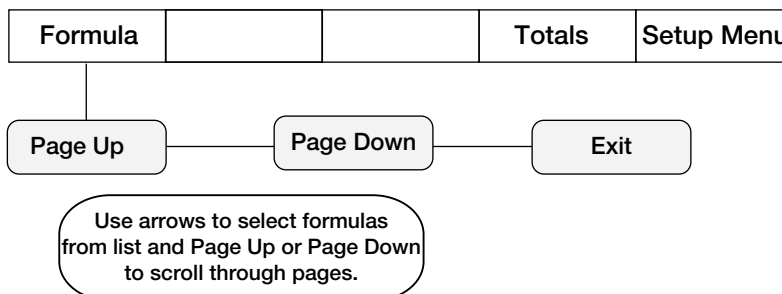


Figure 3-1. Formula Menu Structure

Softkey	Description
Page Up	Scrolls through pages of formulas
Page Down	
Exit	Exits formula menu screen

### 3.2 Totals Softkey Menu

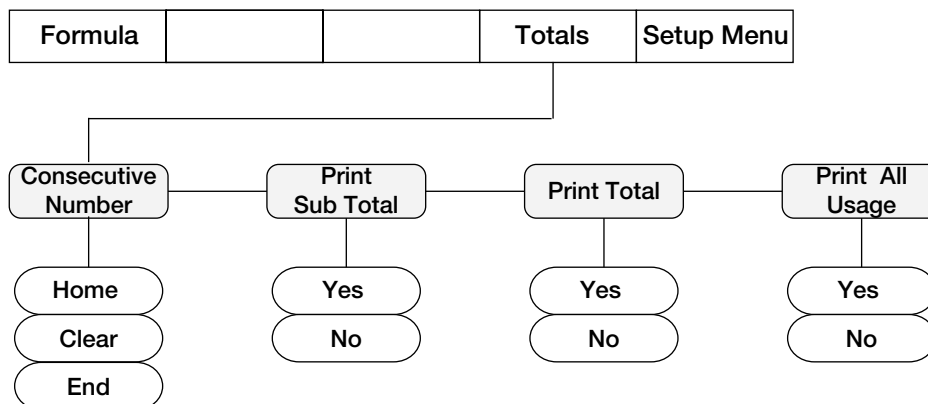


Figure 3-2. Totals Menu Structure

Softkey	Options	Description
Consecutive Number	Home	Set the consecutive number start point Moves cursor to the home position
	Clear	Clears value entered
	End	Returns to previous menu
Print Sub Total	Yes No	Prints subtotals - clearing option is available when printing is complete
Print Total	Yes No	Prints total - clearing option is available when printing is complete
Print All Usage	Yes No	Prints usage - clearing option is available when printing is complete

### 3.3 Setup Menu

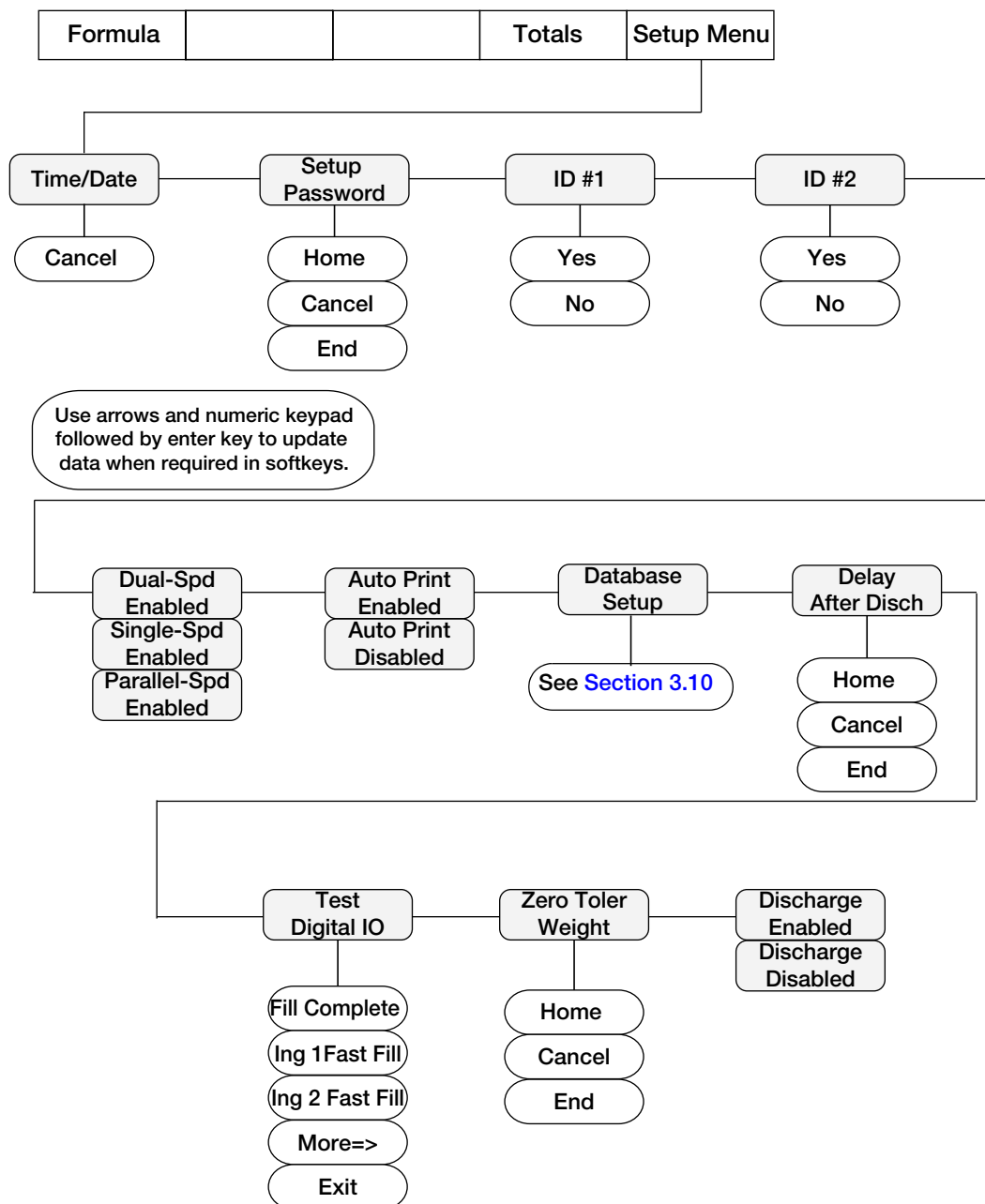


Figure 3-3. Setup Menu Softkey Structure

Softkey	Options	Description
Time/Date	HH:MM AM/PM	View/Edit the time and date of the system, see <a href="#">Section 3.5</a> . Current time stored in system, update using keypad and directional arrows.
	MM/DD/YYYY	Current date stored in system, update using keypad and directional arrows.
	Cancel	Returns to previous menu without saving.
Setup Password		Enter or edit system password to prevent unauthorized entry into setup menu, see <a href="#">Section 3.6</a> . A zero value will result in no password required.
ID #1	Yes	Allows entry of information to be printed. Up to 16 characters allowed, see <a href="#">Section 3.7</a> .
ID #2	No	
Filling Speeds		The sequence of operation that is required for filling, see <a href="#">Section 3.8</a> .
	Single Speed Enabled	Turns on fast fill until the target weight-preact weight is satisfied.
	Dual Speed Enabled	Turns on the fast fill until the dribble weight is satisfied. The system turns on the slow fill until the target weight-preact weight is satisfied.
	Parallel Speed Enabled	Turns on the fast fill and slow fill until the dribble weight is satisfied. The system then turns off the fast fill and leaves the slow fill on until the target weight-preact weight is satisfied.
Auto Print	Enabled Disabled	When enabled this feature will print an audit trail of the actual batch process in real time, see <a href="#">Section 3.9</a> .
Database Setup	Edit Ingredient	Edit ingredients, see <a href="#">Section 3.10</a> . System can handle up to eight ingredients for a single speed feed and four ingredients for a dual speed feed.
	Add/Edit Formula	Add/edit formulas, see <a href="#">Section 3.10</a> .
	Delete Formula	Delete formulas, see <a href="#">Section 3.10</a> .
	Exit	Exit database setup
Delay After Discharge	Home Cancel End	Time in seconds to delay after completion of discharge before a new start input is enabled, see <a href="#">Section 3.11</a> .
Test Digital IO	Fill Complete Ing 1 Fast Fill Ing 2 Fast Fill Exit	Enable/disable outputs, see <a href="#">Section 3.12</a> . See status of inputs.
Zero Tolerance Weight	Home Cancel End	Edit the zero tolerance weight, see <a href="#">Section 3.13</a> .



### 3.4 Entering the Setup Menu



**Note** The front panel E-stop button must be in the stopped position (pushed in) to enable any of the following keypad entries.

