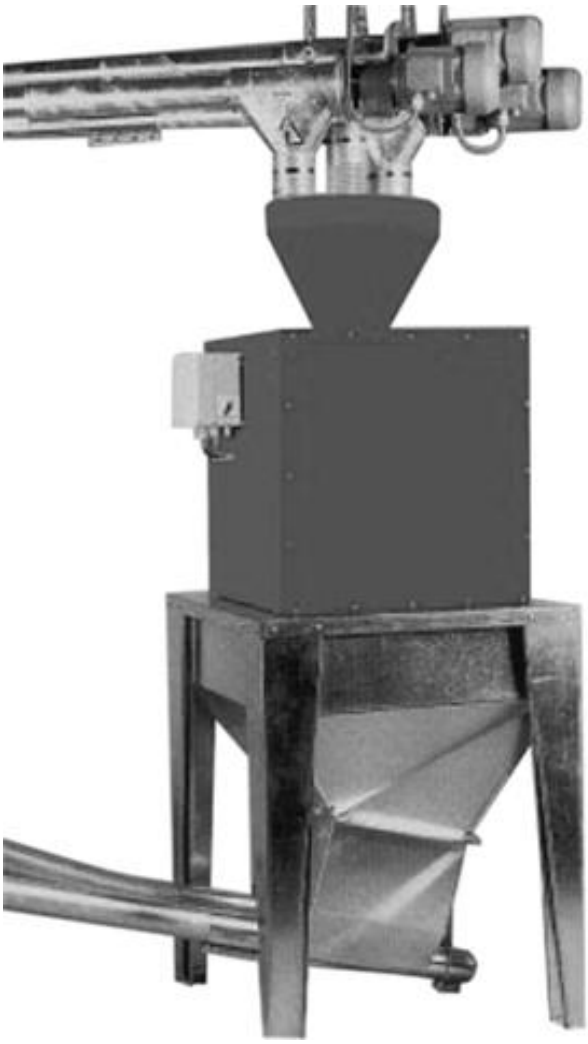
Sentinel In-Line Feed Scale System

Control - BE-SSC-901

Feed Scale

Installation & Operation Manual





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INTRODUCTION

VAL PRODUCTS, INC. WARRANTIES

VAL-C0™ MANUFACTURED PRODUCTS OTHER THAN EXTENDED WARRANTY PRODUCTS

Val Products, Inc. (Val Products) warrants to the original purchaser that Val Products' manufactured products (other than the products subject to an extended warranty set forth below) will be free of defects in material and workmanship for a period of one (1) year from and after the date of original purchase and when used in a usual and customary fashion. If Val Products is notified that such a defect exists within one year of the original purchase date and, upon inspection, agrees that the product is defective, Val Products will, at its option, (a) repair or replace (FOB Val Products' plant) the defective product, or (b) refund to the original purchaser the original purchase price paid for the defective product less any installation, shipping, or other charges associated with the original purchase. All defective products must be returned to a Val Products designated location for evaluation. Val Products' determination as to whether the product is defective is final. See the General Conditions and Limitations set forth below.

NIPPLE DRINKERS EXTENDED WARRANTY

Val Products, Inc. (Val Products) agrees to the following extended warranty with respect to VR Series and VL Series Nipple Drinkers manufactured by Val Products: VR Series and VL Series Nipple Drinkers that prove to be defective in workmanship or material and become unusable within a period of five (5) years from and after the date of original purchase will be repaired or replaced, at Val Products' option, at no charge (excluding labor of removal and installation), FOB Val Products' plant. VR Series and VL Series Nipple Drinkers which prove to be defective in workmanship or material and become unusable after five (5) years but within ten (10) years of the date of original purchase will be repaired or replaced, at Val Products' option, at a pro rated cost basis (excluding labor of removal and installation) to the original purchaser, FOB Val Products' plant, on the following basis: Year six (6), customer pays 50% of the current price, year seven (7), customer pays 60% of the current price, year eight (8), customer pays 70% of the current price, year nine (9), customer pays 80% of the current price, and year ten (10), customer pays 90% of the current price. All defective Nipple Drinkers must be returned to a Val Products' designated location for evaluation. Val Products' determination as to whether the product is defective and unusable is final. See the General Conditions and Limitations set forth below.

FIBERGLASS FAN HOUSINGS EXTENDED WARRANTY

Val Products, Inc. (Val Products) agrees to the following extended warranty with respect to the fiberglass fan housings manufactured by Val Products on VAL-CO™ PMC Power Miser 12", 16", 21", 24", 36", 48", and 50" Fiberglass Fans that prove to be defective in workmanship or material and become unusable over the life of the structure where the VAL-CO ™ Fiberglass Fan was originally installed after original purchase, provided that the fan has remained undisturbed in its original installation location, will be repaired or replaced, at Val Products' option, at no charge (excluding labor of removal and installation and shipping), FOB Val Products' plant. All defective fan housings must be returned to a Val Products' designated location for evaluation. Val Products' determination as to whether the product is defective and unusable is final. See the General Conditions and Limitations set forth below.

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Val Products, Inc. (Val Products) agrees to the following extended warranty with respect to the fiberglass fan motors included as original equipment on VAL-CO™ PMC Power Miser 12", 16", 21", and 24" Fiberglass Fans manufactured by Val Products that prove to be defective in workmanship or material and become unusable within a period of two (2) years from and after the date of original purchase will be repaired or replaced, at Val Products' option, at no charge (excluding labor of removal and installation and shipping), FOB Val Products' plant. All defective fan motors must be returned to a Val Products' designated location for evaluation. Val Products' determination as to whether the product is defective and unusable is final. See the General Conditions and Limitations set forth below.

General Conditions and Limitations Applicable to All Val Products, Inc. (Val Products) Warranties, Including Extended Warranties

1. The Product must be installed and operated in accordance with instructions published by Val Products or the warranty will be void.

2. Warranty will be void if all components of the product or system are not original equipment supplied by the manufacturer.

3. Products not manufactured by Val Products and supplied by outside manufacturers (such as, but not limited to, certain electrical motors, certain controls, gas valves, etc.) are warranted separately by the respective manufacturer and only to the extent of the manufacturer's warranty.

4. Warranty applies only to products used in applications as originally intended by Val Products – other applications in industry or commerce are not covered by the Warranty. Val Products' products are expressly not designed or authorized for use in any applications where intended to sustain or support human life or any other application where the failure of the product could result in personal injury or death.

5. Malfunctions resulting from misuse, abuse, mismanagement, negligence, alteration, accident, lack of proper maintenance, lightening strikes, electrical power surges, or electrical power interruption shall not be considered defects under the Warranty. Corrosion, material deterioration and/or equipment malfunction caused by or consistent with the excessive additions of chemicals, minerals, sediments or other foreign elements with the product shall not be considered defects under the Warranty.

6. VAL PRODUCTS WILL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE FOR ANY KIND OF SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR CONTINGENT DAMAGES INCLUDING, BUT NOT LIMITED TO, LOST OR DAMAGED PRODUCT, GOODS OR LIVESTOCK, COSTS OF TRANSPORTATION, LOST SALES, LOST ORDERS, LOST INCOME, INCREASED OVERHEAD, LABOR AND INCIDENTAL COSTS AND OPERATIONAL INEFFICIENCIES. IN NO EVENT SHALL THE WARRANTY LIABILITY EXCEED THE INVOICED PRICE OF THE PRODUCT TO THE ORIGINAL PURCHASER.

