SUPER SMART FEED™

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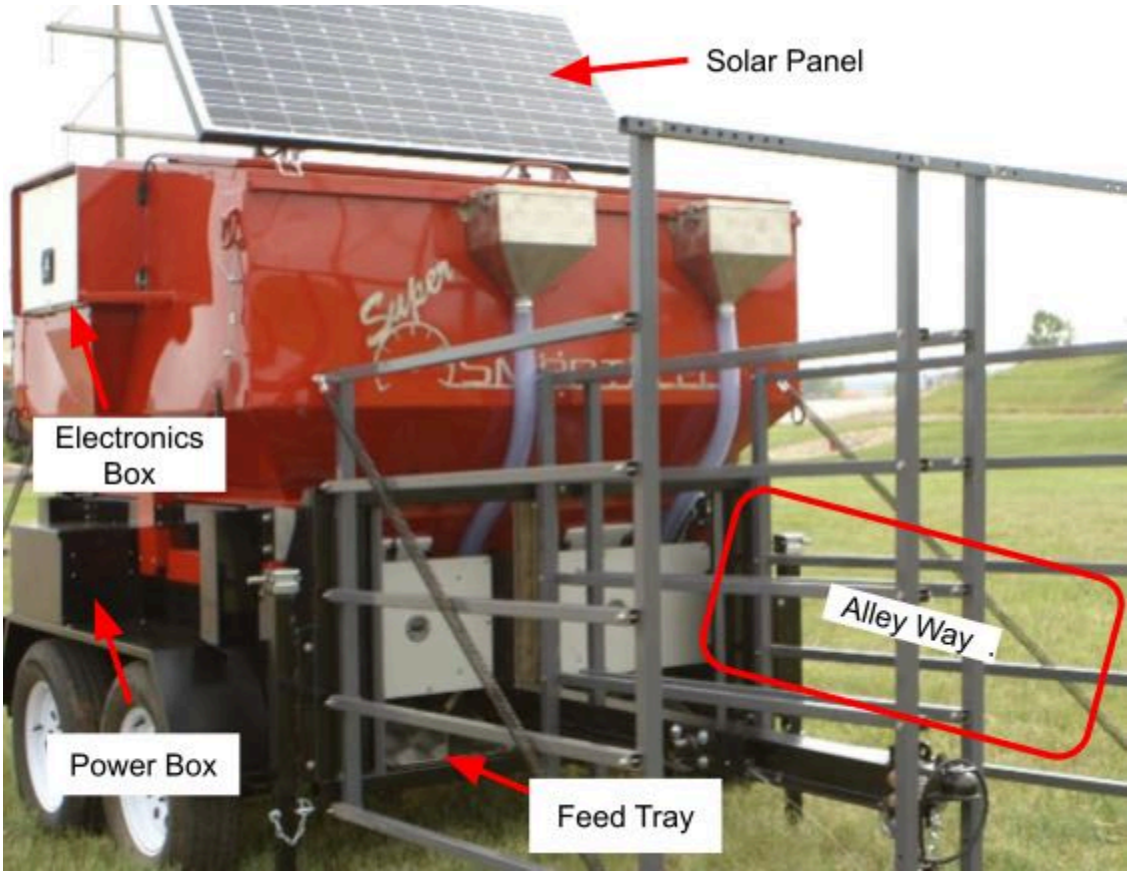
For additional information visit our website: www.c-lockinc.com

Table of Contents

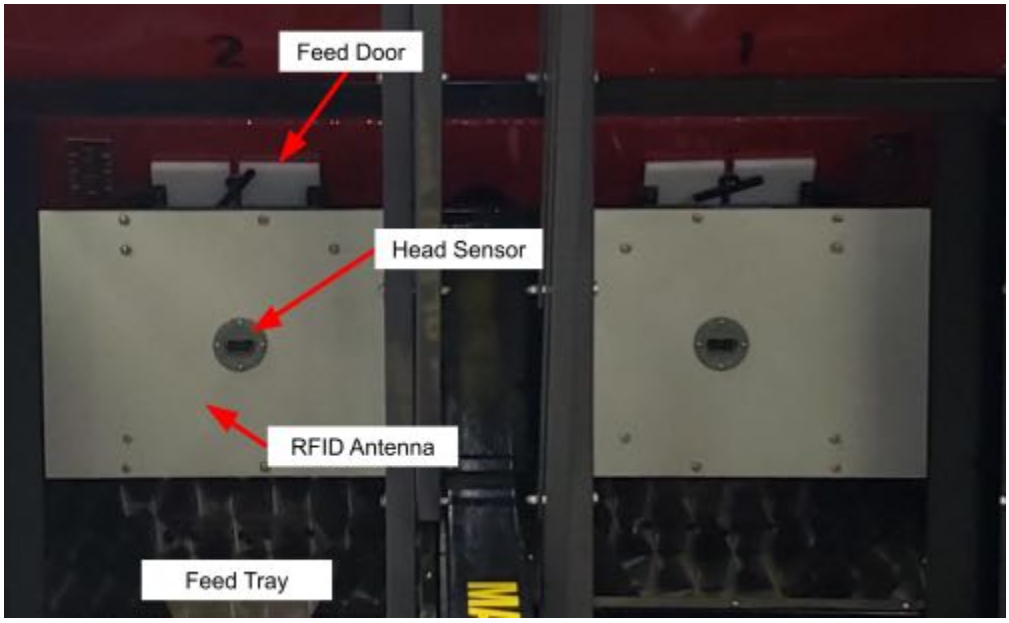
I. Specifications

Operating Voltage:	11 - 15VDC
Solar Panel Output:	190 Watts
Idle Power Consumption	15 Watts
Max Power Consumption	100 Watts
Dimensions:	**Without Alleyways:** 9 feet long, 7 feet wide, 7.5 feet tall (w/o trailer tongue) 13 feet long with trailer tongue Alleyways extend 11 feet tall when up for transport Length of full system with alleyways down: 17.5ft
Gross Weight (empty):	2500 lb
Max Allowed Feed Weight:	8000 lb
Data Communications:	Standard: 4G/LTE Cellular Web-based online interface Data processing: Cloud-Based Server
Sensors:	RFID Tag Reader - (ISO 11784/5 134KHz) Quad Load Cells - Bin weight Quad Load Cells - Tray weight Quad Head Proximity Sensors 1-second resolution