1. Press **Setup Menu** on the main menu screen.
  - If a system password is stored, proceed to Step 2.
  - If no system password is stored, setup menu will be displayed (see [Figure 3-5](#)). Proceed to next section.
2. Enter password when system prompts *Enter Password*.

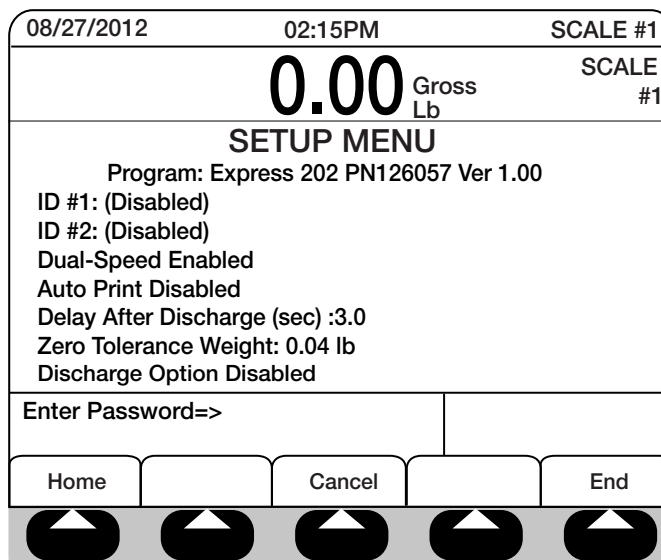


Figure 3-4. Setup Menu Enter Password

3. Press **ENTER**. The system checks the entered value against the system password and performs one of the following actions:
  - Valid entry - displays the setup menu screen and softkeys.
  - Invalid entry - Momentarily prompts - *Invalid password* and exits this sequence of operation.

When the system password criteria is satisfied the following display is shown.

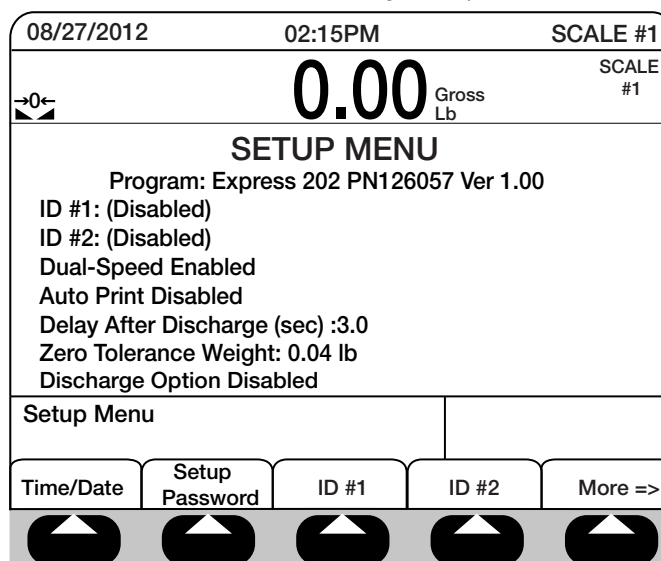


Figure 3-5. Setup Menu Main Screen

### 3.5 System Time and Date

View/Edit the current time and date of the system.



**Note** If a password is in the system, see [Section 3.4](#) to enter the setup menu.

1. From the main setup menu screen, press **Time/Date**.



Figure 3-6. Time/Date Softkey

2. Use the arrow keys and the numeric keypad (see [Figure 1-1](#)) to modify the time and/or date.
3. Press **ENTER** to save your settings.



**Note** *Cancel can be pressed at any time to exit this sequence without saving any changes.*

## 3.6 Setup Password

Allow a password to be entered into the system to prevent unauthorized changes to be made to the system parameters.



**Note** If a password is in the system, see [Section 3.4](#) to enter the setup menu.

1. From the main setup menu screen, press **Setup Password** ([Figure 3-4 on page 13](#)). The system prompts, *Enter New Password*.

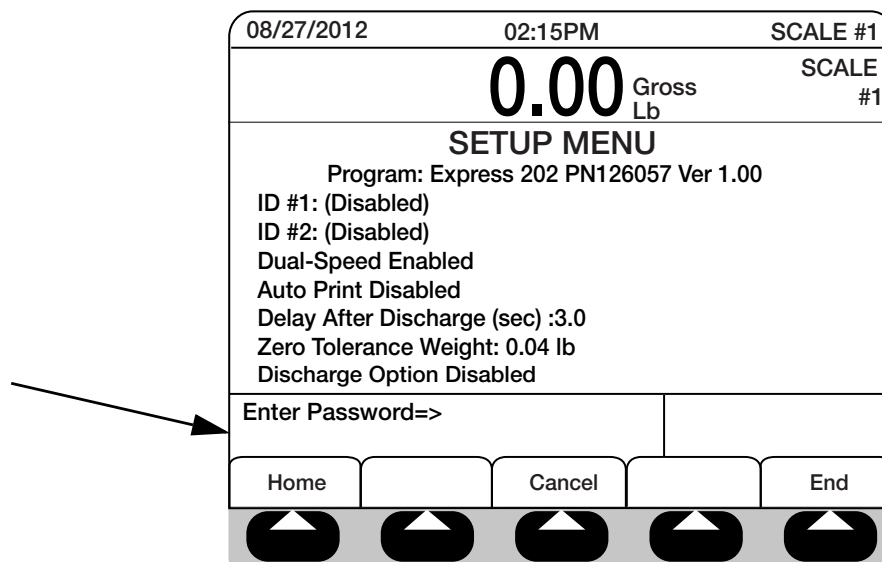


Figure 3-7. Enter New Password

2. Enter the new password and press **ENTER**.
3. The system prompts Re-enter password to verify. Re-enter the password and press **ENTER** again. The system performs one of the following actions.
  - If password entries match, the system displays *Password Changed*.
  - If password entries do not match, the system displays *Error: Passwords Did Not Match* and exits the sequence of operation.

### 3.7 Data Fields

When using a printer, additional information can be shown by entering data in the ID #1 or ID #2 fields.



**Note** If a password is in the system, see [Section 3.4](#) to enter the setup menu.

1. From the main setup menu screen, press **ID #1** or **ID #2**.
2. The selected ID is displayed, select **Yes** or **No** to enable or disable the ID.
  - If Yes is selected continue to step 3.
  - If No is selected the display returns to step 1.

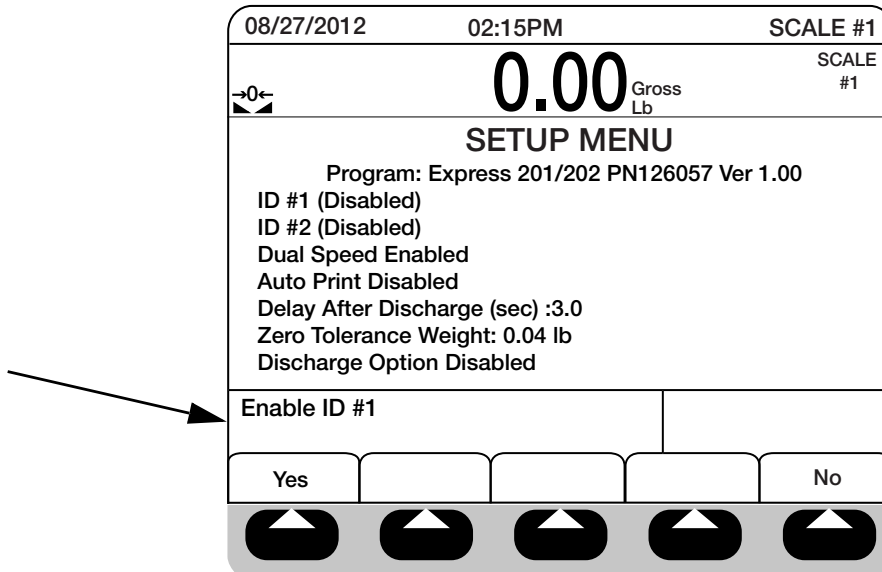


Figure 3-8. Enabling ID Datafields

3. The system prompts *Enter ID #1 Name*. Enter data required and press **ENTER**. The new data field will appear on the main display as a softkey so the operator can change it.



**Note** To enter alpha characters, press the Up Arrow to access a pop up alphabet. Up to 16 characters can be entered.

### 3.8 Filling Speeds

The sequence of operation that is required for filling.