7. THE WARRANTIES SET FORTH ABOVE CONSTITUTE VAL PRODUCTS' ENTIRE AND SOLE WARRANTY. VAL PRODUCTS EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES AS TO THE MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, DESCRIPTION OF QUALITY OF THE PRODUCT FURNISHED, AND ANY OTHER WARRANTY ARISING BY OPERATION OF LAW, CUSTOM OR USAGE.

8. Val Products denies any authorization of any distributor, dealer, agent, or employee to modify, extend, or otherwise alter the conditions of any warranty in addition to, or in lieu of, those conditions and terms expressly stated above. Any exceptions not noted in the body of the Warranty must be authorized in writing by an officer of Val Products. Val Products reserves the right to change or delete models, or change specifications at any time without notice or obligation to improve previous products.

INTRODUCTION:

This manual, **PART 1,** will provide information for the installation and service of the Feed Scale/Weigher and the BE-SSC-901 Feed Scale control hardware. It will also take you step by step through the programming or configuring of the basic control functions such as; applications (feed scale/weigher, feed distribution, bird scale/weigher), time, date, year, communication program, communication speed, language, pincode gsm, landcode, country code, # rings, calibration, feed hopper, feed line and waterline, settings, etc.
Part 2 will address the Operator settings and provide animal and feed information.

Symbols used in this manual with definitions


= IMPORTANT INFORMATION – be sure to read!


= WARNING – your safety or equipment protection could be involved!


= PROHIBITED – Do NOT Do!


= NOTE – take notice this may help you!


= CALENDAR – reminder to set the time


= CLOCK – reminder to set the date



= STOP – Don't go further without carefully following the instructions!


= CHECK – the details of all requirements, processes or procedures being explained.


= ALARM – instructions on alarm conditions.


= USER or OPERATOR

Feed Scale system

The VAL-CO™ Feed Scale system (BE-SSC-901) is a precision feed weigher. It will allow growers to accurately monitor feed consumption and precisely manage their feeding program. Improving feed delivery schedules and measuring animal performance based on feed consumption rates and habits are key elements to good performance and profitability. In order to assure good performance of your new feed scale system please make sure you read this manual carefully to understand the installation and programming process. Setting up your control improperly or calibrating improperly will result in poor performance. The VAL-CO™ scales are highly precise which accounts for our scale products leading the industry and allows us to provide you with the most accurate data possible.

It is necessary for the installer:

- To be familiar with physical and electrical principles/ electrical wiring diagrams, parts and symbols
- To observe the electrical regulations and standards of the local area for this installation.
- To be familiar with 'Windows'

Safety Information



Disconnect ALL power before opening the cover to prevent:
electrical shock or
equipment damage

The BE-SSC-901 Feed Scale control should only be serviced by a licensed electrician or authorized agent



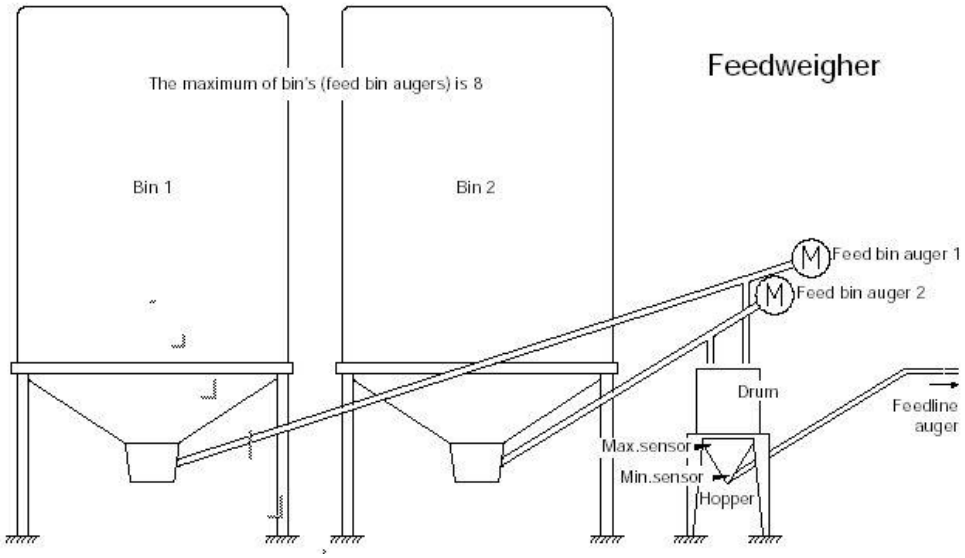
It is highly recommended that an independent alarm system be added where technical malfunctioning can cause considerable damage. An example would be; installing a min/max thermostat. Note that Free Contact relays require 24 VAC/VDC (Refer to appendix 6)

An Overview of Weigher Operation

Connect the drum to the feed weigher. The drum is equipped with two load cells to measure the feed weight. When you start the system the drum and the hopper are empty. When the there is a feed request the computer will start the feed bin auger and the drum will be filled until the desired weight of the desired feed ingredient (or mixture) has been reached. If the feed program “adlib” (see appendix 4) is chosen, the drum will be filled until the batch weight has been reached. The computer will stop the feed bin auger when the desired weight has been reached (inaccurate weighing). The feed bin auger will not stop directly so the supplied feed is a little to much and the computer will store this (to much) weight. If there is a next feed request the feed bin auger will be switched off sooner. If the drum is stabilized and the weight is stored, (accurate weighing), the drum will be opened and the feed will be dropped into the hopper. The drum will be closed automatically and the computer will calibrate (tare) the drum when it is empty. The supplied feed will be stored in the system and the above procedure will repeat.

The hopper must be equipped with a minimum hopper sensor (empty sensor):

- To prevent that the feedline auger will be switched on when there is no feed in the hopper
- To give a signal to the feedweigher to start a new weighing



It is required that a licensed electrician wire any electrical portions of this install! Not doing so can void any warranties in place with VAL-CO™.

CHAPTER 1. – APPLICATIONS & TECHNICAL SPECIFICATIONS

1.1 General Information

The BE-SSC-901 control is a communications tool designed to provide:

- feed weights
- water distribution and track amount of water used (registration)
- feed distribution and track amount of feed used (registration)
- poultry weighing (up to 4 scales)

It is possible to connect to a PC or to insert the weigher into an existing network with a BE-SSC-201”Interface.

The Sentinel Feed Scale/Weigher offers the following features:

- Dual load cell design for incredible accuracy
- Extra-large 100lb (45kg) weighting hopper – minimizing on/off cycling of fill augers
- Up to 4 tons (3629kg) per hour throughput which enables it to handle the largest barns.
- Dual hopper design for continuous unloading
- Alarming capability built-in
- Connects with Windows PC on-site or remotely
- GrowTRAC interfaced for multiple remote site reporting
- Incorporates Sentinel Bird Scales for real-time feed conversion
- Water recording and water/feed ratios recorded
- Mortality data recorded
- LCD display

1.2 Control Hardware Features

BE-SSC-901 Feed Scale Control Hardware Features		
INPUTS	10 digital -DIGITAL IN used to measure:	-feed distribution -water supply
	4 frequency -WEIGHT IN used to measure:	-bin feed amounts -poultry weights
OUTPUTS	12 relay outputs (RELAYs OUT) Potential Free Contact relays Maximum Voltage 24 VAC/VDC Maximum Current 1Amp AC/DC	-switch on/off bin auger -pulse feed output -pulse water output -switch on/off water
	1 DSO (data serial out) gang	Relay extension – adds 11 relay outputs (23 total)
	2 0-10 V DC	-lights