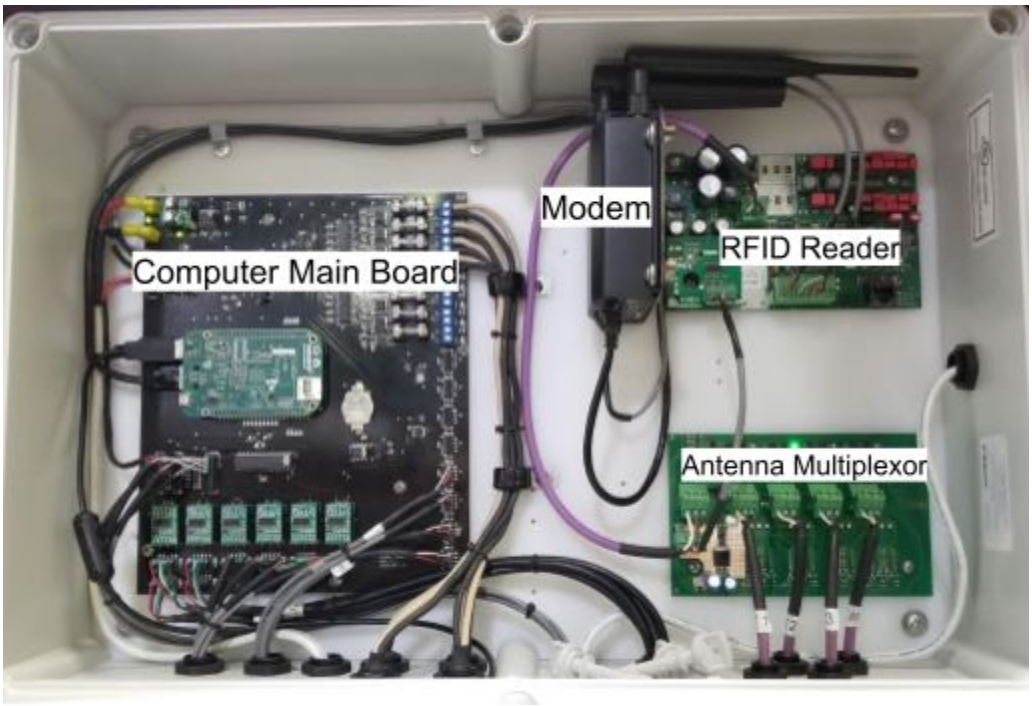
II. Layout



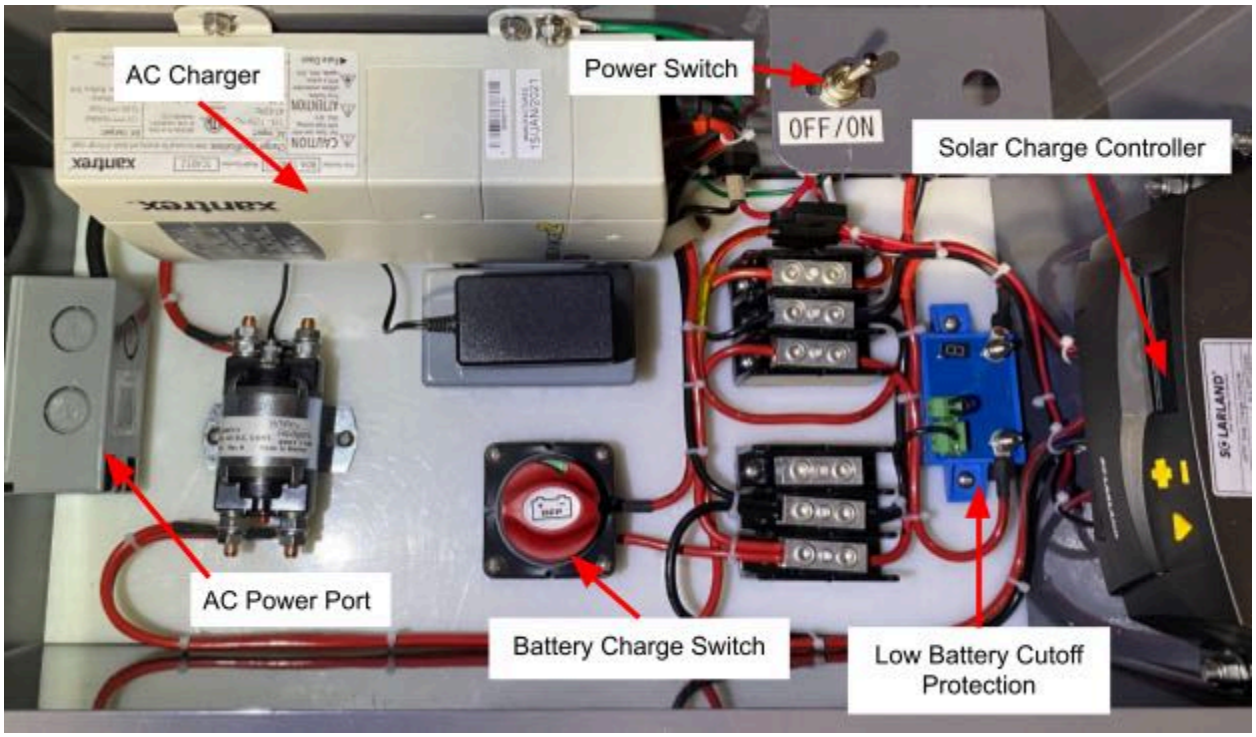
Feed Station



Inside the Electronics Box



Inside the Power Box

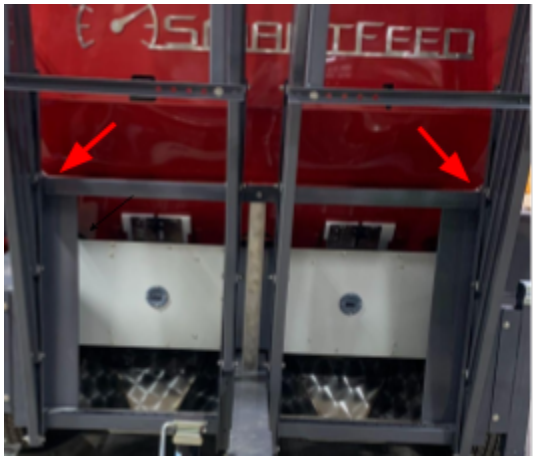


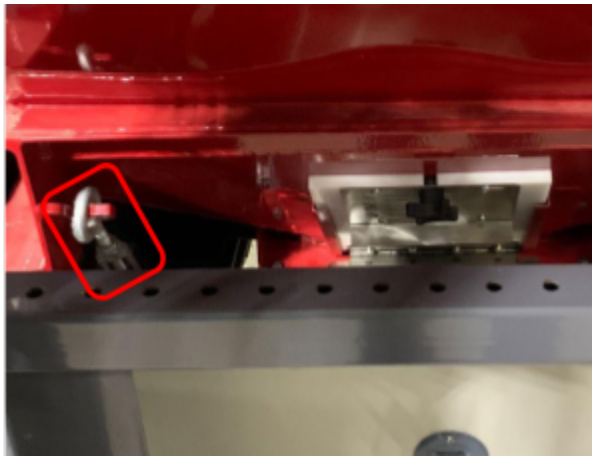
III. Setting Up Your Super SmartFeed

1. Highway Towing Cautions

Super SmartFeed has a maximum towing speed of 40 MPH (65 KM/H). While towing over rough terrain, please proceed with caution.

The feed bin is held in place by four locking turnbuckles (one in each corner of the trailer). These turnbuckles should be loose-fitting but not allow too much wiggle.





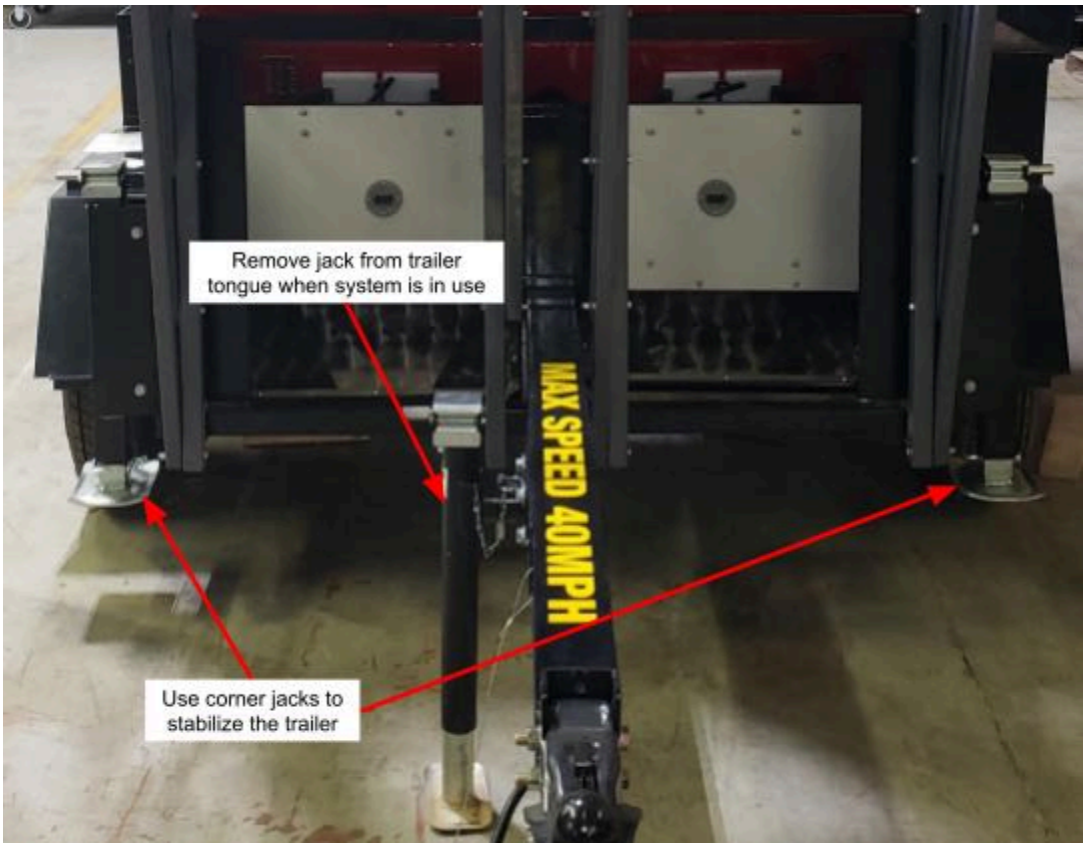
If you plan to transport the trailer over rough terrain, it is recommended to tighten the turnbuckles until there is no wiggle left in them, but do not overtighten.
Once the trailer is towed into position, loosen the turnbuckles back to their loose-fitting setting.

2. Facing the System in the Correct Orientation

The Super SmartFeed trailer can operate completely autonomously without any external power. The solar panels, however, must be faced correctly. See Appendix A - Solar Charging System for instructions on Solar System use and how to orient the solar panels.

3. Using Jacks to Stabilize/Level the Trailer

Stabilizer jacks are located on all four corners of the trailer. Use all four jacks to secure the trailer in place. Once set, remove the tongue's towing jack from the trailer tongue.



4. Adjusting Feed Door Heights

The feed doors of Super SmartFeed are made to be adjustable so that various sizes and consistencies of feed can be dispensed from the same opening.

Once a feed is chosen for a particular opening, the door heights should be set *just* high enough so that the feed can slide underneath it.

During the dropping procedure, if the conveyors sound like they are struggling to spin, the door height may be set too low. Conversely, if the door height is too high, then too much feed will be dispensed. So finding the appropriate door height is very important.

Once the door height is set properly and calibrated for each opening, the door height should not be changed unless the feed type for that opening is changed.

To adjust the door height:

1) Loosen the T-handle by turning it counter-clockwise (anti-clockwise).
2) Slide the door up or down until the opening is just large enough for the feed to slide under.
3) Tighten the T-handle by turning it clockwise.

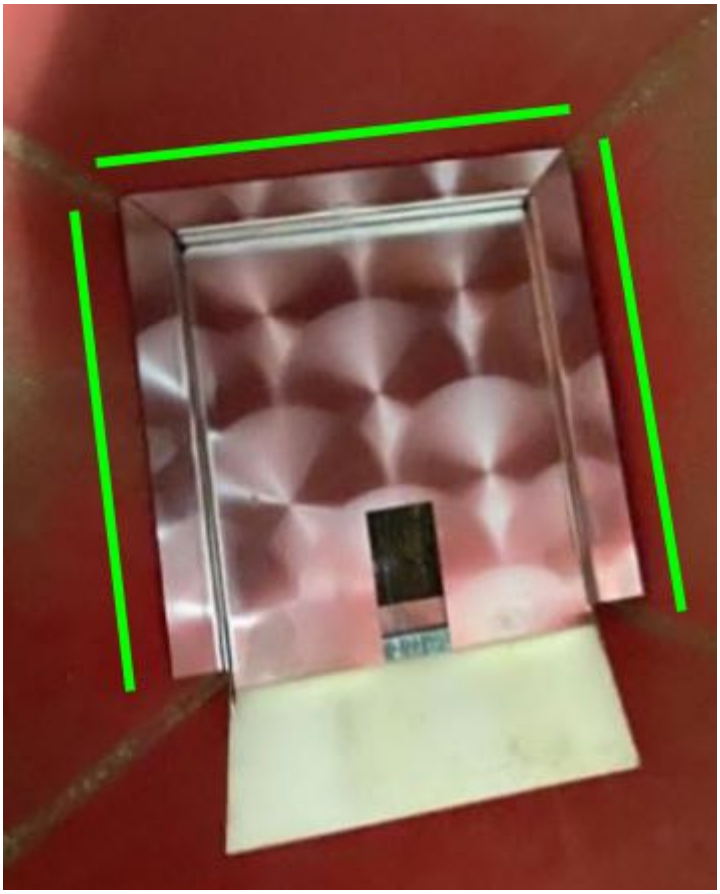
4) Test the door height by dispensing feed from the opening - on the Control Feed, select Drop Feed for the appropriate tray.

5. Installing Restrictor Plates

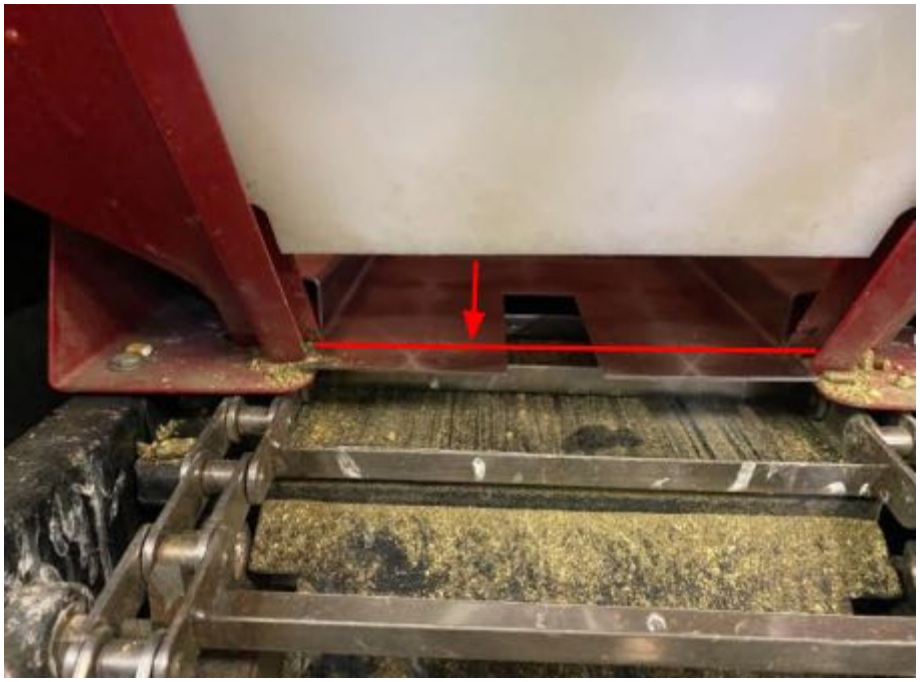
At its lowest door height, each tray will drop approximately 100 grams (varies heavily depending on feed density and size). If this amount is too great, and an even lower amount is required, restrictors plates may be installed in each tray. These plates will restrict the amount of feed delivered to as low as 30 grams per drop.

To install the restrictor plate for a specific tray (station):

1) Remove all the feed from that station
2) Open the door to its highest position
3) Install the restrictor plate as shown below. The restrictor plate should sit at the bottom of the bin making contact with the bin on three sides.



4) Close the door to its lowest possible position. The door should be *above* the edge of the restrictor plate.