**Note** If a password is in the system, see [Section 3.4](#) to enter the setup menu.

4. From the main setup screen, press **More =>** to access the next menu screen.

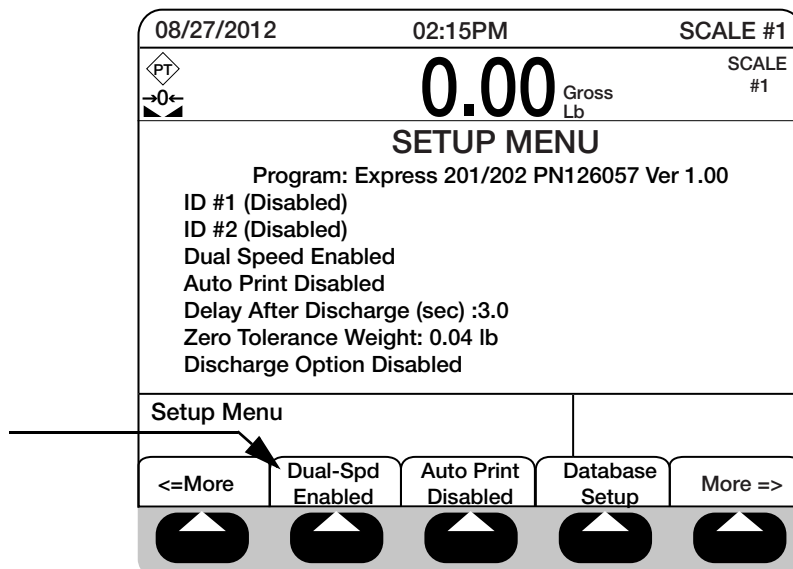


Figure 3-9. Setup Main Menu Screen #2

5. Press **Single-Spd Enabled**, **Dual-Spd Enabled** or **Parallel-Spd Enabled** to toggle between the choices. The displayed option is the selected filling speed.

Ingredient	Single Speed		Dual/Parallel Speed	
	Fast Fill	Slow Fill	Fast Fill	Slow Fill
1	5	n/a	5	6
2	6	n/a	7	8
3	7	n/a	9	10
4	8	n/a	11	12
5	9	n/a	n/a	n/a
6	10	n/a	n/a	n/a
7	11	n/a	n/a	n/a
8	12	n/a	n/a	n/a

### 3.9 Auto Print

When enabled this feature will print an audit trail of the actual batch process in real time.



**Note** If a password is in the system, see [Section 3.4](#) to enter the setup menu.

1. From the main setup menu screen, press **More =>** to access the next menu screen.
2. Press **Auto Print** to enable or disable the feature. The system toggles between two operation modes.

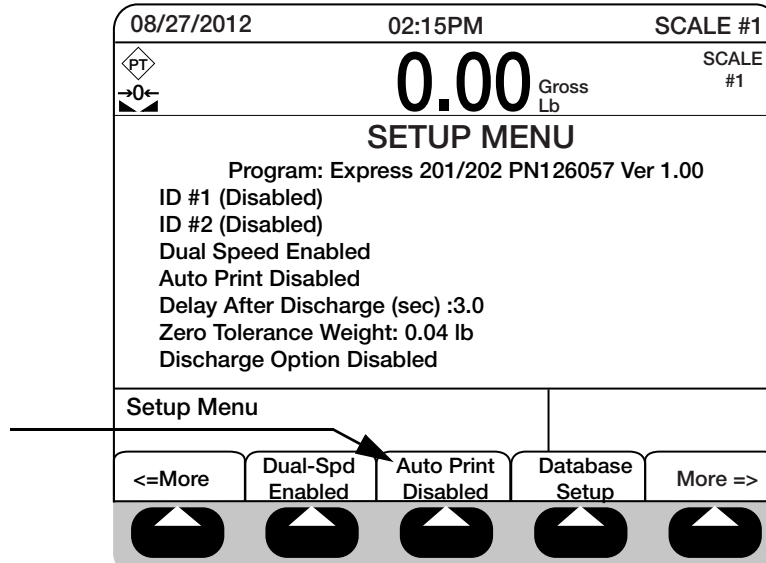


Figure 3-10. Auto Print Softkey

### 3.10 Database Setup

Add or delete ingredients, system can handle up to eight ingredients for a single speed feed and four ingredients for a dual speed feed.

#### 3.10.1 Edit Ingredients

1. From the main setup menu screen, press **More =>** to access the next menu screen (shown in [Figure 3-5](#)).
2. Press **Database Setup**.

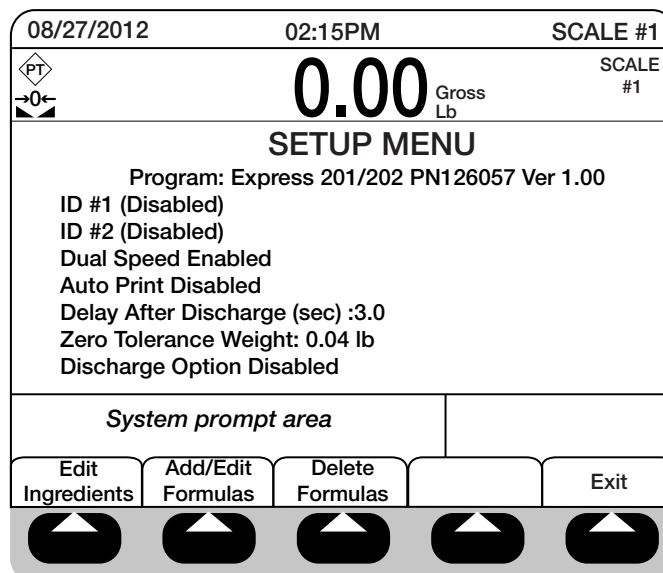


Figure 3-11. Database Setup Screen

3. Press **Edit Ingredients**.

4. The system prompts *Enter Ingredient ID*. Enter the ID and press **Enter**.
5. The system prompts *Enter Ingredient Name*. Enter the name and press **Enter**.
6. The system prompts *Enter Ingredient Preact*. Enter a value and press **Enter**.

**Note**

***Preact weight allows material to cut off prior to the original target value to allow for free fall material to settle onto the scale. Prior to entering new value, the existing value needs to be cleared by using the clear key.***

7. Press **Enter** to save.
8. Press **Exit** to return to previous menu.

**Note**

***To enter alpha characters, press the Up Arrow to access a pop up an alphabetic screen. Use arrows to select letters. Use keypad to enter numeric values.***

### 3.10.2 Add/Edit Formulas

1. From the main setup menu screen, press **More =>** to access the next menu screen (shown in [Figure 3-5](#)).
2. Press **Database Setup**.
3. Press **Add/Edit Formulas**.
4. The system prompts *Enter Formula ID*. Enter the ID and press **Enter**.
5. The system prompts *Enter Formula Name*. Enter the name and press **Enter**.
6. The system prompts *Enter Ingredient ID*. Enter a value and press **Enter**.
7. The system prompts *Enter Ingredient Target Weight*. Enter a value and press **Enter**.

**Note**

***Target weight is the desired weight value for a final fill weight. Prior to entering new value, the existing value needs to be cleared by using the clear key.***

8. The system prompts *Enter Ingredient Dribble Weight*. Enter a value and press **Enter**.

**Note**

***When a 2-speed fill is enabled (either Parallel or Sequential), Dribble Weight is the desired weight value below the Target Weight that the cycle switches from Fast Feed to Dribble Feed. Prior to entering new value, the existing value needs to be cleared by using the clear key.***

9. The system prompts *Enter Ingredient Order*. Enter a value and press **Enter**.
10. The system prompts *More Ingredients*. Press **Yes** to add more ingredients or **No** to save and exit.

### 3.10.3 Delete Formulas

Removes selected formula from the database.

1. Press **Delete Formulas**.
2. Enter Formula ID, then press **Enter** to delete.

### 3.10.4 Exit

Press the **Exit** to return to previous menu.

## 3.11 Delay After Discharge

The delay allowed after discharge is complete before beginning a new batch. This allows the discharge gate to close before new batch begins loading.

3. From the main setup screen, press **More =>** twice to access the third setup menu screen.
4. Press **Delay After Disch**.

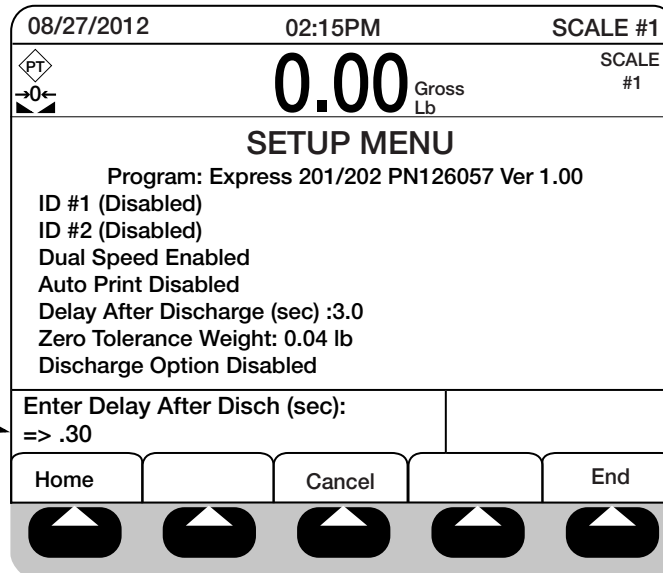


Figure 3-12. Delay After Discharge

5. Using the numerical pad, enter in the time in seconds to delay after completion of a discharge before a new start input will be allowed.
6. Press **Enter**.