1.3 Technical Specifications

<table>
<tr><th colspan="3">BE-SSC-901 Control Supply Voltage</th></tr>
<tr><td>-Power (F3)</td><td>100-240VAC +/-10% / 47-63 Hz /Max 32 W– main power supply</td><td>Gnd: Grn N: Wht L: Blk</td></tr>
<tr><td colspan="3">Inputs</td></tr>
<tr><td>-DIGITAL IN 1-10</td><td>-0-5 Hz or static contact – open npn or potential free contact
(10V & below = active/15V & higher = not active</td><td rowspan="3"><table><tr><th></th><th>Hopper</th><th>Drum</th></tr><tr><td>‘+’</td><td>Blue</td><td>Wht:24Vdc</td></tr><tr><td>‘IN’</td><td>Black</td><td>Grn:4-20mA</td></tr><tr><td>‘-‘</td><td>Brown</td><td>Brown:GND</td></tr></table></td></tr>
<tr><td>-WEIGHT IN 1-4</td><td>-Frequency input 0-250 kHz – maximum distance 985ft (300m)</td></tr>
<tr><td>-SERVICE</td><td>-Software updates</td></tr>
<tr><td colspan="3">Outputs</td></tr>
<tr><td>-REL OUT 1-2</td><td>-Potential free make and break contact (COMM: power, N.O.: load)
DC min/max: 12V, 10mA / 30V 1A AC min/max: 24V, 10mA / 42V, 1°</td><td rowspan="5"><table><tr><th>N.C.</th><th>COMM</th><th>N.O.</th></tr><tr><td>--</td><td>power</td><td>load</td></tr><tr><td>--</td><td>power</td><td>load</td></tr><tr><td>open</td><td>comm</td><td>closed</td></tr></table>
-2 core shielded twisted pr
‘+’:-- ‘-‘:-- ‘SH’:--
-2 core shielded twisted pr
‘+’:brn ‘-‘:wht/sh (max 20mA)</td></tr>
<tr><td>-REL OUT 3-12</td><td>-Potential free make contact (COMM: power, N.O.: load)
DC min/max: 12V, 10mA / 30V 1A AC min/max: 24V, 10mA / 42V, 1A</td></tr>
<tr><td>-ALARM</td><td>-Potential free make and break contact
DC min/max: .01V, 10mA / 30V 1A AC min/max: n.v.t. / 42V, 1A</td></tr>
<tr><td>-DSO</td><td>-relay output extension</td></tr>
<tr><td>-0-10 V DC</td><td>-max. of 10 extension units parallel on one output (985 ft/300 m max./23AWG min.)</td></tr>
</table>

1.4 Communication

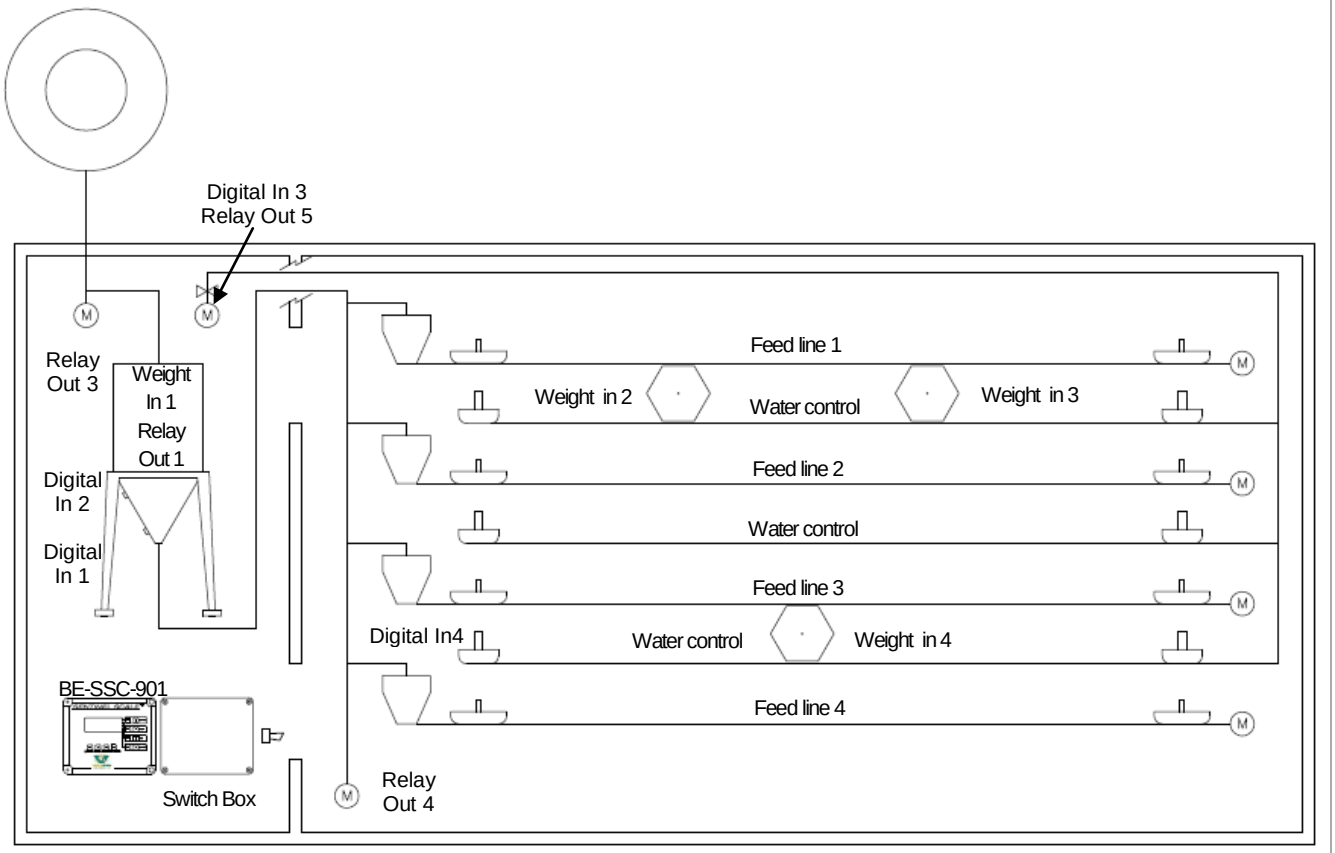
BE-SSC-901 Communications (optional) – see individual manuals for more information		
COM-12:BE-SSCB-301 (supplied w/ -201)	use between an interface (BE-SSC-201) and a Sentinel Feed Scale control (BE-SSC-901) or between the BE-SSC-901 and an RSC-30	max dist: 1625 ft (RS-485 to RS-422) (DTI-5)
COM-31:BE-SSCB-102 (supplied w/ 901)	use between a PC or MODEM and Sentinel Feed control (BE-SSC-901) (USB connection to PC)	max dist: 10 ft (RS-232C (DTE))
COM-51:BE-SSCB-201	use between a PC and Sentinel Feed Scale control (BE-SSC-901)	Analog telephone modem
RSC-30:BE-SSCB-RSC	use between a PC and Sentinel Feed Scale (BE-SSC-901)	max dist: 1625 ft (RS-422 to RS-232)
COM-60:BE-SSCB-503 Yearly fee:BE-SSF-503	use between a PC and Sentinel Feed Scale (BE-SSC-901)	Ethernet/internet connection
COM-40: server:BE-SSCB-502 client:BE-SSCB-501 antenna:BE-SSA-101	wireless between an Interface(server) (BE-SSC-201) & a Sentinel Feed control (client) (BE-SSC-901) need one antenna per COM board	wireless max dist: see COM-40 manual

CHAPTER 2. – CONTROL INSTALLATION

2.1 Application and Layout Example

Before using the Feed Scale system, it is recommended a layout drawing be created to help you in the assignment of the inputs and outputs for the control. (An example is provided for you below.)

