Breeder Control Operation Manual

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Thank you for purchasing a BinTrac Breeder Control from Herdstar, LLC.

Overview

Your BinTrac Breeder Control provides a cost effective way to automatically monitor bin level and batch a programmed load or unload amount.

Components

A BinTrac Breeder Control consists of four basic components:

BinTrac Breeder Control
This is the main unit of the BinTrac system. The BinTrac Breeder Control communicates with the Smart Summing Boxes to register the weight of material in the bins. The material level is computed and displayed on the LED bar graph.



Load Cell Bracket
Four or more loadcell brackets allow the BinTrac to accurately measure the material weight in your bins. The Smart Summing Box averages the signals from all brackets to minimize errors that could result from voids (holes) in the material.

Smart Summing Box
A single Smart Summing Box per bin communicates the current reading on the leg brackets to the Bintrac Breeder Control.

BinTrac Power Supply
This provides the power for the BinTrac Breeder Control. The power supply converts the line voltage to low voltage.

Features

Weight Display
The Bintrac Breeder Control displays the gross weight of the bin and its level.

Batch Run
The Bintrac Breeder Control features a relay to enable a load or unload system for batching a programmed amount.

Fill Events
The Bintrac Breeder Control records the net weight increase of the last four fill events for each enabled bin.

24hr Usage
The Bintrac Breeder Control records the last four operational 24 hour usage amounts.

Remote Display
A Bintrac Breeder Control can be configured as a Remote Display which will display the same updated weight information from the host BinTrac Indicator.

System Setup

The units are easily wired by a qualified technician using standard communication wiring. See Appendix A and Appendix B drawings for detailed load and unload wiring information. The System setup has two levels of settings: 1) Operation Settings: These are settings that may be changed for normal use by an operator and 2) System Settings: These are a one-time setup usually done at the time of installation.

Operation Settings

New BinTrac Breeder Control installations require a one-time system configuration procedure before use. In this mode you can configure the batching method you wish to use.

Selecting Batching Method

This procedure will allow you to select the batching method you wish to use. On the BinTrac Indicator, press and hold the SELECT key for approximately 8-10 seconds. The bin level gauge will go blank, and all of the bin selector indicators will illuminate showing their current status.



1. Press the SELECT key to select the desired bin.
2. Press the  key to proceed. The indicator for bin “A” will remain on, and all others will turn off. If the indicator is on steady, “A” bin is being monitored. If it is flashing, the bin is not being monitored. Press the  or  key to toggle bin monitoring on or off.
3. Repeat steps 2-3 for additional bins.
4. Unit returns to Weight Display mode after this procedure or after 20 seconds of no activity (no keystrokes).

Calibrate Bin Empty (Zero)

This procedure will zero the BinTrac weight by correcting for the dead-load of the empty bin.

1. Press the SELECT key to select desired Bin.
2. Press the  and then the  key and hold for 5 seconds. While held, the bar graph and bin indicators will flash until 5 seconds have passed and the indicated bin level has been zeroed.
3. Unit returns to Weight Display mode after this procedure or after 20 seconds of no activity (no keystrokes).

System Settings

The setup mode is used to configure the one-time system setup settings for each bin.
If there is no activity for 20 seconds while in SETUP mode, the system will exit SETUP mode and return to Weight Display mode.

Accessing the Setup mode

This menu can be accessed with two methods:

1. This method requires you to power the device down and wait at least 3 seconds before re-applying power to the system. When the device is powered up it will automatically enter SETUP mode and display the Ver.

2. This method requires you to hold the SELECT button down for approximately 10 seconds, at which time SETUP mode will be displayed.

Segmented display:

SEtUP

Navigating Setup mode

To navigate through the options in Setup mode, you can use the  and the  keys to cycle through the options/parameters. See Figure 1 for the SETUP menu flow chart.

Selecting an Option in Setup mode

To select an option/parameter to edit in SETUP mode, you must navigate to the option you wish to edit. Navigate using the  and  keys, and then pressing the SELECT key when you reach the desired option.