### 3.12 Test Digital IO



**Note** If a password is in the system, see [Section 3.4](#) to enter the setup menu.

1. From the main setup screen, press **More =>** twice to access the third setup menu screen.
2. Press **Test Digital IO** to test the Zero Tolerance, Fill Complete, Ingredient relay outputs.
  - Pressing a softkey once will turn on the output and pressing it again will turn off the output.
  - Pressing Exit will turn off **ALL** outputs.

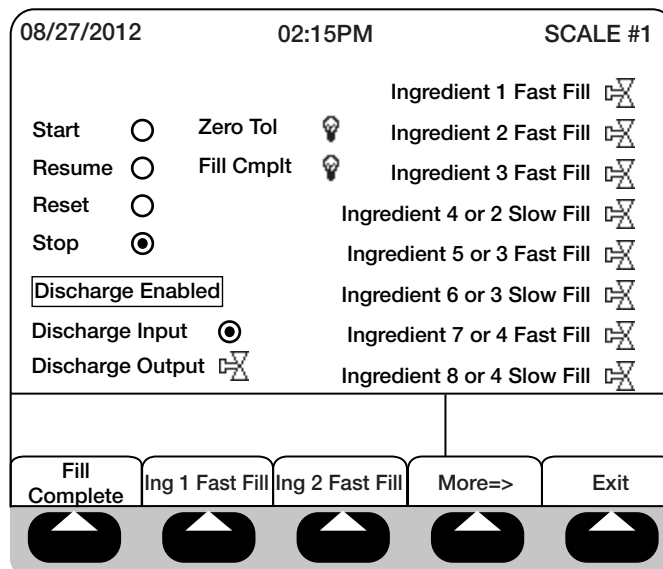


Figure 3-13. Test Digital IO



### 3.13 Zero Tolerance Weight

The weight under which the system considers the scale to be empty and allow a new batch to begin.



**Note** If a password is in the system, see [Section 3.4](#) to enter the setup menu.  
Prior to entering a new value, the existing value needs to first be cleared by using the clear key.

1. From the main setup menu screen, press **More =>** twice to access the third menu screen.
2. Press **Zero Toler Weight**.

08/27/2012		02:15PM		SCALE #1	
000.0				Gross Lb	
Target		Dribble		Preact	
0.50 lb		0.00 lb		0.04 lb	
Ingredient Name					
Ingredient 1					
Consecutive Nbr		Near Zero		Formula Name	
9		0.04 lb		Grout	
Batch Total				0.00 lb	
Enter Zero Tolerance Weight					
=> 110.00					
Home		Cancel		Exit	

Figure 3-14. Enter Zero Tolerance Weight

3. Enter the zero tolerance weight using the numeric keypad.
4. Press **Enter** save value.

### 3.14 Modifying the Discharge Option



**Note** If a password is in the system, see [Section 3.4](#) to enter the setup menu.  
Prior to entering a new value, the existing value needs to first be cleared by using the clear key.

1. From the main setup menu screen, press **More =>** four times to access the next menu screen.
2. Press **Discharge Option**.
3. Press **Discharge Enabled** or **Discharge Disabled**. System will toggle between the two modes of operation:
  - **Enabled:** 920i System 202, system controlled discharge at batch complete.
  - **Disabled:** 920i System 201, external provided method to empty scale at batch complete.

## 4.0 Operation

The following instructions explain a basic sequence of operation for the FlexWeigh Systems 201 and 202.

### 4.1 Entering Formula Softkey Menu



**Note** The front panel E-stop button must be in the stopped position (pushed in) to enable any of the following keypad entries.

1. Press **Formula**.
2. Select formula by pressing the **Up** or **Down** arrows.
3. Use **Page Up** or **Page Down** to view other pages.

08/27/2012		02:15PM		SCALE #1	
000.0 <sup>Gross</sup> <sub>Lb</sub>				SCALE #1	
Target	Dribble	Preact	Ingredient Name		
0.50 lb	0.00 lb	0.04 lb	Ingredient 1		
Consecutive Nbr		Near Zero	Formula Name	Batch Total	
9		0.04 lb	Grout	0.00 lb	
Formula		Totals		Setup Menu	

08/27/2012		02:15PM		SCALE #1	
Formula Display					
	Id	Name			
→	1	Grout			
	2	Bread			
Select a Formula					
Page Up		Page Down		Exit	

Figure 4-1. Formula Menu

4. Press **Enter** to load the formula.
5. Turn Start Button to on position.

## 4.2 Totals Softkey Menu



The front panel E-stop button must be in the stopped position (pushed in) to enable any of the following keypad entries.

08/27/2012	02:15PM	SCALE #1																						
<b>000.0</b> Gross Lb		SCALE #1																						
Ingredient Totals																								
→	<table border="1"> <thead> <tr> <th>Name</th> <th>Sub Total : Total</th> </tr> </thead> <tbody> <tr> <td>1 Ingredient</td> <td>50.00 : 150.00</td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Name	Sub Total : Total	1 Ingredient	50.00 : 150.00																			
Name	Sub Total : Total																							
1 Ingredient	50.00 : 150.00																							
Setup Menu:																								
Consecutive Number	Print Sub Total	Print Total	Print All Usage	Exit																				

Figure 4-2. Totals Menu

1. Press the **Totals** softkey.
2. The operator can print and reset the consecutive number, subtotal and totals by pressing the appropriate softkey. Parameters, including:
  - Consecutive Number
  - Print Sub Total
  - Print Total
  - Print All Usage

### 4.2.1 Consecutive Number

1. Press Consecutive Number to enter the next number to be weighed. The system increments every time a batch is running (counter).

08/27/2012	02:15PM	SCALE #1																						
<b>000.0</b> Gross Lb		SCALE #1																						
Ingredient Totals																								
→	<table border="1"> <thead> <tr> <th>Name</th> <th>Sub Total : Total</th> </tr> </thead> <tbody> <tr> <td>1 Ingredient</td> <td>50.00 : 150.00</td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Name	Sub Total : Total	1 Ingredient	50.00 : 150.00																			
Name	Sub Total : Total																							
1 Ingredient	50.00 : 150.00																							
Enter Consecutive Number => 23																								
Home		Cancel		Exit																				

Figure 4-3. Consecutive Number

#### 4.2.2 Print Sub Total

1. Press **Print Sub Total**.
2. Press **Yes** to clear the subtotal of the ingredient, or **No** to exit out of the screen.

08/27/2012	02:15PM	SCALE #1																						
<b>000.0</b> Gross Lb		SCALE #1																						
Ingredient Totals																								
→	<table border="1"> <thead> <tr> <th>Name</th> <th>Sub Total : Total</th> </tr> </thead> <tbody> <tr> <td>1 Ingredient</td> <td>50.00 : 150.00</td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Name	Sub Total : Total	1 Ingredient	50.00 : 150.00																			
Name	Sub Total : Total																							
1 Ingredient	50.00 : 150.00																							
Clear Sub Total?																								
Yes		No																						
▲	▲	▲																						

Figure 4-4. Print Sub Total Screen

#### 4.2.3 Print Total

1. Press **Print Total**.
2. Press **Yes** to clear the total and sub-total of the ingredient or **No** to exit out of the screen.

08/27/2012	02:15PM	SCALE #1																						
<b>000.0</b> Gross Lb		SCALE #1																						
Ingredient Totals																								
→	<table border="1"> <thead> <tr> <th>Name</th> <th>Sub Total : Total</th> </tr> </thead> <tbody> <tr> <td>1 Ingredient</td> <td>50.00 : 150.00</td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Name	Sub Total : Total	1 Ingredient	50.00 : 150.00																			
Name	Sub Total : Total																							
1 Ingredient	50.00 : 150.00																							
Clear Total?																								
Yes		No																						
▲	▲	▲																						

Figure 4-5. Clear Total Screen

#### 4.2.4 Print Usage Report

1. Press **Print All Usage**.
2. Press **Yes** to clear the total and sub-total of all ingredients or **No** to exit out of the screen.

## 4.3 Running a Batch

1. Press the **Start** button on the unit. The system verifies if:

- Gross weight is within the zero tolerance
- E-Stop is pulled out
- A valid formula is selected

System increments the Consecutive Number by 1 on the main display.

System displays relevant information for first ingredient of batch.