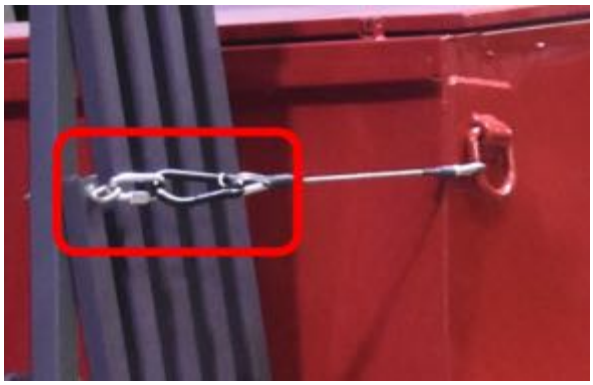


5) Tighten the door T-handle to lock the door into place.
6) Drop feed several times to ensure the restrictor plate is installed correctly.
7) Fill the bin with enough feed to sufficiently cover the restrictor plate entirely.
8) Test the feed drop again several times to ensure the feed drops correctly.
9) If the feed dispenses reliably, then resume filling the bin with feed.

6. Lowering the Alleyways

For safety, having an assistant is advised when raising or lowering the alleyways.

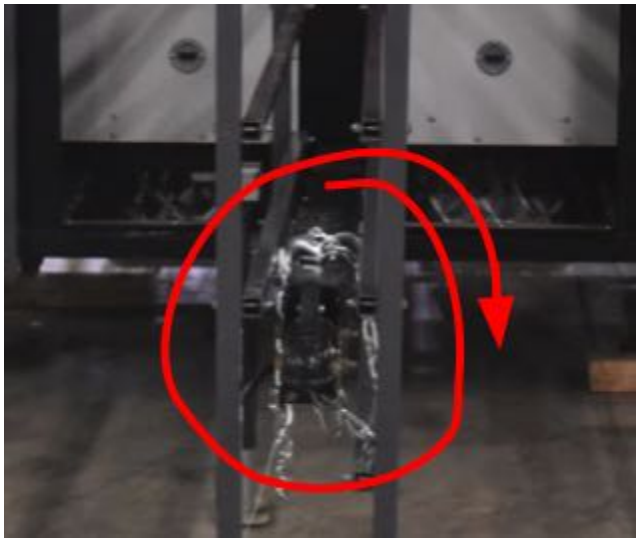
1) Detach the clips from the two sides of the alleyway:



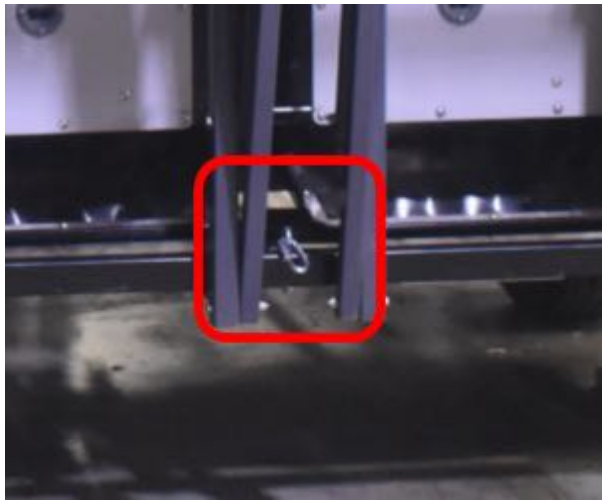
2) Slowly lower the alleyway until it is resting on the ground.

3) Secure the alleyways:

   a) To secure the front alleyways, tightly wrap the trailer tongue safety chains around the alleyways and lock them in place.

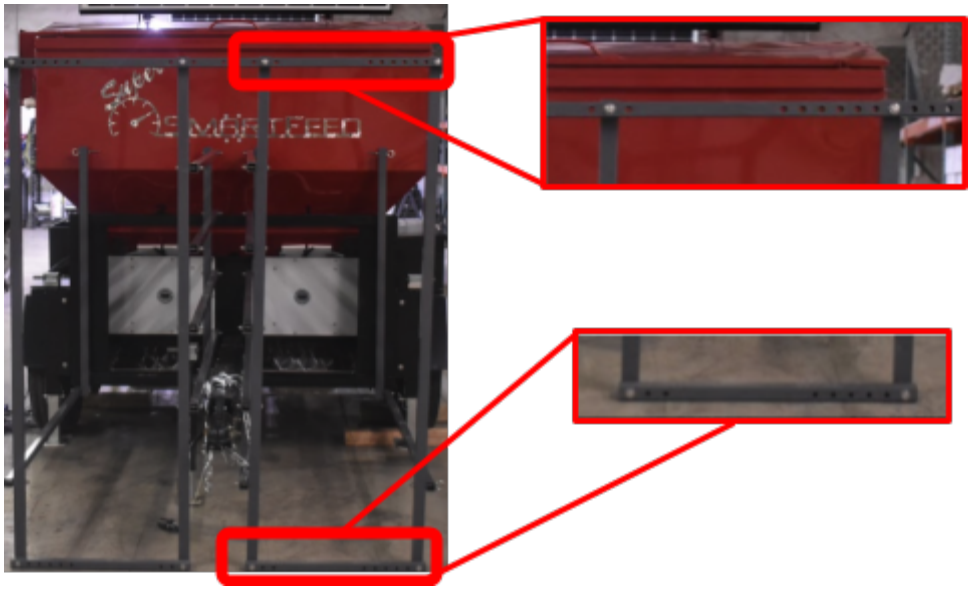


   b) To secure the back alleyways, use the top center cable to attach the top of the alleyway to the bottom center of the trailer frame.



7. Adjusting the Alleyways

There are a total of four bolts securing each alleyway width. To widen or narrow the alleyway, remove these four bolds and adjust accordingly. The alleyway should be sized so that only one animal can fit into the alleyway at a time. This will prevent “stealing” feed. Once the alleyway is sized correctly, replace and tighten the four bolts.



8. Filling the Feed Bin

There are locking pins located on the lids to ensure the lids stay closed in high-wind environments. To open the bin lid, first remove these two pins.

Once the pins are removed, to open the feed bin lid, use the leverage handle on the side of the system.

Always use the locking pins to ensure the lids stay closed.

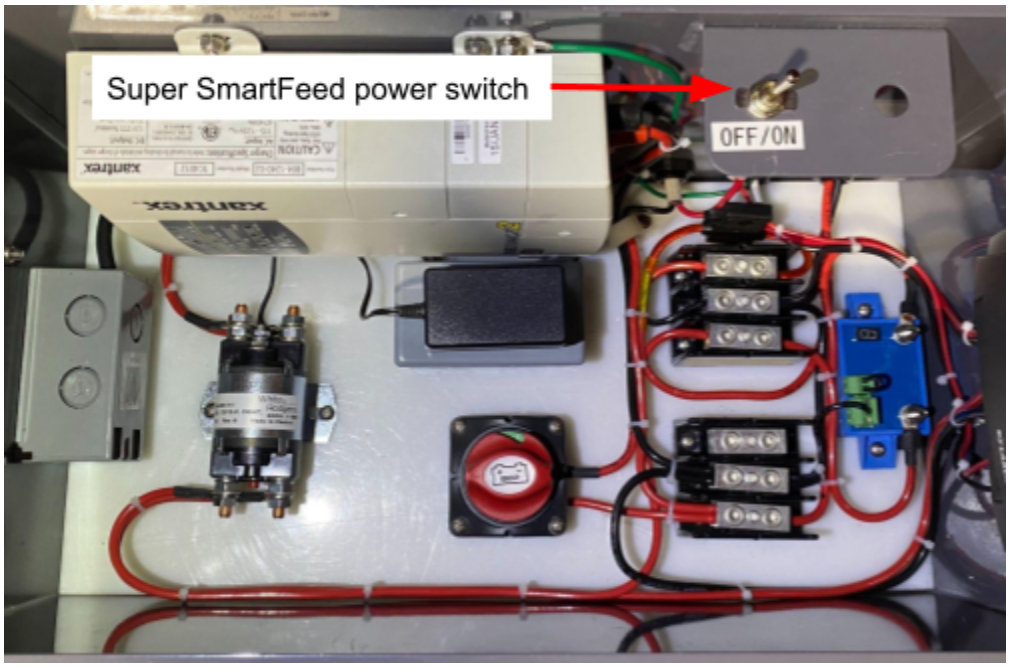
IV. Using Your Super SmartFeed

1. Configuring the Modem for Internet

A modem is included in your Super SmartFeed. This modem allows the system to connect to the internet in any location with a cellular signal. Your system may include a pre-installed SIM card. However, for non-US systems, you will need to supply your own SIM card. For instructions on installing your SIM card, please see Appendix B - Configuring the Cellular Modem.

2. Turning the System On and Off

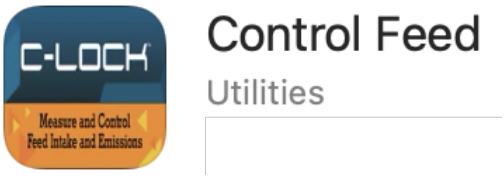
The power switch for Super SmartFeed is located inside the power box. To turn on Super SmartFeed, simply toggle the unit power switch to ON.



Once powered, the system will take approximately two minutes to initialize. It is recommended to check the online interface to ensure the system is online. See Online User Interface

3. Installing Control Feed Mobile App

Controlling the Super SmartFeed system is possible using the Control Feed mobile application. To install Control Feed on your mobile device, search for “Control Feed” by C-Lock Inc. in the Google Play Store or Apple App Store, or scan the QR code below.



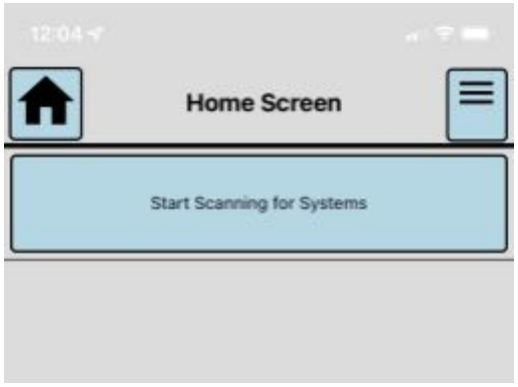
Apple App Store

Google Play Store

https://apps.apple.com/us/app/control-feed/id1524038899

https://play.google.com/store/apps/details?id=com.controlfeed

Once installed start the app and allow location privilege. Then tap the “Start Scanning for Systems” button. Once your system appears, tap on it and wait for it to connect.



4. Changing Feed Type

To change the type of feed that is in each of the trays, please see Feed Types in the Online User Interface section.

5. Dropping Feed

To dispense feed accurately, Super SmartFeed spins a conveyor in very slow and short movements. Each movement on a conveyor is referred to as a “tick”. Depending on the type of feed being dispensed and the height of the door, a single “tick” can range anywhere from 30 grams to several hundred grams.

To manually drop feed, there are three options:

1. Move the conveyor 1 tick
2. Move the conveyor 8 ticks
3. Move the conveyor enough ticks to dispense the equivalence of 1 kg or 1 lb

To drop feed from a specific opening:

1. Use the Control Feed app to select which tray you wish to dispense feed.
2. Tap the Drop Feed button.
3. Select how much feed you would like to dispense (1 tick, 8 ticks, or 1kg)

6. Calibration Procedure

Before Super SmartFeed can accurately drop feed for animals, each tray must be calibrated for a particular feed type. This calibration procedure only needs to be done on a particular opening if one of the following events occurs:

- A new type of feed is used in that opening
- The system has been moved to a new location
- The door height has been changed
- There is reason to suspect something is working improperly

The calibration procedure has three steps that must be performed in sequential order:

1) Calibrate the scales
2) Calibrate the feed drops
3) Verify feed drops (optional)

To perform a calibration, please see Calibrating the Scales and Calibrating Feed Drops in the Calibration and Maintenance section

V. Calibration and Maintenance

1. Cleaning

- To clean the feed trays, use a power washer to spray and remove all debris and residue or clean by hand.