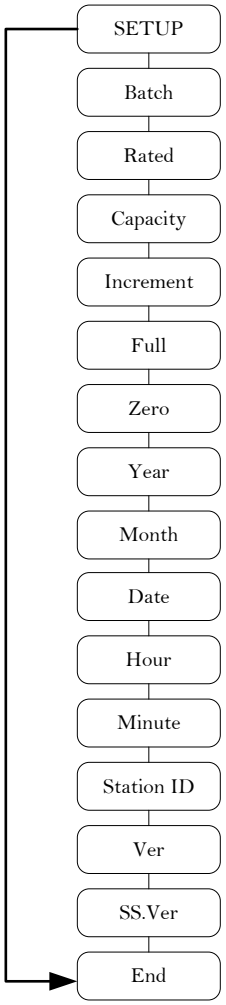


Figure 1

Options in Setup Mode

Setup (Version 1.0 and higher)

The LEDs indicate various configuration options as being enabled (solid on) or disabled (flashing). When SETUP is displayed on the screen, the following LED's are used to configure the functionality as noted below.

Gross Weight – Configures BinTrac Indicator as a Remote Display.
A Remote Display is hardwired to a BinTrac Indicator for remotely viewing weight data.
Batch Amount – Enable ASCII Serial Communications Command Set. (See Below)
BinTrac Monitor or BinTrac Remote Display will transmit weight data based on received commands. Enable this feature when interfacing unit to a PC or serial type device.
Flashing Light – Enable Weight Broadcast
ASCII weight data will be serially broadcast approximately once ever second.
RUN – Enable communications to peripheral devices.
Must be enabled when BinTrac Monitor is connected to BinTrac Remote Display or HouseLink Interface.

1. Press the SELECT key to select the desired configuration option.
2. Use the  or  keys to enable or disable options.

Segmented display:

SEtup

Serial Data Command Set

Poll Command	Description and Data Record Format (fixed length)
P	Current weight of first enabled bin +/-wwwwwcrlf
PP	Current weight of all four bins +/-wwwww,+/-wwwww,+/-wwwww,+/-wwwwwcrlf
SnnP	Current weight of first enabled bin with matching BinTrac Station ID +/-wwwwwcrlf
SnnPP crlf	Current weight of all four bins with matching BinTrac Station ID +/-wwwww,+/-wwwww,+/-wwwww,+/-wwwwwcrlf

Note: All commands must be terminated by CR. Latency between characters within a multiple character command (including CR), cannot exceed 200msec.
w – Bin Weight
n – Station ID Number
CR – Carriage Return (Hx0D).
LF – Line Feed (Hx0A).

Batch

Enables you to set the batch option from **LoAd** to **u.LoAd**. **LoAd** is used when you want material batched into a bin. Based on the gross weight of the bin, material is batched into the bin until the batched amount equals the gross amount. **u.LoAd** is used when you want material batched out of a bin. In this case, the bin is holding a bulk amount of feed and will batch out the programmed batch amount.

1. Press the SELECT key to enter menu.
2. Use the  or  keys to select Load or uLoad.

Segmented display:

BAtch

Rated

The average rated output, in millivolt/volt of the load cells. DO NOT CHANGE unless necessary. Every standard load cell has a rated output, specified in mV/V. If using load cells other than the Herdstar load cells, adjust this value appropriately.

1. Press the SELECT key to select the desired Bin.
2. Use the  key to increase the rated output by 0.001.
3. Use the  key to decrease the rated output by 0.001.

Segmented display:

rAtEd

Capacity

Sets the system capacity of each bin. The system capacity is the sum of all the load cells rated capacity. **When setting for kilograms, convert the total system capacity to kilograms.**
Ex: Six leg bin with six 10k loadcells, capacity setting for pounds is 60,000. Capacity setting for kilograms is 27,215.

1. Press the SELECT key to select the desired Bin.
2. Use the  key to increase the value by 1 unit.
3. Use the  key to decrease the value by 1 unit.

Segmented Display:

cAP

Increment Value

Sets the increment that the bin weight will display at. The reading from a bin is rounded to the nearest multiple of the increment, using standard rounding rules. The possible values are: 1, 2, 5, 10, 20, 50, 100, 200, 500, 1., 2.,5.,10.,20.,50.. See figure 2.

