BinTrac®

Bin Weighing System Operation Manual BT200/BT260

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U.S. Patent No. 9,310,243, Patent No. 9,651,413, Patent No. 10,082,421
Canada Patent No. 2,822,294
Korea Patent No. 1900521

BT260   **BT200**

HerdStar®

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Thank you for purchasing a BinTrac bin scale system from HerdStar, LLC.

Overview

Your BinTrac bin weighing system provides a cost-effective way to automatically monitor bin levels, facilitating just-in-time deliveries and minimizing out-of-material events that impact production performance.

Components

A BinTrac system consists of four basic components:

BinTrac Indicator
This is the main unit of the BinTrac system. The BinTrac indicator is available in the following two versions: **BT200** - five digit (0.30 in) or **BT260** - six digit (0.56 in.) The BinTrac Indicator 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. One BinTrac Indicator can monitor up to four bins.

Load Cell Bracket
Four or more load cell brackets allow the BinTrac system 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
One Smart Summing Box per bin communicates the current reading on the leg brackets to the BinTrac Indicator.

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

Features

Auto Sequence Mode
BinTrac Indicator sequentially displays the level for each bin every five seconds.

Bin Level Alert
BinTrac Indicator features a relay (optional on the BT260) to trigger an indicator light or audible alert when feed levels get above or below the level you set.

Fill Events
BinTrac Indicator records the net weight increase of the last four fill events for each enabled bin.

24-Hour Usage
BinTrac Indicator records the current day's and last four 24-hour usage amounts. These usage amounts can be shown as the total usage for all enabled bins or on an individual bin basis.

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

BinTrac.com
Multiple BinTrac Indicators can be networked and remotely displayed through an Internet browser. To view an example of the data provided, visit www.bintrac.com and log in with the following credentials:

<div align="center">

Username: **guest**
Password: **guest**

</div>

System Setup

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

System Settings – Quick Start

New BinTrac bin weighing system installations require a one-time system configuration procedure before use. Follow the steps below to configure the number of bins you wish to monitor, set the Load Cell Capacity and Full values for each bin, and zero each bin. For a detailed description of these settings, as well as the other features and settings available on the BinTrac Indicator, refer to refer to **System Settings – Detailed** on **Page 6**.

NOTE: When first powering on the unit, ⌂⌂⌂⌂⌂⌂ will be displayed. This is simply a reminder that the load cell capacity for the system must be entered in the SETUP menu to ensure proper weighing calibration.

Selecting Bins
This procedure will allow you to enable the BinTrac Indicator to only scan and display the weights of bins that are connected.

1. **Ver 3.18 & up (All BT260s and some BT200s)** - On the BinTrac Indicator, press and hold the BIN key until **SETUP** appears, then release the BIN key and **bin8** will be displayed.

   Ver 3.17 & below (most BT200s) - On the BinTrac Indicator, press and hold the BIN key until **SETUP** appears, then release the BIN key. Press the LOWER ▽ key once and **bin8** will be displayed.

   All the bin selector indicators will illuminate showing their current status. If a bin indicator is on steady, it is selected as being monitored. If the indicator is flashing, that bin is not being monitored.
2. Press the BIN key to select the desired bin.
3. If the indicator is on steady, the bin is being monitored. If it is flashing, the bin is not being monitored. Press the UPPER △ or LOWER ▽ key to toggle bin monitoring on or off.
4. Repeat steps 2 and 3 for additional bins. After bins A through D have been configured correctly for your application, press the BIN key to move to the next menu item.

Setting Load Cell Capacity (L.C.CAP)
This procedure will allow you to set the Load Cell Capacity (L.C.CAP) of each bin connected to your BinTrac Indicator.

5. Use the LOWER ▽ key until the display shows **L.C.CAP**.
6. Press the BIN key to select the desired bin.
7. Using the UPPER △ or LOWER ▽ keys, set the L.C.CAP to the total Load Cell Capacity for the selected bin (see **Page 8 – Load Cell Capacity Value** for instructions on how to determine your Load Cell Capacity). *Note: Pressing and holding the UPPER △ or LOWER ▽ keys will increase the speed that the value changes.*
8. Repeat steps 6 and 7 for additional bins. After each bin has been configured correctly for your application, press the BIN key to move to the next menu item.