Example of layout drawing

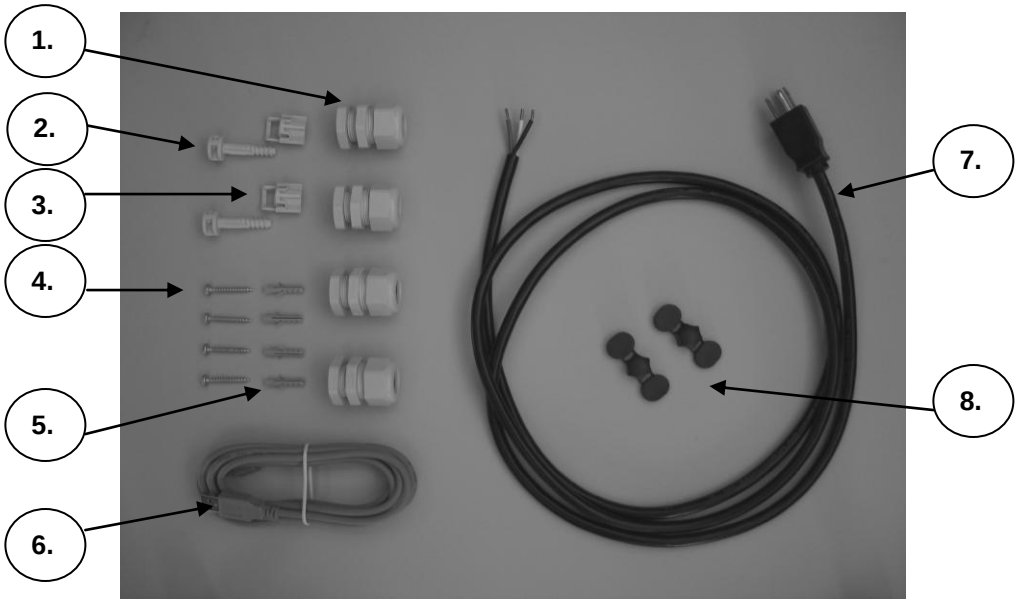


2.2 Hardware Kit for the BE-SSC-901 Control

To begin the installation of the feed scale control (BE-SSC-901) you should first check the list of items in the table below to verify that all the hardware has been included.

Key#	Description	Quantity
1.	Strain reliefs with cord grip	4
2.	Large plastic screws	2
3.	Large plastic screw clips	4
4.	Self drilling screws	4
5.	Plastic wall anchors	4
6.	USB cable	1
7.	Power cord	1
8.	Screw hole covers + cap	4 + 2

(*You may not need all these parts)*



- Make sure the installation of the feed scale control (BE-SSC-901) is carried out by a licensed electrician according to all applicable codes, laws and regulations for the local area.
- Make sure the power is off before doing any wiring or opening the control to avoid electrical shock and/or equipment damage.

The control will function best in a temperature of 0 - 35 ^{o}C (32 - 95 ^{o}F) / 20-80 % R.H.
Extreme conditions (of weather) either hot or cold can affect the operation of this control.

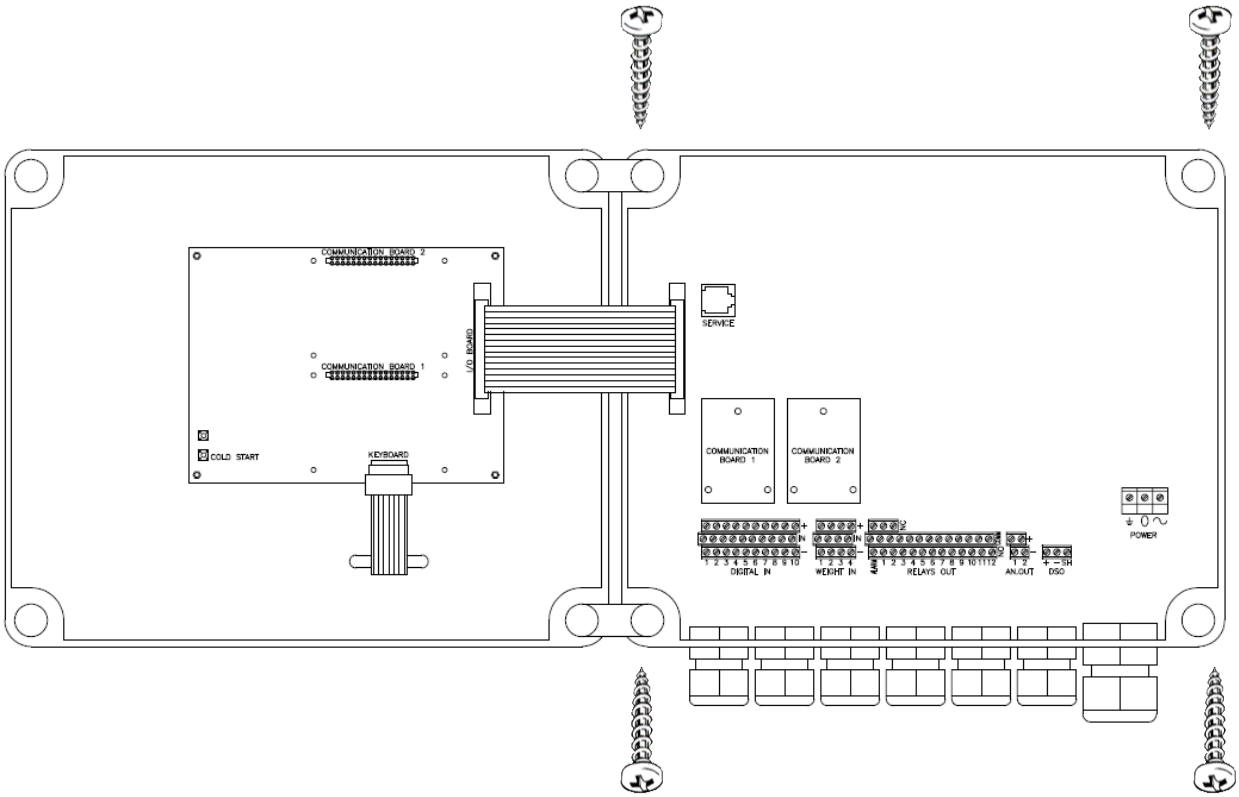
Do NOT place in direct sunlight.

2.3 Mounting the Control

Begin by selecting a sheltered, vertical surface, and effective location. The control should be mounted in an area where there are at least 2 inches of space surrounding it with the Wire Routing holes facing down. Remove the screw clips to access the mounting holes if they were shipped inside the mounting holes. Hold the open control to the wall/surface (be sure it is level) then use a screwdriver to drive the screws supplied through the set of four (4) mounting holes on the back and in the corners of the control. (See diagram below)



