

1280 FlexWeigh Systems

Accumulative Concrete Batcher

Operation Manual



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Revision History

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

Revision	Date	Description
A	January 3, 2024	Initial manual release

Table i. Revision Letter History



Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at www.ricelake.com/training or obtained by calling 715-234-9171 and asking for the training department.

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1.0 Introduction

This manual is intended to guide users through the process of selecting and editing concrete batch mix formulas on the 1280 FlexWeigh Accumulative Concrete Batcher. Additional information and features of the 1280 indicator are available in the 1280 Technical Manual (PN 167659).



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

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

1.1 Safety

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.

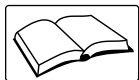


CAUTION: Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.



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.

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 enclosure completely assembled.

Do not place fingers into slots or possible pinch points.

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

Do not make alterations or modifications to the unit.

Do not remove or obscure warning labels.

Do not submerge.

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

Disconnect all power before servicing. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

For permanently connected equipment, a readily accessible disconnect device shall be incorporated in the building installation wiring.

Pluggable units must be installed near the socket/outlet and be easily accessible.

Use copper or copper-clad aluminum conductors only.

1.2 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.

1.3 Product Dimensions

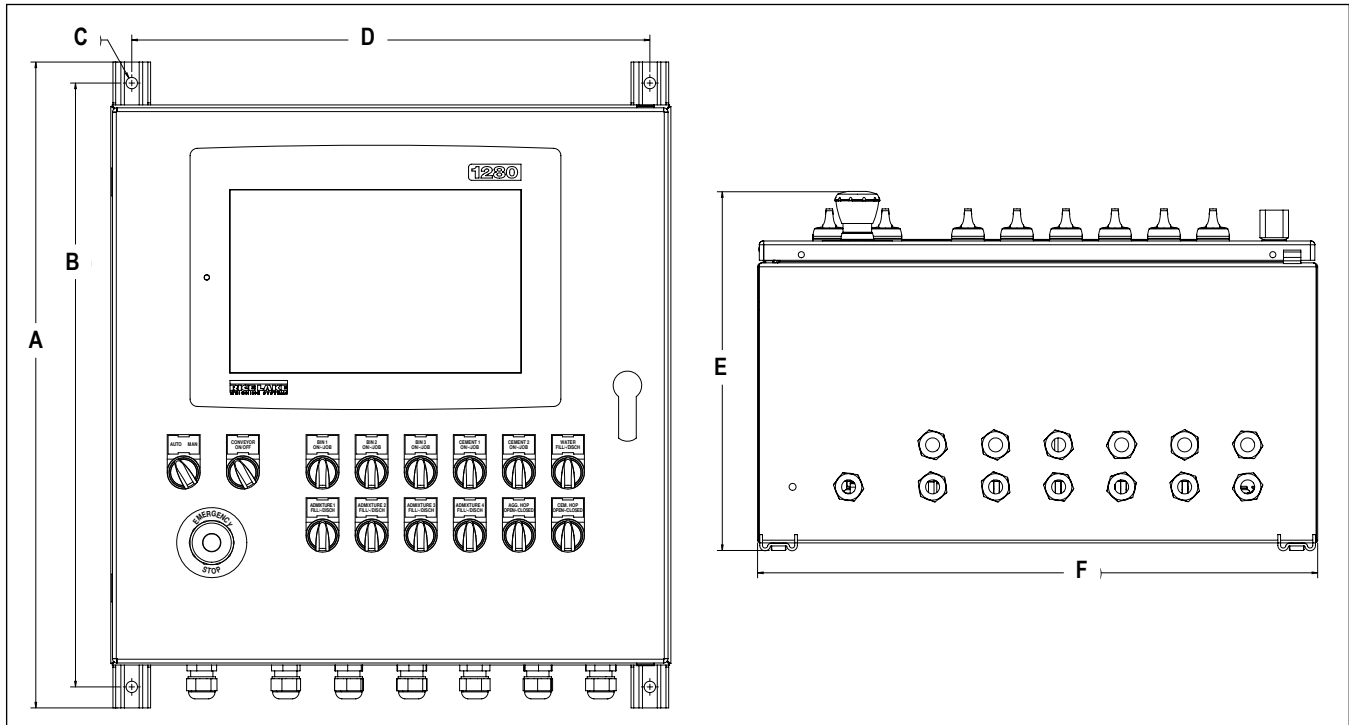


Figure 1-1. 1280 FlexWeigh Accumulative Concrete Batcher Dimensions

A	B	C	D	E	F
23.06 in (585.724 mm)	21.56 in (547.624 mm)	Ø 0.41 in (10.41 mm)	18.50 in (469.9 mm)	12.81 in (325.374 mm)	20 in (508 mm)

Table 1-1. 1280 FlexWeigh Accumulative Concrete Batcher Dimensions

1.4 Key Functions

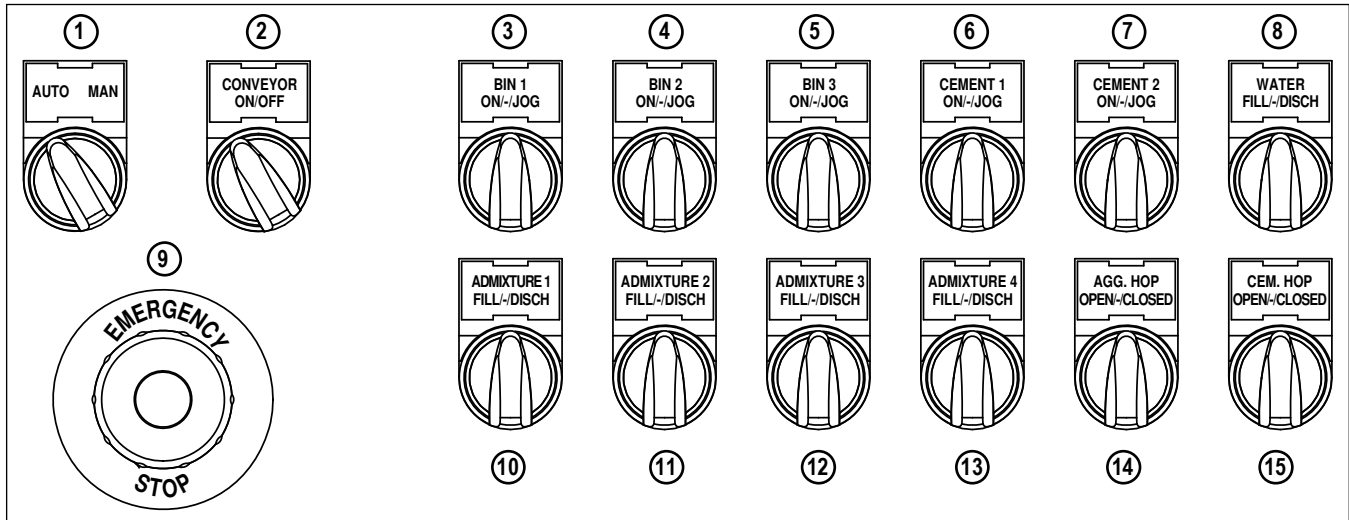


Figure 1-2. Front Panel Keys

Number	Key	Function
1	AUTO MAN	Toggles system control from Automatic to Manual. None of the front panel switches have power until switch is in Manual position. 1280 screen turns dark gray to signify system is in Manual mode (see Section 4.12 on page 41).
2	CONVEYOR ON/OFF	Turns conveyor on or off in Manual Mode
3	BIN 1 ON-/JOG	Activates Bin 1 Feed Output
4	BIN 2 ON-/JOG	Activates Bin 2 Feed Output
5	BIN 3 ON-/JOG	Activates Bin 3 Feed Output
6	CEMENT 1 ON-/JOG	Activates Cement 1 Feed Output
7	CEMENT 2 ON-/JOG	Activates Cement 2 Feed Output
8	WATER FILL-/DISCH	Activates Water Fill or Water Discharge Outputs
9	E-STOP	Pauses batching operation and removes power from the relays
10	ADMIX 1 FILL-/DISCH	Activates Admix 1 Fill or Discharge Outputs
11	ADMIX 2 FILL-/DISCH	Activates Admix 2 Fill or Discharge Outputs
12	ADMIX 3 FILL-/DISCH	Activates Admix 3 Fill or Discharge Outputs
13	ADMIX 4 FILL-/DISCH	Activates Admix 4 Fill or Discharge Outputs
14	AGGREGATE HOPPER OPEN-/CLOSED	Activates Aggregate Hopper Gate Open or Gate Close Outputs
15	CEMENT HOPPER OPEN-/CLOSED	Activates Cement hopper Open or Gate Close Outputs

Table 1-2. Key Functions

2.0 Installation

This section describes procedures for the installation of the 1280 FlexWeigh Accumulative Concrete Batcher.



Always use caution when handling electrostatic sensitive devices (ESD).



CAUTION: Electrostatic sensitive device (ESD), observe handling precautions to prevent shock or damage caused from electrostatic discharge.



WARNING: Procedures requiring work inside the indicator must be performed by qualified service personnel only.

WARNING: Use a wrist strap for protection and causing potential damage components from electrostatic discharge (ESD) when working inside the indicator enclosure.

2.1 Unpacking

Immediately after unpacking, visually inspect the 1280 FlexWeigh Accumulative Concrete Batcher to ensure all components are included and undamaged. The shipping carton should contain the 1280 FlexWeigh Accumulative Concrete Batcher unit, parts kit, any options ordered with the unit and the appropriate manuals. If any parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

2.2 Enclosure Disassembly

The 1280 FlexWeigh Accumulative Concrete Batcher enclosure must be opened to connect cables.

Ensure power to the indicator is disconnected, then open the enclosure.

2.3 Option Cards

Table 2-1 lists the option cards that are used in the 1280 FlexWeigh Accumulative Concrete Batcher.

Slot	Type
1	Dual Channel A/D Card
2	Single Channel A/D Card (for weighed water)
3	Currently Not Used
4	Currently Not Used
5	24-channel DIO Card
6	24-channel DIO Card

Table 2-1. Option Card Locations

2.4 Cable Connections

The 1280 FlexWeigh Accumulative Concrete Batcher provides 13 cord grips for cabling into the controller. 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.

2.4.1 Cable Grounding

Cables routed through the cord grips should be grounded against the indicator enclosure. Follow cable grounding instructions in the 1280 Enterprise Series Technical Manual (PN 167659).

2.4.2 Cable Connection Drawing Reference Information

Figure 2-3 through Figure 2-8 use a specific convention to detail wire connections, as shown below.

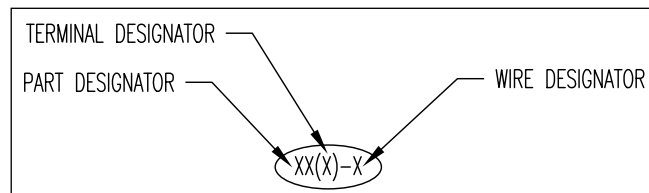


Figure 2-1. Drawing Designator Format

Part Reference

The following table lists reference information for parts in Figure 2-3 to Figure 2-8.

Designator	Name	Part Number	Torque Specification	AWG
CB	Circuit breaker	198512	7 LBF-IN	20 - 14
IND	Indicator	196708	N/A	N/A
CR1	Mechanical relay socket	22886	5.5-9 LBF-IN	Up to 2x 14
RR1	Relay Rack	33205	5.5 LBF-IN	10 or smaller
TB	Terminal Block	62964, 62966, 62975, 62974	N/A	28 - 12
PB2L2,R1 PB4-15L 1,L2	Contact Block	94311	6-8 LBF-IN	18 - 12
PB1L1,R1 PB2L1 PB2M1	Contact Block	94313	6-8 LBF-IN	18 - 12

Table 2-2. Part Reference

Wire Reference

The following table lists reference information for wires in Figure 2-3 to Figure 2-8.