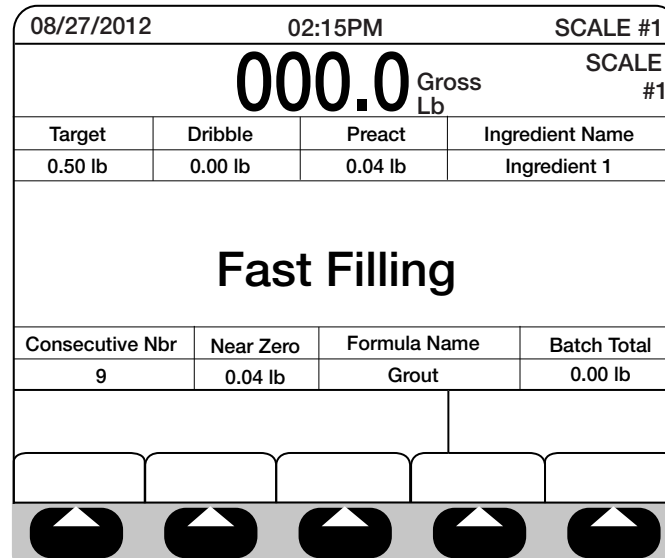


Figure 4-6. Fill Screen Example

The system begins filling either of three speeds and displays a basic filling screen although this screen will change depending up what kind of filling is being done.

- Single Speed Filling - The system turns on fast fill until the target weight-preact weight is satisfied.
- Parallel Speed Filling - Turns on the fast fill and slow fill until the dribble weight is satisfied. The system then turns off the fast fill and leaves the slow fill on until the target weight-preact weight is satisfied.
- Dual Speed Filling - Turns on the fast fill until the dribble weight is satisfied. The system turns on the slow fill until the target weight-preact weight is satisfied.

System does the following when the target is reached:

- Capture a stable net weight
- Updates the sub total material usage and number of fills
- Updates the total material usage and number of fills
- Updates current batch report.
- System repeats the process for each ingredient in the formula.

Once the last ingredient of the formula has finished filling sequence, output batch complete (optional) and complete batch report.

- If setup for System 201 sequence (Discharge Option disabled): display shows Empty Scale. Remove container from scale, system will reset for new batch at return to zero tolerance (see [Section 3.14](#)).
- If setup for System 202 sequence (Discharge Option enabled): display shows Press Discharge. Press discharge, system turns discharge output on. When it reaches zero tolerance system resets for new cycle (see [Section 3.14](#)).

## 4.4 E-Stop and Reset/Resume

1. Press the E-Stop button.
2. System turns off all outputs and displays *System Paused*.
3. The resume switch restarts current batch after the E-Stop button returns to the run position. When the system is paused, selecting reset switch will return back to Step 1 to allow the operator to start over.

## 4.5 Audit Trail Print

Record keeping is an important part of any system. The FlexWeigh Systems 201 and 202 have the ability to be connected to a printer for retaining detailed records on batches, cycle runs, cycle paused, etc.

The preferred printer to integrate with *Systems 201 and 202* is the *TM-U220 Tape Printer* but will interface with any strip printer.

Connect printer per printer instructions.

Shown below are five examples of tape samples that can be printed using the *TM-U220 Tape Printer*.

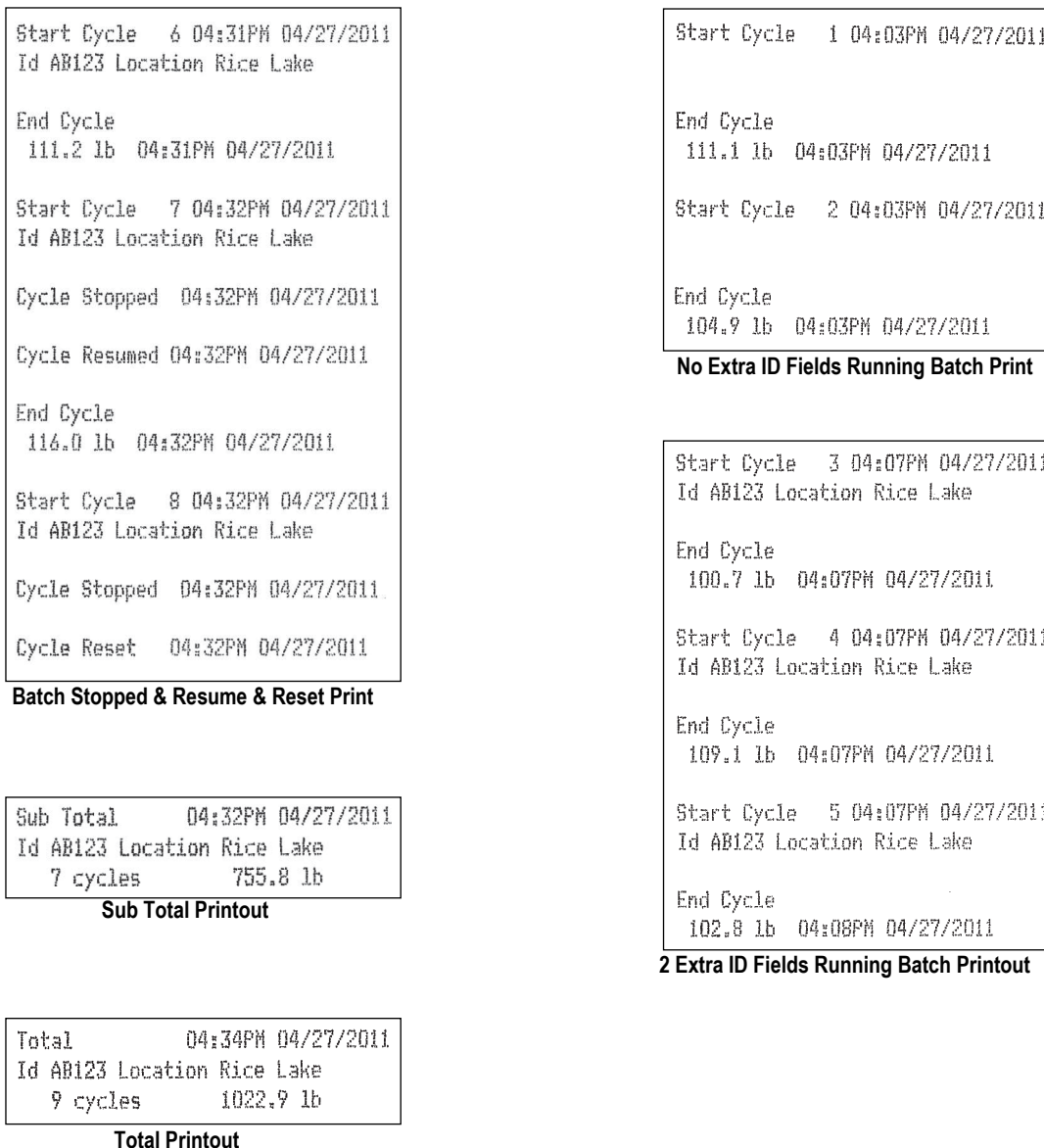


Figure 4-7. Tape Printer Example

## 5.0 Appendix

---

The section provides additional information for the FlexWeigh System 101.

### 5.1 Options

Several options are available with the FlexWeigh Systems 201 and 202. Those options that are available include:

- Auto-Mode Front Panel Controls
- Manual-Mode Front Panel Controls
- Optional Front Panel Pilot Lights

#### Three Position Selector Switch

Includes:

- Manual/Off/Auto

#### Manual Mode Front Panel Push Button

Includes:

- Manual Fill

#### Maintained/Off/Spring Return Manual Switches

- Fill - On/Jog
- Fill - Fast/Slow

#### Optional Front Panel Event Pilot Lights

Includes:

- Green Ready
- Red Fill Complete
- Amber Filling
- Amber Filling Fast
- Amber Filling Slow
- Blue Discharging
- Blue Discharging Fast
- Blue Discharging Slow

