

BINTRAC[®]

Breeder Control Installation Manual

Patented

U.S. Patent No. 7,980,129, Patent No. 8,581,122, Patent No. 8,853,566



07/10/2018

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1400 Madison Avenue /Suite 504 / Mankato, MN 56001
 PH: 507-344-8005 FAX: 507-344-8009
www.herdstar.com

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

Installation Overview

This section covers the mounting and wiring of the BinTrac system. Anyone responsible for programming and operating the BinTrac system should also read the Operator's Manual.



This symbol means the text has extra importance since it is describing the importance of a feature or explaining a step to which you should pay close attention to avoid problems, or to which safety is a concern.

Components

A BinTrac system consists of a number of 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 feed in the bins. The feed level is computed and displayed on the LED bar graph. One bin Breeder Control can Breeder Control up to four feed bins.

Load Cell Bracket

Four or more load cell brackets allow the BinTrac Breeder Control to accurately measure the feed level in your bins. The Smart Summing Box averages the signals from all brackets to minimize errors that could result from voids (holes) in the feed.

Smart Summing Box

One 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 system. The power supply converts the line voltage to low voltage.

BinTrac Remote Display

A BinTrac Remote Display is a standard BinTrac indicator configured as a Remote Display. A hardwire cable must connect the Remote Display to the BinTrac Breeder Control.

Preparation

Before beginning the installation process you need to make sure that the area surrounding each leg is clear of dirt, ice, or any other debris that may cause the 'A' frame to not sit flat. If this is not done it could cause the bin to lift unevenly and give a false reading.

List of Parts to be Installed

- ASY-000121 – BinTrac Breeder Control
- ASY-000129 – 10k Ag Load Cell Assembly OR ASY-000127 - 5k Ag Load Cell Assembly
- ASY-000125 – Smart Summing Box 6-Leg OR ASY-000124 – Smart Summing Box 4-Leg
- ASY-000090 – BinTrac Power Supply

Tools Needed

- 1 – 1 1/8" open-end wrench
- 2 – 3/4" wrenches
- 1/2" Drill
- 1/2" Hammer drill or Hilti cement drill
- 1/2" metal bit
- 1/2" cement bit
- 5/16" self-tapping screws
- 5/16" hex screw tip
- 1/2" cordless drill
- Impact wrench with 1 1/8" and 3/4" sockets (optional)
- Small flat-head screwdriver
- #2 Phillips screwdriver
- Center punch

Supplies Needed

- Tie Wraps (2 per leg)
- Wire Nuts (blue or orange, 4 per bin)
- Communication Wire (4 Cond. 20 – 22 awg, shielded)

Steps to Come

There are several steps to install the BinTrac Breeder Control system. To give an overview of the installation process, these steps are outlined below.

- Mount the 'A' frame
- Lifting the bin
- Anchor the 'A' frame
- Wiring the summing box
- Setting the summing box bins
- Wiring the BinTrac Breeder Control
- Wiring the Power Supply
- Wiring a Remote Radio

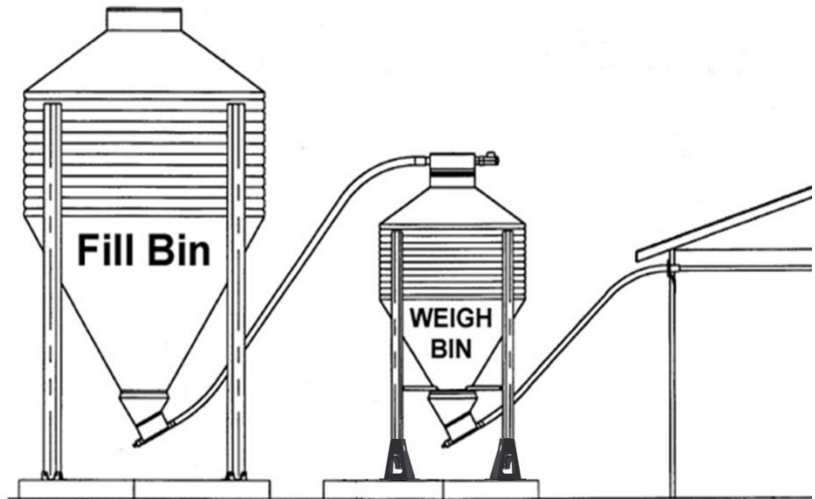
PLEASE READ THROUGH THE ENTIRE INSTALLATION PROCESS BEFORE ATTEMPTING TO INSTALL A BINTRAC BIN BREEDER CONTROL SYSTEM! IF YOU HAVE ANY QUESTIONS, DO NOT HESITATE TO CONTACT HERDSTAR, LLC. OR A CERTIFIED DEALER IN YOUR AREA.