Designator	PN	Color	AWG
A	153199	White/Blue	18
B	15432	Brown	18
C	15435	Blue	18
D	15433	Red	18
E	15451	Yellow	18
F	15472	Green/Yellow	16
G	15434	Green	18
H	76131	Black	18
J	76703	Blue	18
K	15443	Black	14
M	120250	Green	14
N	15445	White	14

Designator	PN	Color	AWG
P	15444	Red	14
Q	15431	Black	18
R	15427	Violet	22
T	120251	Brown	14
U	120252	Orange	14
V	120253	Blue	14
W	120254	Yellow	14
AA	30271	Gray	8/22
BB	191511	Black	4/16
CC	15496	Maroon	6/20
DD	105380	Black	3/18
EE	46199	Gray	8/24

Table 2-3. Wire Reference

2.4.3 1280 FlexWeigh Accumulative Concrete Batcher Wiring

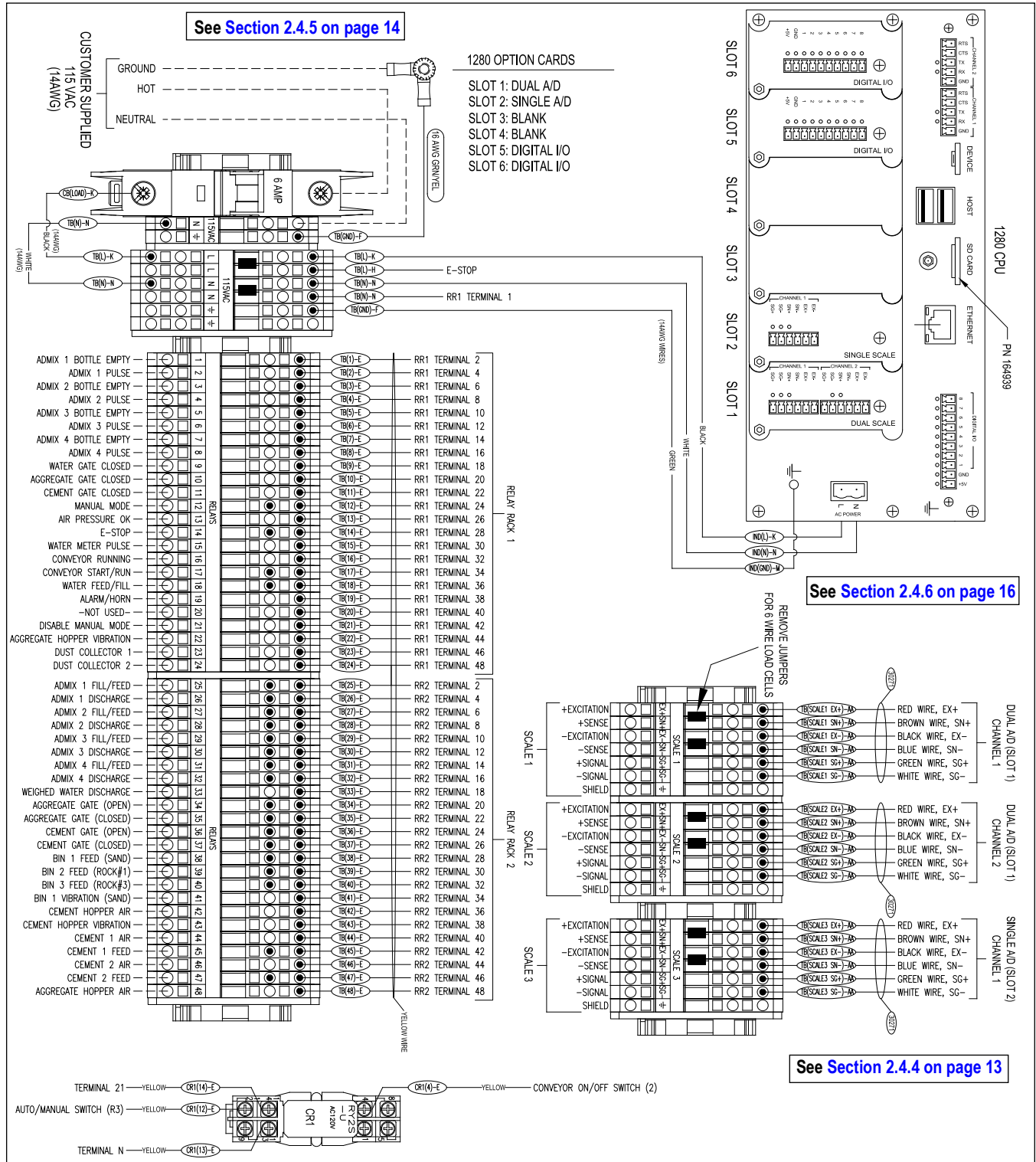


Figure 2-2. 1280 FlexWeigh Accumulative Concrete Batcher Wiring Diagram



NOTES:

- Circuit Breaker = 6A
- All Wires are 18 AWG unless otherwise specified.
- Dashed lines represent filed wiring.

2.4.4 Scale Wiring

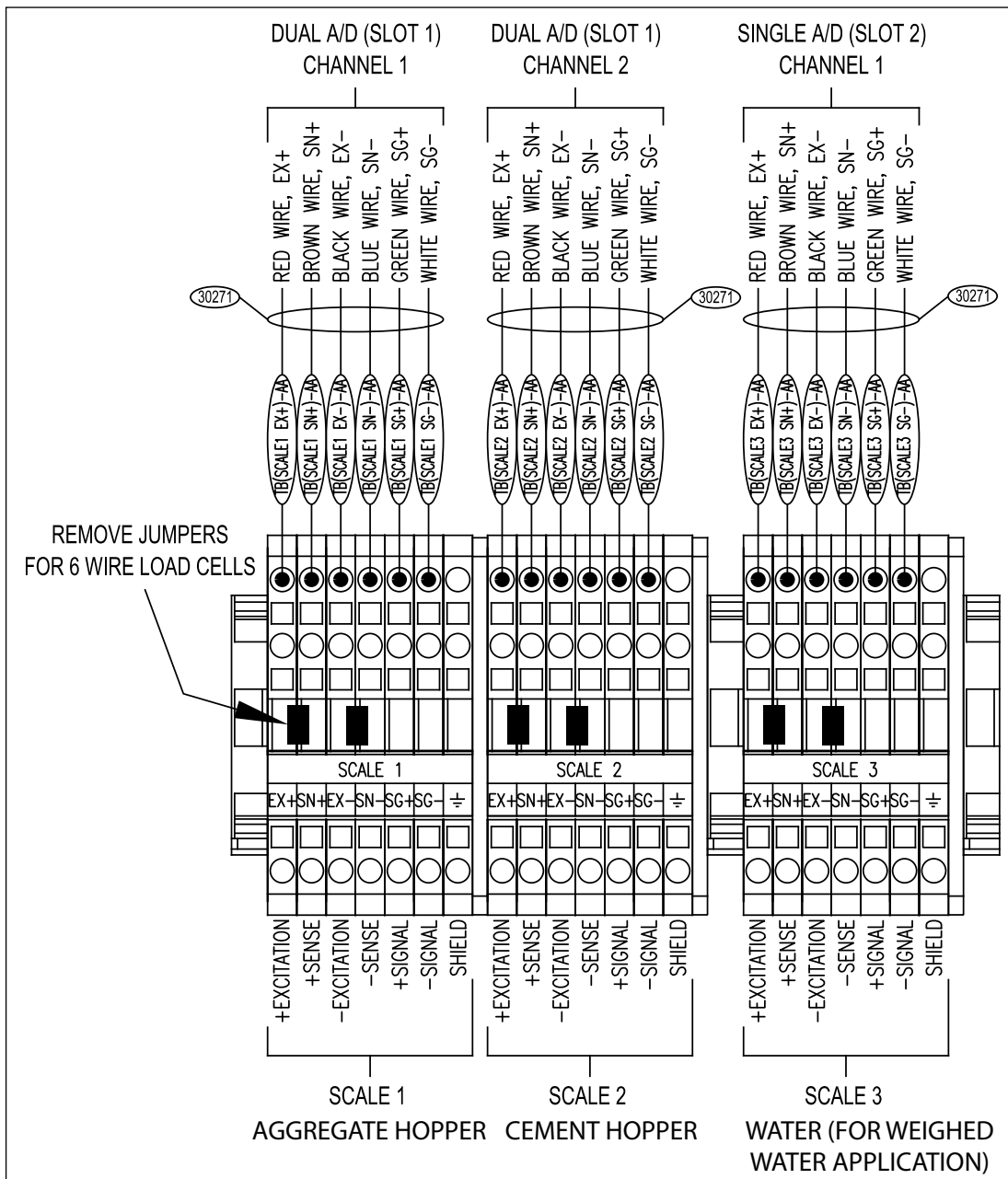


Figure 2-3. Scale Wiring Diagram

Digital I/O Functions

Slot	Bit	Type	Function
0	1-8	Currently Not Used	Currently Not Used
5	1	Programmability	Admixture 1 Bottle Empty
5	2	Programmability	Admixture 1 Pulse
5	3	Programmability	Admixture 2 Bottle Empty
5	4	Programmability	Admixture 2 Pulse
5	5	Programmability	Admixture 3 Bottle Empty
5	6	Programmability	Admixture 3 Pulse
5	7	Programmability	Admixture 4 Bottle Empty
5	8	Programmability	Admixture 4 Pulse
5	9	Programmability	Weighed Water Gate Closed Limit Switch
5	10	Programmability	Aggregate Hopper Gate Closed Limit Switch
5	11	Programmability	Cement Hopper Gate Closed Limit Switch
5	12	Programmability	Manual Mode
5	13	Programmability	Air Pressure OK
5	14	Programmability	E-Stop
5	15	Programmability	Water Meter Pulse
5	16	Programmability	Conveyor Running
5	17	Output	Conveyor Start/Run
5	18	Output	Water Feed/Fill
5	19	Output	Alarm/Horn
5	20	Currently Not Used	Currently Not Used
5	21	Output	Disable Manual Mode
5	22	Output	Aggregate Hopper Vibrator
5	23	Output	Dust Collector 1
5	24	Output	Dust Collector 2
6	1	Output	Admixture 1 Fill/Feed
6	2	Output	Admixture 1 Discharge
6	3	Output	Admixture 2 Fill/Feed
6	4	Output	Admixture 2 Discharge
6	5	Output	Admixture 3 Fill/Feed
6	6	Output	Admixture 3 Discharge
6	7	Output	Admixture 4 Fill/Feed
6	8	Output	Admixture 4 Discharge
6	9	Output	Weighed Water Discharge Gate
6	10	Output	Aggregate Hopper Gate (Open)
6	11	Output	Aggregate Hopper Gate (Close)
6	12	Output	Cement Hopper Gate (Open)
6	13	Output	Cement Hopper Gate (Close)
6	14	Output	Bin 1 Feed (Sand)
6	15	Output	Bin 2 Feed (Rock #1)
6	16	Output	Bin 3 Feed (Rock #2)
6	17	Output	Bin 1 Vibration (for Sand)
6	18	Output	Cement Weigh Hopper Air
6	19	Output	Cement Weigh Hopper Vibration
6	20	Output	Silo 1 Air (Cement)
6	21	Output	Silo 1 Feed (Cement)
6	22	Output	Silo 2 Air (Cement)
6	23	Output	Silo 2 Feed (Cement)
6	24	Output	Aggregate Weigh Hopper Air