Setting Full Value
9. Use the LOWER ▽ key until the display shows **FuLL**.
10. Press the BIN key to select the desired bin.
11. Using the UPPER △ or LOWER ▽ keys, set the FuLL value to the maximum amount of material that can be safely stored in the bin. *Note: Pressing and holding the UPPER △ or LOWER ▽ keys will increase the speed that the value changes.*

12. Repeat steps 2 and 3 for additional bins. After each bin has been configured correctly for your application, press the BIN key, and then use the UPPER △ key until the display shows End .

13. Press the BIN key to exit setup.

Calibrate Bin Empty (Zero)
This procedure will zero the BinTrac system weight by correcting for the dead-load of the empty bin. For the most accurate zero reading, ensure the bin is empty and free of any additional weight.

14. Press the BIN key to select the desired bin to zero.

15. Press both the LOWER ▽ and the UPPER △ 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.

16. Unit returns to Auto Sequence mode after this procedure and will start auto sequencing after 1 minute of no activity (no keystrokes).

Program Alert Level
(Optional alert relay assembly feature on the BT260)

This procedure adjusts the level that the output (alert) relay is triggered. The output relay has both normally open and normally closed contacts.

1. Press and hold the LOWER ▽ key for 5 seconds.

2. After 5 seconds, the bar graph and Bin A (or lowest enabled bin) will begin flashing.

3. Press BIN to select the desired bin.

4. Use UPPER △ or LOWER ▽ key to adjust alert level.

5. If alert level is set to one of the upper 8 indicators (top half of the bin), alert is configured as a high level alert. The output relay will trigger when the indicated bin level is at or above this point.

6. If alert level is set to one of the lower 8 indicators (lower half of bin), alert is configured as a low level alert. The output relay will trigger when the indicated bin level is at or below this point.

7. If alert point is set below or above the displayable indicators, the bin level display will turn off and the alert will be disabled for the selected bin.

8. After last selected bin is set, press BIN again to exit programming mode. Otherwise unit will return to Auto Sequence mode after 1 minute of no activity (no keystrokes).

Totalizing Multiple Summing Boxes
For applications which require more than one Smart Summing Box on a bin, or if you want two to three bins to be displayed as one weight, you must totalize the Smart Summing Boxes so they can be displayed on a single indicator. For example, a 15 leg bin would require 15 load cells. As one Smart Summing Box is only capable of handling 8 load cells, you would use a second Smart Summing Box for the other 7 legs of the bin. See **Appendix A** on **Page 19** for detailed instructions on setting up your system for totalizing.

System Settings – Detailed

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

NOTE: When first powering on the unit, $SEt.LC$ will be displayed. This is simply a reminder
that the load cell capacity for the system must be entered in the SETUP menu to ensure proper
weighing calibration.

Accessing the SETUP mode

1. **Ver 3.18 & up (All BT260s and some BT200s)** - Press and hold the BIN key until
   SETUP is displayed, then release the BIN key. The display will then move to
   the bin selection as show below.

   Segmented display:

   bin

   Ver 3.17 & below (most BT200s) - Press and hold the BIN key until **SETUP** is
   displayed, then release the BIN key. The display will remain on SETUP as shown
   below.

   Segmented display:

   SETUP

Navigating Setup mode
To navigate through the options in SETUP mode, use the UPPER ⬓ and LOWER ⬓
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, navigate to the option you wish to
edit using the UPPER ⬓ and LOWER ⬓ keys and then press the BIN key.

SEtUP
▼
bin
▼
rAtEd
▼
L.C.CAP
▼
incr
▼
FuLL
▼
2Ero
▼
id
▼
UEr
▼
SS.UEr
▼
End

Figure 1

Setup

The Bin LEDs indicate configuration options as being enabled (solid on) or disabled (flashing). **If not using any of the below options, ensure that all bins are showing as disabled (flashing) when** **is shown on the display.**

Bin A – Configures BinTrac Indicator as a Remote Display.
   A Remote Display is hardwired to a BinTrac Indicator for remotely viewing weight data.
Bin B – Enable ASCII Serial Communications Command Set. (See Below)
   BinTrac Indicator 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.
Bin C – Enable Weight Broadcast.
   ASCII weight data will be serially broadcast approximately once ever second.
Bin D – Enable communications to peripheral devices.
   Must be enabled when BinTrac Indicator is connected to a BinTrac Remote Display and/or a HouseLink PW.

1. Press the BIN key to select the desired configuration option.
2. Use the UPPER △ or LOWER ▽ keys to enable or disable options.