Installation

Below is an overview of the two methods of batching. After determining the appropriate configuration, you may proceed to the next steps of installation. Refer to the Operator's Manual for further instructions for setting up the controller for either LOAD or unLOAD operation.

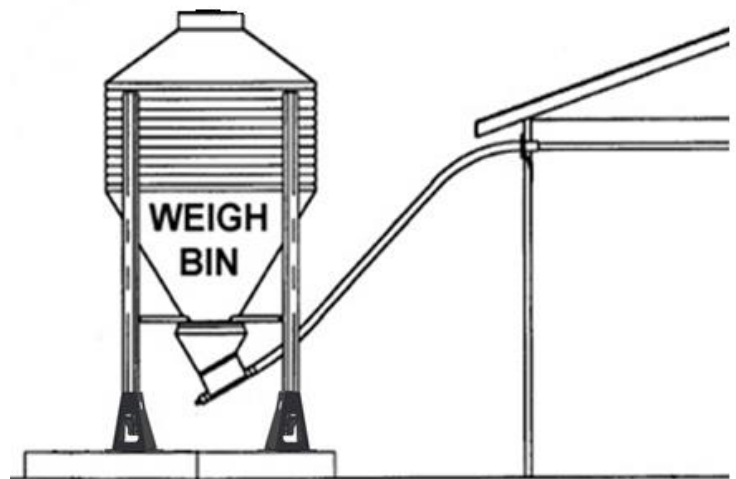
Overview of BinTrac Breeder Control System (Load Batch Method)

BinTrac Breeder Control System allows the user to select the amount of feed required for the day. The BinTrac Breeder Control System controls a conveying system to deliver feed from the Fill Bin to the Weigh Bin. The Weigh Bin weighs the feed delivered and the BinTrac Breeder Control System stops the delivery when the required amount of feed has been delivered to the Weigh Bin. In this configuration, the system batches into the weigh bin until the total weight (gross weight) equals the target batch amount.



Overview of BinTrac Breeder Control System (unLoad Batch Method)

BinTrac Breeder Control System allows the user to select the target batch amount of feed required for the day. The BinTrac Breeder Control System will enable the hopper or feed line fill system allowing the feed line system to transfer the feed into the house until the required amount of feed has been delivered. In this configuration, this system batches and unloads until the batch target amount is unloaded from the bin.



Installation

Mount the Bracket assembly

1. Remove all bolts connecting the leg to the footpad. Loosen the original anchor bolt but leave it intact at the bottom of the footpad. The footpad can and should be removed if it is binding or interfering with lifting the leg. (Figure 1)
2. Remove the 1/2" bolts from the C-channel adapter of the bracket assembly and set them aside for now.
3. Adjust the top bolt on the bracket assembly so the C-channel is approximately 3/4" between the top of the C-channel and the bracket.
4. Mark the holes of the C-channel on the leg and drill using 1/2" drill bit. (Figure 2)
5. Put the bolts in from the C-channel side through the leg. Place washer and Nylock nut on each bolt; hand-tighten.
6. Position the bracket assembly so that it is 3/8" away from the leg, and the C-channel is centered under the loadcell.