** Example: If an increment of 10 is selected and the net value of a bin's weight is 18,582 lbs.; the segmented display will read 18580.

Note: When the increment number is followed by a **"."** the displayed weight value is then scaled by 10. (120462 is displayed as 12046.) This is required when the displayed weight will exceed five digits.

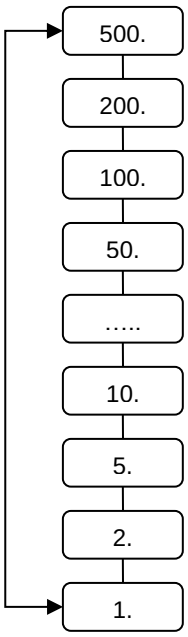


Figure 2

1. Press the SELECT key to select the desired bin.
2. Use the  key to increase the value to the nearest 10 units.
3. Use the  key to decrease the value to the nearest 10 units.

Segmented display:

inc

Full Value

Sets the maximum weight of a full bin either in pounds or kilograms. It is how much material the bin can hold. This is for calibration of the LED bar graph level. The value says at what net weight the bar graph will display completely full (all 16 LEDs lit).

1. Press the SELECT key to select the desired Bin.
2. Use the  key to increase the value by 1 unit.
3. Use the  key to decrease the value by 1 unit.

Segmented display:

fULL

Zero Value

Sets the weight of the empty bin either in pounds or kilograms. This value can also be set in the Operation Settings. This is used to compensate for the empty weight of the bin to give an accurate value for the net weight of the material inside the bin. ** Example: A bin weighs 1,200 lbs. empty. This is then set to the zero value: the BinTrac then calculates the material weight as the total weight less the zero weight value.

1. Press the SELECT key to select the desired Bin.
2. Use the  key to increase the value by 1 unit.
3. Use the  key to decrease the value by 1 unit.

Segmented display:

ZEro

Year
Sets the current Year.

Segmented display:

yEAr

Month
Sets the current Month.

Segmented display:

nnon

Date
Sets the current Date.

Segmented display:

dAtE

Hour
Sets the current Hour.

Segmented display:

Hour

Minute
Sets the current Minute.

Segmented display:

nnin

Station ID Value
Sets the Station ID of the device. For devices interfacing with a Site Console, the Station ID must be set within 100 – 131. When interfacing the device to a Communication Hub (CH100), set this value between 1and 99. Each BinTrac device **must** have a unique Station ID.

1. Press the SELECT key to select the desired Bin.
2. Use the  key to increase the value by 1.
3. Use the  key to decrease the value by 1.

Segmented display:

id

Software Version (Version 1.0 and higher)

Displays the BinTrac programmed software version number. This number may be required if technical help is needed.

1. Press the SELECT key to see the software version number.

Segmented display:

UEr

Smart Summing Box Software Version (Version 3.0 and higher)

Displays each of the connected Smart Summing Boxes programmed software version number. This number may be required if technical help is needed.

1. Press the BIN key to see the software version for each enabled bin.

Segmented display:

SS.UEr

End

Allows the user to exit SETUP mode.

1. Press the SELECT button to exit SETUP mode.

Segmented display:

End

Operation

Select Weight Display



Press the SELECT key to select between Gross weight and Batch amount. The Gross Weight is the total material remaining in the bin. The bar graph indicates the approximate level of the bin. The Batch amount is remaining weight left to batch to reach the Batch Target. Note: Batch Weight always starts at the Batch Target and counts down to “0” weight. This provides the best means to display the amount left to batch.

Manual Batch Run

1. Press key until “**bAtch**” is displayed.
2. Press SELECT to view the Batch Target Weight value.
3. Use the key to increase the value by 1.
4. Use the key to decrease the value by 1
5. Press SELECT to display the batch run control status (“run” or “Stop”)
6. Use the or keys to enable or disable batch run control.
7. Press SELECT to start Batching if run was selected. The batch run will begin immediately.