Table 2-4. Digital I/O

2.4.6 Serial Port Wiring

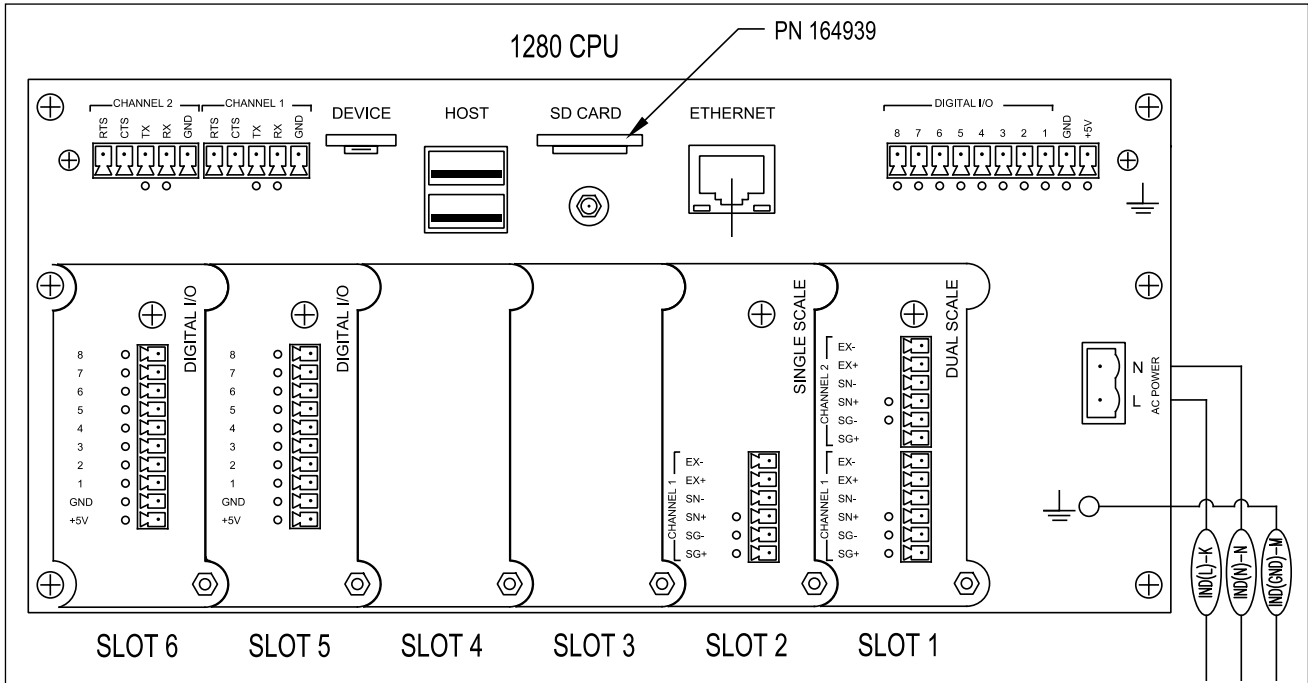


Figure 2-5. Serial Port Wiring Diagram

Port/Channel	Pin	Signal	CPU Connector
1	1	GND	J6
	2	RS-232 RX/RS-485 B	
	3	RS-232 TX/RS-485 A	
	4	RS-232 CTS/RS-485 Z	
	5	RS-232 RTS/RS-485 Y	
2	1	GND	J7
	2	RS-232 RX/RS-485 B	
	3	RS-232 TX/RS-485 A	
	4	RS-232 CTS/RS-485 Z	
	5	RS-232 RTS/RS-485 Y	

Table 2-5. Serial Port Connector Signals

2.4.7 Relay Rack Wiring

Relay Rack 1 Wiring

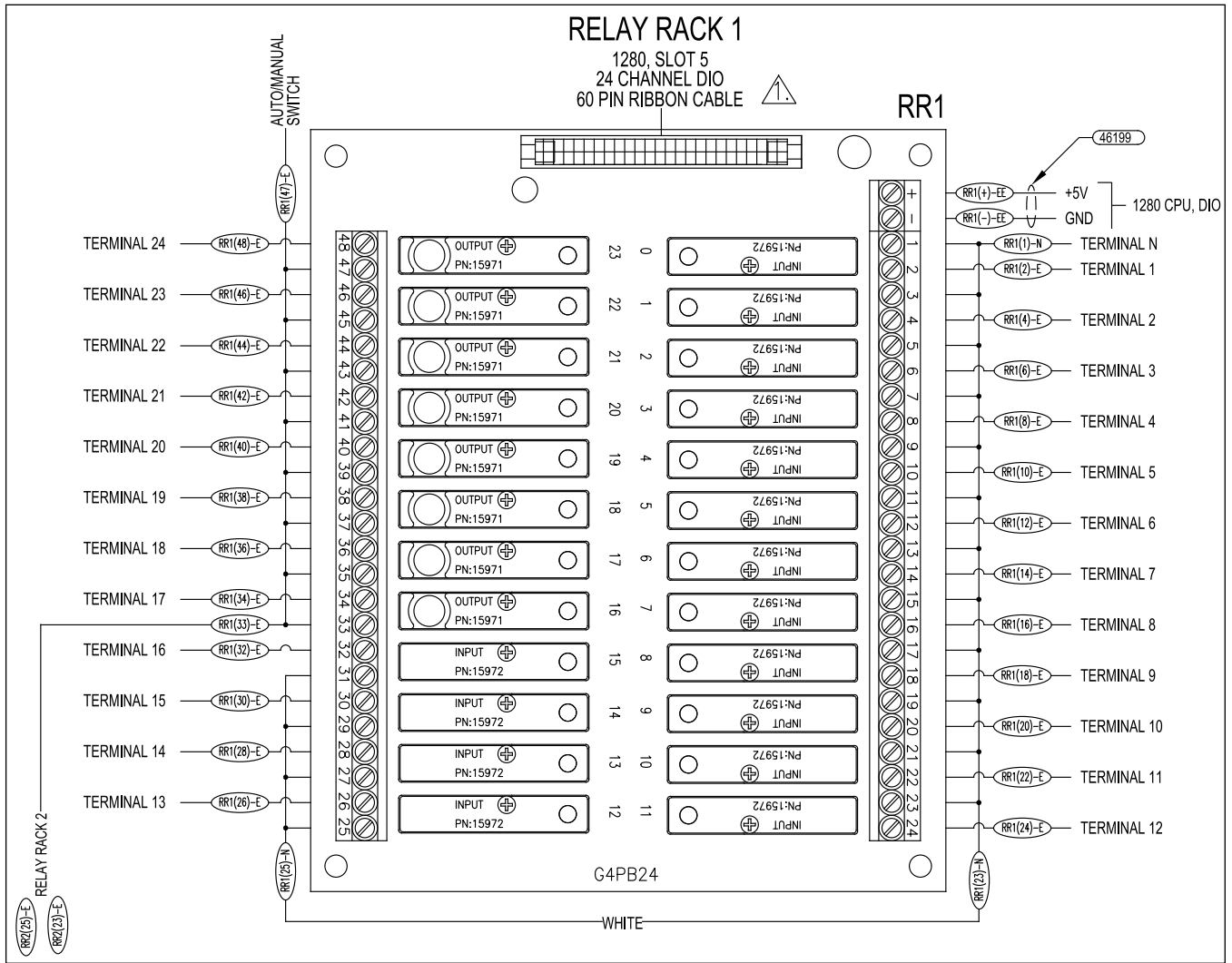


Figure 2-6. Relay Rack 1 Wiring



NOTES:

- **1.** Use 50 pin to 60 pin adapter (PN 163776).
- All Wires are 18 AWG unless otherwise specified.
- Dashed lines represent filed wiring.

Relay Rack 2 Wiring

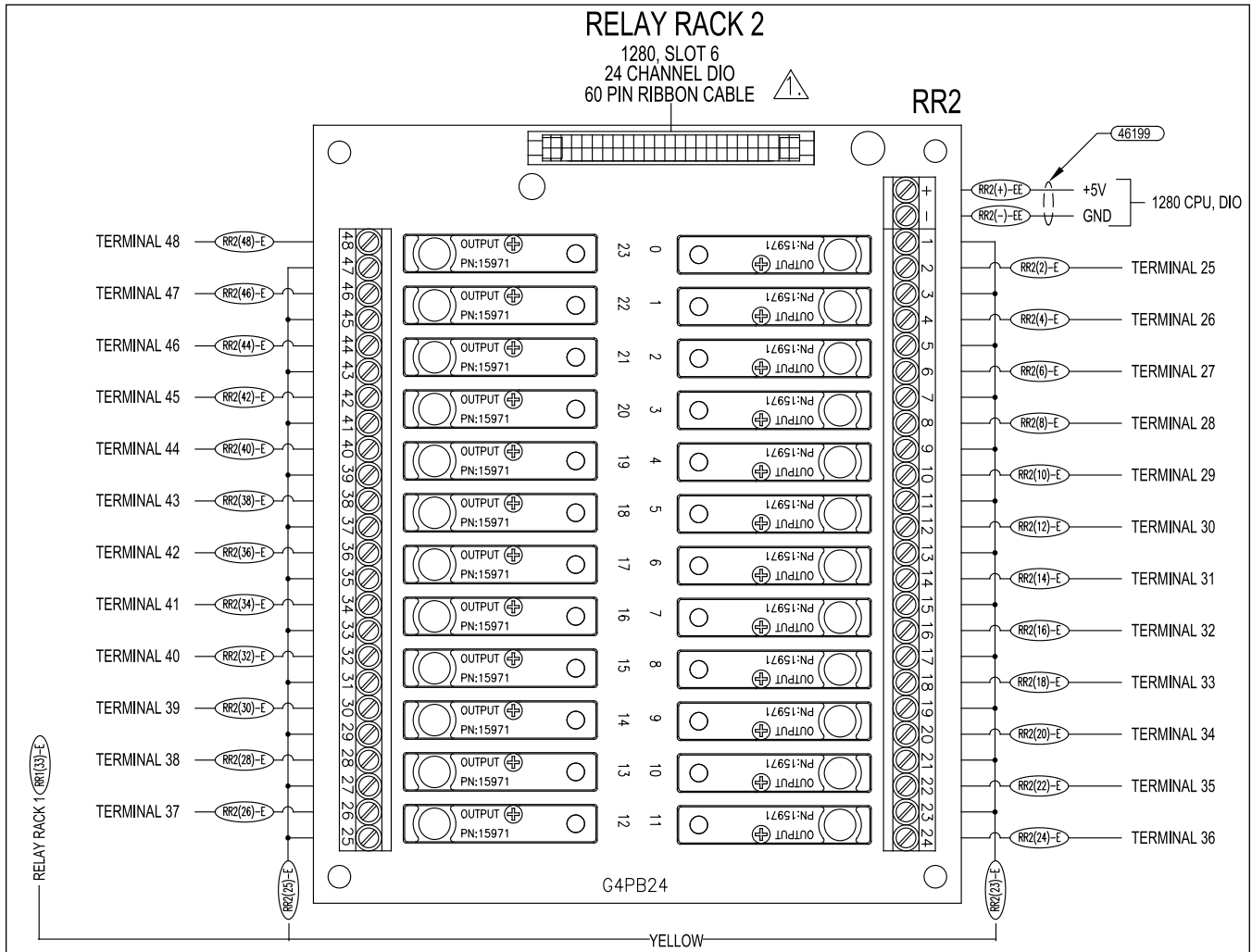


Figure 2-7. Relay Rack 2 Wiring



NOTES:

- Use 50 pin to 60 pin adapter (PN 163776).
- All Wires are 18 AWG unless otherwise specified.
- Dashed lines represent filed wiring.