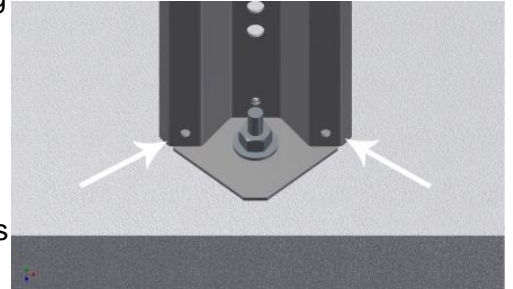


Figure 1: Remove bolts from bin leg

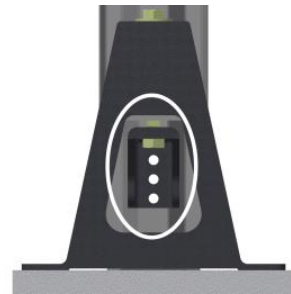


Figure 2: Mark holes of the C-Channel on the legs



Failure to properly align the bracket may cause the load cell to fail.

the

7. Hand-tighten the top bolt on the bracket assembly to make sure the bracket is straight and to keep it in place.
8. Tighten C-channel bolts to 33 ft-lbs. of torque. Make sure the bracket does not move during tightening.



IMPORTANT: MOUNT THE BRACKET ASSEMBLY ONE (1) LEG AT A TIME!

DETACHING MORE THAN ONE LEG AT A TIME COULD ALLOW THE BIN TO TIP OVER! INJURY OR DEATH COULD RESULT!

Lift the Bin

9. Place a line using a marker on the top of the bolt. (Figure 3)
10. Tighten all the lifting bolts 1 or 2 full turns at a time until each leg is at 8 turns.
11. There must be a $\frac{1}{2}$ " (+/- $\frac{1}{8}$ ") gap underneath each leg when lifting is complete. (Figure 4)
12. The top of the C-channel **MUST NOT** be up against the bracket assembly: a clearance of $\frac{1}{4}$ " (+/- $\frac{1}{8}$ ") must be maintained. (Figure 5)
13. Be sure to check height of each leg and verify the bracket is not touching the leg.

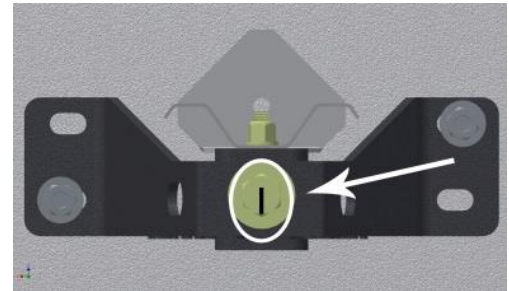


Figure 3: Place a line centered on top of bolt.

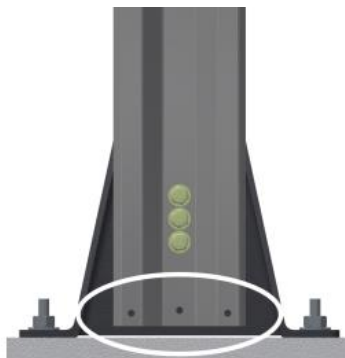


Figure 4: Lift until there is a $\frac{1}{2}$ " (+/- $\frac{1}{8}$ ") gap.



Figure 5: Leave $\frac{1}{4}$ " (+/- $\frac{1}{8}$ ") gap between C-channel and bracket.

Anchor the Bin

14. Drill two anchor bolt holes $2 \frac{1}{4}$ " in. deep in the pad diagonally opposite of each other. (Figure 6)



When anchoring 15K assemblies or greater you will use four (4) anchor bolts.

15. Hammer bolts into cement until they are firmly in place.
16. Tighten the nuts of the anchor bolts using a socket or hammer drill to anchor the bracket assembly. Torque to 55 ft.-lbs.

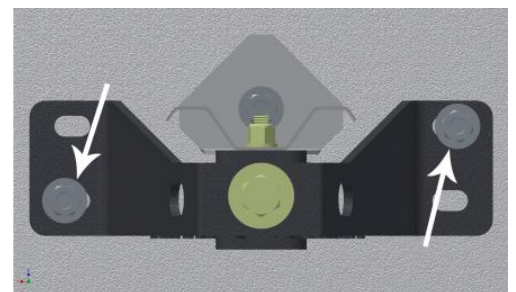


Figure 6: Drill anchor bolts $2 \frac{1}{4}$ " deep.



Repeat Steps 1 – 13 for all bin legs before continuing to the next step.

Wiring the Summing Box

In order to get a reading from these load cells, you need to tie them all together into a summing box. One Smart Summing Box per bin is required. Refer to Appendix A for more in depth wiring illustrations.