### 5.2 FCC Compliance

#### United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

### 5.2.1 Radio Certificate Numbers

- US: R68WIPORTG
- Canada: 3867A-WIPORTG

### 5.3 Product Dimensions

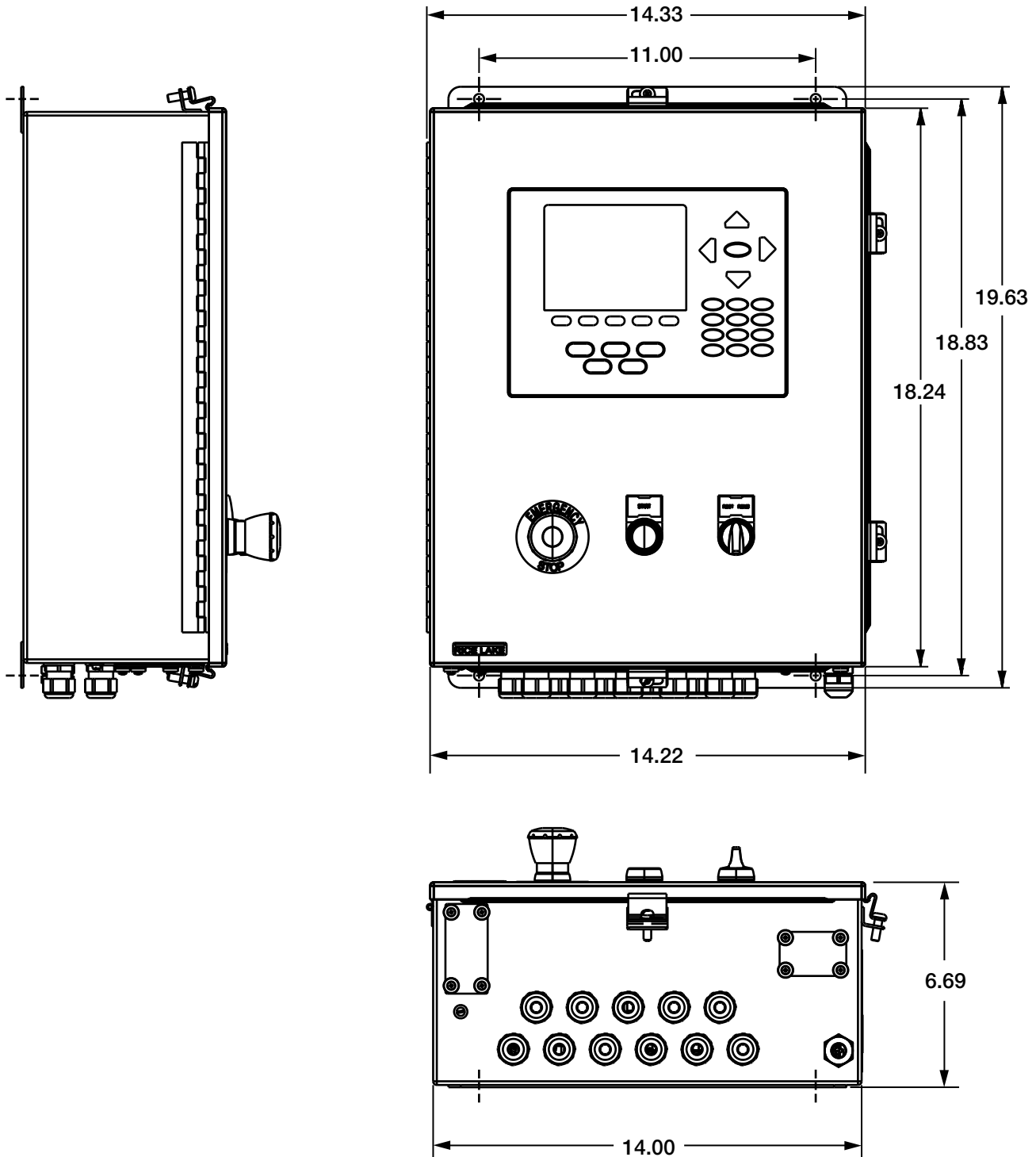


Figure 5-1. FlexWeigh Systems 201 and 202 Dimensions



## 5.4 System 201 Replacement Parts

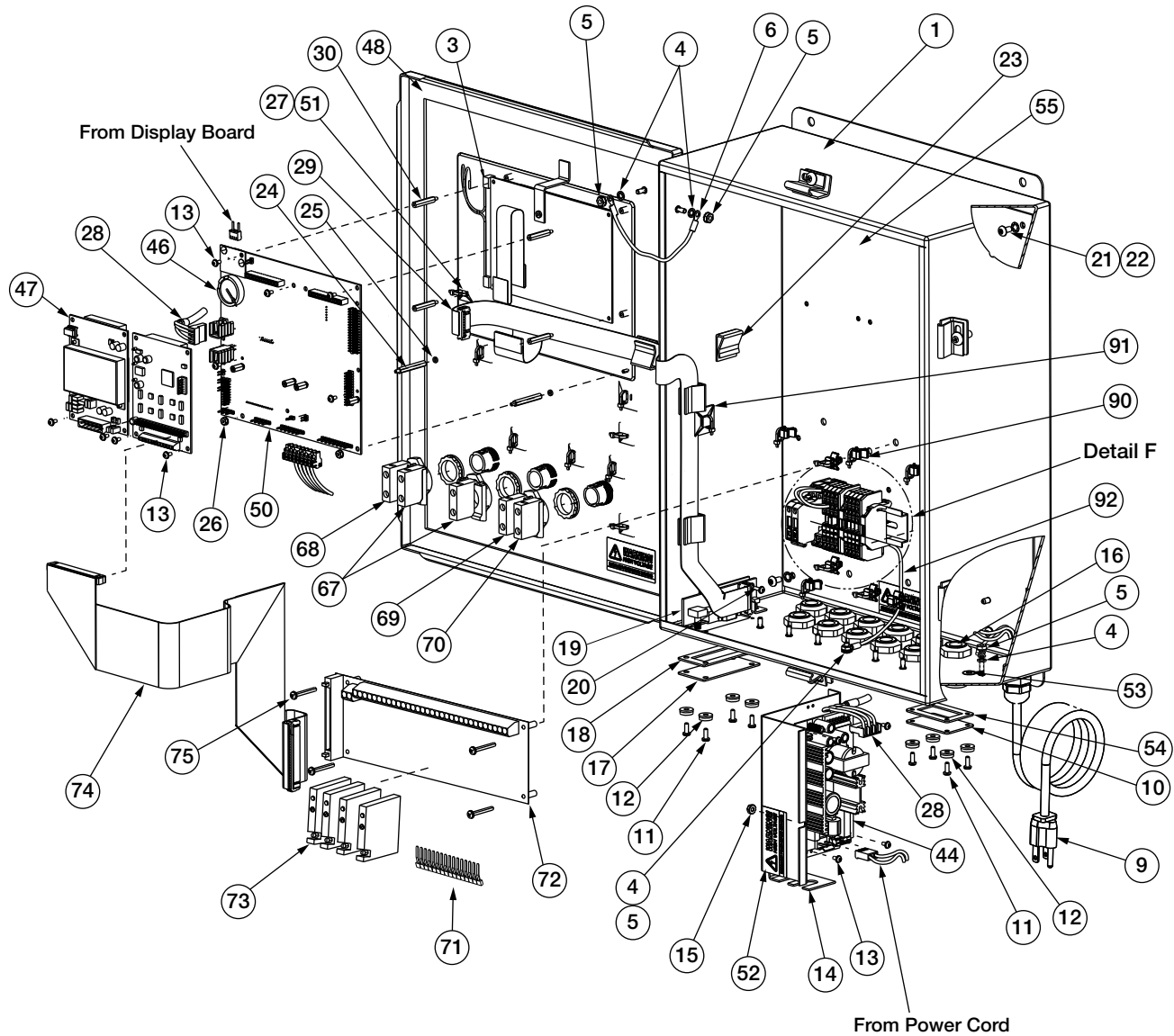


Figure 5-2. System 201 Replacement Parts Illustration

Item No.	Part No.	Description	Qty.
1	120417	Enclosure, Wall Mount	1
3	67614	Display, LCD Module, 920i	1
4	15134	Lock Washers, No 8, Type A	4
5	14626	Kep Nuts, 8-32NC Hex	4
6	15601	Ground Wire, 6 in w/No. 8	1
9	85202	Power Cord Assembly, 120 VAC	1
10	68425	Fuse Access Cover Plate	1
11	14845	Machine Screws, 6-32NC x 3/8	8
12	45042	Washer, Bonded Sealing SS	8
13	14822	Machine Screws, 4-40NC x 1/4	13
14	69538	Power Supply Bracket	1
15	14621	Kep Nuts, 6-32NC Hex	1
16	15630	Locknuts, 1/2 NPT Black	11
17	67530	Interface Board Plate	1
18	67535	Interface Board Gasket	1
19	67869	920i Interface Board	1
20	55708	Machine Screws, 4-40NC x 3/8	2
21	14875	Machine Screws, 10-32NF x 3/8	4
22	15140	Lock Washer, No. 10, Type A	4
23	46192	Flat Ribbon Cable Clamp	4
24	68661	Standoffs, Male-FEM, 4-40NC	2
25	69898	Nylon Washer ID=.112	2
26	14618	Kep Nuts, 4-40NC Hex	2
27	15631	Cable Tie, 3 in Nylon	18
28	71431	Cable Assembly, 65W power	1
29	71436	Ribbon Cable Assembly, 28 in	1
30	67886	Standoffs, Long, Male 4-40NC	4
44	71333	920i Power Supply Board	1
46	69290	3V Coin Lithium Battery	1
47	67610	Single Channel A/D Card	1
48	68724	920i Cover Gasket	1
50	109549	920i CPU Board Assembly	1
51	15650	Cable Tie Mount 3/4 in	7
52	16861	Label, High Voltage	3
53	16892	Label, Earth Ground	1
54	68621	Coverplate Fuse Gasket	1
55	120423	Back Panel Component	1
67	94310	Contact Block	2
68	94311	Contact Block, Switch On	1
69	94312	Contact Block, Switch On	1
70	94313	Contact Block, Switch On	1
71	41035	16 Position Jumper Strap	1