2.4.8 Terminal Wiring

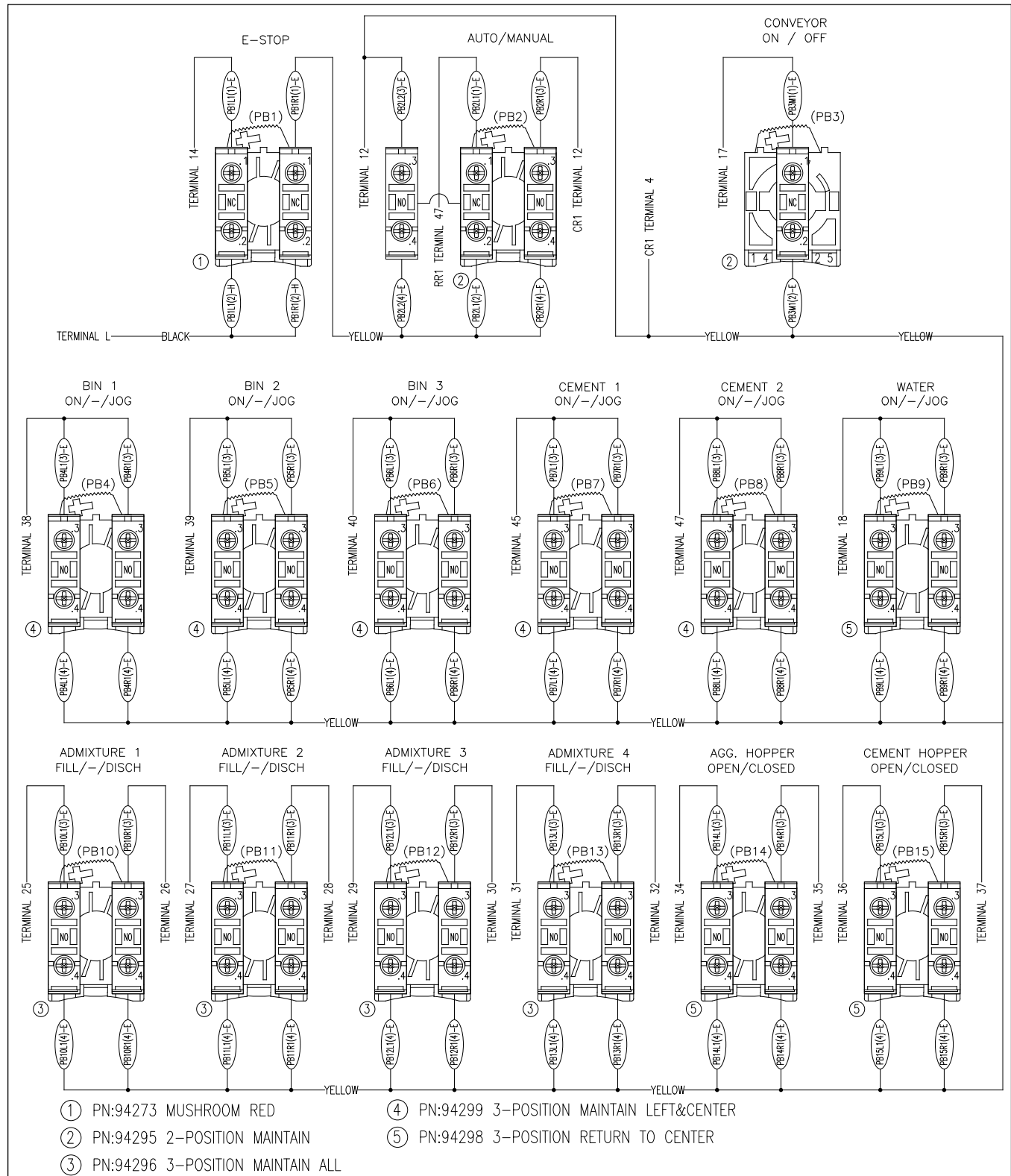


Figure 2-8. Terminal Wiring



NOTES:

- All Wires are 18 AWG unless otherwise specified.
- Dashed lines represent filed wiring.

2.5 Parts Kit

Part No.	Description	QTY
14621	Nut, Kep 6-32NC HEX	6
14630	Nut, Lock 10-32NF HEX	4
14877	Screw, MACH 10-32NFx3/8	1
15130	Washer, Lock NO 6 Type A	5
15139	Washer, Lock NO 10 Type A	7
158207	Screw, MACH 6-32x1/4	2
166241	Cable, Antenna Extension	1
18877	Screw, Set #10-32NF x 1	4
169023	Ground Bus Bar	1
17780	Ground Strap, 16 inch Tinned	1
182246	Gasket, Washer Seal	1
182281	Washer Shell, 1/4 inch	1
193810	Ground Cable Clamp Small	2
202845	Wire ASSY, Ground 9 inch	1
206703	Antenna, RP-SMA	1
28325	Bag, Plastic 2x3	1
53075	Clamp, Ground Cable Shield, Radius 0.078 inch	5
67550	Clamp, Ground Cable Shield, Radius 0.125 inch	1
93909	Bag, Plastic 8x10	1

Table 2-6. Parts Kit

2.6 Replacement Parts

Item No.	Part No.	Description
1	16976	1280 Controller
2	198512	Circuit Breaker 6 Amp
3	15628	Cord Grip
4	15630	Cord Grip Nut
5	30376	Cord Grip Seal Ring
6	33205	Relay Board
7	15971	Output Relay module 12-140V
8	15972	Input Relay module 90-140V
9	94273	E-Stop
10	94277	Conveyor On/Off
11	94295	Auto/Manual
12	94299	Bin/Cement
13	94296	Admix
14	94313	Normally Open Contact Block
15	94311	Normally Closed Contact Block
16	164085	Single Scale Card
17	164683	Dual Scale Card
18	164684	Digital I/O
19	164939	Memory Card
20	212142	Conveyor On/Off
21	94400	Auto/ Man
22	212143	Bin 1
23	212144	Bin 2
24	212145	Bin 3
25	212146	Cement 1
26	212147	Cement 2
27	212148	Water
28	212150	Admixture 1
29	212151	Admixture 2
30	212152	Admixture 3
31	212153	Admixture 4
32	94316	Legend Plate holder


Table 2-7. Replacement Parts List

3.0 Setup Menu

This section describes the various setup parameters for the 1280 FlexWeigh Accumulative Concrete Batcher. Detailed descriptions of the Scale Configuration, Communications, Features, Formats, Digital I/O, Analog Output, Setpoints and Diagnostics menus are provided in the 1280 Enterprise Series Technical Manual (PN 167659).

3.1 Setup Menu

To enter the setup menu.

1. Press  in the bottom right corner of the main display to enter the setup menu.

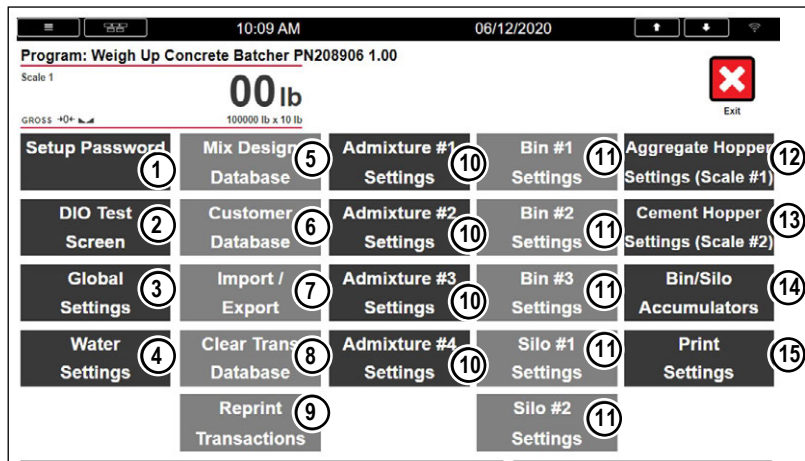


Figure 3-1. Concrete Batcher Setup Menu

The Setup menu offers access to the following:

Item No.	Selection	Description
1	Setup Password	Modify the password. Leaving the password blank disables the password function.
2	DIO Test Screen	Test each Digital I/O on the 1280 FlexWeigh Concrete Batcher
3	Global Settings	Edit Max Batch Size, Min Batch Size, Conveyor Runout, Units Mode, Ticket Number, Language (allows user to switch between primary and secondary languages), Moisture Compensation and Auto Print
4	Water Settings	Edit Metered/Weighed, Discharge (Before Discharge, During Discharge), Countby, Tail water %, Empty Weight
5	Mix Design Database	Add, view, edit or delete mix designs
6	Customer Database	Add, view, edit or delete customers
7	Import/Export	Import database or export database to another device
8	Clear Transaction Database	Clear the transaction database by selecting Yes or No
9	Reprint Transaction	Select and reprint a previous completed transaction
10	Admixture #1 Settings Admixture #2 Settings Admixture #3 Settings Admixture #4 Settings	Edit Name, Type (None, Bottle, Direct), Discharge (Tail Water, Front Water), Countby and Coast for relevant Admixture
11	Bin #1 Settings Bin #2 Settings Bin #3 Settings Silo #1 Settings Silo #1 Settings	Edit Bin 1 (Sand), Bin 2, Bin 3, Silo 1 (Cement) and Silo 2 (Cement) settings
12	Aggregate Weight Hopper Settings (Scale #1)	Edit settings for Aggregate Weight Hopper
13	Cement Weight Hopper Settings (Scale #2)	Edits settings for the Cement Weight Hopper.

Table 3-1. Setup Menu Selections

Item No.	Selection	Description
14	Bin/Silo Accumulators	System shows the accumulators for each bin/silo configured and allows them to be either individually deleted or a delete all that will bring all active accumulators back to zero. Anything done in manual mode is not included.
15	Print Settings	Allows an operator to print all the Settings in the Setup Menu to Port 1 (Printer).

Table 3-1. Setup Menu Selections (Continued)

3.2 DIO Test Screen

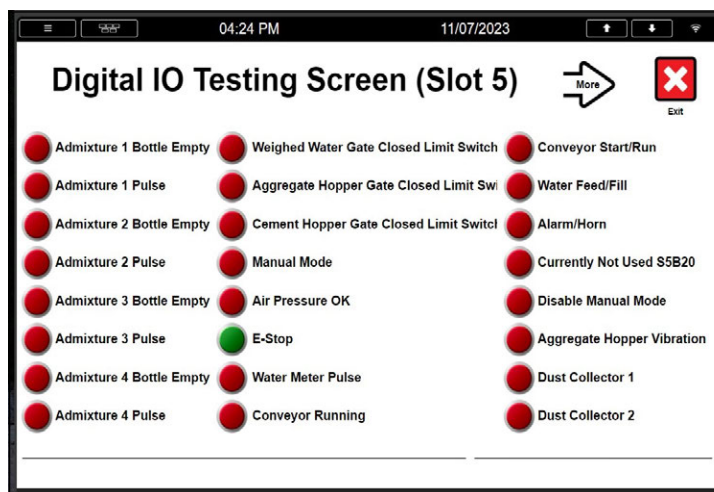


Figure 3-2. DIO Test Screen



WARNING: System Outputs can be activated from this screen. Make sure personnel are clear of connected equipment and/or field power for connected equipment is disconnected.

3.2.1 Activating Outputs

Press output touch widget(s) to verify functionality of connected relay and wiring as needed. When output is set to **ON**, the widget changes from red to green. Output will remain on as long as set to **ON** while viewing this screen.

3.2.2 Testing Inputs

Active inputs will show green while viewing this screen.

3.3 Global Settings

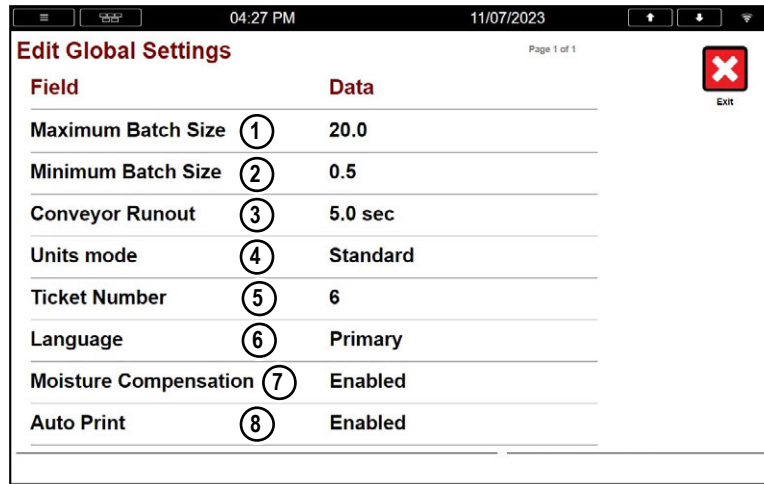


Figure 3-3. Global Settings Menu

Number	Parameter	Function
1	Maximum Batch Size	Maximum size batch that the plant can produce. Value is in Cubic Yards if units is set to Standard, and is in Cubic Meters units if set to Metric.
2	Minimum Batch Size	Minimum batch size that the batch plant can produce. Value is in Cubic Yards if units is set to Standard, and is in Cubic Meters units if set to Metric.
3	Conveyor Runout	Time in seconds that the conveyor will continue to run after all batch steps are completed.
4	Units Mode	Toggles between Standard and Metric units.
5	Ticket Number	Defines which ticket number to start at for the next print job.
6	Language	Toggles between the Primary or Secondary language.
7	Moisture Compensation	Toggles between moisture compensation enabled or disabled. When enabled Bin 1, 2 and 3 may have a moisture percentage manually entered and updated.
8	Auto Print	Toggles Auto Print between enabled or disabled.