Segmented display:

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 *Also works with F, FF and U, UU commands
SnnPP crlf	Current weight of all four bins with matching BinTrac Station ID +/-wwwww,+/-wwwww,+/-wwwww,+/-wwwwwcrlf *Also works with F, FF and U, UU commands
Fcr	Single Bin Fill: yy,mm,dd,hh,mm,+/-wwwwwcrlf
Ucr	Single Bin Usage: yy,mm,dd,hh,mm,+/-wwwwwcrlf
FFcr	Multiple Bin Fill: yy,mm,dd,hh,mm,+/-wwwwwcrlf yy,mm,dd,hh,mm,+/-wwwwwcrlf yy,mm,dd,hh,mm,+/-wwwwwcrlf yy,mm,dd,hh,mm,+/-wwwwwcrlf
UUcr	Multiple Bin Usage: yy,mm,dd,hh,mm,+/-wwwwwcrlf yy,mm,dd,hh,mm,+/-wwwwwcrlf yy,mm,dd,hh,mm,+/-wwwwwcrlf yy,mm,dd,hh,mm,+/-wwwwwcrlf

Note: All commands must be terminated by CR.   Latency between characters within a multiple character command (including CR), cannot exceed 250msec.

w – bin weight   yy,mm,dd,hh,mm – Year, Month, Day, Hour, Minutes
n – Station ID number   CR – Carriage Return (Hx0D).
LF – Line Feed (Hx0A).

***The above Serial settings are for BinTrac Indicator software versions 3.08 and earlier. Please refer to the HouseLink HL-10S Serial Interface Manual for any BinTrac Indicator software versions 3.15 or higher.

Setup Mode Settings

Bins

Enables/disables bin channels. When you get to the bins option, all the LEDs will light up. If an LED is blinking, this means that the associated bin is NOT being monitored. If an LED is steady on, then the associated bin is being monitored. This option can also be configured in the Operation Settings.

       1.   Press the BIN key to select the desired bin.
       2.   Use the UPPER △ or LOWER ▽ keys to enable or disable bins.

       Segmented display:

       b in

Rated Value

The average rated output in millivolt/volt (mV/V) of the load cells.

***IMPORTANT – DO NOT change this setting from the default of 3.000 unless otherwise instructed to by HerdStar**.

       1.   Press the BIN key to select the desired bin.
       2.   Use the UPPER △ key to increase the rated output by 0.001.
       3.   Use the LOWER ▽ key to decrease the rated output by 0.001.

       Segmented display:

       rAtEd

Load Cell Capacity Value

Sets the total capacity of each bin in pounds or kilograms. The total capacity is the sum of all the load cells rated capacity. This can be calculated by multiplying the capacity of individual load cells by the number of legs on the bin. Example: A four-legged bin using 10k load cells would result in an L.C.CAP setting of 40000. When setting up for kilograms, convert the total capacity to kilograms. One pound is approximately 2.205 kilograms.

       1.   Press the BIN key to select the desired bin.
       2.   Use the UPPER △ key to increase the value by 1 lb.
       3.   Use the LOWER ▽ key to decrease the value by 1 lb.

Note: Pressing and holding the UPPER △ or LOWER ▽ keys will increase the speed that the value changes.

       Segmented Display:

       L.C.CAP

Increment Value (incr)
Sets the increment that the bin weight will be rounded to. 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., and 50..

*Example: If an increment of 10 is selected and the net value of a bin's weight is 11,314 lbs., the segmented display will read 11310. Refer to **Figure 2** for more examples based on a net weight of 11,314 pounds.*

Note: When the increment value is followed by a **".",** the displayed weight value is then scaled by 10. For example, an increment value of "1." would cause 120462 pounds to show as 12046. on the display. This is required when the displayed weight will exceed the 5 available digits on the BT200.

incr	Display
1	11314
2	11314
5	11315
10	11310
20	11320
50	11300
100	11300
200	11400
500	11500
1.	1131.
2.	1132.
5.	1130.
10.	1130.
20.	1140.
50.	1150.

Figure 2

1. Press the BIN key to select the desired bin.
2. Use the UPPER △ key to increase the increment value
3. Use the LOWER ▽ key to decrease the increment value

Segmented display:

incr

Full Value
Sets the weight of a full bin. This is for calibration of the LED bar graph level. The value dictates at what net weight the bar graph will display completely full (all 16 LEDs lit).

1. Press the BIN key to select the desired bin.
2. Use the UPPER △ key to increase the value by 1 lb.
3. Use the LOWER ▽ key to decrease the value by 1 lb.

Note: Pressing and holding the UPPER △ or LOWER ▽ keys will increase the speed that the value changes.