- To ensure accurate weight, clean underneath the feed trays. Make sure there is no food or debris touching the bottom of the feed trays.

- It is recommended to calibrate the feed bin before putting feed into the unit for the first time. Follow the same steps below, making sure to select the zero and span for the bin at the appropriate steps.

2. Calibrating the Scales

Each feed tray is equipped with its own scale so dispensed feed can be calibrated, but the entire Super SmartFeed trailer also has a built-in scale so the total amount of feed remaining in the system can be monitored. Therefore, this Scale Calibration section is divided into two parts - Calibrating the entire Super SmartFeed trailer scale (referred to as the bin), and calibrating each individual feed tray scale.

1) Calibrating The Trailer Scale

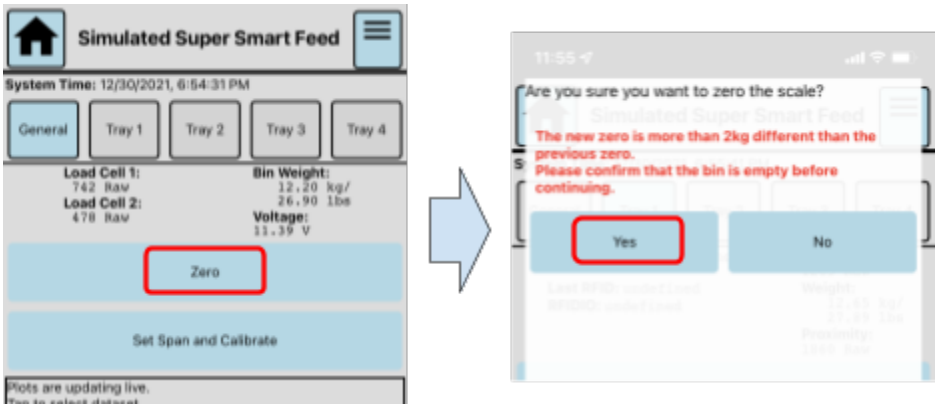
   For best results, the following conditions must apply when calibrating the trailer:
   - The trailer must be parked on a level surface with its jacks down
   - All alleyways must be down
   - Nothing can be leaning or resting on the trailer
   - Wind must be at a minimum
   - The trailer must be empty
   - The system must be powered on and operational

   Calibrating the trailer (bin) scale is performed in two steps: a) zeroing/taring the bin and b) spanning the bin. To calibrate the trailer scale, follow these steps:

   a) Ensure the trailer bin is empty, and alleyways are lowered, and there is no external force being applied to the trailer

b) Connect to the system using the Control Feed app

c) Select the General tab, then tap “Zero”, confirm the zeroing by tapping “Yes”.



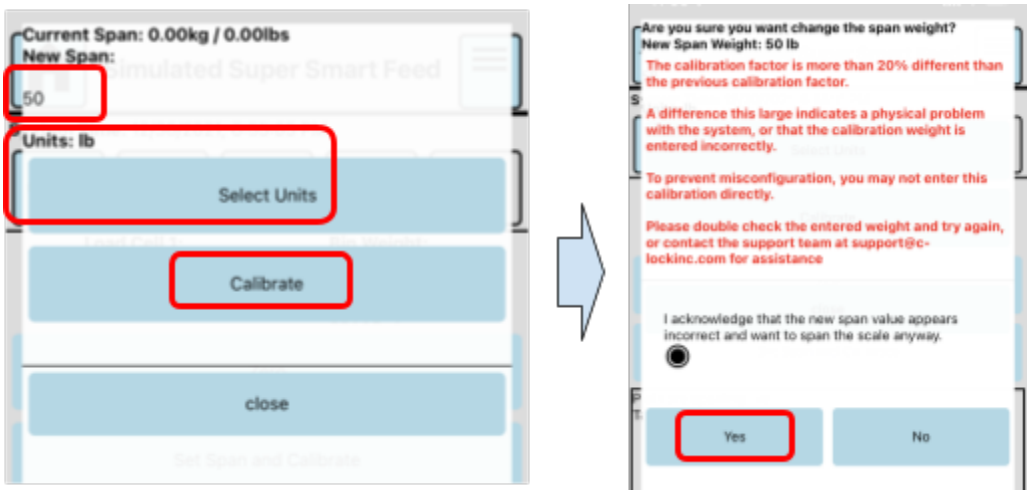
The zero-mass point has now been set.

If spanning the scale is also needed, please continue following these steps.

d) Place a known mass on top of the bin (preferably in the middle of the bin, but not on top of the solar panels). The known mass should be 50~100 lb (20~50kg).

e) Tap “Set Span and Calibrate”.

f) Enter your span weight in the “New Span” field. Ensure the units are correct then tap Calibrate. Confirm the calibration by tapping Yes



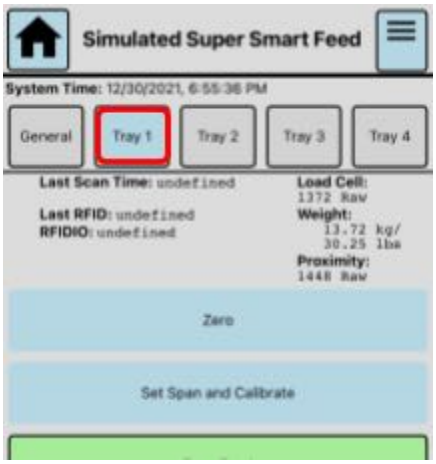
The Trailer (Bin) scale is now calibrated.

2) Calibrating The Tray Scales

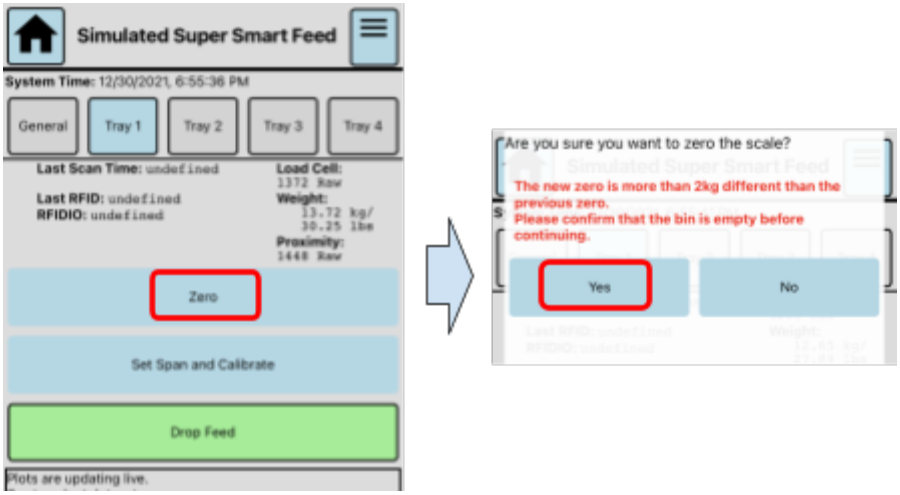
To ensure Super SmartFeed can calculate residual orts and prevent it from dispensing extra feed into each station, tray calibrations are essential.

To calibrate each tray, please perform the following steps:

a) Select the tab corresponding to the tray being calibrated.



b) Ensure the tray is completely empty and nothing is pushing on the tray. Tap the “Zero” button, then confirm the zeroing by tapping “Yes”.



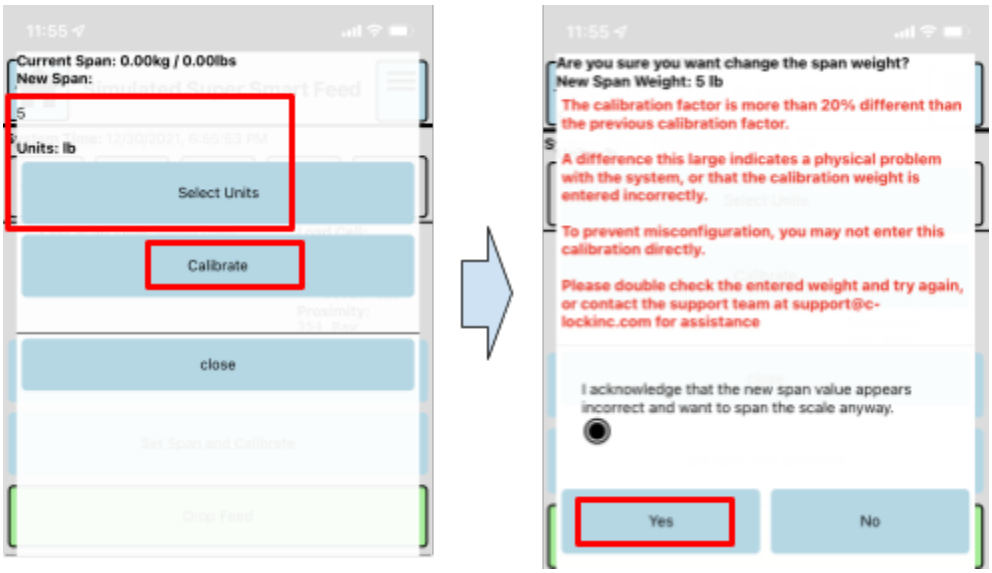
The zero-mass point has now been set.

If spanning the scale is also needed, please continue following these steps.

c) Place a known mass in the middle of the feed tray. The known mass should be 1~10 lb (0.5~5kg).

d) Tap “Set Span and Calibrate”.

e) Enter your span weight in the “New Span” field. Ensure the units are correct then tap Calibrate. Confirm the calibration by tapping Yes



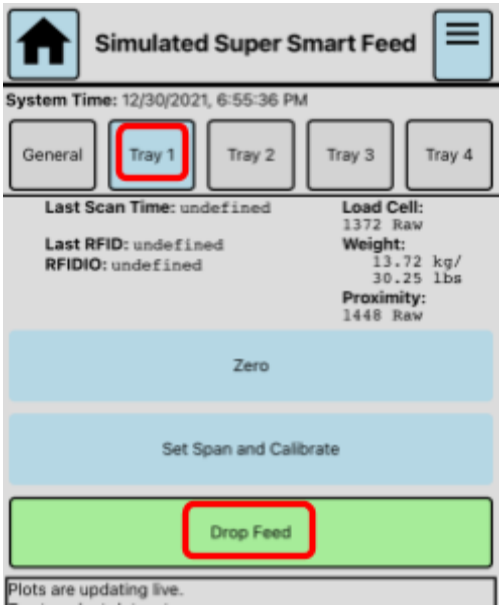
3. Calibrating Feed Drops

- Calibrating the feed drops is required any time feed type is changed or the doors are adjusted.
- Ensure no animals are near the tray that you wish to calibrate.