Table 3-2. Global Settings Parameter Functions

3.4 Water Settings

Field	Data
Water Fill Option ①	Metered
Discharge Option ②	During Discharge
Country ③	1.0
Coast ④	1.0
Tail Water % ⑤	25.0
Empty Weight ⑥	10

Figure 3-4. Water Settings Screen

Number	Parameter	Function
1	Water Fill Option	Toggles between Metered or Weighed
2	Discharge Option	Toggles between: <ul style="list-style-type: none"> • Before Discharge – All front water is discharged before discharging aggregate or cement hoppers. • During Discharge – All front water is discharged while discharging aggregate or cement hoppers.
3	Country	Defines how many Gallons (or Liters) will be counted per pulse from the water meter.
4	Coast	Defines how many pulses (if metered) or the weight value (if weighed) ahead of the water target to turn off the water output.
5	Tail Water %	Percent of water that will be held for tail water.
6	Empty Weight	Value determining a scale is empty.

Table 3-3. Water Setting Parameters

3.5 Mix Design Database

The Mix Design Database interface is used to program and save the concrete batch mixes. Alternatively, the Mix Design Database may be edited on a PC and downloaded to the 1280 FlexWeigh Accumulative Concrete Batcher via USB flash drive or by using Rice Lake Weighing Systems' program Interchange.

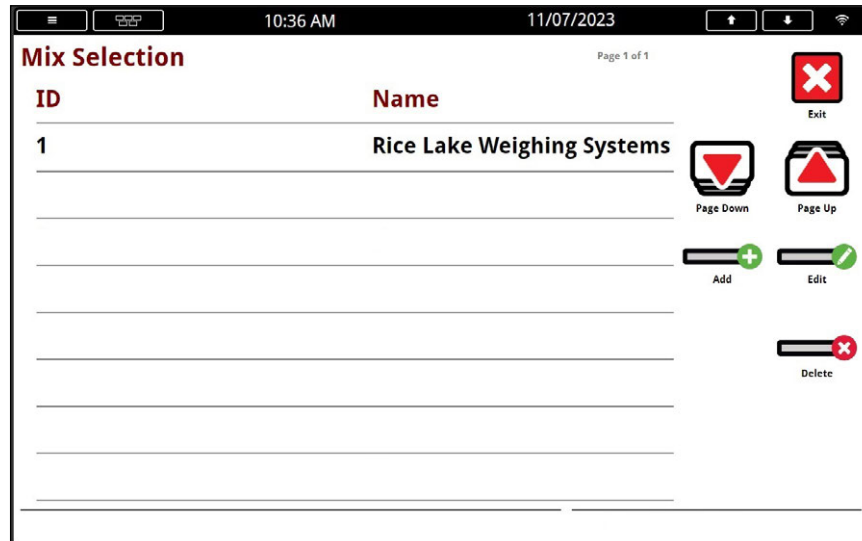



Figure 3-5. Mix Selection Page

All configured mixes are displayed on this screen.  and  are touch widgets that are used to navigate through the displayed list.

3.5.1 Add Mix


1. Press .
2. Fill in each field as applicable.




IMPORTANT: All target values must be entered for a 1 yard/meter batch size



NOTE: Not all Bins, Cements and Admixtures may be active depending on installed software and system configuration.

3. Press .

3.5.2 Edit Mix

1. Select mix.
2. Press .
3. Edit each field as applicable.




IMPORTANT: All target values must be entered for a 1 yard/meter batch size.



NOTE: Not all Bins, Cements, and Admixtures may be active depending on installed software and system configuration.

4. Press .

3.5.3 Delete Mix

1. Select mix.
2. Press .



IMPORTANT: Mix will be permanently deleted and cannot be recovered from the database.

3.6 Customer Database

The Customer Database interface is used to program and save customers. Alternatively, the Customer Database may be edited on a PC and downloaded to the 1280 FlexWeigh Accumulative Concrete Batcher via USB flash drive or Interchange program. For details on using the Customer Database menu and touch widgets, see [Section 4.3 on page 36](#).

3.7 Import/Export

The Import/Export interface is used to import or export 1280 FlexWeigh Accumulative Concrete Batcher databases to or from a USB flash drive or to the SD Card.



Figure 3-6. Setup Menu with Database Panel Open

3.7.1 Import Database

1. Select .

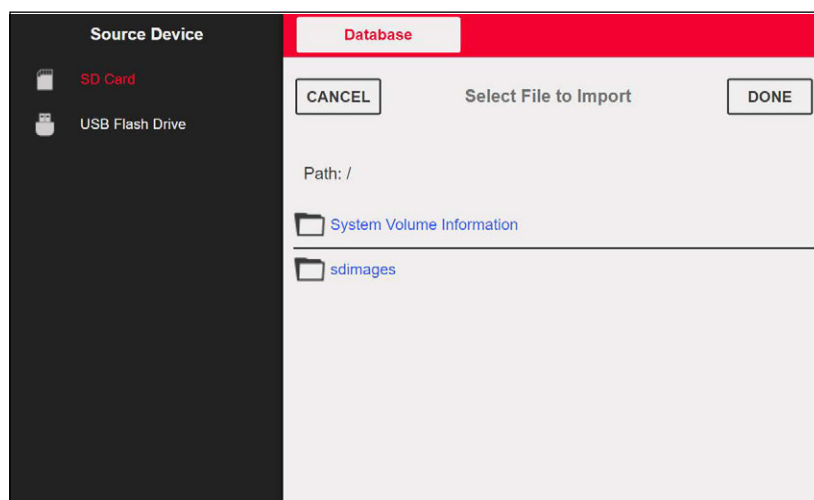

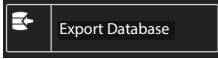




Figure 3-7. File Import Selection

2. Select correct source device from the menu on the left display panel.
3. Navigate to the path where the “.db” database file is stored on the source device.
4. Select .

3.7.2 Export Database

1. Select  .
2. Select the correct destination device from the menu on the display panel.
3. Navigate to the path where the databases should be exported to.
4. Select  .

3.8 Clear Transactions Database

Option to clear the Transaction Database on the 1280 FlexWeigh Accumulative Concrete Batcher. Selecting  will clear all Transaction database records. Export records that must be saved before clearing the Transaction Database.

To clear the database:

1. Select  .
2. Select  .

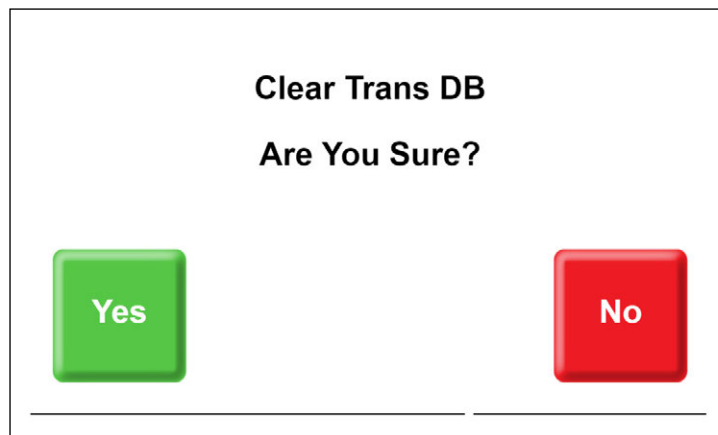


Figure 3-8. Clear Transactions Database Prompt

3.9 Admixture Settings

The screenshot shows a mobile application interface titled "Edit Admixture 1". At the top, it displays the time "04:30 PM" and the date "11/07/2023". Below the title, there is a table with two columns: "Field" and "Data". The table contains five rows of data, with circled numbers 1 through 5 next to the field names. A red "X" icon labeled "Exit" is located in the top right corner of the form area.

Field	Data
Name ①	Admix 1
Type ②	None
Discharge ③	Tail Water
Countby ④	1.0
Coast ⑤	1.0

Figure 3-9. Edit Admixture Screen

Item No.	Parameter	Function
1	Name	Name of Admixture
2	Type	Toggles between: None - Admixture is not configured and is not selectable in the Mix design database. Bottle - Admixture is configured to fill a separate container (bottle) before being discharged into the batch. Direct - Admixture is configured to meter directly into the batch.
3	Discharge Option	Toggles between: Front Water - Admixture is discharged along with the front water. Tail Water - Admixture is discharged along with the tail water.
4	Countby	Defines how many Ounces (or Milliliters) will be counted per pulse from the meter.
5	Coast	Defines how many Ounces (or Milliliters) ahead of the admixture target to turn off the admixture output.

Table 3-4. Admixture Parameters

3.10 Bin Settings

Field	Data
Name	① Sand
Freefall Range 1	② 2500
Freefall Range 2	③ 5000
Freefall(<-Range1)	④ 250
Freefall(Range1-Range2)	⑤ 500
Freefall(Range2->)	⑥ 1000
Vibrator	⑦ None
Fill Time	⑧ 45.0 sec

Figure 3-10. Bin Settings

Item No.	Parameter	Function
1	Name	Name of Bin. NOTE: Bin #1 has additional features required by sand bins.
2	Freefall Range 1	Max Target Weight value for Range 1.
3	Freefall Range 2	Max Target Weight value for Range 2.
4	Freefall (<-Range1)	Weight to subtract from target weight to disable gate output early to account for material in suspension when target weight is below range 1.
5	Freefall (Range1-Range2)	Weight to subtract from target weight to disable gate output early to account for material in suspension when target weight is between Range 1 and Range 2.
6	Freefall (Range2->)	Weight to subtract from target weight to disable gate output early to account for material in suspension when the target weight is above Range 2.
7	Vibrator	(None, Always, No Flow) - Applies only to Bin 1 (Sand)
8	Fill Time	If Bin 1 has not completed in this time and the Vibrator is set to No Flow, the Vibrator turns on for the duration of the fill.

Table 3-5. Bin Settings

3.11 Silo Settings

Field	Data
Name	1 Cement 1
Freefall Range 1	2 2500
Freefall Range 2	3 5000
Freefall(<-Range1)	4 250
Freefall(Range1-Range2)	5 500
Freefall(Range2->)	6 1000
Air	7 Always
Fill Time	8 45.0 sec

Figure 3-11. Silo Settings

Item No.	Parameter	Function
1	Name	Name of Silo.
2	Freefall Range 1	Max Target Weight value for Range 1.
3	Freefall Range 2	Max Target Weight value for Range 2.
4	Freefall (<-Range1)	Weight to subtract from target weight to disable gate output early to account for material in suspension when target weight is below range 1.
5	Freefall (Range1-Range2)	Weight to subtract from target weight to disable gate output early to account for material in suspension when target weight is between Range 1 and Range 2.
6	Freefall (Range2->)	Weight to subtract from target weight to disable gate output early to account for material in suspension when the target weight is above Range 2.
7	Air	(Always, No Flow, None)
8	Fill Time	If Silo 1 has not completed in this time and the Air is set to No Flow, the Air turns on for the duration of the fill.