Segmented display:

FuLL

Zero Value
Sets the weight of the empty bin. 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. If the bin was zeroed on the Indicator by pressing and holding the UPPER △ and LOWER ▽ keys (see page 4), this field will display the automatically calculated amount.

Example: A bin weighs 1,200 lbs. empty. By setting the zero value to 1200, the BinTrac indicator calculates the material weight as the total weight less the zero-weight value.

1. Press the BIN key to select the desired Bin.
2. Use the UPPER △ key to increase the value by 1.
3. Use the LOWER ▽ key to decrease the value by 1.

Note: Pressing and holding the UPPER △ or LOWER ▽ keys will increase the speed that the value changes.

Segmented display:

2Ero

Station ID Value
Sets the Station ID of the device. When interfacing the device to a Communication Hub (CH100), set this value between from 1 to 127. **Each BinTrac device must have a unique Station ID**.

1. Press the BIN key to select the desired Bin.
2. Use the UPPER ⬜ key to increase the value by 1.
3. Use the LOWER ⬛ key to decrease the value by 1.

Segmented display:

Software Version (Version 3.0 and higher)
Displays the BinTrac programmed software version number. This number may be required if technical help is needed.

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

Segmented display:

Smart Summing Box Software Version (Version 3.0 and higher)
Displays the software version number of each of the connected Smart Summing Boxes. 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:

End
Allows the user to exit SETUP mode.

1. Press the BIN button to exit SETUP mode.

Segmented display:

Internal Mode

Any changes made to the internal settings may adversely affect how the BinTrac system operates. DO NOT make changes to any items without understanding the affect it may have on the operation of the BinTrac System.

Accessing the Internal mode

1. Press and hold the BIN key until [Intr] is displayed. **Note:** The display will first show [SETUP] - continue holding the BIN key until [Intr] is shown, then release.

Segmented display:

[Intr]

Navigating Internal mode

To navigate through the options in Internal mode, use the UPPER △ and LOWER ▽ keys to cycle through the options/parameters. See **Figure 3** for the Internal menu flow chart.

Selecting an Option in Internal mode

To select an option/parameter to edit in Internal mode, navigate to the option you wish to edit using the UPPER △ and LOWER ▽ keys and then press the BIN key.

Internal

When [Intr] is displayed on the indicator, the following settings can be configured. Set the Bin LEDS as Flashing (Disabled) or Solid On (Enabled)

- ❖ BIN A - Change Single bin weight transmit to multiple bin weight transmit.
- ❖ BIN B - Configure transmit data to expanded weight data.
- ❖ BIN C - Totalize Multiple Summing Boxes (V3.03+) ***See Appendix A, Page 19**
- ❖ BIN D - Change transmitted weight values from fixed 5 digits to fixed 6 digits.

Internal Mode Settings

Serial Number

The serial number is preset during production and should NOT be changed by the user.

Segmented display:

[Sn]

Pulse Value

Sets the number of weight units per pulse when used in conjunction with a HouseLink Digital Interface (HL-10D). Set to how many pounds or kilograms of weight loss of the combined enabled bins for every pulse output. When set to "0", pulse output is disabled.

1. Press the BIN key to display and allow editing of programmed value. Select the desired bin.
2. Use the UPPER △ key to increase the pulse weight by 1.
3. Use the LOWER ▽ key to decrease the pulse weight by 1.

Segmented display:

[PULSE]

Figure 3

Intr
▼
Sn
▼
PULSE
▼
rESEt
▼
IntEr
▼
bAud
▼
YEAr
▼
nnon
▼
dAtE
▼
Hour
▼
nnin
▼
End

Reset
Used to reset the BinTrac Indicator to factory defaults.

CAUTION: Resetting the BinTrac Indicator will erase all weight and user configured settings. Make sure to write down the settings prior to resetting if using this feature.

1. Press the BIN key. All bins will show solid.
2. Press and hold the UPPER ◿ key and LOWER ▽ key simultaneously until 'done' is displayed.
3. Press the BIN key, then use the UPPER ◿ key or LOWER ▽ key to cycle through to End.
4. Press the BIN key to exit.

Segmented display:

Inter
INTER is a preset field that should NOT be changed by the user.

Segmented display:

Baud Value
Used to configure the serial communications baud rate. The options are 1200, 4800, 9600, 19200, 38400, 57600. The default is set to 57600.