To calibrate the feed drops, follow these instructions for each feed tray you wish to calibrate:

1. Remove all feed and debris from the feed tray.
2. Connect the Super SmartFeed using the Control Feed app.

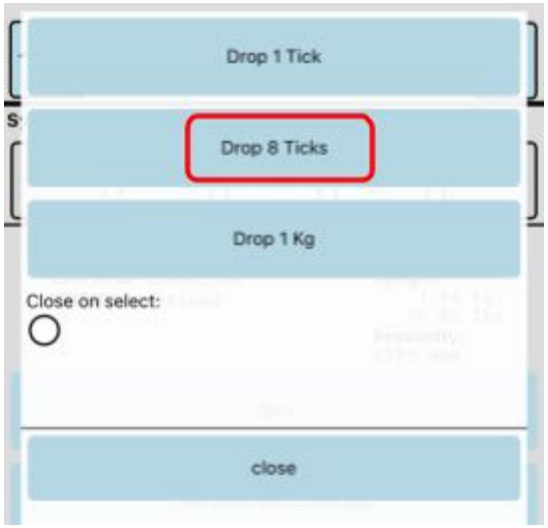
3. Select the tab corresponding to the tray you wish to calibrate. Then tap Drop Feed.



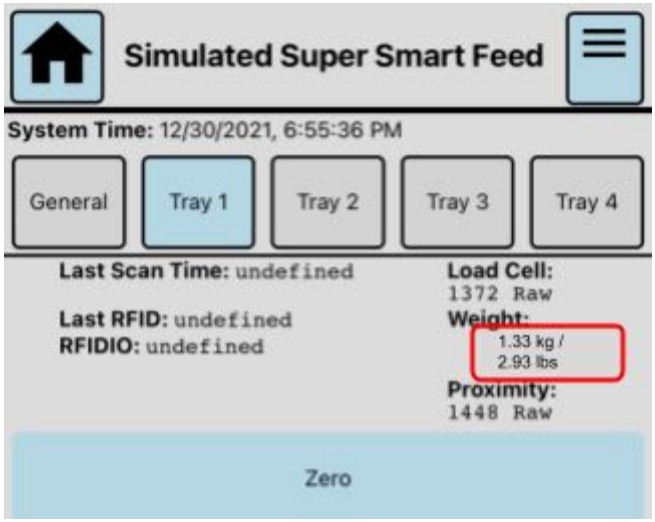
4. Tap “Drop 1 tick” multiple times until the feed starts to fall out of the conveyor. (This procedure is called “priming the conveyor”.)

5. Once the conveyor is primed, remove the residual feed in the tray.

6. Tap “Drop 8 ticks”. Then wait for all 8 drops to occur. Tap “Drop 8 ticks” one more time. This equates to 16 ticks total.



7. Tap “close” then read the weight in the tray.



8. Divide this weight by 16 to get the feed drop calibration. In this example, 16 ticks resulted in a weight of **1.33kg**. So the calibration is:

1.33kg / 16 = **0.083 kg / tick**

9. Enter this calibration into the web interface (See “**One motor movement dispenses this many kg”** in SmartFeed of the Online User Interface section.)

4. Verifying Drops

Optionally, you can perform drop tests to verify each opening is dropping the appropriate amount.

1) The steps for verifying drops are identical to calibrating the drops, however instead of dropping a total of 16 ticks, simply press the “Drop 1 kg” button. This should dispense a total of 1 kg (2.2 lb) of feed. Optionally, the feed can be gathered and independently weighed on a separate scale for most accurate checks.

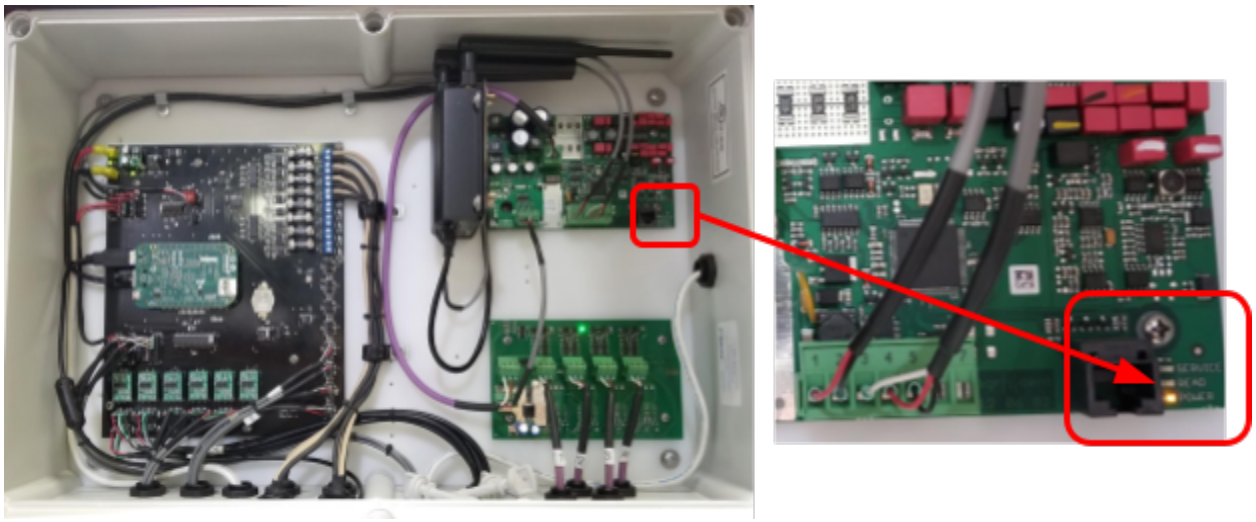
2) If the weight is consistently off by a certain percentage/amount, the calibration can be tweaked using the online web interface. See the Manually Adjusting Super SmartFeed Feed Drops section for instructions.

5. Checking that the RFID Reader is Working

To check that the RFID reader is working:

- You will need a spare ear tag and an assistant

1. Open the electronics box by loosening the 6 screws in the lid
2. Hold the ear tag next to the RFID antenna located above each feed tray
3. Place your hand over the head sensor to activate the RFID antenna
4. Have an assistant watch for the green “READ” LED to blink on the RFID circuit board in the electronics box (shown below).
5. Do this for each antenna, one at a time.



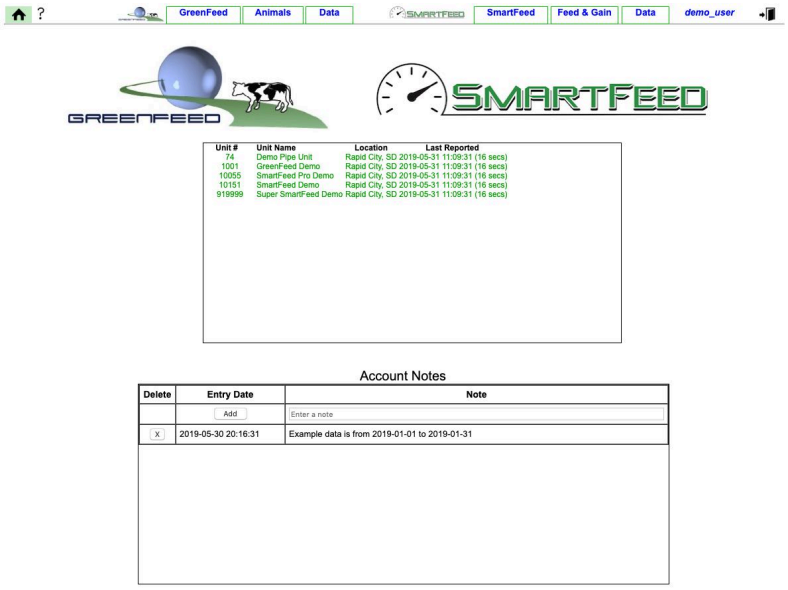
VI. Online User Interface

By accessing the SmartFeed interface, users are allowed to customize notifications, adjust configurations, monitor SmartFeed unit(s), and more.

Log in to https://ext.c-lockinc.com with your assigned credentials.

Navigate through the website by selecting each page on the top of the screen: Home icon, SmartFeed, Feed Intake, or Data.

1. Home

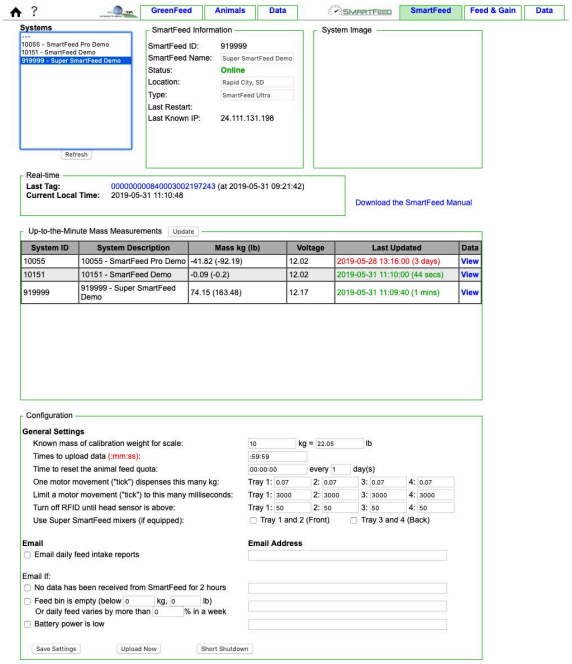


The home table displays each of your SmartFeed units. The Unit Number, Unit Name, Location, and Last Reported time will appear in the table.

If color is...	Time last synced
Green	Seconds ago
Yellow	Minutes ago
Red	Hours ago
Grey	Days ago

2. SmartFeed

SmartFeed makes measuring feed intake simple. The following page allows the user to customize, monitor, and configure SmartFeed settings and data.



1. **Systems:** SmartFeed systems owned by the current user will appear here. Select one of the SmartFeed feeders to view more information.

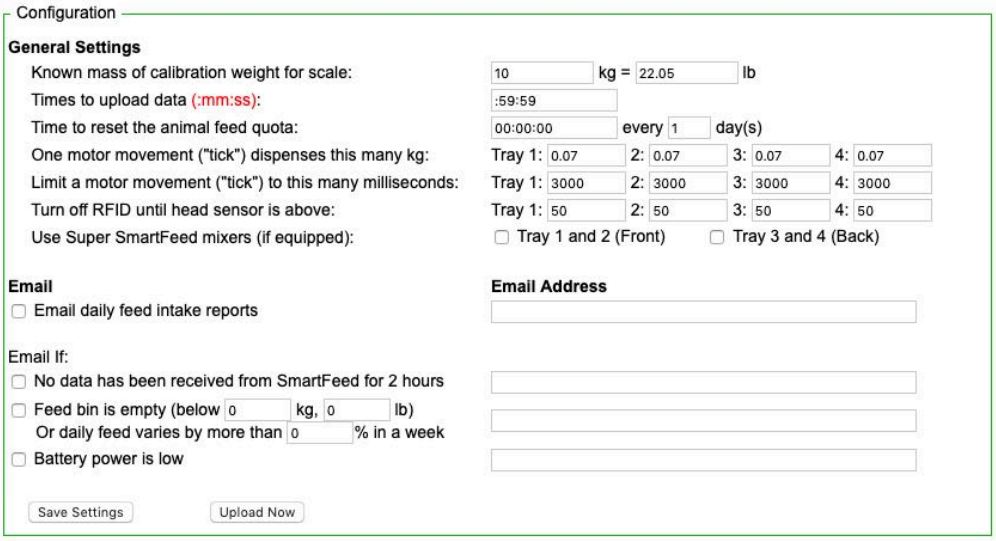
2. **SmartFeed Information:** General information such as ID, NAME, STATUS, etc.

3. **System Static Image:** Click the Upload Image button to select an image for your SmartFeed feeder (not required).

4. **Real-Time:** Displays the last RFID tag detected, Current Local Time, and Current Mass**.**

5. **Up-to-the-Minute Mass Measurements:** Displays the SmartFeed(s) ID, System Description, Current Mass, and Last Updated time.

- These values are updated once per minute, as long as the system is connected to the Internet. Click the Update button to refresh the Real-Time data.