Table 3-6. Silo Settings

3.12 Aggregate Hopper Settings

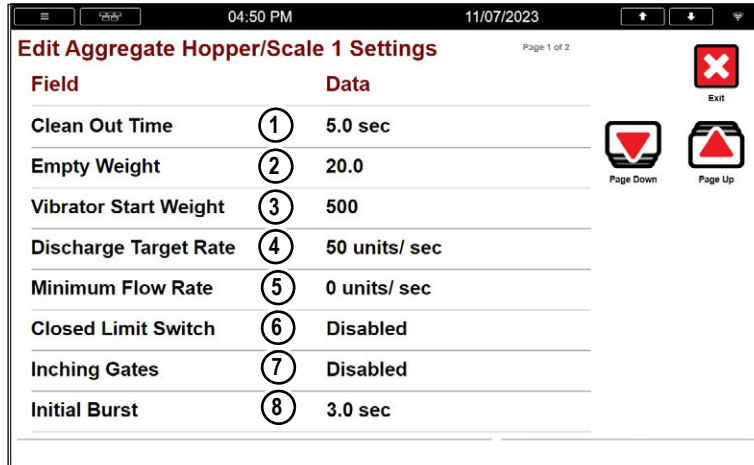


Figure 3-12. Aggregate Hopper/Scale Settings (Page 1)

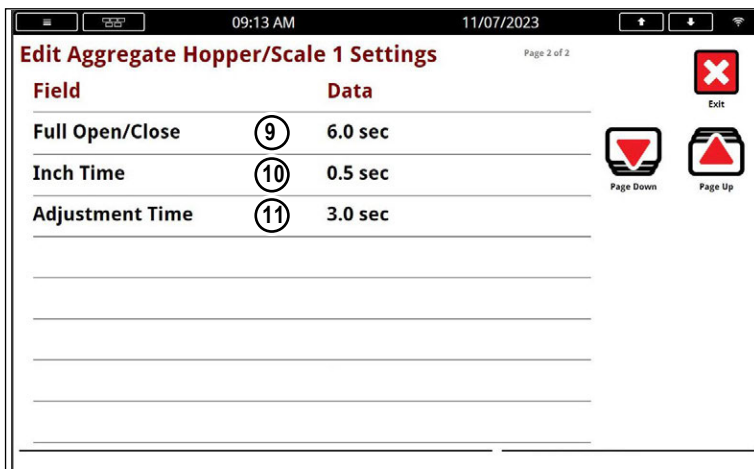


Figure 3-13. Aggregate Hopper/Scale Settings (Page 2)

Item No.	Parameter	Function
1	Clean Out Time	Amount of time the discharge gate stays open and output is enabled when empty weight is reached during discharge. When time expires, output is disabled and the discharge gate closes.
2	Empty Weight	Value determining a scale is empty.
3	Vibrator Start Weight	Weight the hopper vibrator turns on as the hopper discharges.
4	Discharge Target Rate	Target rate of material flow (units per second) when using inching Gates. If the system is equipped with inching gates, the system adjusts them to obtain this rate of flow.
5	Minimum Flow Rate	System pauses if discharge rate falls below min flow before it reaches empty weight.
6	Closed Limit Switch	Enabled - system turns off the close output after closed limit switch input is satisfied. Disabled - system always has open or close output energized.
7	Inching Gates	Enable if system includes inching discharge gates.
8	Initial Burst	Time (in seconds) to initially open the inching discharge gate.
9	Full Open/Close	Length of time (in seconds) to fully open or close the inching discharge gate. Will energize the gate close output for set amount of time or until the closed limit switch is energized.
10	Inch Time	Length of time (in seconds) to open or close the inching discharge gate during each Adjustment Time to maintain the desired flow rate.
11	Adjustment Time	Interval (in seconds) the system will inspect the flow rate to make adjustments to the inching discharge gate.

Table 3-7. Aggregate Hopper/Scale Parameters

3.13 Cement Weigh Hopper Settings

Field	Data
Clean Out Time	① 5.0 sec
Empty Weight	② 20.0
Vibrator Start Weight	③ 500
Discharge Target Rate	④ 50 units/ sec
Minimum Flow Rate	⑤ 0 units/ sec
Closed Limit Switch	⑥ Disabled
Inching Gates	⑦ Disabled
Initial Burst	⑧ 3.0 sec

Figure 3-14. Cement Hopper/Scale Settings (Page 1)

Field	Data
Full Open/Close	⑨ 6.0 sec
Inch Time	⑩ 0.5 sec
Adjustment Time	⑪ 3.0 sec

Figure 3-15. Cement Hopper/Scale Settings (Page 2)

Item No.	Parameter	Function
1	Clean Out Time	Amount of time the discharge gate stays open and output is enabled when empty weight is reached during discharge. When time expires, output is disabled and the discharge gate closes.
2	Empty Weight	Value at which the scale is empty.
3	Vibrator Start Weight	Weight at which the hopper vibrator turns on while discharging.
4	Discharge Target Rate	Target rate of material flow (units per second) when using inching Gates. If the system is equipped with inching gates, the system adjusts them to obtain this rate of flow.
5	Minimum Flow Rate	System pauses if discharge rate falls below min flow before it reaches empty weight.
6	Closed Limit Switch	Enabled - system turns off the close output after closed limit switch input is satisfied. Disabled - system always has open or close output energized.
7	Inching Gates	Enable if system includes inching discharge gates.
8	Initial Burst	Time (in seconds) to initially open the inching discharge gate.
9	Full Open/Close	Length of time (in seconds) to fully open or close the inching discharge gate. Will energize the gate close output for set amount of time or until the closed limit switch is energized.
10	Inch Time	Length of time (in seconds) to open or close the inching discharge gate during each Adjustment Time to maintain the desired flow rate.
11	Adjustment Time	Interval (in seconds) the system will inspect the flow rate to make adjustments to the inching discharge gate.

Table 3-8. Cement Hopper/Scale Settings Parameters

3.14 Bin/Silo Accumulators

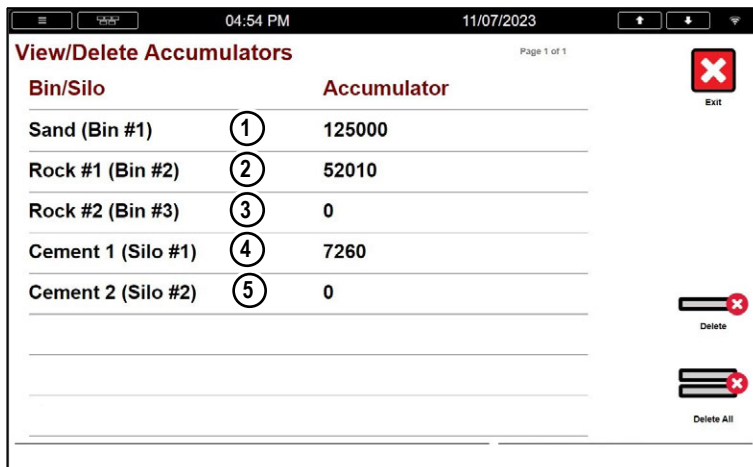


Figure 3-16. Bin/Silo Accumulators

Item No.	Parameter	Function
1	Sand (Bin #1)	The amount of material that has been filled from Bin #1.
2	Rock #1 (Bin #2)	The amount of material that has been filled from Bin #2.
3	Rock #1 (Bin #3)	The amount of material that has been filled from Bin #3.
4	Cement 1 (Silo #1)	The amount of material that has been filled from Silo #1.
5	Cement 2 (Silo #2)	The amount of material that has been filled from Silo #2.

Table 3-9. Bin/Silo Accumulators Parameters

4.0 Operation

The section describes the basic sequence of operation for the 1280 FlexWeigh Accumulative Concrete Batcher.

4.1 Main Interface

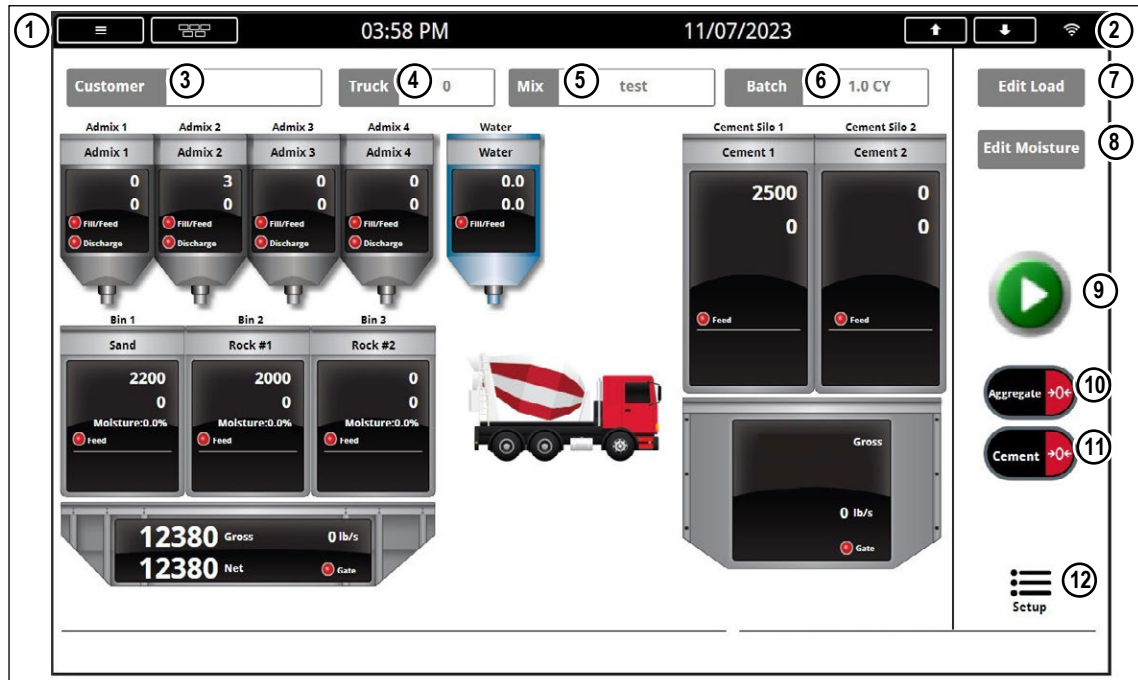


Figure 4-1. 1280 FlexWeigh Accumulative Concrete Batcher Main Interface





NOTE: Pressing zero button causes three zero buttons to appear.

Number	Widget	Description
1	Main Menu	Accesses and make changes to 1280 indicator configuration. See 1280 Technical Manual (PN 167659) for more details
2	Network Information	Accesses and views Wired Ethernet, Wi-Fi®, and Wi-Fi Direct® information
3	Customer Selection	Displays activated Customer. Select this parameter to choose a Customer from Customer Database
4	Truck Selection	Select this parameter to enter Truck ID.
5	Mix Selection	Displays activated Mix. Select this parameter to choose a Mix from the Mix Database
6	Batch Selection	Displays configured batch size. Select this parameter to configure the batch size
7	Edit Load	Edits Admixture and Water Values
8	Edit Moisture	Edits the moisture percentage of Bin 1, Bin 2 and Bin 3
9	Start	Starts the batching process
10	Aggregate Zero	Zeros aggregate hopper (scale 1)
11	Cement Zero	Zeros cement hopper (scale 2)
12	Setup Menu	Accesses the Setup Menu

Table 4-1. Main Interface Widget Information

4.2 Selecting a Mix

1. Press **Mix**.
2. Press  or  until the desired mix is shown.
3. Select the desired mix.





NOTE: All targets will be multiplied by the Batch Amount and Moisture Content (if enabled).

NOTE: All values are entered in 1 Yard/Meter in the Mix database.

ID	Name
12 Test	1 YD Test

Figure 4-2. Mix Selection

4.3 Selecting a Customer

1. Press **Customer**.
2. Press  or  until the desired customer displays.
3. Select the desired customer.

ID	Name
1	Rice Lake Weighing

Figure 4-3. Customer Selection

4.4 Edit Truck

To edit the truck ID number:

1. Press **Truck** .
2. Enter the Truck ID.
3. Press **DONE** .

4.5 Editing Batch Size

1. Press **Batch** .
2. Enter the Batch Size.



NOTE: The batch size must be in between the minimum and maximum batch size values.

3. Press **DONE** .

4.6 Editing Moisture Values

All mixes are entered in the database as 1 Cubic Yard / Cubic Meter. When adjusting the water, it uses 8.345404 pounds per gallon and 2.204684 kilograms per liter to be subtracted from the target values based on how much moisture was entered.

	Target	Moisture	Adjusted Target	Water
Bin 1	1400 lb	0.70%	1410 lb	1.2 gal / 9.8 lb
Bin 2	300 lb	1.30%	304 lb	0.5 gal / 3.9 lb
Water (metered)	33.52 gal	N/A	25.30 gal	N/A
Water (weighed)	280 lb	N/A	266.3 lb	N/A

Table 4-2. Moisture Values

To edit the moisture value:

1. Press **Edit Moisture** .



NOTE: The widget is only visible if Moisture Compensation is enabled.

2. Enter the Bin 1 moisture percentage followed by **DONE** .
3. Enter the Bin 2 moisture percentage followed by **DONE** .
4. Enter the Bin 3 moisture percentage followed by **DONE** .

4.7 Editing a Mix (Load)

If changes are required to the Admixture or Water values for the load, the **Edit Load** widget may be used. To change the Admixture or Water values:

1. Press **Edit Load**.
2. Press admixture or water widgets to edit the current target.



NOTE: These values will not update the Mix database. The values will remain until a new mix is selected, power is cycled or the Setup Menu is exited.

NOTE: No other options will be available until Exit Load is pressed.

