FlexWeigh Systems 111 and 112

Flip Flop Fillers
Version 1

Operation Manual

920i FlexWeigh Systems

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Revision History

This section tracks and describes manual revisions for awareness of major updates.

Revision	Date	Description
A	May 13, 2024	Initial Release.

Table i. Revision Letter History

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Contents

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1.0   Introduction

This manual is intended for use by service technicians and operators responsible for installing and operating the FlexWeigh Flip Flow Filling Systems 111 and 112. 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.

Manuals are available from Rice Lake Weighing Systems at **www.ricelake.com/manuals**

Warranty information is available at **www.ricelake.com/warranties**

Safety 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.

⚠ WARNING

Failure to heed could result in serious injury or death.

Failure to heed may result in serious injury of 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 then 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 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 prescites dans le Règlement sur le brouillage radioélectrique edicté par le ministère des Communications du Canada.

1.2 Overview

The FlexWeigh Systems 111 and 112 are supported by custom software where:

- **920i** *FlexWeigh Systems 111* is designed for filling two scales to a target weight in sequential "flip-flop" fashion. As one scale is filled, operators can prep the second scale, e.g., moving a container into place.
- **920i** *FlexWeigh Systems 112* is designed for filling two scales to a target weight in sequential "flip-flop" fashion. As on scale is filled, the second scale is discharged via independent or manual methods.

NOTE: The iRite program and source code that comprise the 920i FlexWeigh Systems 111 and 112 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).

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1.3   Product Dimensions
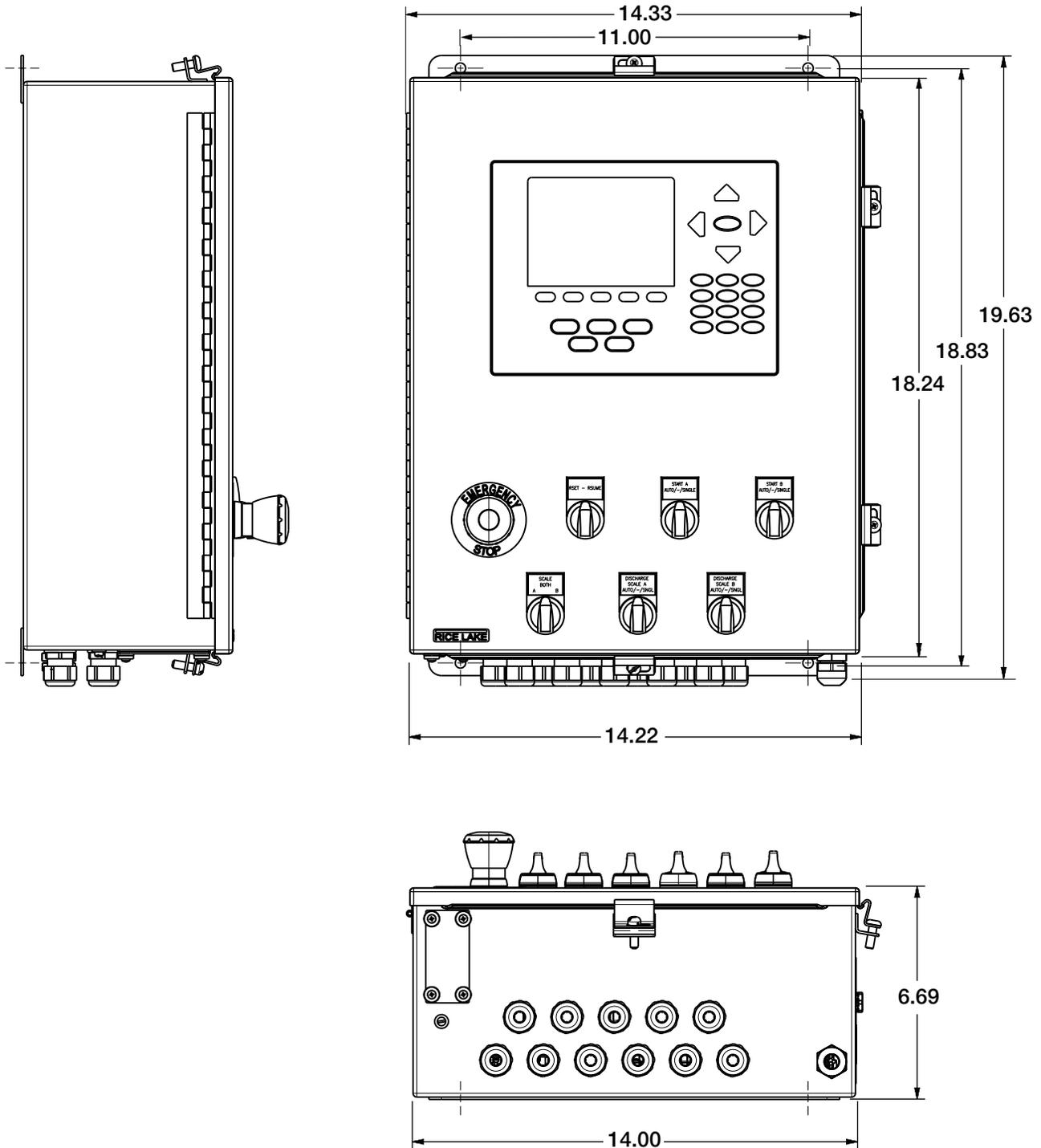
Figure 1-1. FlexWeigh Systems 111 and 112 Enclosure Dimensions

📝 **NOTE: FlexWeigh Systems 111 and 112 shares the same exterior case dimensions, however, the control layout and switch quantity vary.**

1.4 Control Panels

FlexWeigh Systems 111

FlexWeigh Systems 112
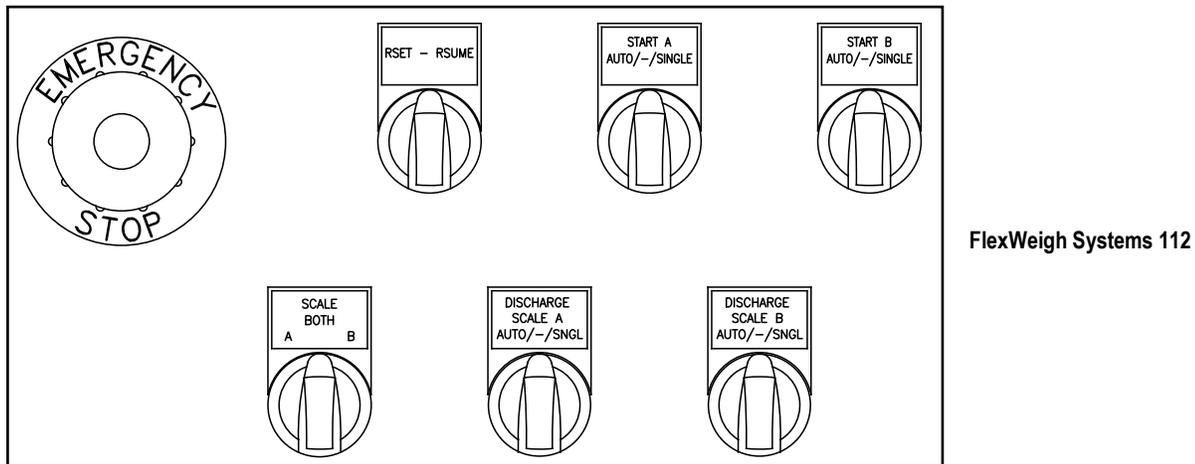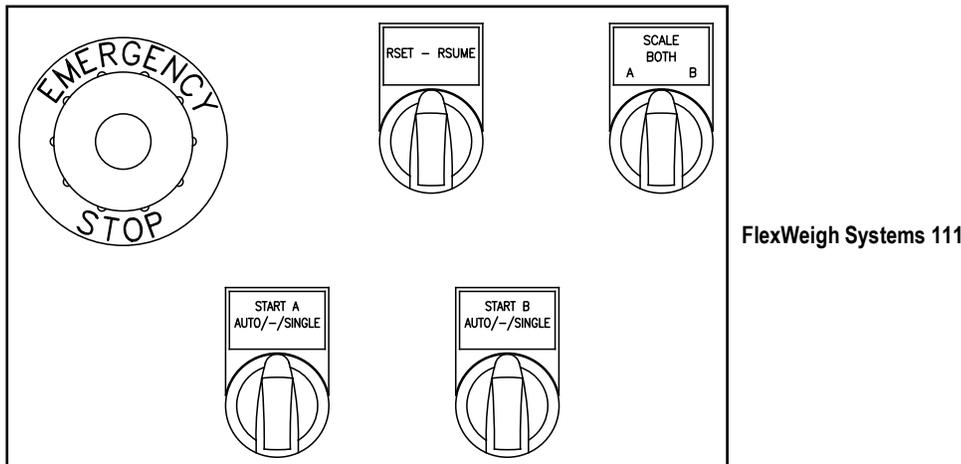
Table 1-1. FlexWeigh Systems 111 and 112 Controls

Button and Switch	Function
Emergency Stop	Stops the filling process and removes power from the relays. It also puts the process into a paused state.
Reset - Resume	Resets the current fill process or resumes the filling process from a paused state.
Start A Auto/-/Single	Starts the filling process for scale A in automatic or single operation.
Start B Auto/-/Single	Starts the filling process for scale B A in automatic or single operation.
Scale both A B	Selects scale A, scale B, or both scales.
Discharge Scale A Auto/-/Single	Starts the discharge process for scale A in automatic or single operation. **NOTE: This switch is only included on FlexWeigh Systems 112.**
Discharge Scale B Auto/-/Single	Starts the discharge process for scale B in automatic or single operation. **NOTE: This switch is only included on FlexWeigh Systems 112.**