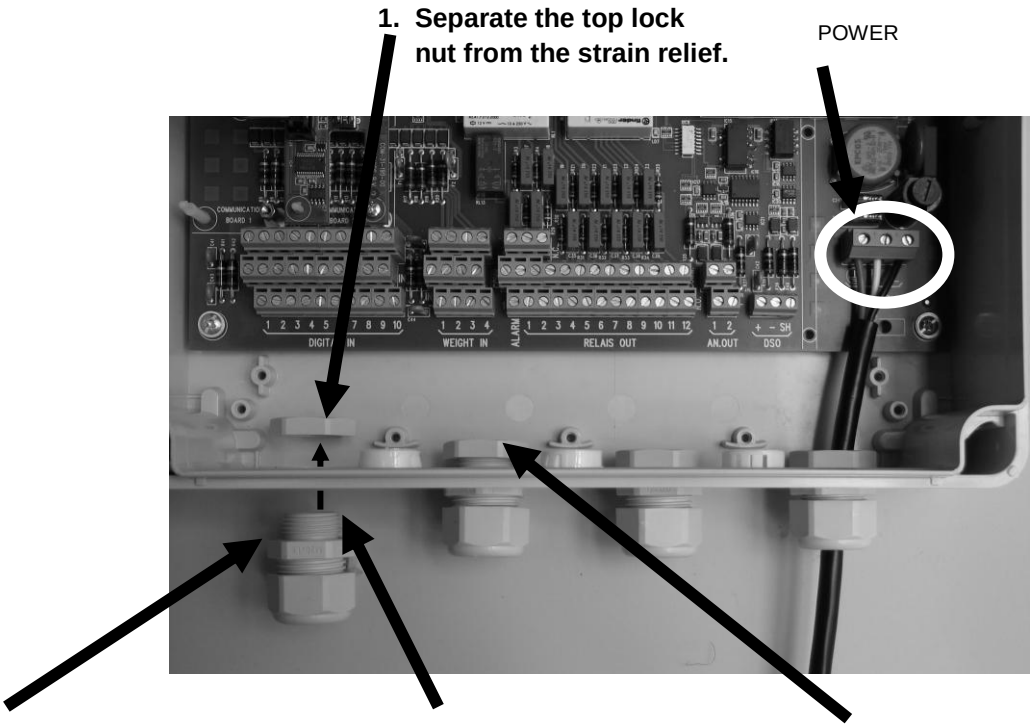
Do not use a power drill to tighten screws. Over tightening can crack the enclosure and ruin the watertight seal.



2.4 Wire/Cable Routing

Use the four (4) supplied M20 x 1.5 watertight strain reliefs for the enclosure holes provided for wire routing at the bottom of the control. (Numbered step process below ↓)

.



2. Place RVT silicone Sealant on thread end of strain relief against top side of nut. RTV sealant should be between the outside of the control box and the nut.

3. Place the thread end in through the hole from the outside bottom of the control. (as pictured)

4. Place the lock nut on the thread end from inside the control and tighten. (as pictured)

MOISTURE PROTECTION:

RTV sealant is recommended for protecting the control from moisture.



Make sure the nut is sufficiently tightened. Only place strain reliefs in the holes needed for routing wire/cable and leave the plugs in the holes that will not be used.

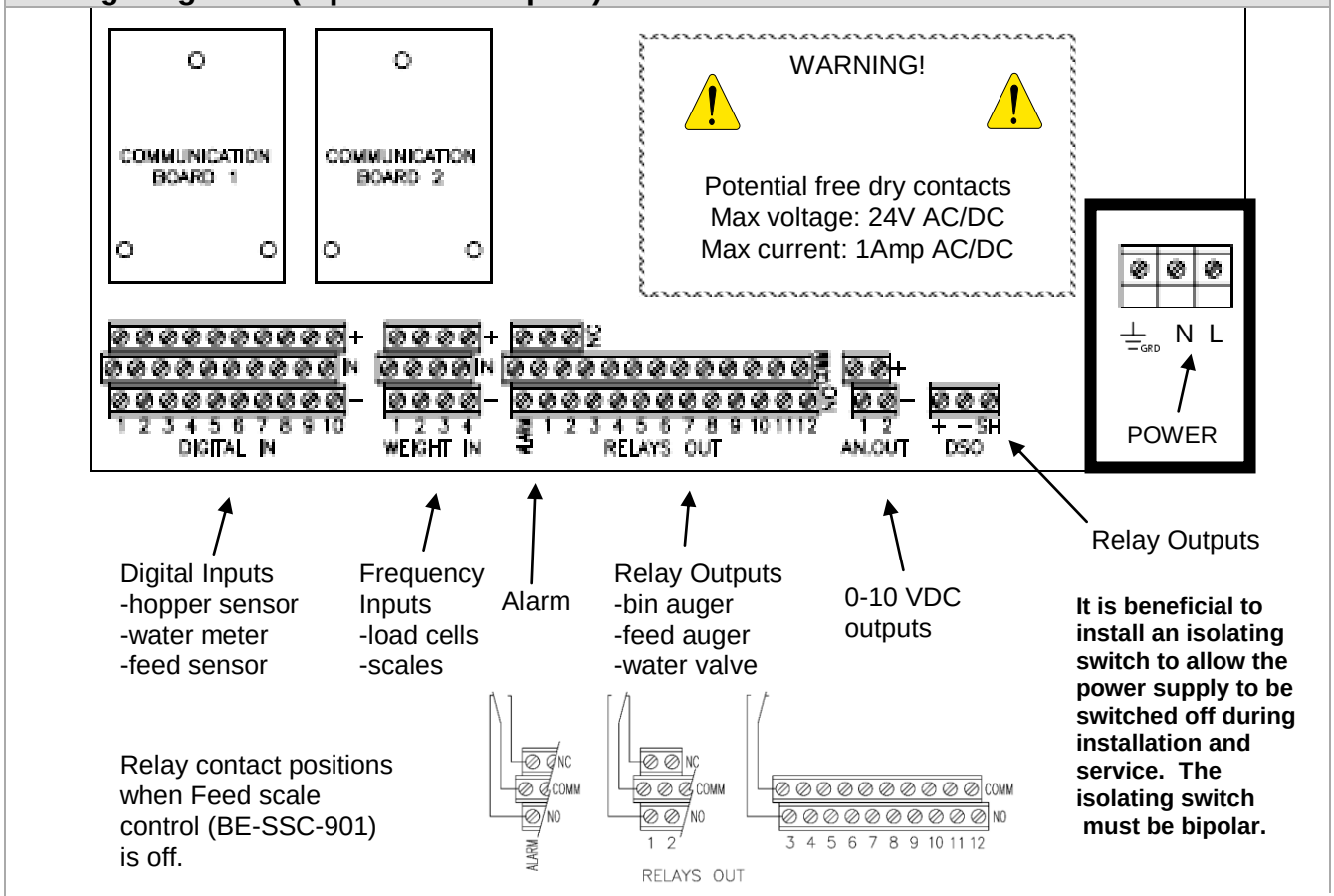
Do not tighten the cord grip on the strain relief outside of the enclosure until you have completed the wiring for each strain relief.

It is best to plug any unused holes for protecting the control from moisture, dust and debris.

2.5 Power Supply (detailed)

Use the power cord included in your control hardware kit. Insert the power cable end with 3 wires extended (green, white and black) through the bottom of the strain relief on the far right. This will position the cable in line with the power supply relays outlined in blue as shown on the wiring diagram below. Insert the Green wire to ground, white wire to N and black wire to L. (Be sure to fit the wire into the relay holes and relay screw holes and tighten sufficiently.)