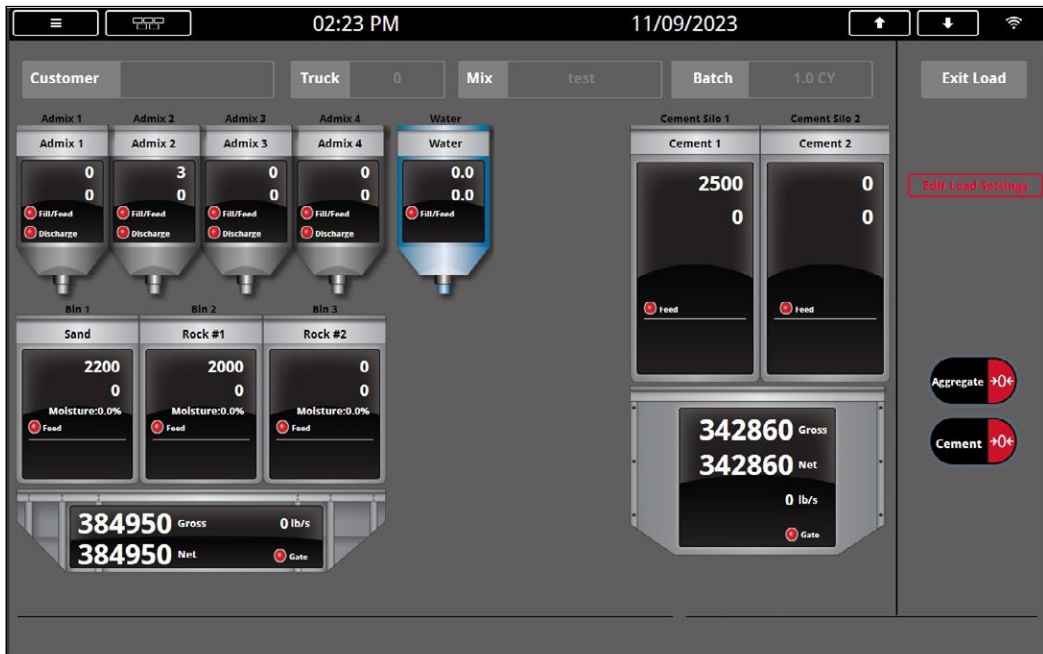


Figure 4-4. Mix (Load) Editing Main Display

3. Press **Exit Load**.

4.8 Starting a Batch

The 1280 FlexWeigh Accumulative Concrete Batcher provides a large **Start** (▶) widget on the main screen.

Pressing **Start** (▶) changes the widget to **Pause** (⏸) when the system is processing a mix.

Pressing **Pause** (⏸) causes the system to display **Resume** (▶) and **Abort** (✖) widgets.

4.8.1 System Process Controls

- Press **Pause** (⏸) or press the **E-Stop** button to pause the system when batching has started.
- Press **Start** (▶) to start the batching process or resume the process when paused.
- Press **Abort** (✖) to abort the batching process when paused.



NOTE: The system adds a record to the Transaction database with the amount that was batched before the pause widget was pressed.

To deactivate the E-Stop Input, turn the E-Stop switch clockwise.

4.9 Processing a Mix

Processing a mix varies depending on configuration. This section provides a general example of how a mix could be processed.



NOTE: The Start widget will not display if:

- E-Stop is not pulled out
- Air pressure is low
- Admix (X) is not empty (in either the bottle or the mix)
- In Manual Mode
- Cement and Aggregate Weigh Hoppers weight are less than zero
- Aggregate and Cement Gate Closed Limit not energized (open, if enabled)
- Water Gate Closed Limit not energized (open, if Water is weighed)



NOTE: If Manual Mode is enabled while batching, the screens, tickets and storage may not reflect the actual amount of material processed.

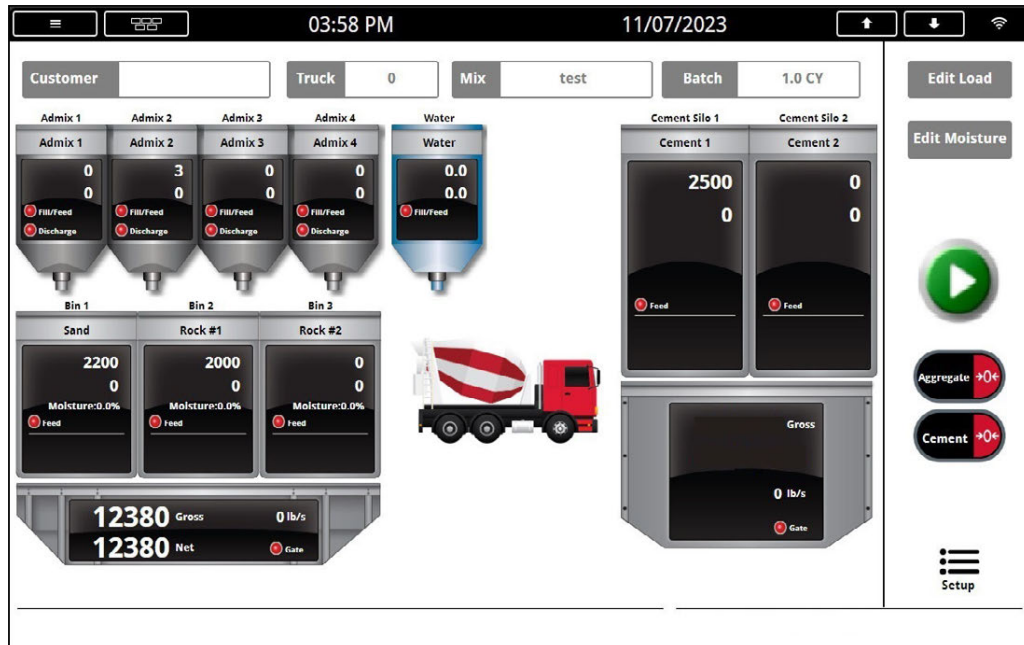


Figure 4-5. Main Batching Screen

1. Press .
2. The system performs the following actions:
 - 2.1. Energizes the **Disable Manual Mode** output and the **Alarm** output for 3 seconds.
 - 2.2. Activates **Dust Collector 1** Output (if Cement 1 is in mix) and/or **Dust Collector 2** Output (if Cement 2 is in mix).
 - 2.3. Activates the **Conveyor Start/Run** output.
 - 2.4. Waits until the **Conveyor Running** input is turned ON. If the **Conveyor Running** input turns off before the Conveyor Runout Time elapses, the batch pauses.
 - 2.5. If an Admix is set as **Bottle**, system activates the **Admix X Fill/Feed** output until it senses enough **pulses-coast** from the admix meter on the **Admix X Pulse** input.



NOTE: Admixes can be set as **None**, **Bottle**, or **Direct** and configured to discharge during **Front water** or **Tail water**.

- 2.6. Once all Admixtures reach their targets, the system performs the following actions:
 - i. Tares the applicable scales.
 - ii. Fills Aggregate Hoppers, Cement Hoppers, and Weighed Water where:
 - Activates the **Bin/Silo X Feed** output for the first material needed for the mix until it reaches the **Product Target – Free Fall (3 Ranges)** weight.

- Activates the **Water Feed/Fill** output until total **Water Target - Coast** is met, if filling weighed water.
 - Activates **Bin 1 Vibrator** (depends on configuration), if filling Bin 1.
 - Activates **Cement 1 Air** (depends on configuration), if filling Cement 1.
 - Activates **Cement 2 Air** (depends on configuration), if filling Cement 2.
- iii. Deenergizes the **Bin/Silo X Feed** output once the first material target weight is met.
 - iv. If additional ingredients are needed, repeats the **Filling** step in this sequence until the mix is complete.
3. Once **Bin/Silo** targets are reached, the System pauses, deenergizes the **Disable Manual Mode** output and prompts for manual adjustments.
 4. If adjustments are required, set the Auto/Manual switch to Manual and make the adjustments using the manual bin/silo switches. When adjustments are complete, return the Auto/Manual switch to Auto to continue. System tracks the weight that is added to the Aggregate and/or Cement Scale.



NOTE: The system does not track individual bins/silos, water or admixtures.

5. The system prompts if the truck is in place and if OK to discharge. Press **Discharge** to continue.
6. The System performs the following actions:
 - 6.1. Discharges water (if water is set as Before Discharge).
 - 6.2. Energizes the **Aggregate Hopper Gate Open** and **Cement Hopper Gate Open** outputs. Depending on flow rate parameters, the system may control the inching gates.
 - 6.3. Discharges water (if water is set as During Discharge).



NOTE: How the system discharges, depends on configuration. For a more information about the System Discharge Sequence, see [Section 5.4 on page 44](#).

- 6.4. Closes the gates, turns off **Vibrators** and deactivates **Dust Collector 1 and 2** outputs once the hopper scale weight drop below **Empty Scale Weight** and **Cleanout Time** expires.
- 6.5. Displays “Conveyor Runout” for the **Conveyor Runout Time** and then deactivates the **Conveyor** output.
- 6.6. Discharges the remaining **Tail Water** (Weighed – **Weighed Water Discharge Gate** or Metered – **Water Feed/Fill** output).



NOTE: How the system discharges, depends on configuration. For a more information about the System Discharge Sequence, see [Section 5.4 on page 44](#).

- 6.7. Adds a new record to the **Transaction** database table. If the **Transaction** database becomes full, 25% of the oldest tickets are deleted.
- 6.8. Prints a batch ticket if **Auto Print** is **Enabled**. If **Disabled**, the operator presses the **PRINT** button to print a ticket.
- 6.9. System returns to Step 1.

4.10 Aeration

4.10.1 Bin 1 Vibrator (Sand)

- If Bin 1 Vibrator is set to **ALWAYS**, the **Bin 1 Vibrator Output** activates while **Bin 1 Feed Output** is on.
- If Bin 1 Vibrator is set to **NO FLOW**, the system checks if the target is satisfied within the **Fill Time**. If incomplete, the system activates the **Bin 1 Vibrator Output** for the remaining time **Bin 1 Feed Output** is on.
- If Bin 1 Vibrator is set to **NONE**, nothing happens.

4.10.2 Silo 1 & 2 Air (Cement 1 & 2)

- If Silo Air is set to **ALWAYS**, the **Silo/Cement X Air Output** activates while **Silo/Cement X Feed Output** is on.
- If Silo Air is set to **NO FLOW**, the system checks if target is satisfied within the **Fill Time**. If incomplete, the system activates the **Silo/Cement X Air Output** for the remaining time the **Silo/Cement X Feed Output** is on.
- If the Silo Air is set to **NONE**, nothing happens.

4.10.3 Aggregate and Cement Weigh Hopper Vibrator/Aeration

- During Aggregate Weigh Hopper/Cement Weigh Hopper discharge, the **Vibrator** activates when it drops below the **Vibrator Start Weight** and remains on through **Clean Out Time**.
- The **Cement Weigh Hopper Air/Aggregate Weigh Hopper Air** activates one second before the Weigh Hopper discharges and for the remainder of Hopper discharge.

4.11 System Pause

1. Press the **Pause** button or the **E-Stop** input. All outputs turn off.
2. Perform one of the following:
 - A. Press **Resume**, the batch resumes. The **Alarm**, **Dust collector(s)**, and **Conveyor** activate before batch continues.
 - B. Press **Abort**, the batch aborts. A record is added to **Transaction** database with amount that was batched before the pause.



Figure 4-6. System Pause Buttons

4.12 Manual Mode

Once Manual Mode is engaged, the system turns the background gray. While in Manual Mode, press the **Bin 1 Vibrator**, **Aggregate Vibrator**, **Aggregate Air**, **Cement Vibrator**, **Cement Air**, **Silo 1/2 Air** and **Dust Collector 1/2** buttons to toggle the respective outputs on and off. All other outputs are controlled by the switches on the front panel. No other options will be available until Manual Mode is disengaged.

- Turn the **Manual Mode switch** to the right to engage manual mode.
- Turn the **Manual Mode switch** to the left to disengage manual mode



NOTE: The system updates the actual weight as weight is dispensed (only if not running a batch). If running a batch, the actual weight dispensed is updated upon exiting Manual Mode.