Figure 1-2. Front Panel Button and Switch Functions

1.5   Operation Menu Softkeys

Operation menu softkeys are defined to provide the flexibility of operator functions for specific applications. Softkey assignments are listed on the tabs shown at the bottom of the LCD display. Softkey functions are activated by pressing the arrow keys below the softkey tabs.
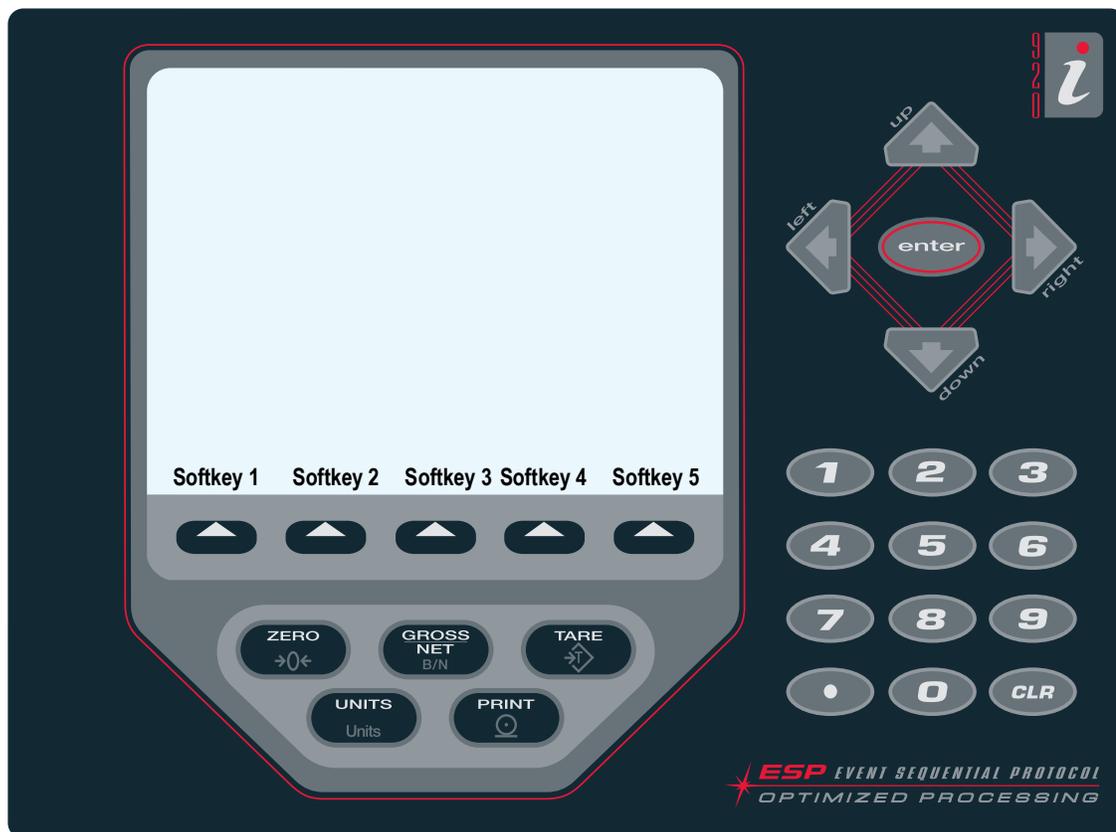
Figure 1-3. 920i Front Panel

The softkeys displayed are determined by the indicator configuration and program.

Softkey	Description
Presets	Allows operators to key in parameters prior to running the unit (see Section 3.6)
ID1 and ID2	Allows operators to log an extra data field. A softkey will appear on the main screen to allow the operator to enter more data (e.g: formula, ID truck, container, operator) (see Section 3.4)
Setup Menu	Allows operators to set configuration and time and date parameters (see Section 3.1)

Figure 1-4. Operation Menu Softkeys

2.0   Installation

This section describes procedures for installing the FlexWeigh Systems 111 or 112.

⚠️ *CAUTION: 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.

⚠️ *WARNING: 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 a FlexWeigh Systems 111 or 112 unit 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 111 and 112 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 111 and 112 provide eleven cord grips for cabling into the indicator. The parts kit includes cord grip plugs (Table 2-3 on page 15) to prevent moisture from entering the enclosure. Install these plugs into all cord grips that will not be used in your application.

Follow cable grounding instructions in the 920i Installation and Operation Manual (PN 67887) which is also included with this product.

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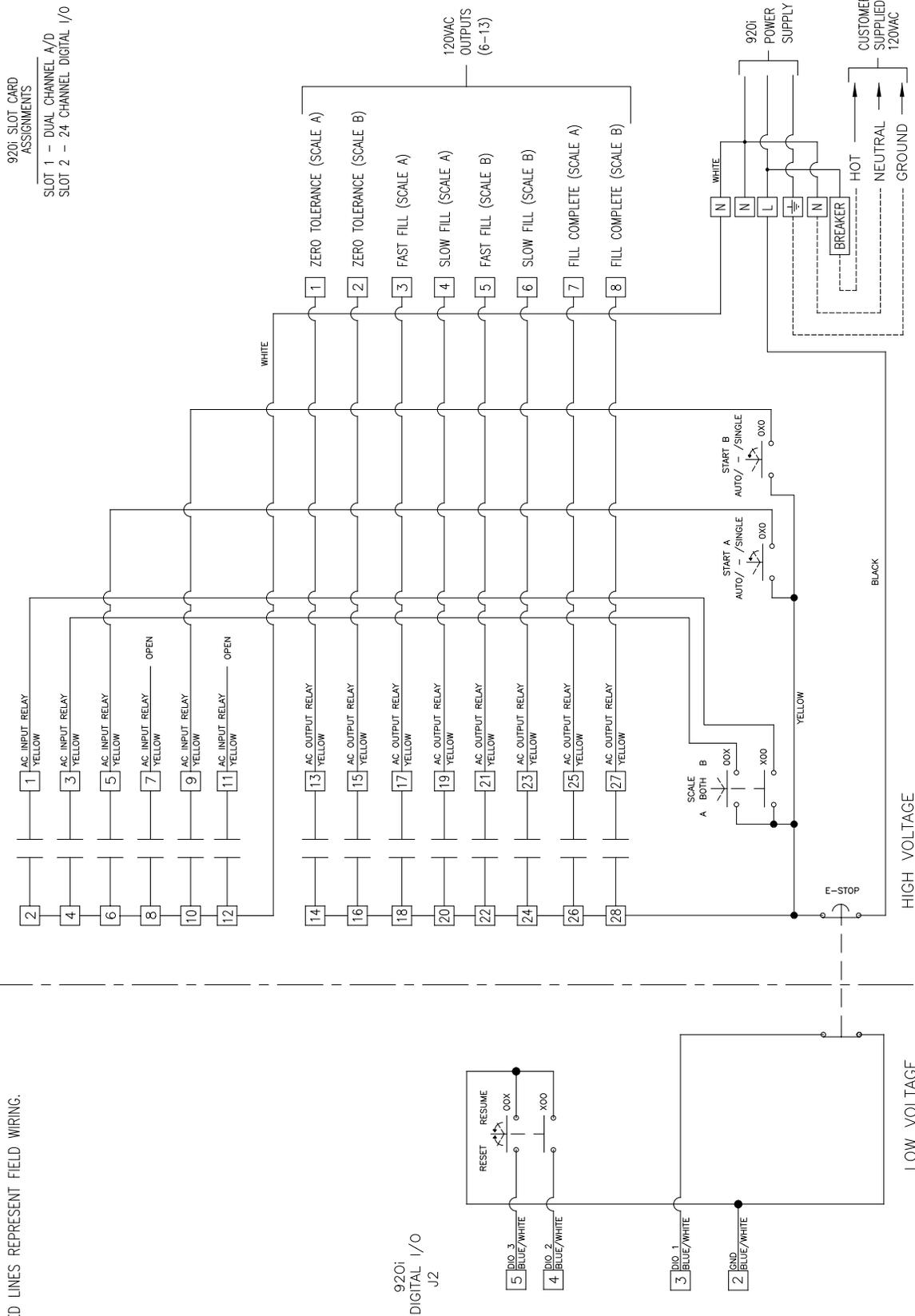
Table 2-1. 920i Flexweigh Systems 111 Flip Flop Filler Block Wiring Diagram
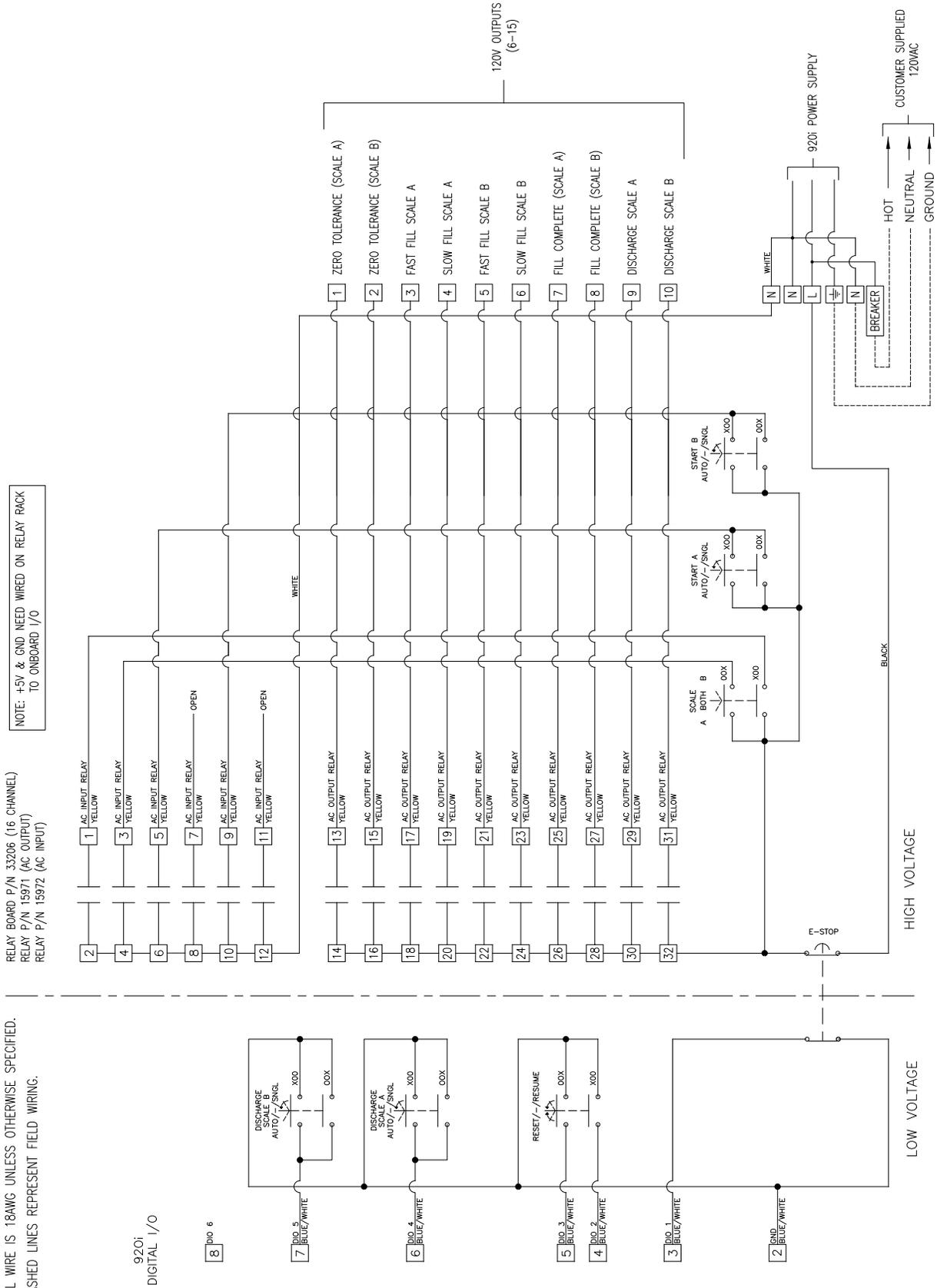
Table 2-2. 920i Flexweigh Systems 112 Flip Flop Filler Block Wiring Diagram

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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 included with this product.

2.5   Parts Kit Contents

Table 2-3 lists the parts kit (121143) contents for the FlexWeigh Systems 111 and 112.