Item No.	Part No.	Description	Qty.
72	33206	16-Channel Mounting Relay Board	1
73	15971	Output Relay Module	4
74	70780	50 Pin Flat Ribbon Cable	1
75	120762	Machine Screw, 6-32NC x 1 - 1/4	4
90	80590	Arrowhead Cable Tie Mount	8
91	15658	1 Inch Cable Tie Mount	2
92	121069	9 Inch Ground Assembly Wire	1
99	77180	Conn, 8 Pos Screw Terminal	1
105	88733	Vent, Breather Sealed	1
106	88734	Nut, Breather Vent	1
-	54215	Fuse Between Din Rail/Relay Rack	1
-	117901	Foam, Mixture High Density	1

Table 5-1. System 201 Replacement Parts List

## 5.5 System 202 Replacement Parts

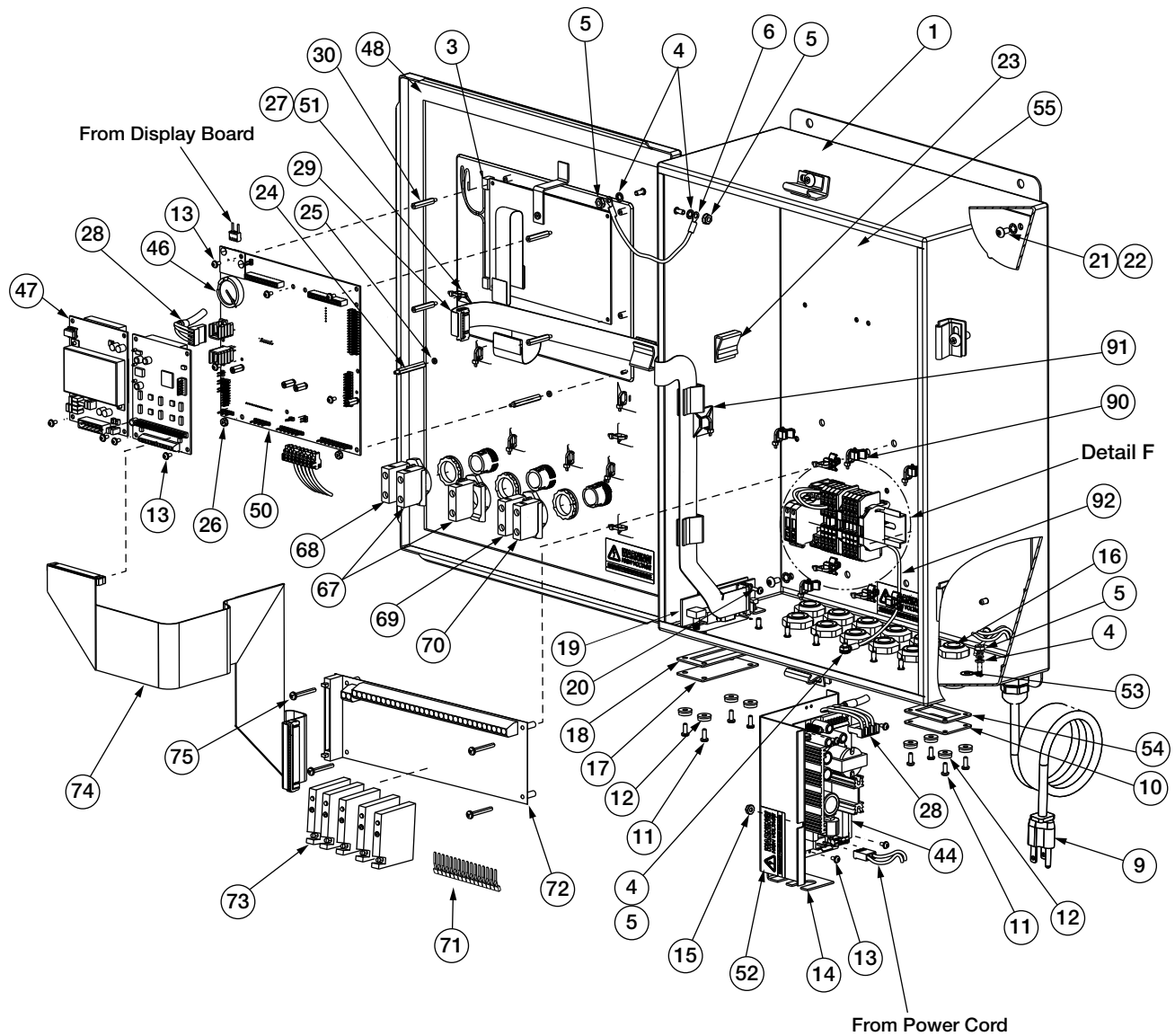


Figure 5-3. System 202 Replacement Parts Illustration

Item No.	Part No.	Description	Qty.
1	120417	Enclosure, Wall Mount	1
3	67614	Display, LCD Module, 920i	1
4	15134	Lock Washers, No 8, Type A	4
5	14626	Kep Nuts, 8-32NC Hex	4
6	15601	Ground Wire, 6 in w/No. 8	1
9	85202	Power Cord Assembly, 120 VAC	1
10	68425	Fuse Access Cover Plate	1
11	14845	Machine Screws, 6-32NC x 3/8	8
12	45042	Washer, Bonded Sealing SS	8
13	14822	Machine Screws, 4-40NC x 1/4	13
14	69538	Power Supply Bracket	1
15	14621	Kep Nuts, 6-32NC Hex	1
16	15630	Locknuts, 1/2 NPT Black	11
17	67530	Interface Board Plate	1
18	67535	Interface Board Gasket	1
19	67869	920i Interface Board	1
20	55708	Machine Screws, 4-40NC x 3/8	2
21	14875	Machine Screws, 10-32NF x 3/8	4
22	15140	Lock Washer, No. 10, Type A	4
23	46192	Flat Ribbon Cable Clamp	4
24	68661	Standoffs, Male-FEM, 4-40NC	2
25	69898	Nylon Washer ID=.112	2
26	14618	Kep Nuts, 4-40NC Hex	2
27	15631	Cable Tie, 3 in Nylon	18
28	71431	Cable Assembly, 65W power	1
29	71436	Ribbon Cable Assembly, 28 in	1
30	67886	Standoffs, Long, Male 4-40NC	4
44	71333	920i Power Supply Board	1
46	69290	3V Coin Lithium Battery	1
47	67610	Single Channel A/D Card	1
48	68724	920i Cover Gasket	1
50	109549	920i CPU Board Assembly	1
51	15650	Cable Tie Mount 3/4 in	7
52	16861	Label, High Voltage	3
53	16892	Label, Earth Ground	1
54	68621	Coverplate Fuse Gasket	1
55	120423	Back Panel Component	1
67	94310	Contact Block	2
68	94311	Contact Block, Switch On	1
69	94312	Contact Block, Switch On	1
70	94313	Contact Block, Switch On	1
71	41035	16 Position Jumper Strap	1

Item No.	Part No.	Description	Qty.
72	33206	16-Channel Mounting Relay Board	1
73	15971	Output Relay Module	5
74	70780	50 Pin Flat Ribbon Cable	1
75	120762	Machine Screw, 6-32NC x 1 - 1/4	4
90	80590	Arrowhead Cable Tie Mount	8
91	15658	1 Inch Cable Tie Mount	2
92	121069	9 Inch Ground Assembly Wire	1
99	77180	Conn, 8 Pos Screw Terminal	1
105	88733	Vent, Breather Sealed	1
106	88734	Nut, Breather Vent	1
-	54215	Fuse Between Din Rail/Relay Rack	1
-	117901	Foam, Mixture High Density	1