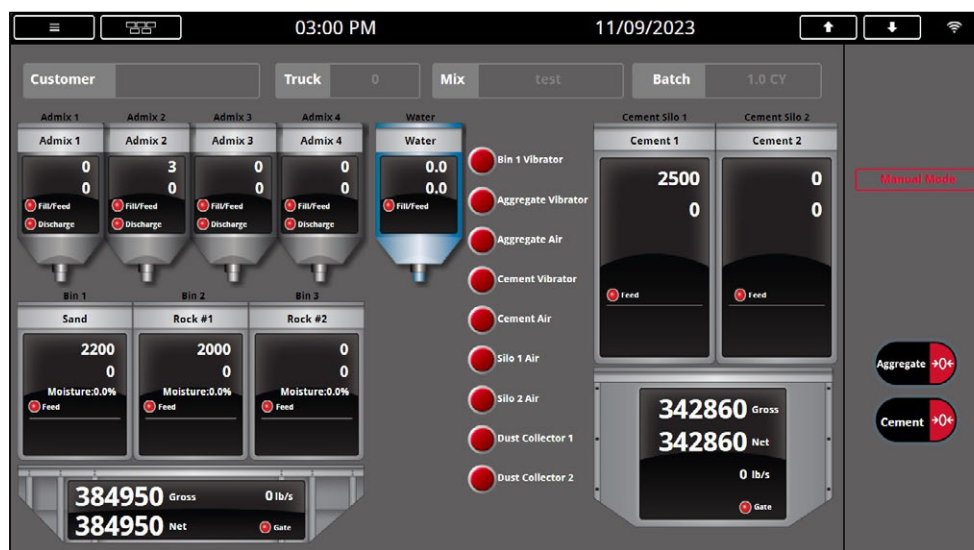


Figure 4-7. Manual Input Enabled



The system clears the values in each bin/admixture upon the start of the next batch.

5.0 Appendix

5.1 Database Tables

5.1.1 Transactions (“Trans”) Database Table — 1,000 Records

Field	Type	Description
TickNum	Integer	Ticket Number
CName	String	Customer Name
Truck	Integer	Truck Number
MixID	String	Unique mix ID (20-character max)
MixName	String	Mix Name (to be displayed when selecting a mix)
YM	String	Cubic Yards or Cubic Meters (CY-lb & CM-kg)
TYM	Real	Target Cubic Yards or Cubic Meters
Bin1T	Real	Target amount of Bin 1 in pounds or kilograms
Bin1A	Real	Actual amount of Bin 1 in pounds or kilograms
Bin2T	Real	Target amount of Bin 2 in pounds or kilograms
Bin2A	Real	Actual amount of Bin 2 in pounds or kilograms
Bin3T	Real	Target amount of Bin 3 in pounds or kilograms
Bin3A	Real	Actual amount of Bin 3 in pounds or kilograms
Cem1T	Real	Target amount of Cement 1 in pounds or kilograms
Cem1A	Real	Actual amount of Cement 1 in pounds or kilograms
Cem2T	Real	Target amount of Cement 2 in pounds or kilograms
Cem2A	Real	Actual amount of Cement 2 in pounds or kilograms
Admix1T	Real	Target amount of Admixture 1 in ounces or milliliters
Admix1A	Real	Actual amount of Admixture 1 in ounces or milliliters
Admix2T	Real	Target amount of Admixture 2 in ounces or milliliters
Admix2A	Real	Actual amount of Admixture 2 in ounces or milliliters
Admix3T	Real	Target amount of Admixture 3 in ounces or milliliters
Admix3A	Real	Actual amount of Admixture 3 in ounces or milliliters
Admix4T	Real	Target amount of Admixture 4 in ounces or milliliters
Admix4A	Real	Actual amount of Admixture 4 in ounces or milliliters
WaterT	Real	Metered = Target amount of Water in gallons or liters Weighed = Target Amount of Water in pounds or kilograms
WaterA	Real	Metered = Actual amount of Water in gallons or liters Weighed = Target Amount of Water in pounds or kilograms
Aborted	Integer	1 = Aborted & 0 = Completed
WaterMT	String	“Weighed” or “Metered”
DT	DateTime	Time and date of batch

Table 5-1. Transactions Database

5.1.2 Mix Design (“Mix”) Database Table — 1,000 Records

Field	Type	Description
ID	String	Unique mix ID (20 characters max)
Name	String	Mix Name (to be displayed when selecting a mix)
Bin1	Real	Bin 1 target (pounds/kilograms) weight-based on a 1-yard/meter batch
Bin2	Real	Bin 2 target (pounds/kilograms) weight-based on a 1-yard/meter batch
Bin3	Real	Bin 3 target (pounds/kilograms) weight-based on a 1-yard/meter batch
Cem1	Real	Cement 1 target (pounds/kilograms) weight based on a 1-yard/meter batch
Cem2	Real	Cement 2 target (pounds/kilograms) weight based on a 1-yard/meter batch
Admix1	Real	Admixture 1 target (ounces/milliliters) based on a 1-yard/meter batch
Admix2	Real	Admixture 1 target (ounces/milliliters) based on a 1-yard/meter batch
Admix3	Real	Admixture 1 target (ounces/milliliters) based on a 1-yard/meter batch
Admix4	Real	Admixture 1 target (ounces/milliliters) based on a 1-yard/meter batch
Water	Real	Water target (gallons/liters) based on a 1-yard/meter batch

Table 5-2. Mix Design Database

5.1.3 Customers (“Customer”) Database Table — 500 Records

Field	Type	Description
ID	Integer	Customer ID
Name	String	Customer Name

Table 5-3. Customers Database

5.1.4 Language (“Language”) Database Table — 300 Records

Field	Type	Description
Nbr	Integer	Text string number
PriLan	String	Prompt in the primary language (English by default)
SecLan	String	Prompt in the secondary language (Spanish by default)

Table 5-4. Language Database

5.2 Hardware Setup

5.2.1 Serial Port Functions

Channel	Type	Description	Setup
1	CMD	Printer	9600,8,N,1
2	CMD	Currently Not Used	9600,8,N,1

Table 5-5. Serial Port

5.3 Serial Communications

5.3.1 Weigh Ticket

The program uses the Auxiliary Print Format #1 (Primary Language) and Auxiliary Format #2 (Secondary Language). To alter the ticket text, use Revolution or the 1280 configuration. These tickets are not controlled by the language database.

System blanks lines that are not being used.

ABORTED BATCH appears after ticket number if aborted.

Ticket #: 3			
Customer: Rice Lake Weighing			
Truck #: 1258			
Mix ID: 1			
Mix Name: Test			
Quantity: 1.0 CY			
Ingredient	Target	Actual	%TOL

Sand	95 lb	7930 lb	8247.4%
Stone2	196 lb	210 lb	7.1%
Stone1	291 lb	2810 lb	865.6%
Cement	100 lb	250 lb	150.0%
FlyAsh	200 lb	250 lb	25.0%
Admix 1	10 oz	11 oz	10.0%
Admix 2	5 oz	7 oz	40.0%
Admix 3	6 oz	6 oz	0.0%
Admix 4	7 oz	6 oz	-14.3%
Water	20 gal	20 gal	0.0%
04:08 AM 12/13/2021			

Figure 5-1. Weigh Ticket Print

5.4 System Discharge Sequences

Water settings allow for toggling between the system discharge settings. See [Section 3.4 on page 25](#) to view and edit the water settings.

Discharge Type	Description
Before Discharge Sequence	If the Water Settings are set to Before Discharge, the system will fill all front water before discharging any of the material scales.
During Discharge Sequence	If the Water Settings are set to During Discharge, the system will fill water as it also begins to discharge the material scales, depending on the delay timers configured for each scale.
Tail Water Sequence	Admixtures are either discharged with the front water or with the tail water depending on how they are configured in the Admixture Settings.

Table 5-6. Discharge Descriptions

5.4.1 Before Discharge Sequence

1. System prompts if the truck is in place and if OK to discharge. Press **Discharge** to continue.
 - A. System energizes the **Disable Manual Mode** output.
 - B. If water is set as Before Discharge:
 - i. **Weighed** - the system activates the **Weighed Water Discharge Gate** output until discharge amount is achieved (**Water Target – (Water Target * Tail Water Percentage)**). System retains a water portion for tail water.
 - ii. **Metered** - the system activates the **Water Feed/Fill** output until the **Water Target - (Water Target * Tail Water Percentage) - Coast**. System retains a water portion for tail water. It senses pulses from the water meter on the **Water Meter** input.

- iii. If Admix is set to begin with **Front Water** (Admixture Discharge), the system waits until water discharges from either:
 - **Bottle** - activates the **Admix X Discharge** output until **Admix X Bottle Empty** input.
 - **Direct** - activates the **Admix X Fill/Feed** output until it senses enough pulses-coast from the admix meter on the **Admix X Pulse** input.

5.4.2 During Discharge Sequence

1. The system energizes the **Aggregate Hopper Gate Open** and **Cement Hopper Gate Open** outputs.
2. The system controls the inching gates based on the flow rate values set in the Setup Menu.
 - A. If water is set as **During Discharge**:
 - i. **Weighed** - the system activates the **Weighed Water Discharge Gate** output until discharge amount is achieved (**Water Target – (Water Target * Tail Water Percentage)**). System retains a water portion for tail water.
 - ii. **Metered** - the system activates the **Water Feed/Fill** output until: **Water Target - (Water Target * Tail Water Percentage) - Coast**. System retains a water portion for tail water. It senses pulses from the water meter on the **Water Meter** input.
 - iii. If Admix is set as begin with **Front Water** (Admixture Discharge), the system waits until the water starts flowing:
 - **Bottle** - activates the **Admix X Discharge** output until **Admix X Bottle Empty** input
 - **Direct** - activates the **Admix X Fill/Feed** output until it senses enough pulses-coast from the admix meter on the **Admix X Pulse** input.
 - B. If the flow rate drops below the configured minimum, it pauses.
 - C. System turns on the **Aggregate** and **Cement Hopper Vibrators** when the weight drops below **Start Vibrator** weight.

5.4.3 Tail Water Sequence

1. The system discharges the remaining **Tail Water** (Weighed – **Weighed Water Discharge Gate** or Metered – **Water Feed/Fill** output).
 - A. If Admix set as discharge with **Tailer Water**, the system waits until water discharges, where:
 - **Bottle** activates the **Admix X Discharge** output until **Admix X Bottle Empty** input
 - **Direct** activates the **Admix X Fill/Feed** output until it senses enough **Pulses - Coast** from the admix meter on the **Admix X Pulse** input.

6.0 Specifications

Power:

AC voltages: 100-240 VAC; 50-60 Hz
Consumption: 60W

Excitation Voltage:

10 ± 0.5 VDC
16 x 350 ohm or 32 x 700 ohm load cells per A/D card

Analog Signal Input Range:

-60 mV to 60 mV

Analog Signal Sensitivity:

0.3 µV/graduation minimum at 7.5 Hz–120 Hz
1.0 µV/graduation recommended

A/D Sample Rate:

7.5 to 960 Hz, software selectable

Resolution:

Internal: 8 million counts/8,000,000
Display: 1,000,000

System Linearity:

± 0.01% full scale

Communication Ports:

Port 1 & 2: Full duplex RS-232 with CTS/RTS, RS-422/485
Baud Rate: 1200 to 115200
Port 3: USB 2.0 Device (Micro)
USB Host: (2) Type A Connectors max 500 mA
Ethernet: Wired 10/100 Auto-MDX
Ethernet: Wireless 802.11 b/g/n 2.4GHz

On Board:

Selectable filters: Three stage, Adaptive or Damping
Embedded Linux® OS
8 GB eMMC (system use)
1 GB DDR3 RAM
460 MB onboard database (SQLite) storage
Up to 32 GB micro SD card

Display:

Twelve-inch, 1280 x 800 pixel, 1,500 NIT

Temperature Range:

Certified: 14°F to 104°F (-10°C to 40°C)
Operating: -4°F to 131°F (-20°C to 55°C)

Rating/Material:

Painted mild steel enclosure
NEMA Type 12; NEMA Type 4; IP66

Dimensions:

20 in x 20 in x 10 in

Warranty:

Two-year limited warranty

EMC Immunity:

EN 50082 Part 2 IEC
EN 61000-4-2, 3, 4, 5, 6, 8, 11



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