Part No.	Description	Qty.
14626	Kep nuts, 8-32NC	5
15133	Lock washers, No. 8, type A	5
15631	Cable ties (4 single A/D, 6 dual A/D)	4
15665	Reducing glands for 1/2 NPT cord grips	11
15887	6-position screw terminal for load cell connection (1-single A/D, 2-dual A/D)	1
174928	Label, NOM/NYCE 920i	1
19538	Cord grip plugs (10-single A/D, 9-dual A/D)	10
53075	Cable shield ground clamps	6
70599	6-position screw terminals for J2 and J10	1
71125	3-position screw terminal for J11	1
71126	4-position screw terminal for J9 and optional keyboard connection	2
77180	8-Position screw terminal	1
94422	Capacity Label (1-single A/D, 2-dual A/D)	1

Table 2-3. Parts Kits Contents (PN 121143)

NOTE: See Section 2.8 on page 17 for a list of replacement parts.

2.6   Option Cards

Table 2-4 list the available option cards that are used in the FlexWeigh Systems 111 and 112.

Slot	Type
1	Dual Channel A/D Card
2	24 Channel DIO Card

Table 2-4. Option Card Locations

Serial Ports

Port	Input	Output	Setup
1	Command	Unused	9600 baud 8 bit None
2	Keyboard	PS/2 Keyboard	115200 baud 8 bit None
3	Command	Audit Trail Printer	9600 baud 8 bit None
4	Command	Unused	9600 baud 8 bit None

Table 2-5. Serial Port Setup

Digital I/O Ports

Slot	Bit	Description	Input/Output
0	1	E-Stop	Input
0	2	Reset	
0	3	Resume	
0	4	Discharge Scale A *NOTE: Only for FlexWeigh Systems 112.*	
0	5	Discharge Scale B *NOTE: Only for FlexWeigh Systems 112.*	
0	6	N/A	
2	1	Scale A Only *NOTE: Scale A Only OFF and Scale B Only OFF means run BOTH*	Input
2	2	Scale B Only *NOTE: Scale A Only OFF and Scale B Only OFF means run BOTH*	
2	3	Start Scale A	
2	4	Unused	
2	5	Start Scale B	
2	6	Unused	Off
2	7	Zero Tolerance Scale A	Output
2	8	Zero Tolerance Scale B	
2	9	Fast Fill Scale A	
2	10	Slow Fill Scale A	
2	11	Fast Fill Scale B	
2	12	Slow Fill Scale B	
2	13	Fill Complete Scale A	
2	14	Fill Complete Scale B	
2	15	Discharge Scale A	
2	16	Discharge Scale B	
2	17-24	Unused	off

Table 2-6. Digital I/O Assignments

2.7   Options

Several options are available with the 920i FlexWeigh Systems Flip Flop Fillers (requires larger enclosure):

- Man / Off / Auto (3-position selector)
- Man Fill A On / - / Jog (3-position selector, spring on right)
- Man Fill B On / - Jog (3-position selector, spring on right)
- Man Discharge On / - / Jog (3-position selector, spring on right)
- Man Bag Clamp On / - / Off (3-position selector)

2.8   Replacement Parts

2.8.1   Flexweigh Systems 111 Exterior Replacement Parts
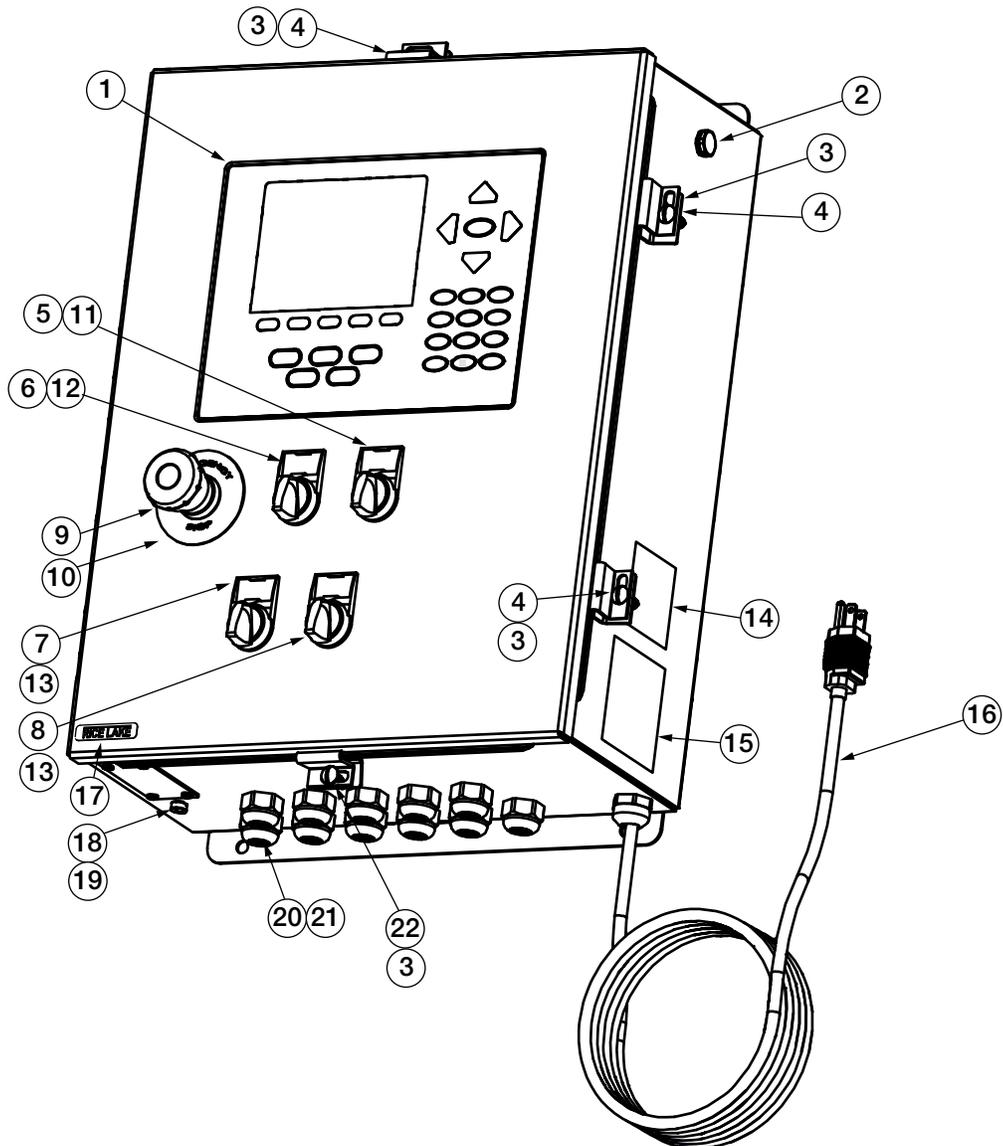
Figure 2-1. Flexweigh Systems 111 Exterior Replacement Parts

Item No.	Part No.	Description	Qty.
1	66502	Overlay, Membrane Switch	1
2	88733	Vent, Breather Sealed	1
3	71739	Cinching Enclosure Clip	4
4	71447	Machine Screws 1/4-28NF	3
5	208036	Legend Plate, A/BOTH/B	1
6	120728	Legend Plate, Reset/Resume	1
7	208037	Legend Plate, Start B	1
8	208035	Legend Plate, Start A	1
9	94274	Legend Plate, Emergency Stop Engraved Yellow Circle	1
10	94273	Red Mushroom Switch	1
11	94296	Switch, Knob 3 Position Selector, Maintain Left, Maintain Center, Maintain Right	1
12	94298	Switch, 3 Position Selector Spring Return to Center from Left and Right	1
13	94299	Switch, Knob 3 Position Spring return from Right, Left & Center maintained	2
14	53308	Label, 1.25 x 1.25 8000T	1
15	53307	Label, 4.000 x 2.875	1
16	85202	Power Cord assembly,120VAC	1
17	68216	Metal Nameplate	1
18	59250	Washer, .255 ID x .437 OD	1
19	42640	Machine Screw, 1/4 - 28NF x 1	1
20	30376	Sealing Ring, 1/2 NPT, Nylon	11
21	15628	Cord Grip, 1/2 NPT, Black	11
22	71455	Machine Screws, 1/4-28NF x .75	1

Table 2-7. Flexweigh Systems 111 Exterior Replacement Parts List

2.8.2 Flexweigh Systems 112 Exterior Replacement Parts
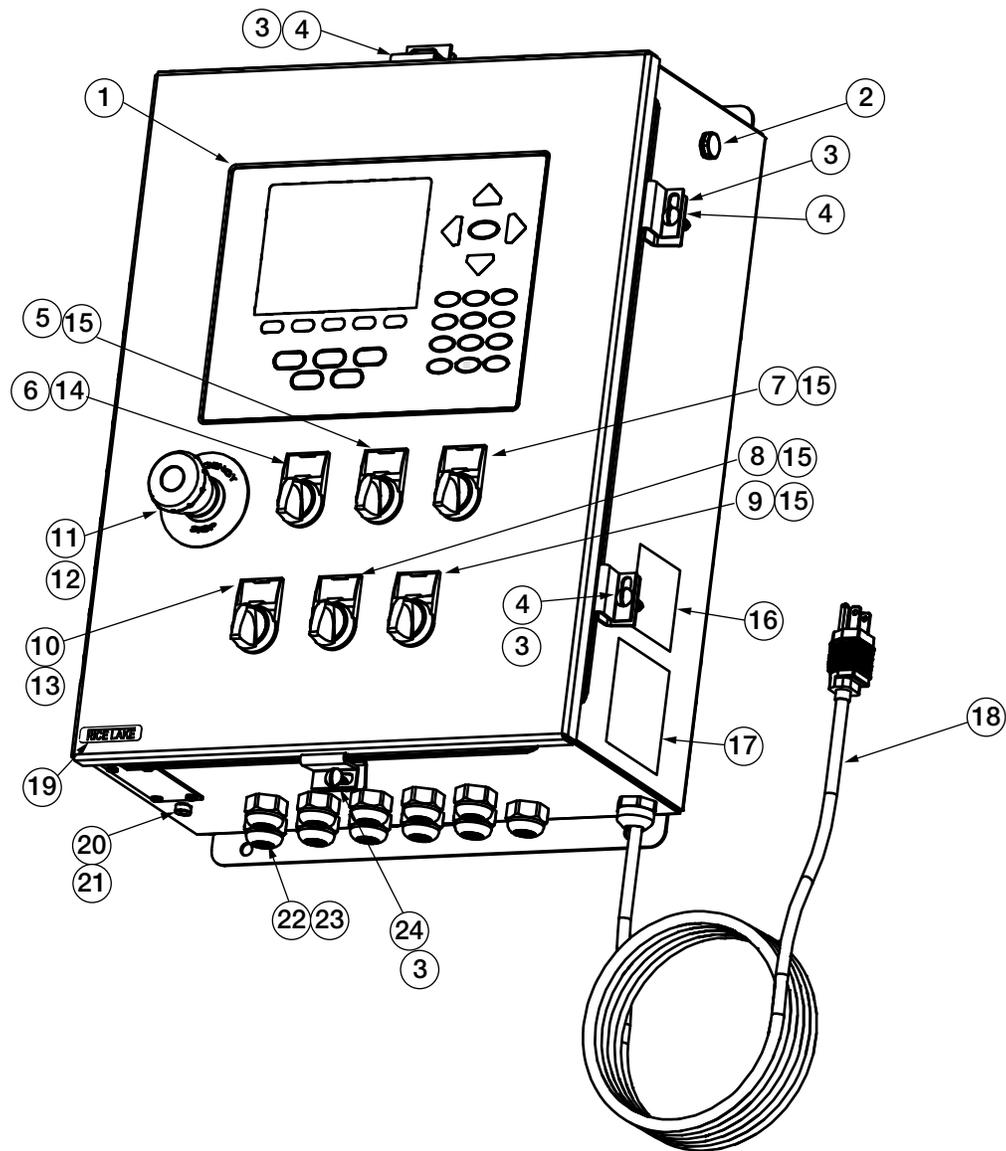
Figure 2-2. Flexweigh Systems 112 Exterior Replacement Parts