17. Mount the Smart Summing Box (SSB) on the crossbar under the bin near the front using self-tapping screws where it is easily accessible for maintenance.
18. Run the cable from each load cell over to the summing box.
19. Before plugging the cables in, remove the black plastic lock nut from each cable strain relief. Remove the red plug from each predrilled hole. Pass the cable through the box and then the nut. Be sure to have a drip loop outside the SSB.
20. Plug in the load cells starting in the upper left until all load cells are plugged in.
21. Pass the communication cable through the gray liquid tight strain relief on the right side of the enclosure.
22. Using an appropriate sized wire nut, connect the wires according to the chart in **Figure 7**.
23. Attach the GREEN/YELLOW ground wire to the bin via one of the screws used to attach the SSB.
24. Run the communication wire to the next SSB or to the BinTrac® Breeder Control.

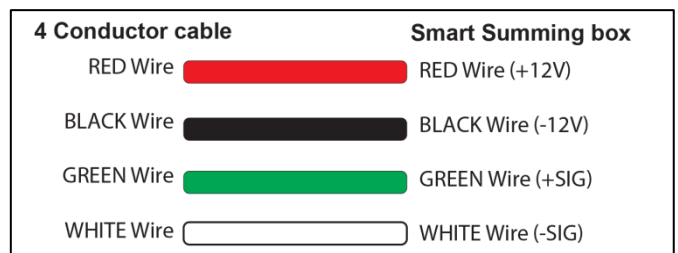
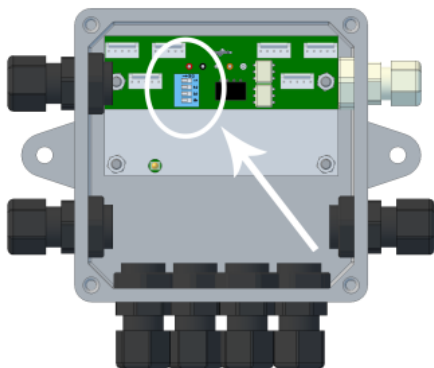


Figure 7: Connect wires following the above chart.

25. Tighten every strain-relief (“dome nuts”) on the box. First tighten the nuts to attach the strain reliefs to the box. Then tighten the dome nut until the cable cannot be pulled out of the box.
26. Set the bin to A using the dip switches inside the summing box. (Figure 8)



BIN	S1	S2	S3	S4	Dip Switch Diagram
A	OFF	OFF	OFF	OFF	
B	ON	OFF	OFF	OFF	
C	OFF	ON	OFF	OFF	
D	ON	ON	OFF	OFF	

Figure 8: Set appropriate bin using dipswitch.

Wiring the Bintrac® Power Supply

27. The Power Supply can be mounted on the outside of the building near an outlet. If the BinTrac Breeder Control is installed in an office or building walkway, the Power Supply can be installed in the same area, near an outlet.
28. Mount the Power Supply on the building in a location that allows the cable to be tied to the feed line, or other structure preventing entanglement by a person walking between the bin and building or from equipment being moved in the area.
29. Once the cable is routed from the Power Supply to the BinTrac® Breeder Control and has been tied up out of the way, cut off any excess cable.

Wiring the BinTrac® Breeder Control

30. Locate the terminal block in the BinTrac® Breeder Control labeled 'BINS'.
31. Insert the wires into the terminal block where RED is +12V, GREEN is +SIG, WHITE is -SIG and BLACK is -12V. (Figure 9)
32. Connect the wires from the BinTrac® power supply to the terminal block labeled 'PWR' where WHITE is +12V and BLACK is -12V.
33. After wiring the Smart Summing box to the BinTrac Breeder Control Indicator, you will then wire the Auger Relay to the BinTrac Breeder Control Indicator as shown below. A voltage suppressor is provided and is to be connected across the Auger Relay coil. It is highly recommended that an auto/manual override switch be installed as well. (Reference Figure 10 and Appendix A for additional wiring).