Wiring Diagram 1 (Inputs and Outputs)



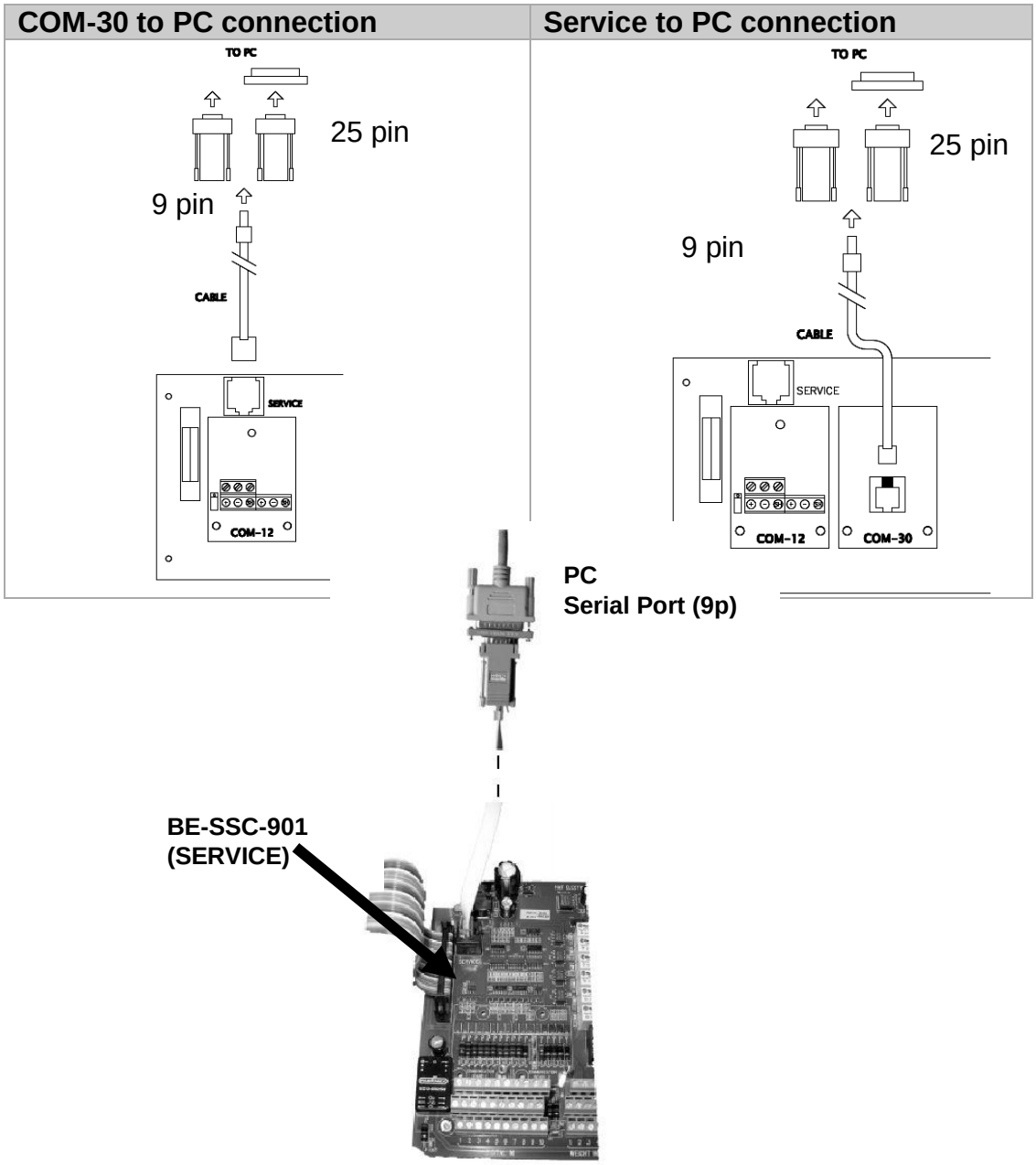
Application type	Application use	Input	Output
Feed Scale/Weigher	Feed bin Auger 1 Drum open Min. hopper sensor (BE-SSFS-203) Max. hopper sensor (BE-SSFS-203) Load cells	- - Digital In 1 Digital In 2 Weight In 1	Relay Out 3 Relay Out 1 - - -
Water Feed Distribution Water Distribution	Water meter Feed line hopper sensor Feed line auger Water valve Analog - 0-10 volt	Digital In 3 Digital In 4 - - -	- - Relay Out 4 Relay Out 5 An. Out 1
Bird Scale/Weigher	Scale 1 (BE-SSP-200, -300, -400) Scale 2 (BE-SSP-200, -300, -400) Scale 3 (BE-SSP-200, -300, -400)	Weight In 2 Weight In 3 Weight In 4	- - -

2.6 Inserting a communication board and Updating Software

The BE-SSC-101 feed scale control comes with a COM-31 communication board, cable and adapters. The cable can be used to connect the BE-SSC-901 feed scale control directly to a PC as long as they are within close proximity of each other. The cable can also be used, along with the adapters, to update the software (*.bin) on the BE-SSC-901 feed scale control.

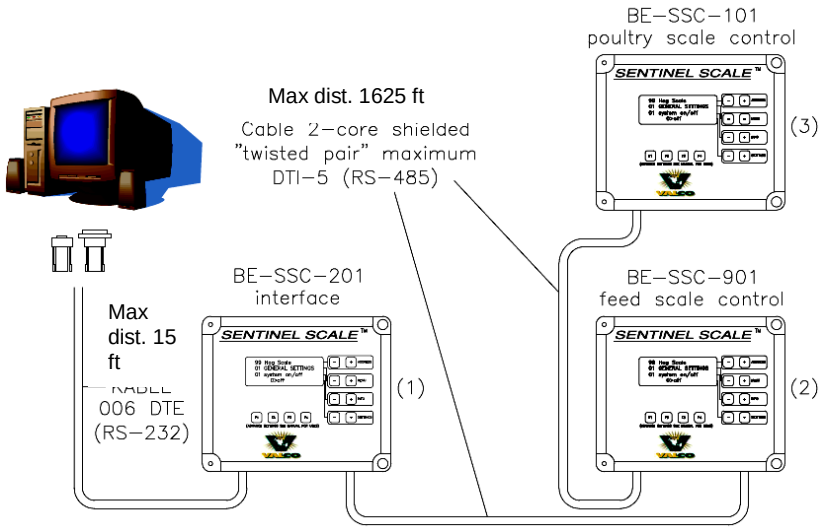
Check the following:

- ensure the **main voltage is switched off or unplug the power cord**.
- You may insert a COM board in any one of the "COMMUNICATION BOARD' slots using the hardware supplied with the COM boards – see the individual manuals for further information.