Item No.	Part No.	Description	Qty.
1	66502	Overlay, Membrane Switch	1
2	88733	Vent, Breather Sealed	1
3	71739	Cinching Enclosure Clip	4
4	71447	Machine Screws 1/4-28NF	3
5	208036	Legend Plate, Start A	1
6	120728	Legend Plate, Reset/Resume	1
7	208037	Legend Plate, Start B	1
8	208038	Legend Plate, Discharge A	1
9	208039	Legend Plate, Discharge B	1
10	208035	Legend Plate, A/Both/B	1
11	94274	Legend Plate, Emergency Stop Engraved Yellow Circle	1
12	94273	Red Mushroom Switch	1
13	94296	Switch, Knob 3 Position Selector, Maintain Left, Maintain Center, Maintain Right	1
14	94298	Switch, 3 Position Selector Spring Return to Center from Left and Right.	1
15	94299	Switch, Knob 3 Position Spring return from Right, Left & Center maintained.	4
16	53308	Label, 1.25 x 1.25 8000T	1
17	53307	Label, 4.000 x 2.875	1
18	85202	Power Cord assembly,120VAC	1
19	68216	Metal Nameplate	1
20	59250	Washer, .255 ID x .437 OD	1
21	42640	Machine Screw, 1/4 - 28NF x 1	1
22	30376	Sealing Ring, 1/2 NPT, Nylon	11
23	15628	Cord Grip, 1/2 NPT, Black	11
24	71455	Machine Screws, 1/4-28NF x .75	1

Table 2-8. Flexweigh Systems 112 Exterior Replacement Parts List

2.9   FlexWeigh Systems 111 and 112 Interior Replacement Parts
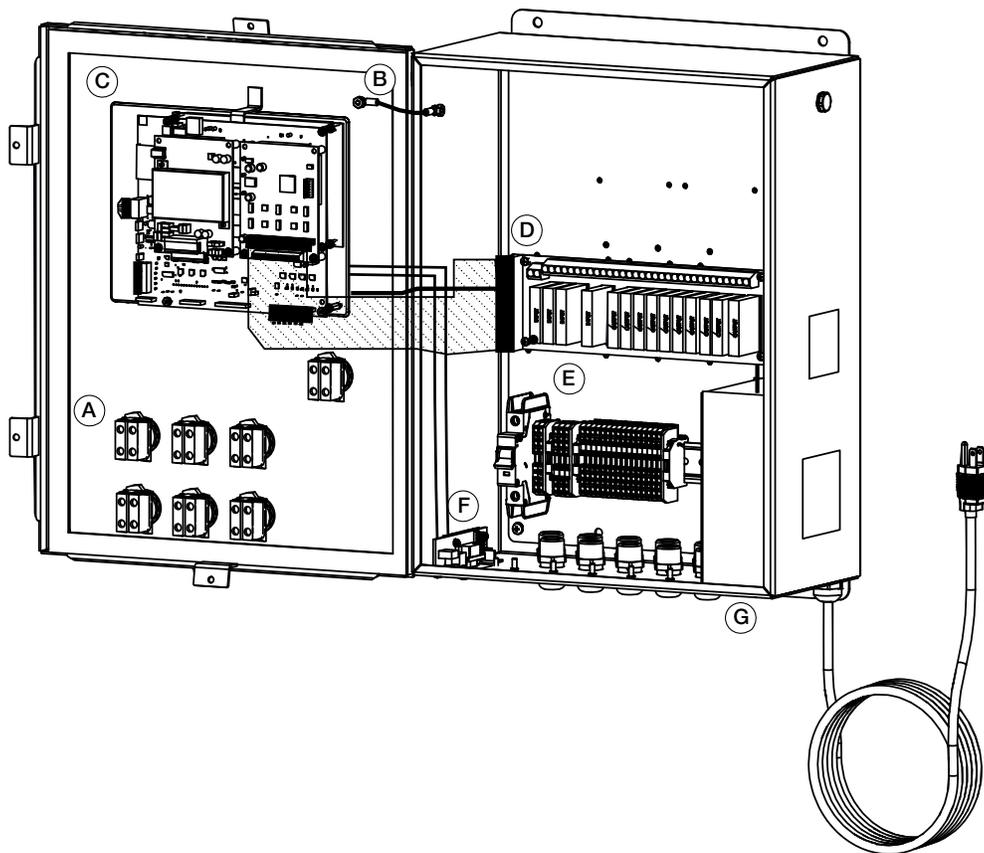
Figure 2-3. Interior Replacement Parts Overview

Item No.	Detail
A	Section 2.9.2 on page 22
B	Section 2.9.3 on page 23
C	Section 2.9.4 on page 24
D	Section 2.9.5 on page 25
E	Section 2.9.6 on page 26 and Section 2.9.7 on page 27
F	Section 2.9.8 on page 28
G	Section 2.9.9 on page 29
H	Section 2.9.10 on page 30

Table 2-9. Interior Replacement Parts Overview List

2.9.1   Flexweigh Systems 111 Detail A Replacement Parts
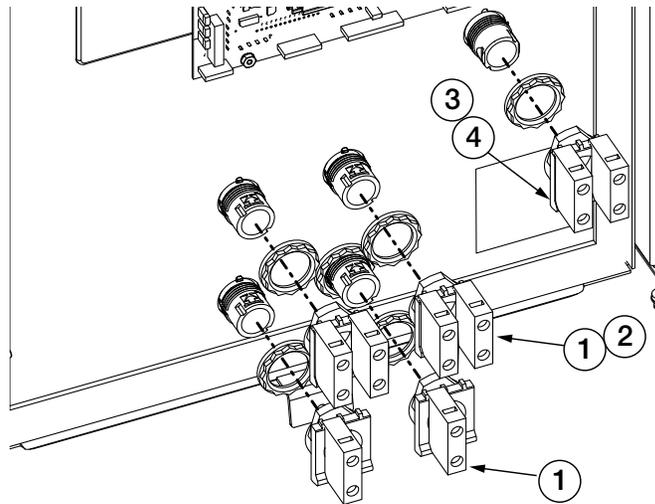
Figure 2-4. Flexweigh Systems 111 Contact Block Replacement Parts

Item No.	Part No.	Description	Qty.
1	94310	Contact Block, Switch One, Normally Open with Latch	4
2	94311	Contact Block, Switch One Normally Open Without Latch	2
3	94312	Contact Block, Switch One, Normally Closed With Latch	1
4	94313	Contact Block, Switch One, Normally Closed Without Latch	1

Table 2-10. Flexweigh Systems 111 Contact Block Replacement Parts List

2.9.2   Flexweigh Systems 112 Detail A Replacement Parts
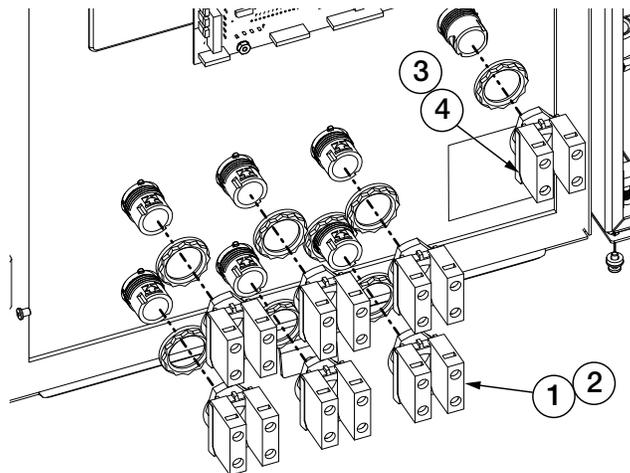
Figure 2-5. Flexweigh Systems 112 Contact Block Replacement Parts

Item No.	Part No.	Description	Qty.
1	94310	Contact Block, Switch One, Normally Open with Latch	6
2	94311	Contact Block, Switch One Normally Open Without Latch	6
3	94312	Contact Block, Switch One, Normally Closed With Latch	1
4	94313	Contact Block, Switch One Normally Closed Without Latch	1

Table 2-11. Flexweigh Systems 112 Contact Block Replacement Parts List

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2.9.3 FlexWeigh Systems 111 and 112 Detail B Replacement Parts
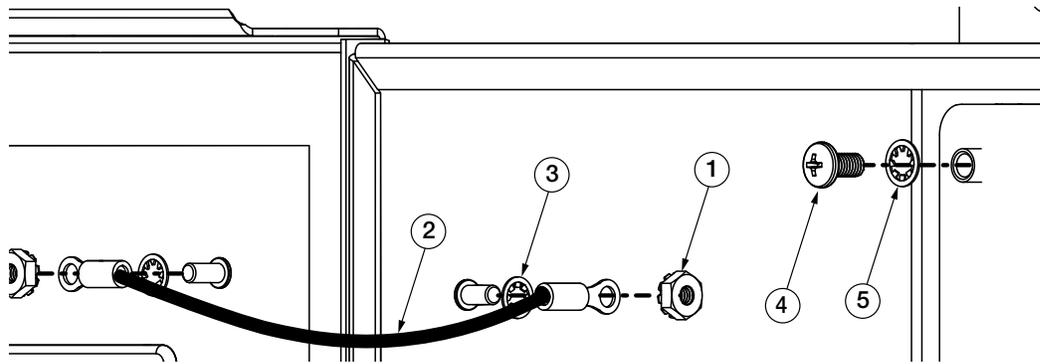
Figure 2-6. Door Interconnect Ground and Backplate Mounting Hardware

Item No.	Part No.	Description	Qty.
1	14626	Nut, Kep 8-32NC HEX External Tooth Lock Washer Steel Zinc Plated	2
2	15601	Wire assembly, Ground 6 in 16 AWG Green/Yellow Wire, w/#8 Eye Connector Both Ends	1
3	15134	Washer, Lock NO 8 Type A Internal Tooth Steel Zinc	2
4	14875	Screw, Machine 10-32NF x 3/8 Phillips Pan Head Steel Zinc Plated *NOTE: Reoccurs in each corner of the backplate.*	4
5	15140	Washer, Lock NO 10 Type A Internal Tooth Steel Zinc Plated *NOTE: Reoccurs in each corner of the backplate.*	4