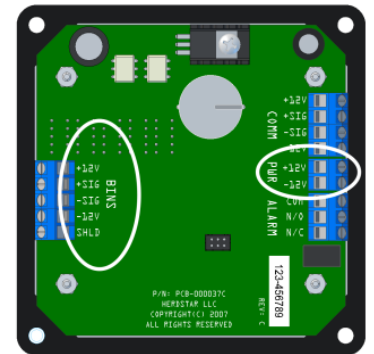


Figure 9: Insert wires in appropriate terminal block.

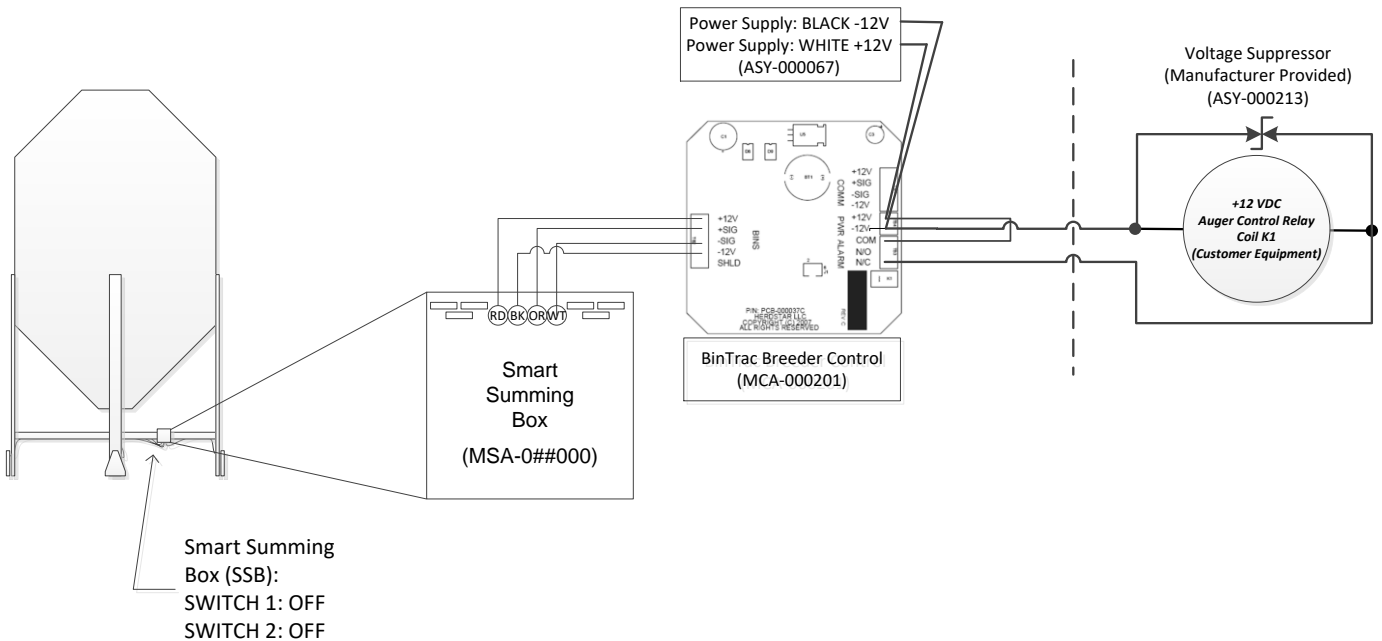


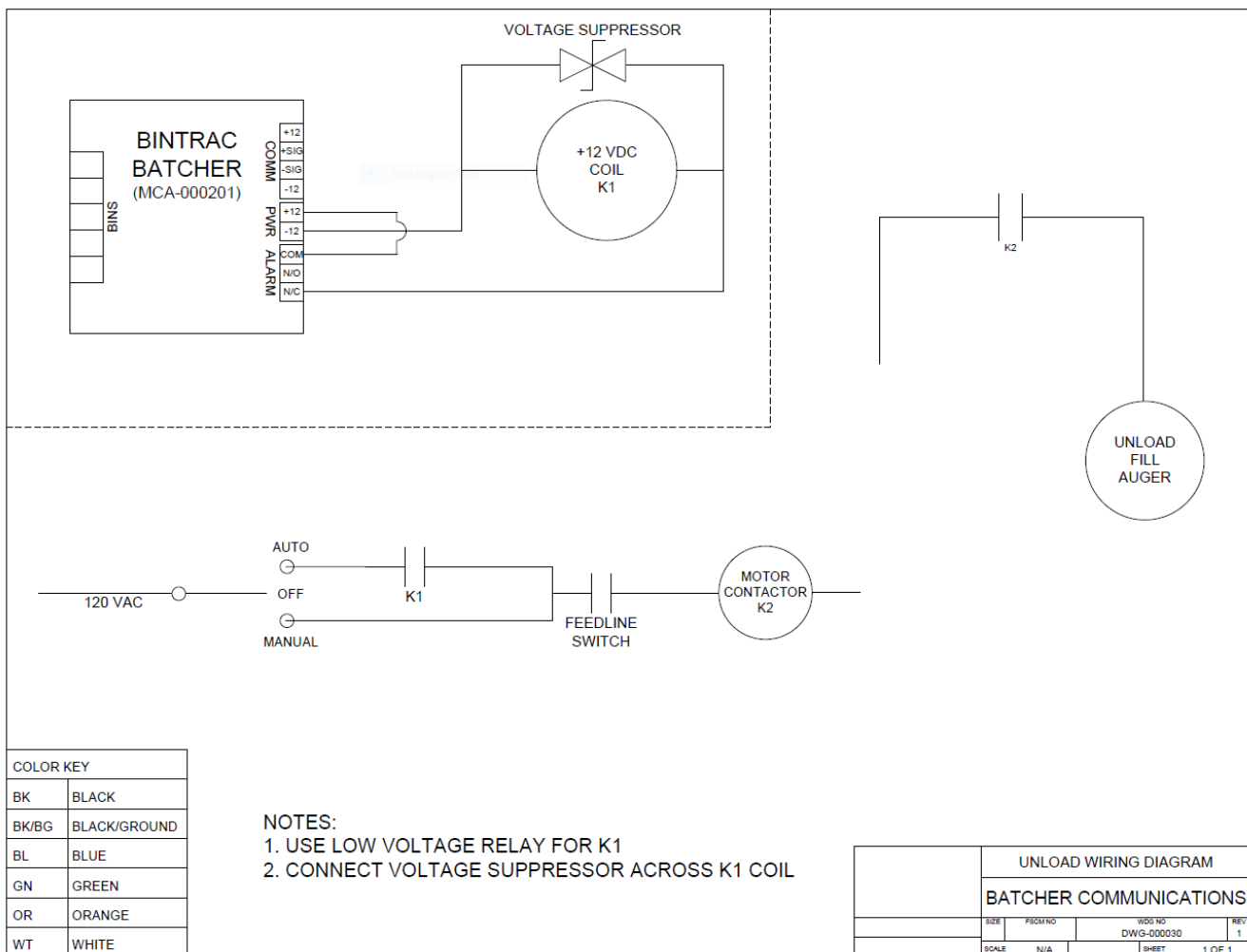
Figure 10

Addendum A Unload Wiring Diagram

Below is a reference diagram for wiring up the Breeder Control for an Unload Batch Method:

Please reference BINTRAC KIT P/N KIT-000028

Part Number	Part Description	Quantity
REL-000017	RELAY GEN PURPOSE DPDT 10A 125V	1.0000
CON-000126	SOCKET RELAY 8 OCTAL DIN RAIL	1.0000
ASY-000213	ASY VOLTAGE SUPPRESSOR RELAY COIL	1.0000
LAB-000011	LABOR ASSEMBLY	3.0000
SWI-000025	SWI TOGG SPDT 5A-30VDC ON-OFF-ON	1.0000
SWI-000026	TOGGLE SWITCH BOOT	1.0000