1. Press the BIN key
2. Use the UPPER ◿ key and LOWER ▽ key to cycle to the desired value.

Segmented display:

Year
Year is set at the time of production and should NOT be changed.

Segmented display:

Month
Month is set at the time of production and should NOT be changed.

Segmented display:

Date
Date is set at the time of production and should NOT be changed.

Segmented display:

Hour
Hour is set at the time of production and may need to be changed depending on the time zone you are in. The default is set to Central Standard Time (CST).

Segmented display:

Minute
Minute is set at the time of production and should NOT be changed.

Segmented display:

End
Selecting End will put the indicator back in SETUP mode.

Segmented display:

Operation Settings

Select Bin for Display

Press the BIN key to cycle through the enabled bins. The bin weight and level for the selected bin will be displayed for twenty seconds. After this delay, BinTrac will return to the auto sequence mode described below.

Auto Sequence Mode

One minute after last keystroke unit begins auto sequence mode, starting from the last displayed bin. Bin level is displayed for the identified bin (A-D). BinTrac auto sequences to next enabled bin every 5 seconds, displaying the weight and associated level.

Display Fill Events

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

1. Press the UPPER △ key until F iLL5 is displayed.

2. Press the BIN key.

3. Use the UPPER △ or LOWER ▽ key to select the bin you'd like to view.

4. Press the BIN key to view the last recorded fill event.

    a. For each fill event, the display will cycle through the date, time, and fill amount. For example, a fill of 4000 pounds on January 2nd at 5:53pm would display as 0 1-02 then 17=53 then 4000.

5. Press the LOWER ▽ key to view other prior recorded fill events.

6. Press the BIN key to return to Weight Display mode or unit will return to Weight Display mode after a period of time with no activity (no keystrokes).

Display 24 Hour Usage

This procedure allows you to view the current day's and last four 24-hour usage amounts.

1. Press the UPPER △ key twice until U5ALE is displayed.

2. Press the BIN key.

    a. To view the total combined usage for all connected bins, press the BIN key on total.

    b. To view usage by individual bin, select a bin using the UPPER △ or LOWER ▽ key and then press the BIN key.

    c. For each 24-hour period, the display will alternate between the date and the usage amount. For example, a usage of 2380 pounds for January 2nd would display as 0 1-02 then 2380.

3. Press LOWER ▽ key to view other prior recorded usage amounts.

4. Press BIN to return to Weight Display mode or unit will return to Weight Display mode after a period of time with no activity (no keystrokes).

Calibrate Bin Empty (Zero)

This procedure will zero the BinTrac system weight by correcting for the dead-load of the empty bin. **Ensure that the bin is empty and free of any additional weight prior to zeroing the bin(s).**

1. Press the BIN key to select the desired bin to zero.

2. Press both the LOWER ▽ and the UPPER △ 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.

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

BinTrac Indicator Blank
BinTrac Indicator weight display and tank level indicators are blank/off. This can be caused by loss of power to the unit, disconnected or broken wires, or damaged equipment.

1. Reset Problem
   a. A brown out condition can sometimes cause a problem with reset and startup of an Indicator. Disconnect power to the devices with a 20 second delay before reapplying the power.
2. Loss of Power
   a. Inspect the electrical outlet for the BinTrac Power Supply. Ensure it is making a good electrical connection.
   b. Verify the breaker or GFI for the electrical outlet is not tripped.
3. Measure Input Voltage from BinTrac Power Supply
   a. Disconnect +12 and -12 PWR wires within BinTrac Indicator and measure input power. Input power should read between 11.5 to 12.5 VDC.   If no voltage is detected, the BinTrac Power Supply may be defective.
4. Inspect all cabling between power supply, Indicator, and Smart Summing Boxes to ensure it has not been damaged.
5. Disconnect components until the defective component is located that is shorting power.
   a. Disconnect Smart Summing Boxes and cycle power.
   b. Disconnect +12 and -12 PWR connects in the BinTrac Indicator and measure Smart Summing Boxes. Verify the electrical outlet the BinTrac Power Supply is plugged into is in good condition.

Inaccurate Weight Readings
Inaccurate weight readings, large fluctuations in readings, weight not changing, or error messages can be caused by obstructions and binding, incorrect user programmed settings, a problem within the Smart Summing Box, or a problem with a load cell.

1. Check for binding and/or obstructions
   Slow weight shifts or not returning to zero are frequently symptoms of a binding or obstruction problem.

   a. Check for binding of brackets and/or bin legs. Ensure there is approximately ¼" clearance between the leg and the bracket.
   b. Check for loose bolts. Inspect bolts connecting bracket to bin leg and C-Channel to load cell.
   c. Check for material under the bin leg. Small rocks between the bin leg and the concrete can cause inaccurate readings.