Table 2-12. Door Interconnect Ground and Backplate Mounting Hardware List

2.9.4   FlexWeigh Systems 111 and 112 Detail C Replacement Parts
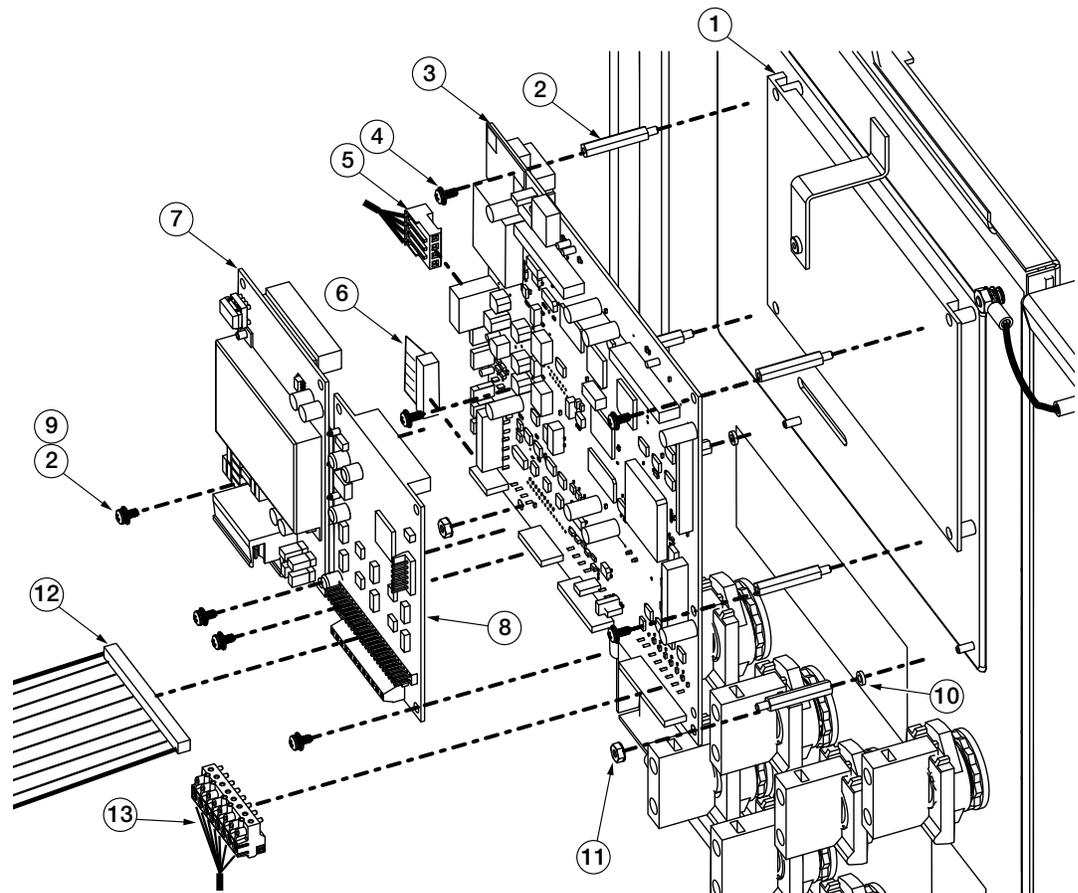
Figure 2-7. Board Replacement Parts

Item No.	Part No.	Description	Qty.
1	186273	Display, LCD Module 920i	1
2	67886	Standoff, Male-FEM 4-40NC x 1.00 Long 3/16 Hex Steel Zinc Plated	4
3	180902|	Board Assembly, CPU 920i Plus	1
4	14822	Screw, Machine 4-40NCx1/4 Phillips Pan Head Internal Tooth Lock Washer SEMS Steel Zinc Plated	8
5	71431	Wire Harness,920i 65W PS to 920i CPU, Wall Mount, 42 inches	1
6	71436	Cable assembly, Ribbon 28in 20 Pin Female Connector Each End	1
7	68533	A/D Dual Channel Card	1
8	67601	I/O 24 Channel Card	1
9	15133	Washer, Lock NO 8 Type A External Tooth Steel Zinc Plated	4
10	69898	Washer, Nylon #4 ID=.112 OD=.206 Thickness=.05	2
11	68661	Standoff, Male-Fem 4-40NC x 1-5/16 Lg., 3/16 Hex Steel Zinc Plated	2
12	70780	50 Pin Flat Ribbon Cable	1
13	77180	Connector, 8 position Screw Terminal Pluggable	1

Table 2-13. Board Replacement Parts List

2.9.5   FlexWeigh Systems 111 and 112 Detail D Replacement Parts
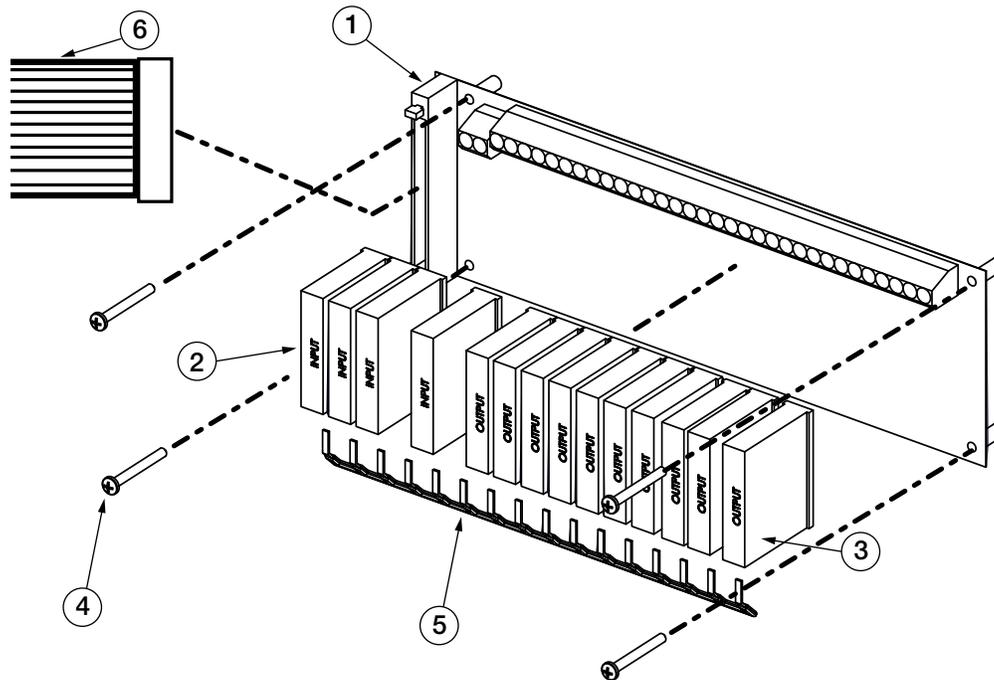
Figure 2-8. Relay Replacement Parts

Item No.	Part No.	Description	Qty.
1	33206	Board, Relay Mounting 16ch Ribbon Cable Connection OPTO 22 Model	1
2	15972	Relay, Module Field Input 90-140VAC - Isolated 5VDC Logic Yellow OPTO 22	4
3	15971	Relay, Module Output Fused 12-140VAC @ 3A Output - Isolated 5VDC Logic Black OPTO 22 **NOTE: FlexWeigh Systems 111 has 8 15971 relays while FlexWeigh Systems 112 has 10 15971 relays.**	8 or 10
4	120762	Screw, Machine 6-32NCx1-1/4 Phillips Pan Head Internal Tooth Lock Washer	4
5	41035	Jumper Strap,16-Position OPTO22	1
6	70780	50 Pin Flat Ribbon Cable	1

Table 2-14. Relay Replacement Parts List

2.9.6   Flexweigh Systems 112 Detail E Replacement Parts
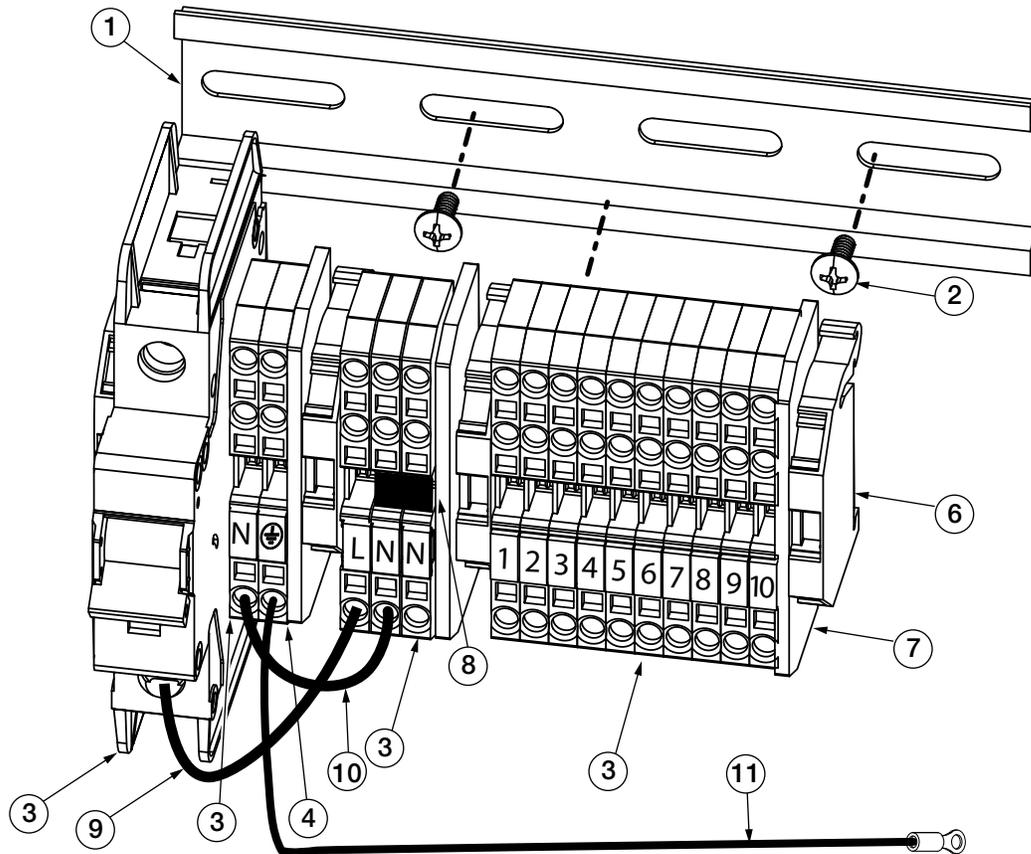
Figure 2-9. Flexweigh Systems 112 Terminal Block Replacement Parts

Item No.	Part No.	Description	Qty.
1	33531	Rail, DIN 6 in Length 35mm Width x 7.5mm High	1
2	22087	Machine Screw, 6-32NC x 3/8	2
3	62964	Block, Terminal WAGO 3 Conductor, AWG 28-12, Gray	14
4	62966	Block, Terminal WAGO 3 Conductor, AWG 28-12, Green/Yellow	1
5	198624	Breaker, Circuit 4 Amp Eaton FAZ-C4-NA-SP 1 Pole, 4A	1
6	61141	End Stop, Screw Less WAGO .236 Inches Wide	4
7	62968	Plate, End/Intermediate For 3-Conductor WAGO Terminal Blocks	3
8	55337	Jumper, Adjacent WAGO Series 280, Insulated, Gray	1
9	15443	Wire,14AWG Copper Strand Black PVC	1
10	15445	Wire,14AWG Copper Strand White PVC	1
11	121069	Wire assembly, Ground 9 In. 16 AWG Green/Yellow Wire, w/#8 Eye Connector, One End.	1