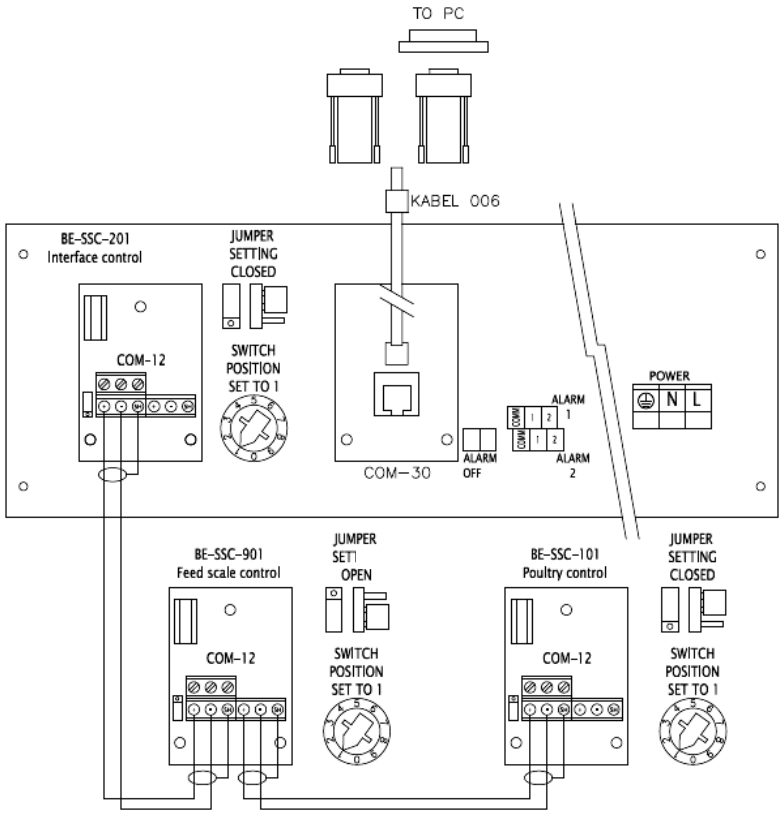


2.7 Wiring

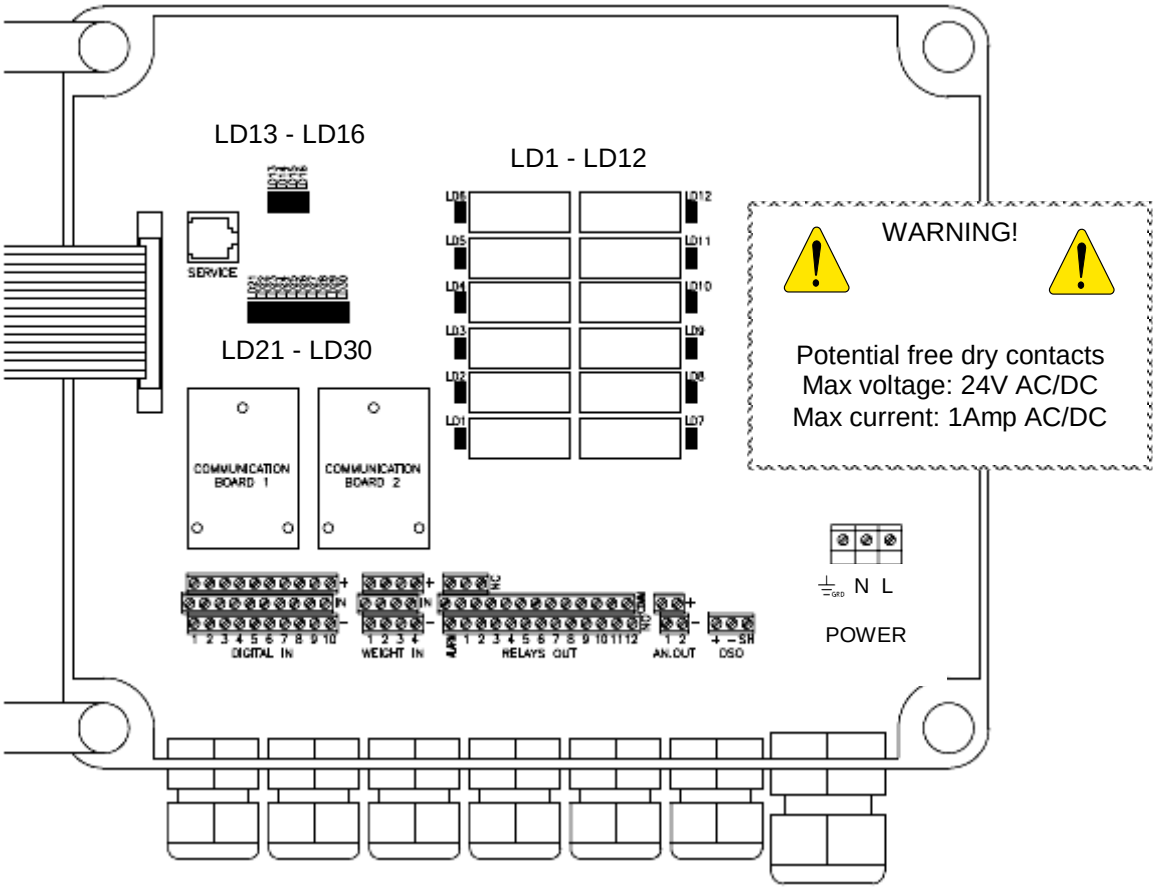
Wiring Diagram - Using an Interface Connection



Wiring Diagram 3 (Com-12)



LED - Descriptions



'Digital In' INPUTS (Lights when corresponding sensor pulses or activates)	**'Frequency' INPUTS** (Stays lit when corresponding load cell or scale is properly connected)	**Relay OUTPUTS** (Lights when corresponding relay is activated)
LD21 LD22 LD23 LD24 LD25 LD26 LD27 LD28 LD29 LD30	LD13 LD14 LD15 LD16	LD1 LD2 LD3 LD4 LD5 LD6 LD7 LD8 LD9 LD10 LD11 LD12

Check all connections before switching on your controller.
Be sure to mount communication boards as directed so that you can connect the controller to a PC if desired.

2.8 Completing the installation

Now that you have the control mounted, powered and wired all the inputs and outputs to the control you are ready to complete the final step of the hardware installation. The control has (2) large plastic screws (**Example A)** in the right corners of the front coverl. Before these (2) screws will function properly you must first insert the (2) clips (**Example B**) provided into the back right corners of the control, covering the mounting screws as illustrated in **Example B**. This will enable the screws to secure the lid to the back of the control in a closed position. To Open or close the control lid loosen or tighten the (2) plastic screws as shown in **Example C.**

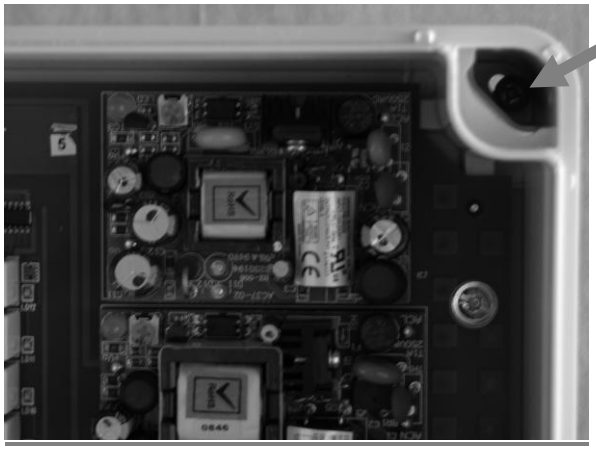
Example A



(2) extra plastic screws included in hardware kit.