2. Check the Indicator settings
   Incorrect weight readings when the system is otherwise functioning normally can be due to incorrect settings.

   a. Confirm Rated Output – should match the average output recorded on each load cell (3.000 for HerdStar-supplied load cells)
   b. Confirm Capacity – equals the total capacity of all load cells summed together.
   c. Confirm Zero – bin may have been zeroed when not empty.

3. Inspect the Smart Summing Box

Small fluctuations in weight can be caused by a problem with the Smart Summing Box.

    a. Inspect for moisture and/or foreign material.
    b. Inspect for loose wires and connections.

4. Inspect Load Cells

Wild fluctuating weights, a weight that does not change, a negative weight reading, or "Error" on the Indicator display are common indications of a load cell problem.

    a. Inspect load cell connections within the Smart Summing Box. A wire that is not seated properly within the load cell connector can cause inaccurate readings.
    b. Check for cut or pinched load cell wires.
    c. See (**Load Cell Troubleshooting Procedures – Page 18**)

Error Messages

There are a few types of errors that can be encountered during operation of the BinTrac system. 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

If this is displayed on the screen, the BinTrac Indicator is unable to display the current value, or the value is outside of the displayable range.

1. Verify programmed settings are correct.
    a. Verify Zero calibration is valid and in range.
    b. Verify load cell capacity (L.C.CAP) has been correctly programmed.
2. Open Smart Summing Box and inspect load cell connections.
    a. Verify connector is properly aligned with its associated header.
    b. Verify wires are properly seated in each connector.
3. Check for faulty load cell (See **Load Cell Troubleshooting Procedures – Page 18**).

no.bin

This means that the Smart Summing Box for the selected bin is not communicating with the BinTrac Indicator.

1. Disable bins on Indicator that do not have an associated Smart Summing Box and bin.
2. Verify wiring between Indicator and Smart Summing Box.
3. Inspect Smart Summing Box internal diagnostic light:
    a. Off: Smart Summing Box not receiving power
    b. Steady flashing: normal working condition
    c. Irregular flashing/solid: unable to communicate
4. Verify Smart Summing Box has been programmed as the correct bin.
    a. Verify Smart Summing Box dip switch settings (see **Figure 4)**
    b. Verify that two or more Smart Summing Boxes have not been programmed as the same bin
    c. Check for broken wires or loose connections
5. Check for faulty load cell (See **Load Cell Troubleshooting Procedures – Page 18**).

BIN	S1	S2	S3	S4	
A	OFF	OFF	OFF	OFF	
B	ON	OFF	OFF	OFF	
C	OFF	ON	OFF	OFF	
D	ON	ON	OFF	OFF	

Figure 4

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.

1. Verify programmed settings are correct.
2. Check for physical binding of brackets/hardware.
3. Remove the weight from the system and check the condition of each load cell (See **Load Cell Troubleshooting Procedures – Page 18**).

no.con

This means that the Remote Display has lost communications with the host BinTrac Indicator.

1. Verify unit was intended for use as a Remote Display and not programmed incorrectly.
   a. The Bin A LED should be solid in setup menu if unit is intended to be configured as remote display. If unit is NOT intended to be a remote display, the Bin A LED should be blinking in setup menu (see **Page 7**).
2. Check for broken wires or loose connections.
3. Verify wiring is correct between Indicator and Remote Display.

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 HL-10D (optional).

1. If system does not have a HouseLink HL-10D, set the programmable PULSE parameter to "0" (see **Page 12**).
2. Verify HouseLink HL10D has power as indicated by status light (See HouseLink manual).
3. Check for broken wires or loose connections.

SEt.LC

If the BinTrac Indicator is flashing this message, it means that the load cell capacity for the system has not yet been entered in the SETUP menu. This step must be completed to ensure proper weighing calibration (see **System Settings – Quick Start** on **Page 4**).

Load Cell Troubleshooting Procedures

The procedures below outline the steps for identifying and locating a defective load cell.   Procedure 1 is most commonly used and quickest, although Procedure 2 can be used for better analysis and for determining even loading across all load cells.

1. Check for cut load cell cables.
2. Check connections in summing box.
3. Check for debris under bin legs.
4. Check for binding between bracket and bin legs.