Table 2-15. Flexweigh Systems 112 Terminal Block Replacement Parts List

### 2.9.7 Flexweigh Systems 111 Detail E Replacement Parts
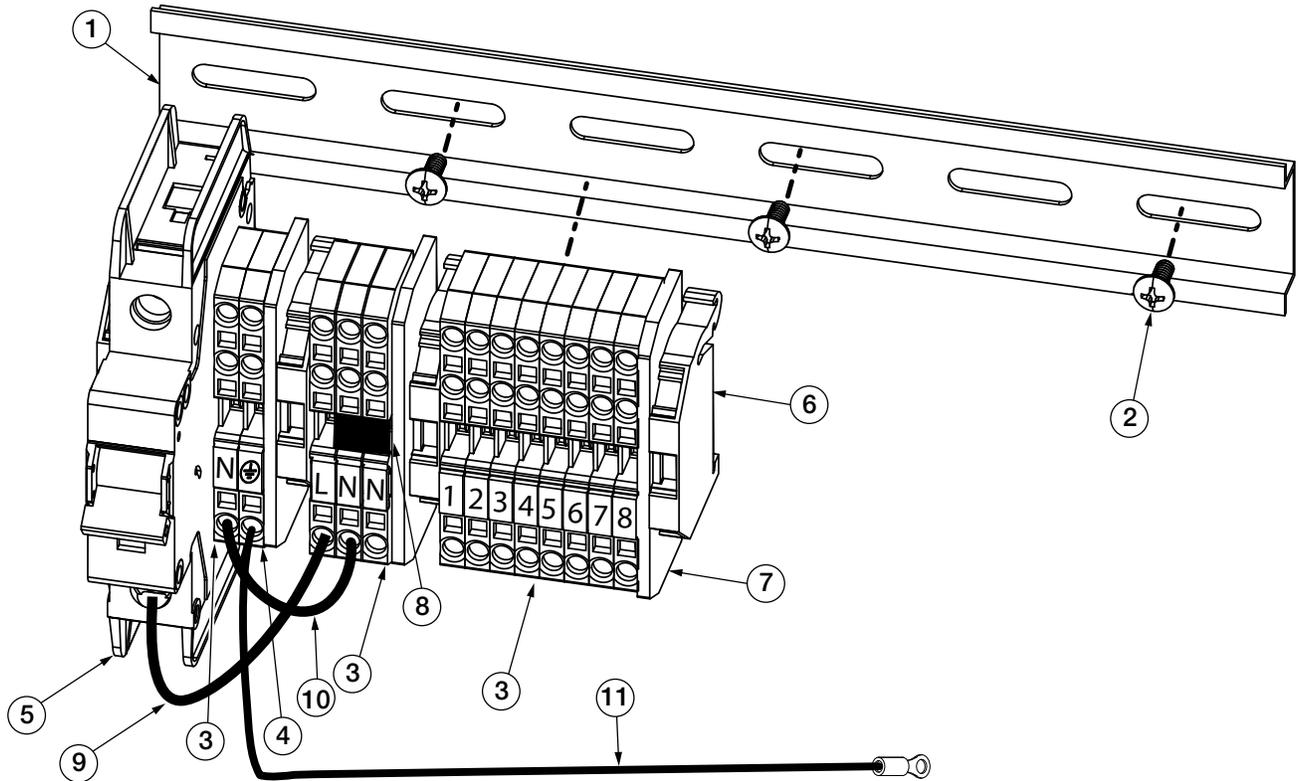
Figure 2-10. Flexweigh Systems 111 Terminal Block Replacement Parts

Item No.	Part No.	Description	Qty.
1	86096	Rail, DIN 9 in Length 35mm Width x 7.5mm High	1
2	22087	Machine Screw, 6-32NC x 3/8	3
3	62964	Block, Terminal WAGO 3 Conductor, AWG 28-12 Gray	12
4	62966	Block, Terminal WAGO 3 Conductor, AWG 28-12 Green/Yellow	1
5	198624	Breaker, Circuit 4 Amp Eaton FAZ-C4-NA-SP 1 Pole, 4A	1
6	61141	End Stop, Screwless WAGO .236 Inches Wide	4
7	62968	Plate, End/Intermediate For 3-Conductor WAGO Terminal Blocks	3
8	55337	Jumper, Adjacent WAGO Series 280, Insulated, Gray	1
9	15443	Wire,14AWG Copper Strand Black PVC	1
10	15445	Wire,14AWG Copper Strand White PVC	1
11	121069	Wire assembly, Ground 9 In. 16 AWG Green/Yellow Wire, w/#8 Eye Connector, One End.	1

Table 2-16. Flexweigh Systems 111 Terminal Block Replacement Parts List

2.9.8   Flexweigh Systems 111 Detail F Replacement Parts
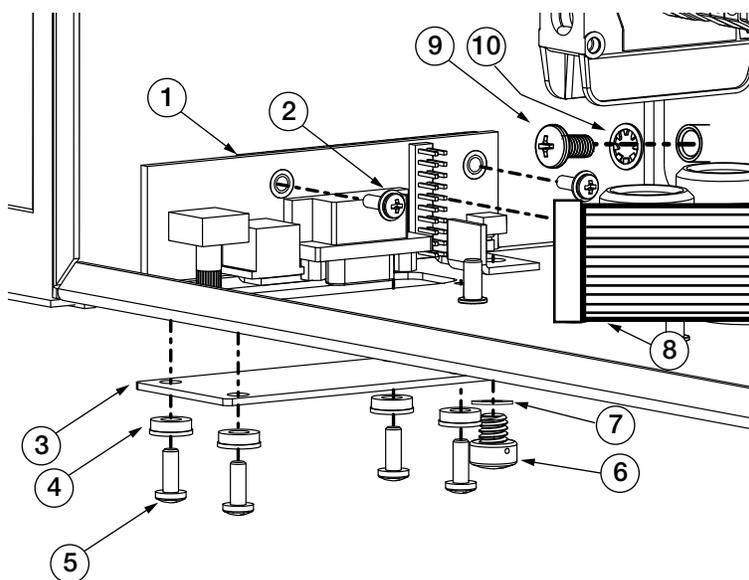
Figure 2-11. Interface Board Replacement Parts

Item No.	Part No.	Description	Qty.
1	67869	Board, Interface 920i with PS2 and DB9 Connections	1
2	55708	Screw, Machine 4-40NCx3/8 Phillips Pan Head Internal Tooth Lock Washer SEMS Steel Zinc Plated	2
3	67530	Plate, Interface Board 920i	1
4	45042	Washer, Bonded Sealing #8 3/8 (.375) OD SST\	1
5	14845	Screw, Machine 6-32NC x 3/8 Phillips Pan Head 18-8 SST	4
6	42640	Screw, Machine 1/4-28NF x .25 Phillips, Drilled Fillister Head, 18-8 SST	4
7	59250	Washer, .255 ID x .437 OD	1
8	71436	Cable assembly, Ribbon 28in 20 Pin Female Connectors	1
9	14875	Screw, Machine 10-32NF x 3/8 Phillips Pan Head Steel Zinc Plated ***NOTE: Reoccurs in each corner of the backplate.***	4
10	15140	Washer, Lock NO 10 Type A Internal Tooth Steel Zinc Plated ***NOTE: Reoccurs in each corner of the backplate.***	4

Table 2-17. Interface Board Replacement Parts List

2.9.9   FlexWeigh Systems 111 and 112 Detail G Replacement Parts
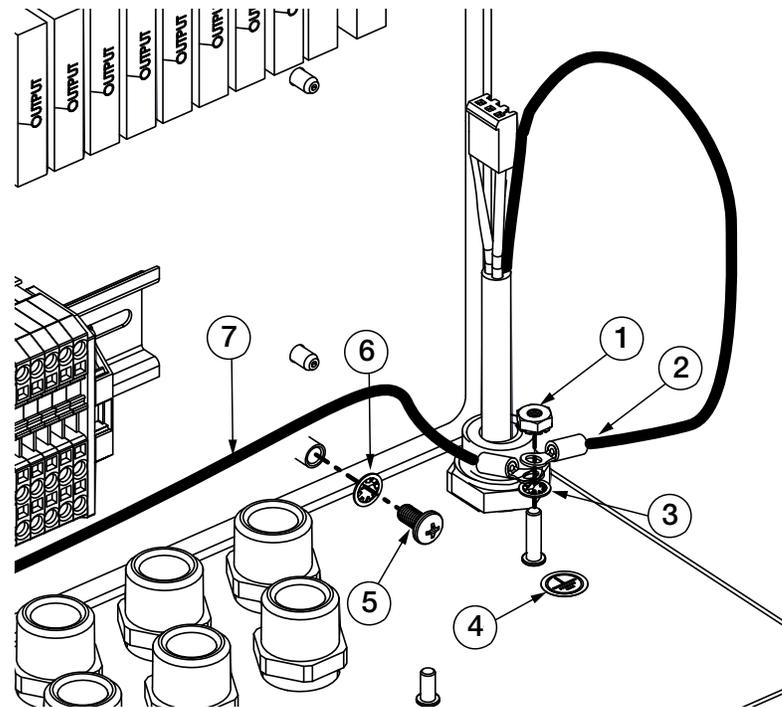
Figure 2-12. Ground and Backplate Mounting Hardware Replacement Parts

Item No.	Part No.	Description	Qty.
1	14626	Nut, Kep 8-32NC HEX External Tooth Lockwasher Steel Zinc Plated	1
2	15694	Connector, Ring Terminal #8 Stud 22-16 AWG	1
3	15134	Washer, Lock NO 8 Type A Internal Tooth Steel Zinc Plated	1
4	16892	Label, Ground Protective Earth Adhesive IEC 60417-5019 (DB:2002-10)	1
5	14875	Screw, Machine 10-32NF x 3/8 Phillips Pan Head Steel Zinc Plated ***NOTE: Reoccurs in each corner of the backplate.***	4
6	15140	Washer, Lock NO 10 Type A Internal Tooth Steel Zinc Plated ***NOTE: Reoccurs in each corner of the backplate.***	4
7	121069	Wire assembly, Ground 9 In. 16 AWG Green/Yellow Wire, w/#8 Eye Connector, One End.	1