Table 5-2. System 202 Replacement Parts List

## 5.6 Front Panel and Interior Parts Illustrations

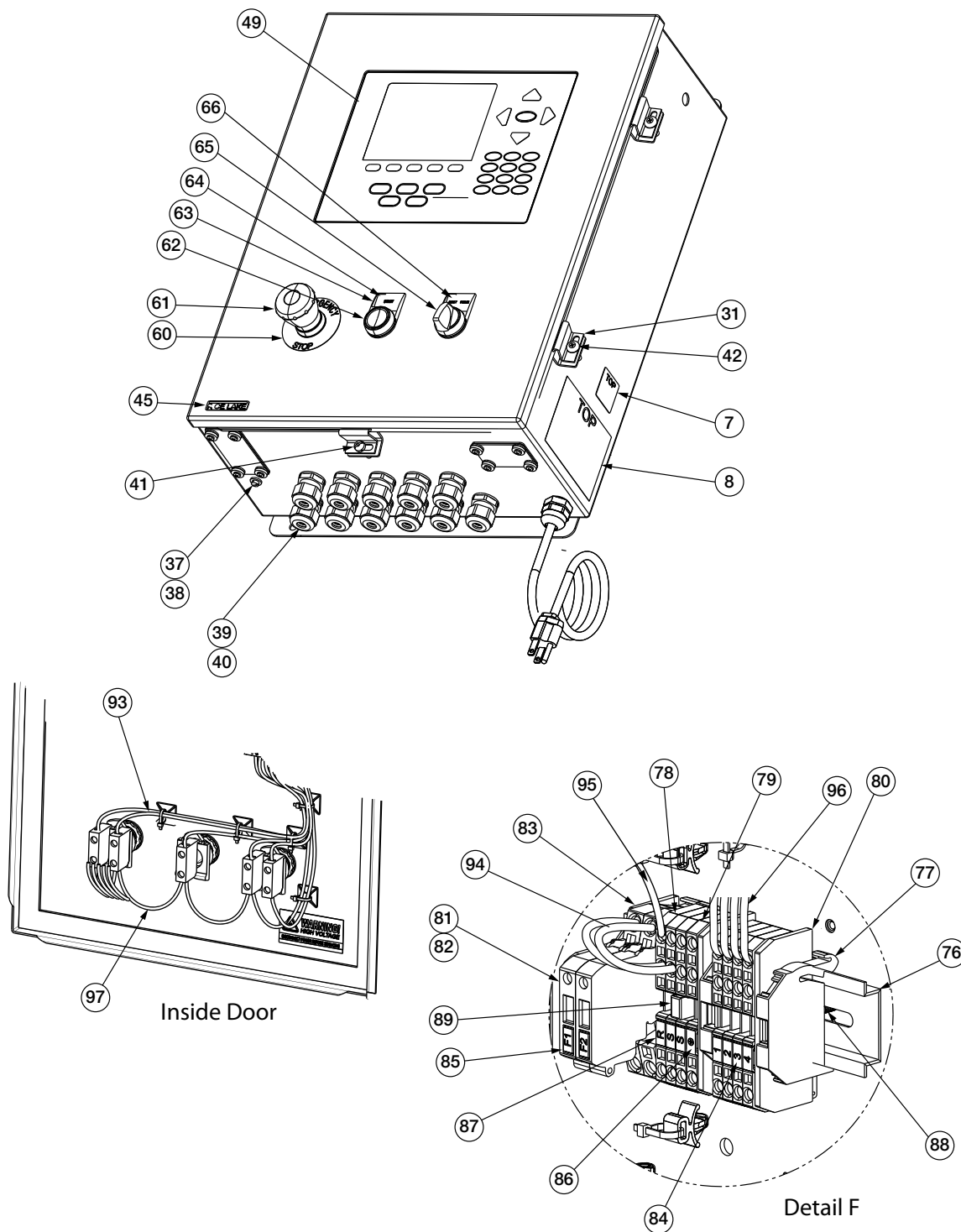


Figure 5-4. Front Panel and Interior Wiring Parts Illustration

Item No.	Part No.	Description	Qty.
7	53308	Label, 1.25 x 1.25 8000T	1
8	53307	Label, 4.000 x 2.875	1
31	71739	Cinching Enclosure Clip	4
37	42640	Machine Screw, 1/4 - 28NF x 1	1
38	59250	Washer, .255 ID x .437 OD	1
39	30376	Sealing Ring, 1/2 NPT, Nylon	11
40	15628	Cord Grip, 1/2 NPT, Black	11
41	71455	Machine Screws, 1/4-28NF x .75	1
42	71447	Machine Screws 1/4-28NF x 3/	3
45	68216	Metal Nameplate	1
49	66502	Overlay, Membrane Switch	1
60	94274	Legend Plate, Emergency Stop	1
61	94273	Red Mushroom Switch	1
63	94316	Legend Plate Holder	2
64	114695	Legend Plate, Start	1
65	94298	3-Position Switch	1
66	120728	Legend Plate, Reset/Resume	1
76	43636	DIN Rail	1
77	61141	Screwless WAGO End Stop	3
78	62964	WAGO Terminal Block	7
79	62966	WAGO Terminal Block	1
80	62968	Intermediate End Plate	3
81	62969	WAGO Fuse Terminal Block	2
82	54215	Time Delay Fuse, 3.15 amp	2
83	66190	Intermediate End Plate	1
84	62959	Label, WAGO Terminal Strip	1
85	65007	Label, WAGO Terminal Block	1
86	62967	Label, WAGO Terminal Block	1
87	66034	Label, WAGO Terminal Block	1
88	22087	Machine Screw, 6-32NC x 3/8	2
89	55337	Jumper, Series 280, Insulated	1
93		Wire, 18 AWG Red Stranded	
94	15435	Wire, 18 AWG, Blue Stranded	.333 ft
95		Wire, 18 AWG Brown Stranded	
96	15451	Wire, 18 AWG Yellow Stranded	8 ft
97	15431	Wire, 18 AWG Black Stranded	1.958 ft
	54215	Fuses for Din Rail to Relay Rack	

Table 5-3. Interior Wiring Parts List

## 6.0 Limited Warranty

---

Rice Lake Weighing Systems warrants that all Rice Lake Weighing Systems equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by Rice Lake Weighing Systems. All systems and components are warranted against defects in materials and workmanship for two years.

Rice Lake Weighing Systems warrants that the equipment sold hereunder will conform to the current written specifications authorized by Rice Lake Weighing Systems. Rice Lake Weighing Systems warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, Rice Lake Weighing Systems will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, Rice Lake Weighing Systems will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to Rice Lake Weighing Systems for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment.
- Examination of such equipment by Rice Lake Weighing Systems confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; Rice Lake Weighing Systems shall be the sole judge of all alleged non-conformities.
- Such equipment has not been modified, altered, or changed by any person other than Rice Lake Weighing Systems or its duly authorized repair agents.
- Rice Lake Weighing Systems will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both ways.
- In no event will Rice Lake Weighing Systems be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will Rice Lake Weighing Systems be liable for the cost of any repairs made by others.




These warranties exclude all other warranties, expressed or implied, including without limitation warranties of merchantability or fitness for a particular purpose. Neither Rice Lake Weighing Systems or distributor will, in any event, be liable for incidental or consequential damages.

Rice Lake Weighing Systems and buyer agree that Rice Lake Weighing Systems's sole and exclusive liability hereunder is limited to repair or replacement of such goods. In accepting this warranty, the buyer waives any and all other claims to warranty.

Should the seller be other than Rice Lake Weighing Systems, the buyer agrees to look only to the seller for warranty claims.

No terms, conditions, understanding, or agreements purporting to modify the terms of this warranty shall have any legal effect unless made in writing and signed by a corporate officer of Rice Lake Weighing Systems and the Buyer.

## 7.0 Compliance

	<b>EU DECLARATION OF CONFORMITY</b> <i>EU-KONFORMITÄTSERKLÄRUNG</i> <i>DÉCLARATION UE DE CONFORMITÉ</i>		Rice Lake Weighing Systems 230 West Coleman Street Rice Lake, Wisconsin 54868 United States of America 
	<b>Type/Typ/Type:</b> 820i and 920i series		
English	We declare under our sole responsibility that the products to which this declaration refers to, is in conformity with the following standard(s) or other regulations document(s).		
Deutsch	Wir erklären unter unserer alleinigen Verantwortung, dass die Produkte auf die sich diese Erklärung bezieht, den folgenden Normen und Regulierungsbestimmungen entsprechen.		
Francais	Nous déclarons sous notre responsabilité que les produits auxquels se rapporte la présente déclaration, sont conformes à la/aux norme/s suivante ou au/aux document/s normatif/s suivant/s.		
EU Directive	Certificates	Standards Used / Notified Body Involvement	
2014/30/EU EMC	-	EN 61326-1:2013, EN 55011:2009+A1:2010, EN 61000-6-1:1995, EN 61000-6-2:2007	
2014/35/EU LVD	-	IEC 60950-1 ed.2	
2011/65/EU RoHS	-	EN 50581:2012	
Signature:			Place: <u>Rice Lake, WI USA</u>
Type Name:	<u>Richard Shipman</u>		Date: <u>May 3, 2019</u>
Title:	<u>Quality Manager</u>		



**UK  
CA****UK DECLARATION  
OF CONFORMITY**Rice Lake Weighing Systems  
230 West Coleman Street  
Rice Lake, Wisconsin 54868  
United States of America**RICE LAKE**  
WEIGHING SYSTEMS**Type:** 820i and 920i series

English We declare under our sole responsibility that the products to which this declaration refers to, is in conformity with the following standard(s) or other regulations document(s).

UK Regulations	Certificates	Standards Used / Approved Body Involvement
2016/1101 Low Voltage	-	IEC 60950-1 ed.2
2016/1091 EMC	-	EN 61326-1:2013, EN 55011:2009+A1:2010, EN 61000-6-1:1995, EN 61000-6-2:2007
2012/3032 RoHS	-	EN 50581:2012

Signature: Brandi HarderPlace: Rice Lake, WI USAName: Brandi HarderDate: December 30, 2021Title: Quality Manager







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