Quick Load Cell Inspection Procedure
1. Record/Note Current Weight Reading on BinTrac Indicator.
2. Disconnect a single load cell from Smart Summing Box.
3. Observe for change in weight display. If weight change is significant and/or more stable, note this load cell as possible defect.
4. Reconnect load cell if symptoms did not change.
5. Repeat for remaining load cells.
6. Replace load cell that when disconnected provides the most accurate reading or proceed to Comprehensive Load Cell Inspection Procedure.

Comprehensive Load Cell Inspection Procedure
1. Record/Note Current Weight Reading on BinTrac Indicator
2. Disconnect all but number one load cell within summing box.
3. Record weight reading.
4. Disconnect load cell and connect next load cell and repeat for all remaining load cells.
5. Review weight readings.
6. Variations in readings can be caused by offset loading within bin and/or improper lifting screw tension.
    a. Inspect loading within bin matches load cell reading variations.
    b. Examine bracket assembly and lifting screw tension.
        i. If reading is low and others beside it are high, tighten screw slightly.
        ii. If reading is high and others beside it are low, loosen screw slightly.
        iii. If reading is out of range, replace load cell.
        iv. Repeat individual readings inspection and adjustments return to Step 2.
7. Reconnect all load cells except for known defective one.
8. Repeat procedure if weight reading is not accurate.

Note: If a defective load cell is located, by unplugging it, the scale system will continue to function until time is available to replace the defective load cell.

Appendix A

Totalizing Multiple Smart Summing Boxes

For applications that require more than one Smart Summing Box on a bin, you must totalize the Smart Summing Boxes so they can be displayed on a single indicator. For example, a 15 leg bin would require 15 load cells. As one Smart Summing Box is only capable of handling 8 load cells, you would use a second Smart Summing Box for the other 7 legs of the bin. Up to three Smart Summing Boxes can be used in this configuration for a total of up to 24 load cells.

**If you are having any difficulty setting your BinTrac Indicator for totalizing, please call us at 507-344-8005, Option 2 for assistance.

Smart Summing Box Setup
Set dipswitches in Smart Summing Boxes as B and C (to totalize 2 Smart Summing Boxes) or B, C, and D (to totalize 3 Smart Summing Boxes) using the chart below.   When totalizing is enabled, the total will be displayed as Bin A.

BIN	S1	S2	S3	S4	
A	OFF	OFF	OFF	OFF	
B	ON	OFF	OFF	OFF	
C	OFF	ON	OFF	OFF	
D	ON	ON	OFF	OFF	

BinTrac Indicator Setup
Note: It is recommended that you read through the following steps in their entirety prior to beginning step 1.

1. Press and hold the BIN key until **Intr** is displayed, then release. (If display changes to **GAIN**, press the up arrow once to return to **Intr**).

2. With **Intr** displayed on the screen, press the BIN key until Bin C is highlighted

3. Change LED from flashing to solid by pressing either arrow key.

4. Press BIN key until **GAIN** is displayed (do not press the BIN key on GAIN).

5. Press the up arrow until **End** is displayed and press the BIN key (This will put you in the SETUP menu).

6. Now, use the either arrow key until **bin** is displayed.

7. Press the BIN key and Bin A will be lit. Using either arrow key, ensure BIN A is solid, then press the BIN key to move to B. Use the same procedure to make B and C solid (for 2 Smart Summing Boxes) or B, C, and D solid (for 3 Smart Summing Boxes).

8. After enabling the appropriate bins, press the BIN key until the next menu item is shown (do not press the BIN key on the next menu item).

Depending on the total weight capacity of all totalized load cells, the next steps in the procedure can differ slightly between the **BT200** (5 digit display) and **BT260** (6 digit display) models. For total weight capacity of 100000 pounds or more, the setup for the **BT200** requires some extra steps (*a* through *e* below) as the displayed weight capacity will exceed the 5 available digits. In order to compensate for this, the increment setting (see **Page 8 – Increment Value**) will need to be adjusted. **For BT260 setup, skip to step 9 now.**

Example: A bin with 15 legs and 10k load cells would have a load cell capacity (L.C.CAP) of 150000 pounds. However, with the 5 available digits on the BT200, the highest this could be set without adjustment would be 99999. By changing the increment setting to 1.*, the L.C.CAP can be set to* 15000.*, which would equal 150000 pounds. The . at the end of the number is effectively an extra 0.*

a. Press the down arrow until **incr** is shown, then press the BIN key.

b. The current increment setting will be shown (default is 1).

c. Press the down arrow until 1. is displayed.

d. Press the BIN key and **FuLL** will be displayed (do not press the BIN key on **FuLL**).

e. Press the up arrow until **L.C.CAP** is displayed and press the BIN key. Skip to **Step 10**.