Table 2-18. Ground and Backplate Mounting Hardware Replacement Parts

2.9.10   Flexweigh Systems 111 Detail H Replacement Parts
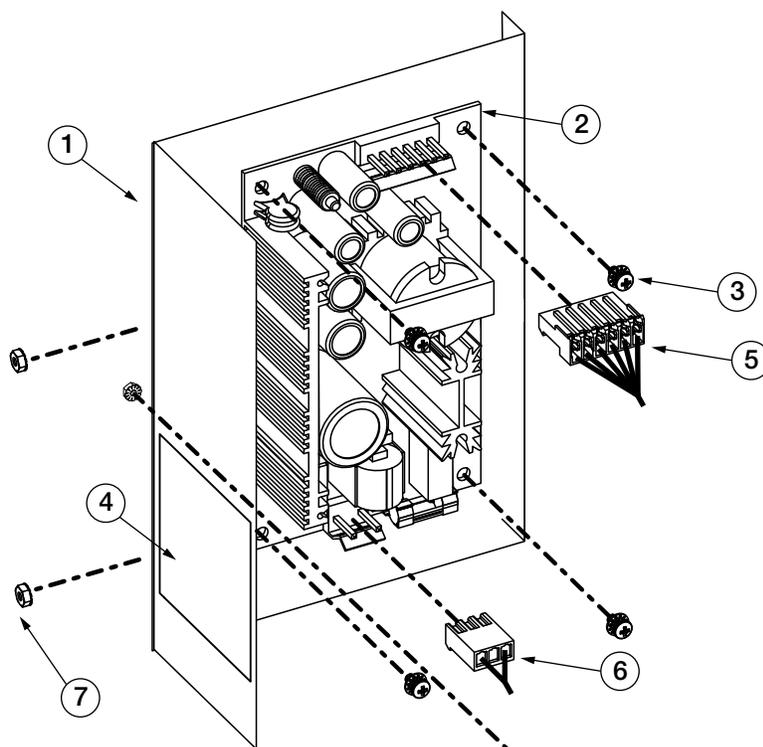
Figure 2-13. Power Supply Replacement Parts

Item No.	Part No.	Description	Qty.
1	69538	Bracket, Power Supply 65W 920i Wallmount.	1
2	71333	Power Supply,+/-6V 65W Board 920i for Deep Univ, Panel Mount, and Wall Mount	1
3	14822	Screw, Machine 4-40NCx1/4 Phillips Pan Head Internal Tooth Lock Washer SEMS Steel Zinc Plated	4
4	16861	Label, Warning High	1
5	71431	Wire Harness,920i 65W PS to 920i CPU, Wall Mount, 42 inches	1
6	85202	Part of Power Cord assembly,120VAC (Figure 2-3 on page 21)	1
7	14626	Nut, Kep 8-32NC HEX External Tooth Lockwasher Steel Zinc	3

Table 2-19. Power Supply Replacement Parts List

3.0   Setup Menu

This section describes the various setup parameters for the FlexWeigh Systems 111 and 112.

A password protected supervisor mode is provided to support configuration of the application, setting time and date, or changing the password. To enter configuration mode, press the Setup Menu softkey on the unit. If a non-zero password is in effect, the operator is prompted to enter the password. Key in the password and press the enter key to enter the supervisor mode.

Setting the password value to zero disables password checking. The password is valid as long as the operator remains in setup mode. After that time, the password must be re-entered when entering the supervisor mode.

In setup mode, a list of items is presented. Use the more and back softkeys to select a category and use the corresponding softkey to access the selected item.

Softkey Function	Default	Description
Time		Set system time and date.
Date		
System Password	*********	To change the password, select the Password item in configuration mode. The indicator prompts *Key in new password*. Key in the new password and press enter. The indicator prompts *Rekey new password* to verify. Key in the new password again and press enter. If valid, the indicator momentarily displays *Password accepted*.
Enabling ID#1 and ID#2		Allows the operator to log an extra data field. A softkey appears on the main screen that allows the operator to enter more data (formula, ID truck, container, operator).
Test Digital I/O		Refer to Section 3.5 for information on these functions.
Auto Tare Feature	Disabled/**Enabled**	Allows an operator to enable/disable the auto tare feature.
Auto Print Feature	Disabled/**Enabled**	Allows an operator to enable/disable the auto print feature
Test Digital I/O	-	Allows an operator to turn on/off the digital outputs.
Discharging	**Disabled**/Enabled	Allow an operator to be able to add a discharge option to the sequence.
Delay After Discharge	3 seconds	Allows the operator to enter a time in seconds to delay after completion of Discharge before a new Start input is enabled.
Filling Speeds	Single Speed, dual or parallel	Allows an operator to change the filling speed operation.

Table 3-1. Setup and Configuration Parameters

3.1 Entering the Setup Menu

📝 **NOTE: The front panel E-stop button must be in the stopped position (pushed in) to enable the following keypad entries.**

1. Press the **Setup Menu** softkey on the main menu screen and the system performs one of the following actions.
   - If a system password is entered, proceed to Step 2
   - If no system password is entered, the **Setup Menu Main Screen** displays (Figure 3-2)
2. Press the **Setup Password** softkey. The system prompts with **Enter Password**.

```
04/17/2022          02:15PM          SCALE #1

                        3  Gross      SCALE #1
                           Lb

                    Setup Menu
               Program: Express xxxx, PN
   ID #1: (Disabled)
   ID #2: (Disabled)
   Single-Speed Enabled
   Auto-Tare Disabled
   Auto Print Enabled
   Delay after Discharge (sec): 3.0

   Enter New Password:
   =>

   Home              Cancel                End
```

Figure 3-1. Setup Menu Enter Password

3. Enter the password and press the **Enter** key on the 920i. The system checks the entered value against the system password and performs one of the following actions:
   - If the password is valid, the **Setup Menu Main Screen** displays (Figure 3-2)
   - If the password is invalid, **Invalid password** displays momentarily and display exits the operation

```
04/17/2024          02:15PM          SCALE #1

                  136.8  Gross        SCALE #1
                         Lb

                    SETUP MENU
               Program: Express xxxx, PN

   ID #1: (Disabled)
   ID #2: (Disabled)
   Single-Speed Enabled
   Auto-Tare Disabled
   Auto Print Enabled
   Delay after Discharge (sec): 3.0

   Setup Menu:

   Time/Date  Setup      ID #1    ID #2    More =>
              Password
```

Figure 3-2. Setup Menu Main Screen

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3.2   Setting the System Time and Date

Use the following steps to set up the system time and date.

1.   From the ***Main Setup Menu Screen***, press the **Time/Date** softkey.

04/17/2024	02:15PM	SCALE #1

136.8 $^{Gross}_{Lb}$ SCALE #1

SETUP MENU
Program: Express xxxx, PN

ID #1: (Disabled)
ID #2: (Disabled)
Single-Speed Enabled
Auto-Tare Disabled
Auto Print Enabled
Delay after Discharge (sec): 3.0

Setup Menu:

Time/Date	Setup Password	ID #1	ID #2	More =>

Figure 3-3. Select Time/Date Softkey

2.   Use the arrow keys on the 920i and the numeric keypad to modify the time and or date.

3.   Press the **Enter** key to save the settings.

03:52 PM

04/17/2024

		Cancel		

Figure 3-4. Time and Date Main Screen

NOTE: The Cancel softkey can be pressed at any time to exit this sequence without saving any changes.

3.3   Modifying the Setup Password

Use the following steps to modify the setup password.

1. From the ***Main Setup Menu Screen***, press the **Setup Password** softkey.

2. The system prompts, ***Enter New Password***.

```
04/17/2022              02:15PM              SCALE #1

                            3  Gross          SCALE #1
                               Lb
                        Setup Menu
                   Program: Express xxxx, PN
ID #1: (Disabled)
ID #2: (Disabled)
Single-Speed Enabled
Auto-Tare Disabled
Auto Print Enabled
Delay after Discharge (sec): 3.0

Enter New Password:
=>

   Home                 Cancel                  End
```

Figure 3-5. Enter New Password

3. Enter the new password and press the **Enter** key.

4. The system prompts ***Re-enter password*** to verify.

5. Re-enter the password and press the **Enter** key again. The system performs one of the following actions.

    *   If the passwords match, the system displays ***Password Changed***.
    *   If the passwords do not match, the system displays ***Passwords Did Not Match*** and exits the operation.

3.4   Enabling/Disabling Additional Data Fields

Use the following steps to enable or disable additional data fields.

1.   From the *Main Setup Menu Screen*, press the **Setup Password** softkey ().

📝 *NOTE: A setup password is not required if it has never been set or if you are already in Setup mode.*

2.   Press the **ID #1** or **ID #2** softkey. The system displays *Enable ID #1 or ID #2* while displaying **Yes** or **No** softkeys or *Disable ID #1 or #2*.

04/17/2024	02:17PM	SCALE #1

3 Gross Lb   SCALE #1

Setup Menu
Program: Express xxxx, PN

ID #1: (Disabled)
ID #2: (Disabled)
Single-Speed Enabled
Auto-Tare Disabled
Auto Print Enabled
Delay after Discharge (sec): 3.0

Enable ID#1

Yes				No

Figure 3-6. Enabling IDs

3.   The operator does one of the following:

Press the **Yes** softkey, the system prompts *Enter ID#1 Name*. Enter the name and press the **Enter** key on the 920i. A new data field appears on the main display and as a softkey so that the operator can change it.
To enter alpha characters, press the **Up** navigation key to access a pop up alphabet.

Press the **Yes** softkey and this returns the operator back to .

3.4.1   Filling Speeds

Use the following steps to modify the filling speeds.

1.   From the *Main Setup Menu Screen*, navigate to the viewable filling speed option (Single-Spd, Dual-Spd or Parallel-Spd).

2.   Press the **Single Speed Enabled**, **Dual Speed Enabled** or **Parallel Speed Enabled** softkey. The system toggles between the three modes of operation and displays the selected filling speed.

Single-Spd
Enabled

Figure 3-7. Filling Speed Softkey

3.4.2   Auto Tare

Use the following steps to modify the auto tare settings.

1.   From the *Main Setup Menu Screen*, navigate to the viewable filling speed option (Auto Tare Enabled or Auto Tare Disabled.

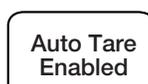2.   Select the **Auto Tare** softkey until the desired option is enabled.

Auto Tare
Enabled

Figure 3-8. Auto Tare Softkey

3.4.3   Auto Print

Use the following steps to modify auto print settings.

1. From the *Main Setup Menu Screen*, navigate to the viewable filling speed option (Auto Print Enabled or Auto Print Disabled.

2. Select the **Auto Print** softkey until the desired option is enabled.

```
Auto Print
 Enabled
```

Figure 3-9. Auto Print Disabled Softkey

3.4.4   Discharge

Use the following steps to modify discharge settings.

1. From the *Main Setup Menu Screen*, navigate to the viewable discharge option (Discharge Enabled or Discharge Disabled).

2. Select the **Discharge** softkey until the desired option is enabled.

```
Discharge
 Enabled
```
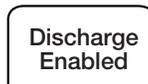
Figure 3-10. Delay After Discharge Softkey Location

3.4.5   Delay After Discharge

The Delay After Discharge softkey specifies the delay after discharge in seconds to allow the scale to settle and the gate to mechanically close. At the end of this time delay, the gate closed switch is checked. If it is not closed, the system enters an error condition. No further operation will be allowed until the condition is cleared. The default is 3.0 seconds. To change the default, enter the new time and press enter to save the value.