- **Known Mass of calibration weight for scale:** The displayed mass is the mass of the calibration weight entered on the SmartFeed. This mass can also be changed from the Control Feed app.

- Times to upload data: enter the specific minute and second of each hour for automatic upload. *Use the format (:mm:ss) when entering digits.*

- **Time to reset the animal feed quota:** Enter the specific time of quota reset. Resetting the quota will set the animal's feed intake to zero. This allows the user to specify what time of day the animals are allowed to eat again.

- **One motor movement dispenses this many kg:** Ideally, the amount dispensed per motor movement should be calibrated while at the system, but if small changes must be made, they can be done here. A suggested method would be to drop 16 "ticks" of feed using the Control Feed app, then weigh that feed independently. Then divide that weight by 16 to determine how many grams are dropped in a single average tick. Enter that number here.

- **Limit a motor movement to this many milliseconds:** This setting is used as a fail-safe in case the system is unable to detect the feed conveyor movement. It will limit the length of time the conveyor is on. A suggested number for this setting is 1000 to 2000 ms, however depending on weather and consistency of feed (which can slow down the motors) this number may increase slightly.

- **Turn off RFID until head sensor is above:** To conserve battery power, the RFID reader can be disabled until an animal is detected. The sensitivity can be set on a per-tray basis. For help determining the sensitivity, please contact support@c-lockinc.com

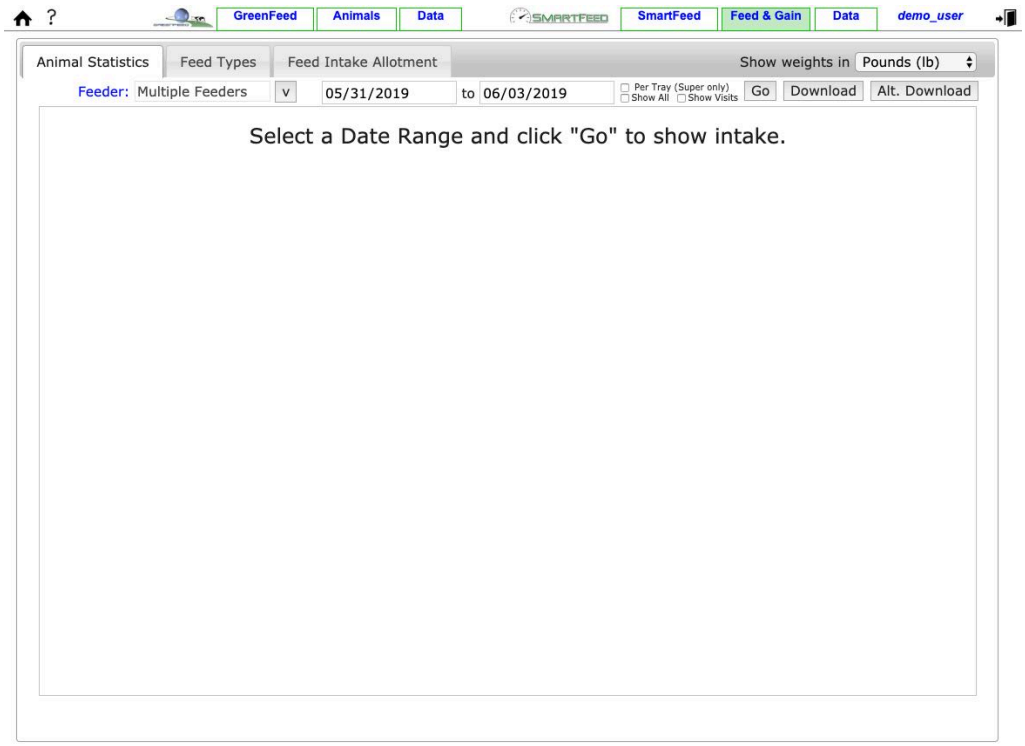
- **Email:** You can assign different alerts to different email addresses. For instance, if the system is unable to upload data for two consecutive hours, it will email a particular person or a group of persons. Multiple email addresses can be entered by separating with a comma
  i.e. johnsmith@example.com,marysmith@example.com

- Any adjustments made in the configuration will sync with the SmartFeed system while it is connected to the Internet.

- Once changes have been made, click Save Settings. You will receive a confirmation.

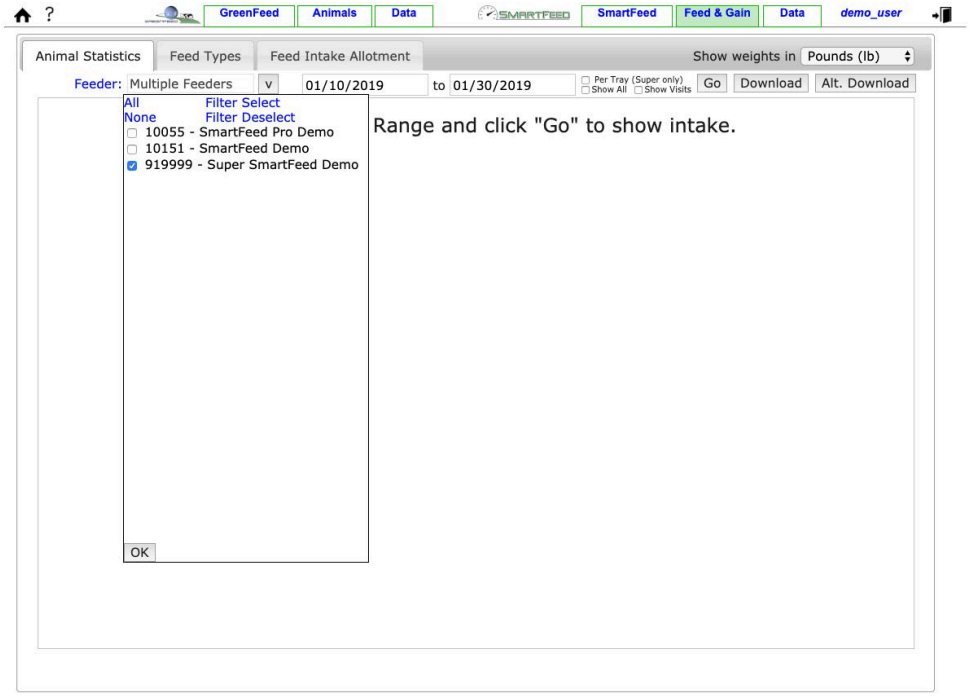
3. Feed & Gain

This page will show the feed intake for each animal in a given time-span.



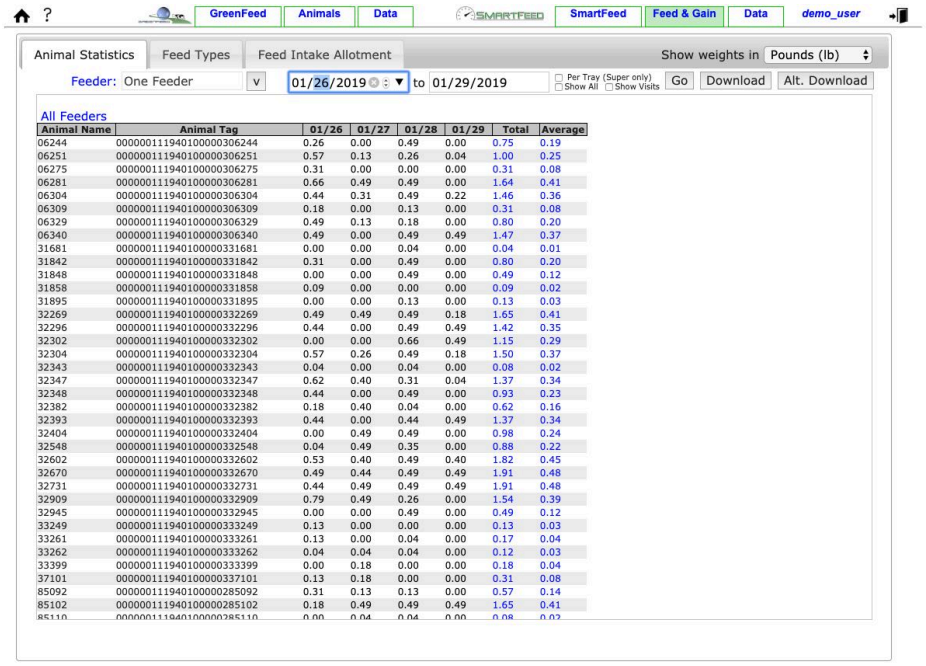
- **Animal Statistics**

1. Select desired feeder(s) in the “Feeders” drop-down menu, then click OK
    - The feed intake table will only display for the selected feeders.



2. Enter the date range.
    - Large date ranges (multiple weeks at once) may take longer to compute. By default, the last four days are chosen.
3. The feed intake is calculated based on the quota reset time from the SmartFeed page. By default, this time will is 00:00:00 (midnight).
4. Checkboxes:
    - The Per Tray checkbox will aggregate the intakes into the 4 trays, rather than each type of feed in each tray.
    - The Show Visits checkbox will display every feed event from every animal. This can result in several thousands of entries (depending on duration and herd size).
5. Click the “Go” button to view the summary table for the chosen data range.
    - The first sets of tables are categorized by type of feed. Each animal’s intake is displayed by day in the selected date range.
    - The last table displays each individual intake in ascending order

based on time. This last table will not appear if the list is too long. To view this table, only choose one day to view.