Scheduled Batch Run

1. Press key until “**bAtch**” is displayed.
2. Use the key to select “**SchdL**”.
3. Use the key to select hour and minute to schedule batch.

   Note: This is a 24 hour clock. ie. 13:00 = 1:00 p.m.
4. Press SELECT to view the Batch Target Weight value.
5. Use the key to increase the value by 1.
6. Use the key to decrease the value by 1
7. Press SELECT to display the batch run control status (“run” or “Stop”)
8. Use the or keys to enable or disable batch run control.
9. Press SELECT with “**run**” displayed. The Indicator will then display the batch amount and a countdown to the next batch run.
10. To stop a scheduled batch run use the key and “**StOP**” will be displayed. Press the SELECT key once to stop and again on the batch amount. The Indicator will then return to display the gross amount in the bin.

Paused Batch Run

1. To pause a batch in mid run, press the  key until “PAUSE” is displayed. Press SELECT key to pause the batch run.
2. When paused, the indicator will display “PAUSE” and the remaining batch amount on the screen.
3. To restart the batch, press the  key until “run” is displayed then press the SELECT key. The batch will then continue until completed.

Fill Event During Batch Run

1. If a FILL event occurs just prior to a batch being enabled, the unit will switch to FILL batching mode until FILL event has completed. The unit will remain in FILL batching mode for 20 minutes after the FILL event is complete to calibrate the additional weight.
2. If this occurs during the time when a scheduled batch run is set to go, the scheduled batch run will be skipped. A manual batch run can be done at this time.
3. If a FILL event occurs while a batch is running and the weight increases by 50 lbs. or more in the bin, the BinTrac WBBS will pause the batch and switch to FILL batching mode until FILL is completed.
4. The unit will remain in FILL batching mode for 20 minutes after the FILL event is complete to calibrate the additional weight and then resume batching the remaining amount.

Display Fill Events

This procedure allows you to view the last four recorded fill events.

5. Press the  key until “Fill” is displayed.
6. Press SELECT to view the last recorded fill event.
7. Press  key to view other prior recorded fill events.
8. Press SELECT to return to Weight Display mode or unit will return to Weight Display mode after 20 seconds of no activity (no key strokes).

Display 24 Hour Usage

This procedure allows you to view the last four 24 hour usage amounts.

1. Press the  key twice until “usage” is displayed.
2. Press SELECT to view the last recorded 24 hour usage amount.
3. Press  key to view other prior recorded usage amounts.
4. Press SELECT to return to Weight Display mode or unit will return to Weight Display mode after 20 seconds of no activity (no key strokes).

Service

Cleaning
Do not clean the BinTrac modules with a pressure washer. Use a washcloth soaked in warm water containing a mild detergent and disinfectant.

Servicing and Repair
Your BinTrac module contains NO USER SERVICEABLE PARTS. If the product stops working for any reason, it must be returned for repair.

Troubleshooting

There are a few types of errors that can be encountered during operation of the BinTrac. The following should give you some insight into the cause of the error should one occur. Errors displayed are specific to the selected bin.

Error

Error -If this is displayed on the screen, the BinTrac is unable to display the current value or the value is outside the displayable range. Verify programmed settings are correct including zero or check for faulty loadcell.

nobin

no.bin -This means that the Smart Summing Box for the selected bin is not communicating. Check for broken wires or loose connections, or Smart Summing Box is not correctly configured, or faulty loadcell. Inspect Smart Summing Box internal diagnostic light; 1)flashing regular – normal working condition, 2)off – no power indication, 3)flashing irregular - unable to communicate.

oL0Ad

oLOAd -This means that the weight in the bin has exceeded the programmed system capacity by 150% and the system is in an over-load state. Remove the weight from the system and check the condition of each load cell.

No.con

no.con - This means that the Remote Display has lost communications with the host BinTrac Monitor. Check for broken wires or loose connections and verify unit was intended for use as a Remote Display and not accidentally misprogrammed.

No.Pul

no.PuL -This error message indicates that the BinTrac Indicator has been programmed for a PULSE output and is unable to communicate with the HouseLink WP. If not connected to a HouseLink WP, set Pulse weight to “0”.

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