1. From the *Main Setup Menu Screen*, navigate to the **Delay After Disch** option.

2. Select the discharge softkey until the desired option is enabled. Delay after Disch (sec) displays.

3. Enter delay after discharge time desired.

4. Press **Enter**.

```
04/17/2024            02:17PM              SCALE #1

                          3  Gross        SCALE #1
                             Lb

                       Setup Menu
                  Program: Express xxxx, PN

ID #1: (Disabled)
ID #2: (Disabled)
Single-Speed Enabled
Auto-Tare Disabled
Auto Print Enabled
Delay after Discharge (sec): 3.0

Enter Delay After Disch (sec)


    Home                    Cancel              End
```

Figure 3-11. Enter Delay after Discharge

3.5   Test Digital I/O

Press the **Test Digital I/O** softkey to test and toggle through any of the softkeys to manually control the selected I/O.

```
04/17/2024          02:16 PM                SCALE #1

                    Scale A (S2B1)      Scale B  (S2B2)
    E-Stop (S0B1)   Start A (S2B3)      Start B  (S2B5)
    Reset (S0B2)    Zero Tol A (S2B7)   Zero Tol B  (S2B8)
    Resume (S0B3)   Fast Fill A (S2B9)  Fast Fill B  (S2B11)
  ┌────────────────┐Slow Fill A (S2B10) Slow Fill B (S2B12)
  │Discharge Disabled│Fill Com A (S2B13) Fill Com B  (S2B14)
  └────────────────┘
    Discharge Input A (S0B4)    Discharge Input B (S0B5)
    Discharge Output A (S2B15)  Discharge Output B (S2B16)


  ┌────────┬────────┬────────┬────────┬────────┐
  │Turn On │Turn Off│        │        │        │
  │Output  │Output  │        │        │  Exit  │
  └────────┴────────┴────────┴────────┴────────┘
```

Figure 3-12. Test Digital I/O

3.6   Presets

Press the **Presets** softkey to display the presets menu for draft weight, empty weight, preact weight, and target weight.

The preset softkeys displays.

```
04/17/2024            02:25PM             SCALE #

                                   0 Gross    SCALE #1
                                     Lb

                                   0 Gross    SCALE #2
                                     Lb
  ┌───────┬───────┬──────┬─────────┬──────┬─────────────┐
  │Target │Dribble│Preact│Near Zero│Con # │ ST 5000 (23)│
  ├───────┼───────┼──────┼─────────┼──────┼─────────────┤
  │ 1000  │  200  │  0   │   5     │  1   │ T 10000 (101)│
  └───────┴───────┴──────┴─────────┴──────┴─────────────┘


  ┌────────┬────────┬────────┬────────┬────────┐
  │Target  │Dribble │Preact  │Zero Toler│      │
  │Weight  │Weight  │Weight  │Weight    │ Exit │
  └────────┴────────┴────────┴──────────┴──────┘
```

Figure 3-13. Presets Softkeys

Press one of the softkeys and enter a desired weight value pressing **enter** to save that value.

3.6.1   Target Weight

This is the desired weight value for a final fill weight. The existing number needs to first be cleared by using the Clear key.

1. Enter the target weight using the arrow keys and the numeric keypad.
2. Press **Enter** on the 920i to save that value.

3.6.2   Dribble Weight

When a 2-speed fill is enabled (either Parallel or Sequential), this is the desired weight value below the Target Weight that the cycle switches from Fast Feed to Dribble Feed.

1. Enter the dribble weight using the arrow keys and the numeric keypad.
2. Press **Enter** on the 920i to save that value.

3.6.3   Preact Weight

Preact weight allows material to cut off prior to the original target value to allow for free fall material to settle onto the scale.

1. Enter the preact weight using the arrow keys and the numeric keypad.
2. Press **Enter** on the 920i to save that value.

3.6.4   Zero Tolerance Weight

This is the weight under which the system considers the scale to be empty. The scale weight must be within the gross weight value before the system will start a batch.

1. Enter the zero tolerance weight using the arrow keys and the numeric keypad.
2. Press **Enter** on the 920i to save that value.

4.0   Sequence of Operation

Flexweigh Systems operation varies depending on model where:

- **920i** *FlexWeigh Systems 111* is designed for filling two scales to a target weight in sequential "flip-flop" fashion. As one scale is filled, operators can prep the second scale, e.g., moving a container into place.
- **920i** *FlexWeigh Systems 112* is designed for filling two scales to a target weight in sequential "flip-flop" fashion. As on scale is filled, the second scale is discharged via independent or manual methods.

4.1   Modify Preset/Weights

📝 *NOTE: Presets entered apply to both scales.*

1. Press the **Presets** softkey.
2. The system displays – **Target Weight** - **Dribble Weight** – **Preact Weight** – **Zero Toler Weight** – **Exit** softkeys.
3. Press one of the following:

    a. **Target Weight** – Allows operator to edit the Target Weight.
    b. **Dribble Weight** – Allows operator to edit the Dribble Weight.
    c. **Preact Weight** – Allows operator to edit the Preact Weight.
    d. **Zero Toler Weight** – Allows operator zero Tolerance Weight.
    e. **Exit** – Returns to previous menu.

4.2   Printing and Clearing Accumulators

Both scales are accumulated into one accumulator.

1. Press the **Totals** softkey.
2. The system displays – **Consecutive Number** - **Print Sub Total** – **Print Total** – ... – **Exit** softkeys.
3. Press one of the following:

    a. **Consecutive Number** – Allows operator to edit the Consecutive Number.
    b. **Print Sub Total** – Prints the sub total with an option to clear to the sub total.
    c. **Print Total** – Prints the sub total and total with an option to clear to both totals.
    d. **Exit** – Returns to previous menu.

4.3   Filling Containers

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

If filling both scales, the only way to exit the sequence is to abort by pressing the **E-Stop** and then turning the Reset - Resume switch to the **Reset** input.

1. On the front panel, select operation of **Scale A Only**, **Scale B Only**, or **Both Scales**. This switch is not monitored while a batch is running on either scale.
2. Release **E-Stop** to the run position; turn the **Man / Off / Auto** mode selector (if equipped) in **Auto** position.
3. On the front panel, select **Start Auto** or **Start Single** for the respective scale(s) selected in Step 1. The system will not allow you to start a scale that was not selected in Step 1.

    a. **Start Auto A** will start on Scale A (Scale #1)
    b. **Start Auto B** will start on Scale B (Scale #2)
4. If the selected scale's (Step 3) gross weight is not within the **Zero Tolerance** (disabled if **Zero Tolerance** = 0), the system delays this Step.

5. System does the following:

   a. Increments the **Consecutive Number** by 1 on the main display.
   b. Tares the scale if **Auto Tare** is enabled (Setup Menu).
   c. Prints the Start Cycle message, if enabled (Setup Menu).

6. The System begins filling at the configured speed. If **Both Scales** are selected, only one scale fills at a time.

   a. Single Speed -System turns on **Fast Fill X** until the **Target – Preact Weight** is satisfied.
   b. Parallel Speed -Turns on the **Fast Fill X** and **Slow Fill X** until the **Target - Dribble Weight** is satisfied. System turns off **the Fast Fill X** and leaves the **Slow Fill X** on until the **Target– Preact Weight** is satisfied.
   c. Dual Speed -Turns on the **Fast Fill X** until the **Target - Dribble Weight** is satisfied. System turns on the **Slow Fill X** on until the **Target – Preact Weight** is satisfied.

7. System performs the following when the target is reached:

   a. Starts the other scale (if **Both Scales** is selected).
   b. Captures a stable net weight.
   c. Prints the End Cycle message, if enabled (Setup Menu).
   d. Updates the sub total weight and number of fills.
   e. Updates the total weight and number of fills.
   f. Turns on the **Fill Complete Light**.

8. System does one of the following:

   a. **Discharge Option** Enabled - Flexweigh Systems 112
      • System displays – Press Discharge Button if not already energized. System turns off the **Fill Complete** output.
      • System turns on **Discharge X** output until the weight drops below **Zero Tolerance** and then proceeds to Step 9.
   b. **Discharge Option** Disabled - Flexweigh Systems 111
      • System displays -Remove Container and proceeds to Step Step 9.

9. Once the operator removes the container and the weight falls within the **Zero Tolerance,** the **Fill Complete Light X** turns off and delays for the **Delay After Discharge** time.

10. After the **Delay After Discharge,** the system is ready for the next fill and returns to Step 3. If in **Start Auto X** the selected scale runs all the time but in **Start Single X** the **Start Single X** is required before each Fill.

4.3.1 Pause, Resume, Abort or Reset a Fill/Discharge

1. Press the **E-Stop** button.

2. System turns off all outputs and displays System Stopped.

3. Perform one of the following:

   a. To continue where a batch was paused, turn the **Reset/Resume** switch to **Resume** and then release the **E-Stop**.
   b. To abort a batch, turn the **Reset/Resume** switch to **Reset** and then release the **E-Stop**.

4.4   Ticket Printing

Record keeping is an important part of any system. The FlexWeigh Systems 111 and 112 connects to a printer (Port 3) for printing detailed records on cycles, subtotals and totals. The preferred printer to integrate with the FlexWeigh Systems 111 and 112 is the TM-U220 Tape Printer, however, the system easily integrates with other strip printers.

Connect the printer to the FlexWeigh Systems 111 and 112 per printer manual instructions.

4.4.1   Audit Trail Print (ID Fields Enabled)

Tape samples below can be printed using the FlexWeigh Systems 111 and 112 and the TM-U220 Tape Printer.

📝 *NOTE: This ticket is not configurable.*

```
Start Cycle A      3 12:16 03/13/2024
Product: Sale Location: Rice Lake, WI

End Cycle B
    102 lb  12:16 PM 03/13/2024

Start Cycle B   4 12:16 PM 03/13/2024
Product: Sale Location: Rice Lake, WI

End Cycle A
    103 lb  12:16 PM 03/13/2024

Start Cycle A   5 12:16 PM 03/13/2024
Product: Sale Location: Rice Lake, WI

End Cycle B
    110 lb  12:16 PM 03/13/2024

Cycle Stopped   12:16 PM 03/13/2024

Cycle Reset 12:16 PM 03/13/2024
```

Figure 4-1. Audit Trail Print

4.4.2   Subtotal Print

📝 *NOTE: This ticket is not configurable.*

```
Sub Total      12:17PM 03/13/24
Product: Sale Location: Rice Lake, WI
  4 cycles            422 lb
```

Figure 4-2. Subtotal Print

4.4.3   Total Print

📝 *NOTE: This ticket is not configurable.*

```
Total           12:17 03/13/2024
Product: Sale Location: Rice Lake, WI
  9 Cycles            1422 lb
```

Figure 4-3. Total Print

5.0   Compliance

$\mathsf{C} \mathsf{E}$

EU DECLARATION OF CONFORMITY

EU-KONFORMITÄTSERKLÄRUNG
DÉCLARATION UE DE CONFORMITÉ

Rice Lake Weighing Systems
230 West Coleman Street
Rice Lake, Wisconsin 54868
United States of America

RICE LAKE
WEIGHING SYSTEMS

Type/Typ/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).

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 déclartion, 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: *Richard Shipman*   Place: Rice Lake, WI   USA

Type Name: Richard Shipman   Date: May 3, 2019

Title: Quality Manager

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UK
CA

UK DECLARATION
OF CONFORMITY

Rice Lake Weighing Systems
230 West Coleman Street
Rice Lake, Wisconsin 54868
United States of America

RICE LAKE
W E I G H I N G   S Y S T E M S

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 Harder*

Name: Brandi Harder

Title: Quality Manager

Place: Rice Lake, WI   USA

Date: December 30, 2021

Form 0291 New 07/2021

Approved by: Quality Department

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