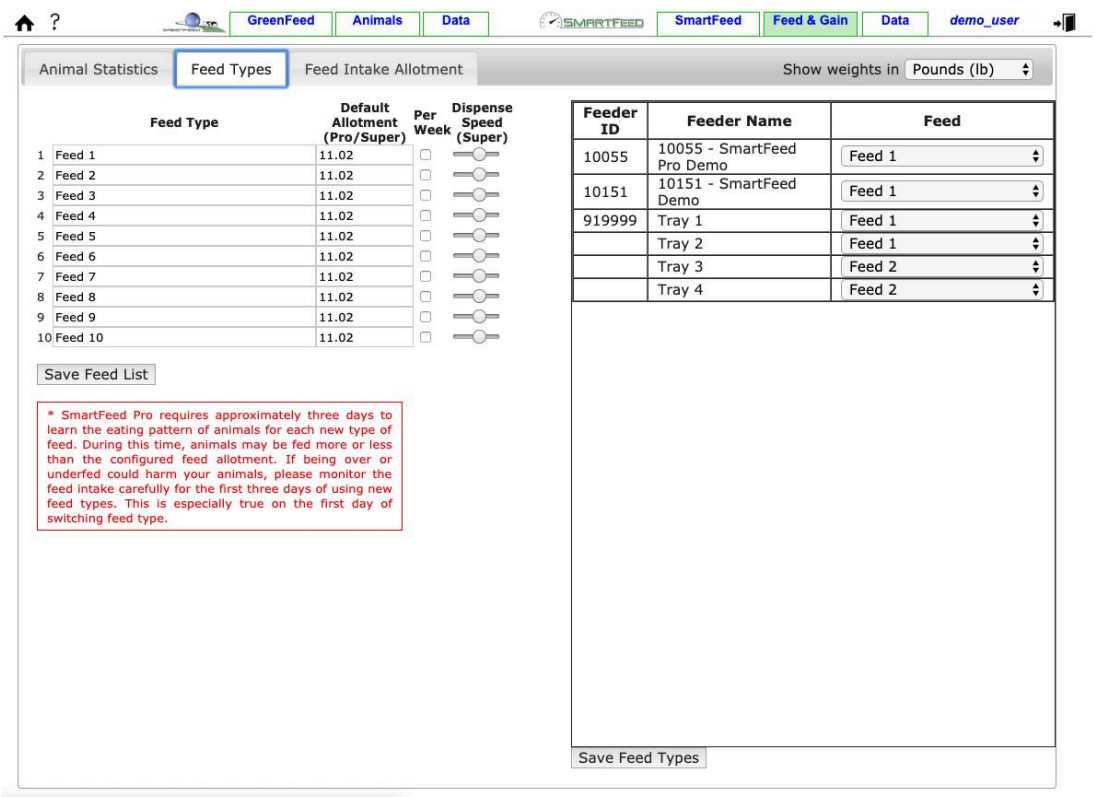


Animal Name	Animal Tag	01/26	01/27	01/28	01/29	Total	Average
06244	00000011194010000306244	0.26	0.00	0.49	0.00	0.75	0.19
06251	00000011194010000306251	0.57	0.13	0.26	0.04	1.00	0.25
06275	00000011194010000306275	0.31	0.00	0.00	0.00	0.31	0.08
06281	00000011194010000306281	0.66	0.49	0.49	0.00	1.64	0.41
06304	00000011194010000306304	0.44	0.31	0.49	0.22	1.46	0.36
06309	00000011194010000306309	0.18	0.00	0.13	0.00	0.31	0.08
06329	00000011194010000306329	0.49	0.13	0.18	0.00	0.80	0.20
06340	00000011194010000306340	0.49	0.00	0.49	0.49	1.47	0.37
31681	00000011194010000331681	0.00	0.00	0.04	0.00	0.04	0.01
31842	00000011194010000331842	0.31	0.00	0.49	0.00	0.80	0.20
31848	00000011194010000331848	0.00	0.00	0.49	0.00	0.49	0.12
31858	00000011194010000331858	0.09	0.00	0.00	0.00	0.09	0.02
31895	00000011194010000331895	0.00	0.00	0.13	0.00	0.13	0.03
32269	00000011194010000332269	0.49	0.49	0.49	0.18	1.65	0.41
32296	00000011194010000332296	0.44	0.00	0.49	0.49	1.42	0.35
32302	00000011194010000332302	0.00	0.00	0.66	0.49	1.15	0.29
32304	00000011194010000332304	0.57	0.26	0.49	0.18	1.50	0.37
32343	00000011194010000332343	0.04	0.00	0.04	0.00	0.08	0.02
32347	00000011194010000332347	0.62	0.40	0.31	0.04	1.37	0.34
32348	00000011194010000332348	0.44	0.00	0.49	0.00	0.93	0.23
32382	00000011194010000332382	0.18	0.40	0.04	0.00	0.62	0.16
32393	00000011194010000332393	0.44	0.00	0.44	0.49	1.37	0.34
32404	00000011194010000332404	0.00	0.49	0.49	0.00	0.98	0.24
32548	00000011194010000332548	0.04	0.49	0.35	0.00	0.88	0.22
32602	00000011194010000332602	0.53	0.40	0.49	0.40	1.82	0.45
32670	00000011194010000332670	0.49	0.44	0.49	0.49	1.91	0.48
32731	00000011194010000332731	0.44	0.49	0.49	0.49	1.91	0.48
32909	00000011194010000332909	0.79	0.49	0.26	0.00	1.54	0.39
32945	00000011194010000332945	0.00	0.00	0.49	0.00	0.49	0.12
33249	00000011194010000333249	0.13	0.00	0.00	0.00	0.13	0.03
33261	00000011194010000333261	0.13	0.00	0.04	0.00	0.17	0.04
33262	00000011194010000333262	0.04	0.04	0.04	0.00	0.12	0.03
33399	00000011194010000333399	0.00	0.18	0.00	0.00	0.18	0.04
37101	00000011194010000337101	0.13	0.18	0.00	0.00	0.31	0.08
85092	00000011194010000285092	0.31	0.13	0.13	0.00	0.57	0.14
85102	00000011194010000285102	0.18	0.49	0.49	0.49	1.65	0.41

6. To download the data as a CSV file for use in a spreadsheet program or other software, click the “Download” or “Alt. Download” button.
    - The “Download” button will download the data in a more data-analysis friendly format.
    - The “Alt. Download” button will download the data exactly as shown on the web interface.

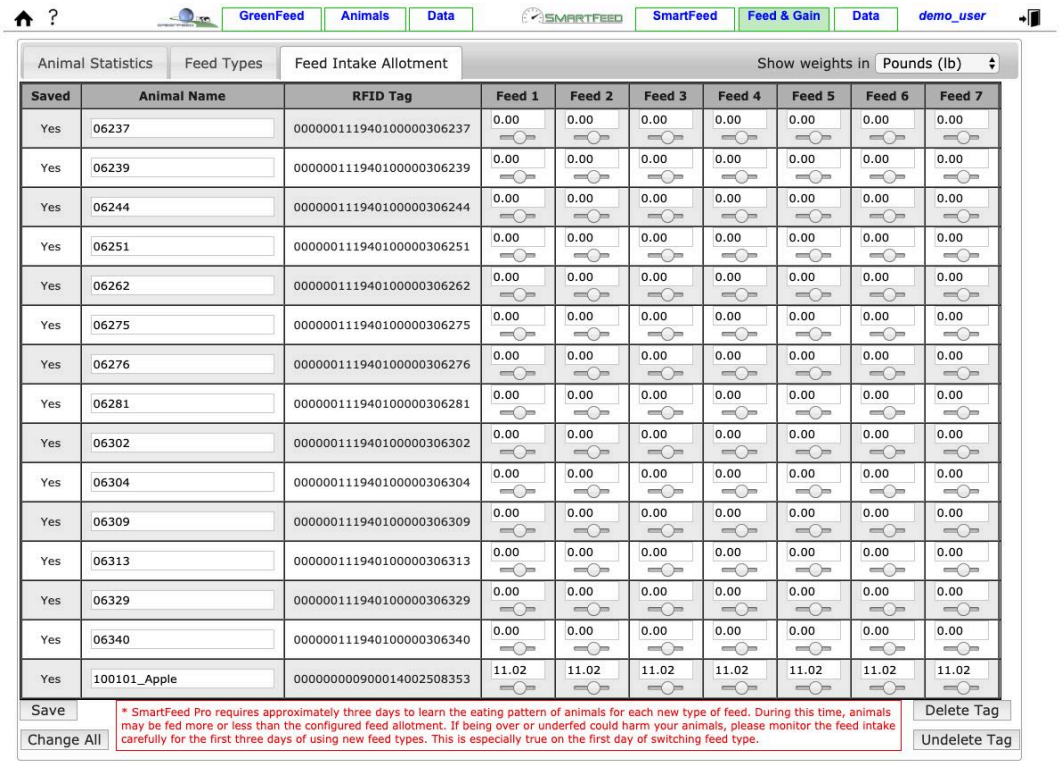
● Feed Types

Before Super SmartFeed can synchronize, track, and control feed intake, you must first define what type of feed is in each tray.



1. On the left-side table, enter the name of each Feed Type that will be used. Also enter how much and how quickly each feed type should be dispensed by default.
    - A maximum of 10 feed types is allowed.
    - If an animal encounters Super SmartFeed with an unrecognized RFID tag, the Default Daily Allotment will be set to that ear tag
2. Click “Save Feed List” for changes to take effect.
3. On the right side of the page, select the correct feed type, for each Super SmartFeed tray, by using the drop down menu.
    - Keep in mind that Super SmartFeed can be purchased with custom partitions to divide the bin into sections. If your system does not have any partitions, then the same feed type must be selected for all trays.
4. Click “Save Feed Types” for changes to take effect.

- Feed Intake Allotment



4. Data

The data tab is meant for viewing data on a single chart, which is not required for normal use. This feature can be useful for examining general trends in your herd. For more information on using the Data page, please contact C-Lock.

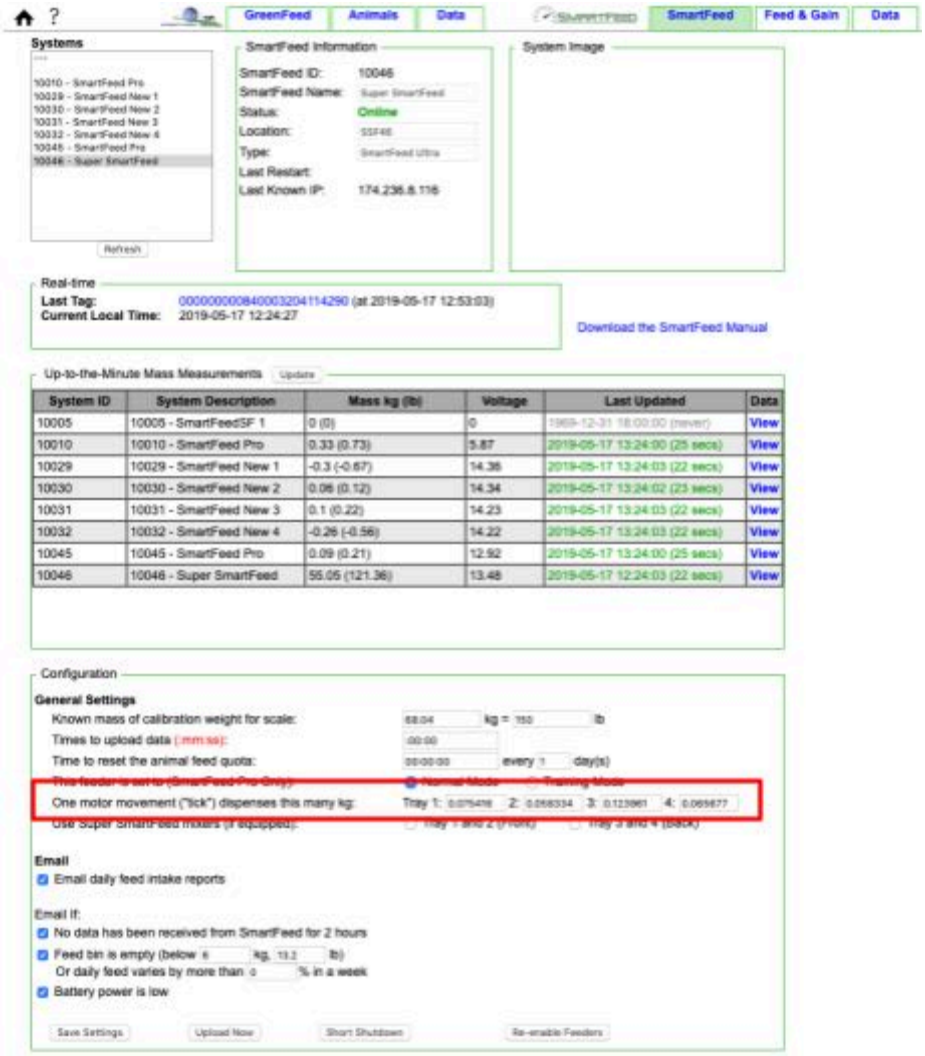
5. Manually Adjusting Super SmartFeed Feed Drops

After verifying the feed drop, it is still possible to manually adjust the calibrations of each tray - if the feed drops are consistently higher or consistently lower than their reported values. A possible scenario would be:

If a tray is dropping 1.0lb according to Super SmartFeed, but an independent scale is measuring 1.20 lb (20% higher). In this example, we will want to increase the calibration by **20%**.