9. Press the down arrow (if necessary) to move to **L.C.CAP** and press the BIN key.

10. The Bin A LED will be lit. Change the value on the screen to the TOTAL capacity of ALL load cells.

11. Press the BIN key to move to Bin B. Set this value to the load cell capacity of Bin B. Press the BIN key and do the same for Bin C and, if 3 Smart Summing Boxes are being used, Bin D. Press the BIN key until **incr** is shown.

NOTE: At this point, if you have a BT200 and changed the increment setting to add the **.** to your number after step 8, you will want to press the BIN key on **incr** and adjust that value back to **1** to change the displayed weight back to the default display mode UNLESS your FuLL setting or material in the bin will exceed 99999 pounds. If so, the **.** must be left in place so weights over 99999 can be properly displayed. After verifying and/or adjusting the increment setting, press the BIN key and **FuLL** will be displayed. Press the BIN key and then skip to **Step 13.**

12. Press the down arrow and **FuLL** will be displayed. Press the BIN key.

13. BIN A's LED will be lit – change the value on the screen to the TOTAL of the maximum amount of material that would be in all bins together.

14. Press the BIN key until **ZEro** is displayed (do not press the BIN key on **ZEro**).

15. Press the down arrow until **End** is shown and press the BIN key to exit setup.

HerdStar BinTrac® Warranty

HerdStar, LLC ("**HerdStar**") warrants to original purchaser ("**Buyer**") that goods manufactured solely by HerdStar, LLC ("**Products**") will be free from defects in material or workmanship under normal and intended use and service for a period of one year from delivery date of the Products. Used and/or refurbished parts sold shall carry a 90-day warranty on material and workmanship. All warranty claims must be submitted within ten (10) days of discovery of defects within the warranty period, or shall be deemed waived. Furthermore, HerdStar, LLC warrants the load cell ("Load cell" is defined as the s-shaped component and any cabling and connectors) against lightning damage for 12 months or the term of any extended warranty.

In the event of a defect in any Products constituting a breach of the warranty provided herein, HerdStar, LLC will at its option either (i) repair or replace such Product free of charge, or (ii) in lieu of repair or replacement, refund to Buyer the original purchase price less the reasonable value of Buyer's use of the Products. HerdStar, LLC shall furnish to Buyer instructions for the disposition of the defective goods. HerdStar, LLC shall have the option of requiring the return of the defective goods, transportation prepaid, and proof that the goods were not used, installed or altered or subject to misuse or abuse to establish the claim. No goods shall be returned to HerdStar, LLC without its prior consent. The acceptance of any goods returned to HerdStar, LLC shall not be deemed an admission that the goods are defective or in breach of any warranty, and if HerdStar, LLC determines that the goods are not defective they may be returned to Buyer at Buyer's expense. This warranty sets forth Buyer's sole and exclusive remedies for any defect in the goods. The rights and obligation under this warranty may not be assigned or delegated to a third party by Buyer without the prior written permission of HerdStar, LLC. Neither Buyer nor any other person may modify or expand the warranty provided herein, waive any of the limitations, or make any different or additional warranties with respect to the Products. Any statements to the contrary are hereby rendered null and void unless expressly agreed to in writing by an authorized officer of HerdStar, LLC.

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EU Declaration of Conformity (CE)

EU Declaration of Conformity
Model Type Model PS17/BT260/SSB100
Name and Address of the manufacturer HerdStar, LLC 1400 Madison Avenue Suite 504 Mankato, MN 56001 USA
This Declaration of Conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:

Models:
PS17
BT260
SSB100

The object of the declaration described above is in conformity with the relevant
Union harmonisation legislation:

Applicable Directives	Harmonized Standards or Technical Specifications
(2014/35/EU) Low Voltage Directive	EN 62368-1:2014 EN 60950-1:2006 + A2:2013
(2014/30/EU) Electromagnetic Compatibility Directive	EN 55022:2010 COR 2011 EN 55024:2010 +A1: 2015 EN 61000-3-2 EN 61000-3-3 EN 61000-6-1 EN 61000-6-3
ROHS	EN 5081:2012

Signed for on behalf of HerdStar, LLC at

1400 Madison Avenue Suite 304, Mankato, MN 56001 USA   11/30/2018

Mark Jaeger
President