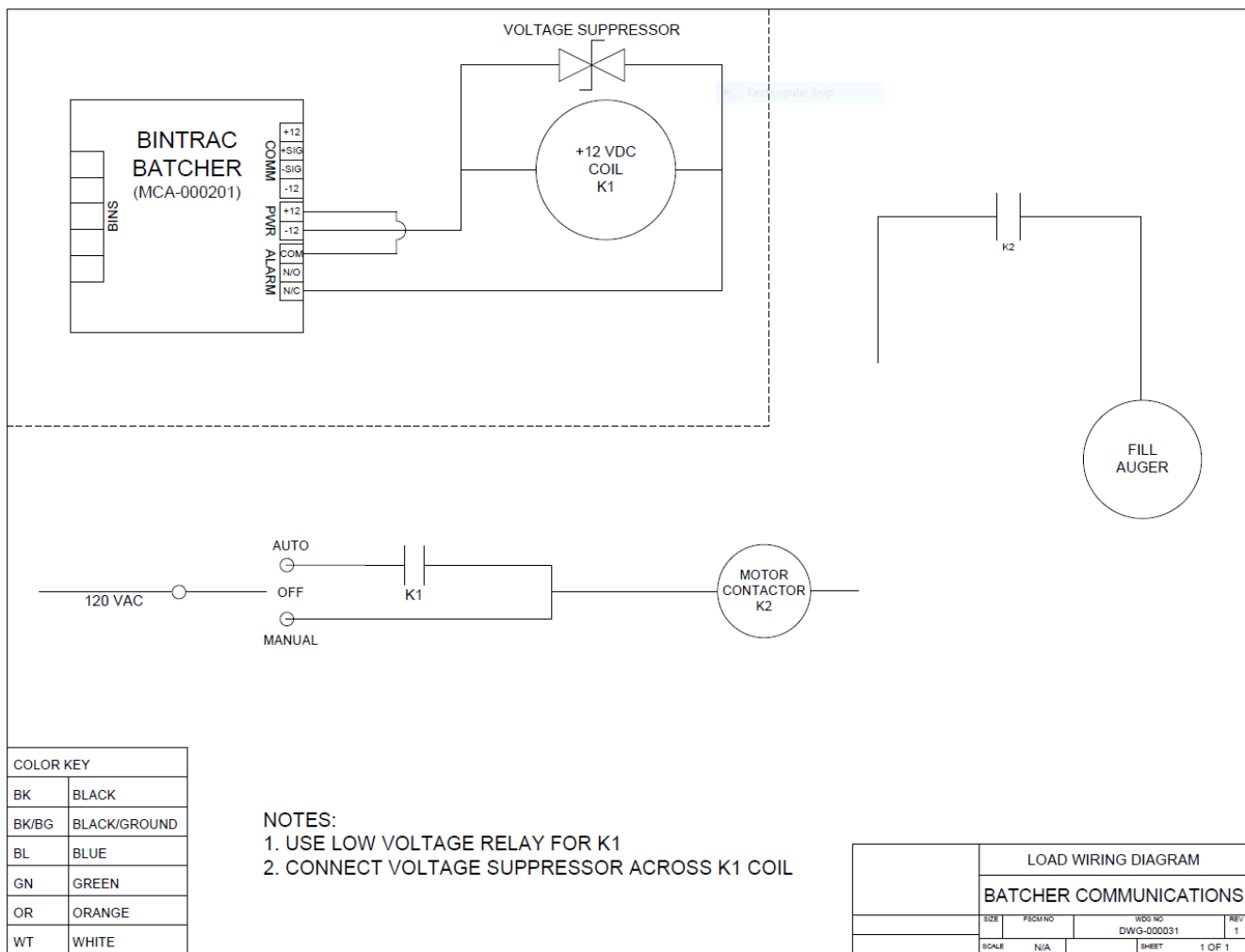


Addendum B Load Wiring Diagram

Below is a reference diagram for wiring up the Breeder Control for a Load Batch Method:

Please reference BINTRAC KIT P/N KIT-000028

Part Number	Part Description	Quantity
REL-000017	RELAY GEN PURPOSE DPDT 10A 125V	1.0000
CON-000126	SOCKET RELAY 8 OCTAL DIN RAIL	1.0000
ASY-000213	ASY VOLTAGE SUPPRESSOR RELAY COIL	1.0000
LAB-000011	LABOR ASSEMBLY	3.0000
SWI-000025	SWI TOGG SPDT 5A-30VDC ON-OFF-ON	1.0000
SWI-000026	TOGGLE SWITCH BOOT	1.0000



Herdstar Bintrac[®] Product 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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