This adjustment can be done from the SmartFeed web interface:

1) Select the unit you wish to modify. Then scroll near the bottom of the page, and find the settings labeled **One motor movement (“tick”) dispenses this many kg.** (See image below)



2) In our example, Tray #1 is dispensing 20% too much, so we should add 20% to the Tray 1 factor. 0.075416 x 1.20 = **0.0904992**

Changed to:

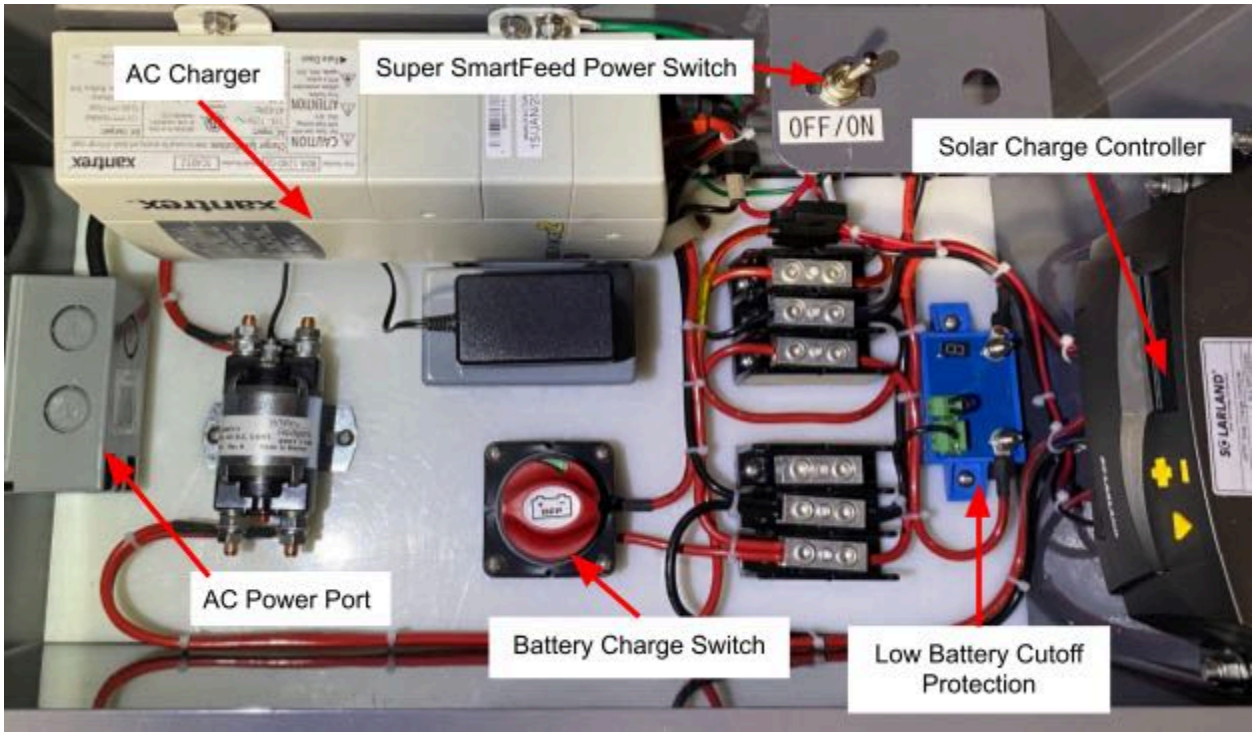
3) Scroll to the bottom and click **Save Settings**.

4) Contact C-Lock support if further assistance is needed.

Appendix A - Solar Charging System

Your Super SmartFeed unit is equipped with solar charging capability to assure it can run autonomously for long periods of time without a need for replacing batteries or running extension cords. Please read these instructions to learn how to properly use the solar charging system.

Components Inside The Solar Box



To turn your unit on or off, simply toggle the unit power switch to ON or OFF:

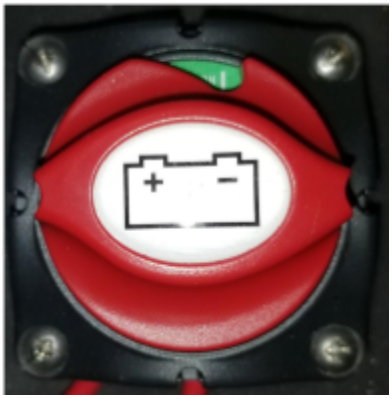
OFF 

ON 

To turn the charge controller on and off, rotate the battery charge switch to ON or OFF:

OFF

ON



When to turn your unit or battery charge switch on and off

CAUTION: Failure to follow these instructions will result in degraded battery performance and decreased battery life which will void the warranty of the unit and batteries

If your unit will be stored for a long duration, it is recommended that you turn the unit power switch OFF. If you plan to store the system for more than three days without a power source (solar or AC power), the battery charge switch should also be turned OFF. This will prevent the charge controller from draining the batteries.

You may also plug in the unit to an AC power source while it is being stored. If this is done, the battery charge switch may be left ON.

When Super SmartFeed is in use, the battery charge switch should always be ON.

The table below shows the different switch positions depending on how the system is stored

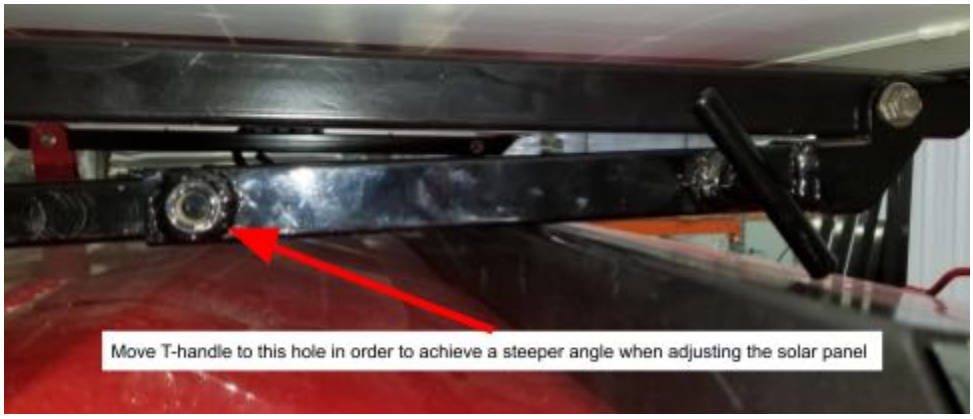
Condition	Power Switch	Battery Charge Switch
In good sunlight and system is being used	ON	ON
Without sunlight, but with AC power source and system is being used	ON	ON
In good sunlight and system is not being used	OFF	ON
Without sunlight, and without AC power source	OFF	OFF

Facing your solar panels

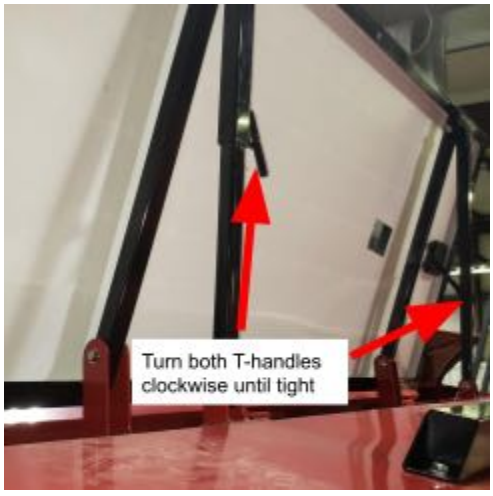
Your solar panels need to be angled up during the fall and winter months and aimed toward the sun. If you are using your unit in the Northern Hemisphere, you should angle the panels South, and if you are using your unit in the Southern Hemisphere, you should angle the panels North. The angle should be monitored and adjusted as needed to maintain an angle that is perpendicular to the sun's rays.

A suggested routine is once every 2~3 weeks, determine where the sun is at its highest point in the sky, and point the solar panels directly facing that location. To determine an accurate solar panel angle at your location, consult the following website:
Solar Angle Calculator | Solar Panel Angle Calculator

For Super SmartFeed units, you will need to move the T-handles when adjusting the solar panels in order to achieve a steeper angle:



Once the panels are pointed at the correct angle, tighten both T-handles to secure the panels in place.



Solar Charge Controller

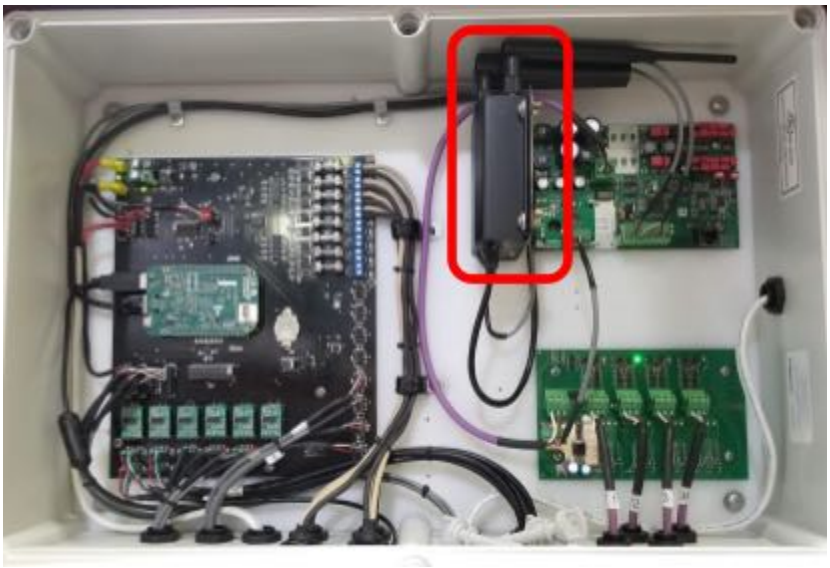
The solar charge controller will indicate if the solar panels are charging the batteries or not. With the charge controller switch turned on and sufficient solar light hitting the solar panels, the charge controller lights will light sequentially from left to right:

If the battery voltage gets below 11V, then there may be a problem with the charging. Please contact support@c-lockinc.com for further assistance.

Appendix B - Configuring the Cellular Modem

If your SmartFeed system includes a cellular modem, the modem will be pre-configured. The only thing that must be done is inserting an activated Mini-SIM (type 2FF) card and checking for an Internet connection. To do this, follow these steps:

1) Locate the modem. It will be in the Super SmartFeed electronics box.



2) Turn the unit power switch to OFF
3) Insert the 2FF SIM card into the ‘A’ slot as shown.

4) Apply power and ensure the modem lights turn on.
5) Wait three minutes.
6) Use a laptop, tablet, or smartphone to check for a Wi-Fi connection. The name of the Wi-Fi network will be “SMARTFEEDxxx”, where xxxx is your unit number.
7) Join this network, when prompted for the password, enter: smartfeed
8) On the laptop, tablet, or smartphone, go to https://www.c-lockinc.com/ip You should be presented with the following message: **Your IP address is xx.xx.xx.xx**
9) If you see this message, it means your modem is configured and ready.
10) If you do not see this message, please contact C-Lock for assistance.

Appendix C - Training Animals

- SmartFeed requires all animals to have an RFID tag. SmartFeed is compatible with the following RFID standards: ISO 11784 or ISO 11785. To purchase these tags, please contact C-Lock.
- SmartFeed has a built-in RFID Reader. This reader will scan the tags automatically and add them to your animals list on our server.
- When introducing animals to the Super SmartFeed for the first time, it is important to make sure the animals associate the Super SmartFeed with food. You can use the manual feed drop feature to entice animals to use the unit.
- You can leave the alleyways raised during the initial acclimation period to encourage animals to use the Super SmartFeed, but once they are used to eating from it you should lower the alleyways and adjust them to fit your animals.