Example B



INSERT CLIP (above) INTO CORNER AFTER THE CONTROL HAS BEEN MOUNTED TO THE SURFACE

Example B



TURN PLASTIC SCREW TO

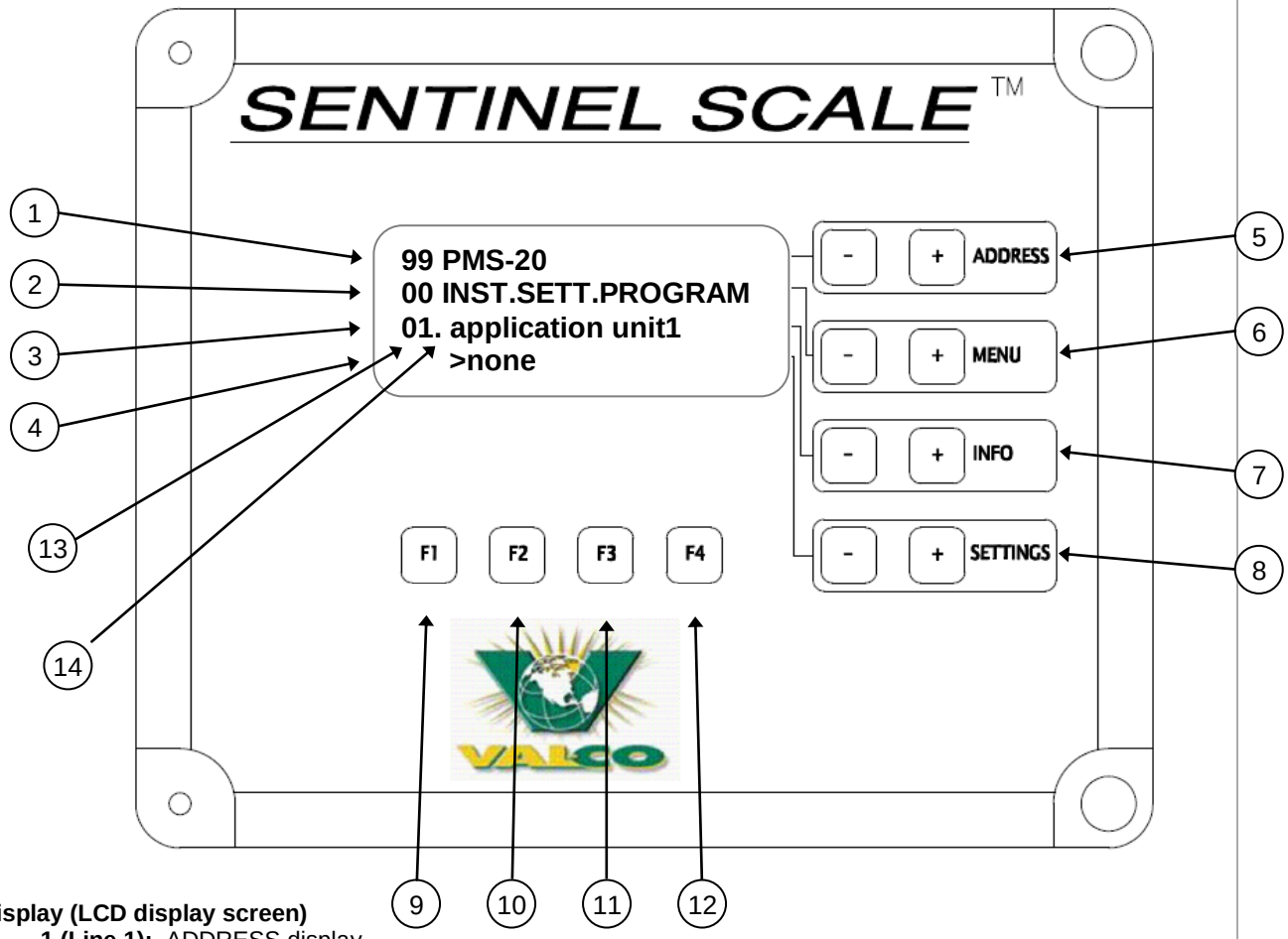
LEFT ⟲ TO LOOSEN

OR RIGHT ⟳ TO TIGHTEN

CHAPTER 3. – INTRODUCTION TO PROGRAMMING

3.1 The Display

Display / Operating / Function Keys



Display (LCD display screen)

- **1 (Line 1):** ADDRESS display
- **2 (Line 2):** MENU display
- **3 (Line 3):** INFO display
- **4 (Line 4):** SETTINGS display

Selection Buttons display options (Press **'-'** or **'+'** buttons to scroll through selections)

- **5 (ADDRESS Keys "-" or "+" :** Controller address selection – locates the application
- **6 (MENU Keys "-" or "+"):** Menu selection
- **7 (INFO Keys "-" or "+"):** Information selection (e.g. time, date, alarm settings, etc)
- **8 (SETTINGS Keys "-" or "+"):** changeable information for INFO line (not all selections have options)

Function Keys

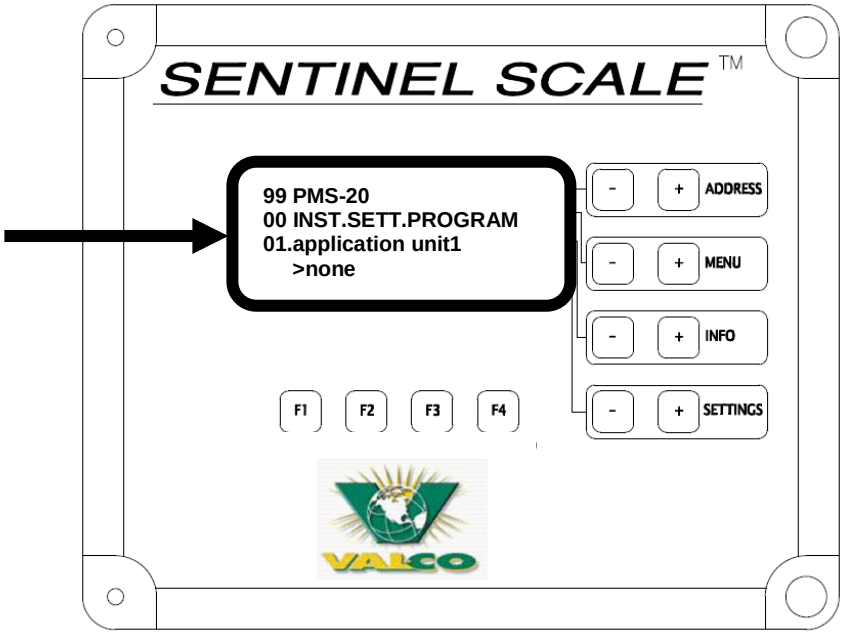
- **9 (F1):** Press and hold to get general information about the interface control (software/board versions)
- **10 (F2):** Not used
- **11 (F3):** Press and hold to adjust increments for accelerated number entries
- **12 (F4):** Press to move from information on one application to similar information in another application

Page Numbers

- **13 (beginning first 3 lines) –** Double digit number referred to as the page number in some examples
- **14 (dot) -** between page number and description means there are more selections possible.

3.2 Powering up the BE-SSC-901 - Control

When the BE-SSC-901 feed scale control has been powered up the first time the following message should appear.



Throughout this manual you will see DISPLAYS SCREENS as shown below to illustrate the appropriate LCD Display Screen examples of the applications, menus, information and settings.

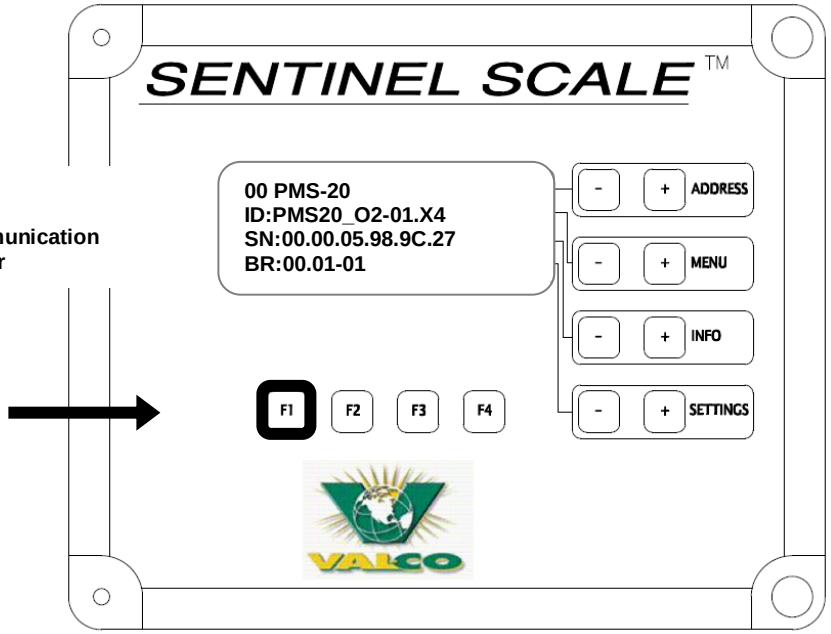
Information will vary

Example 1 = DRAWING (Active)

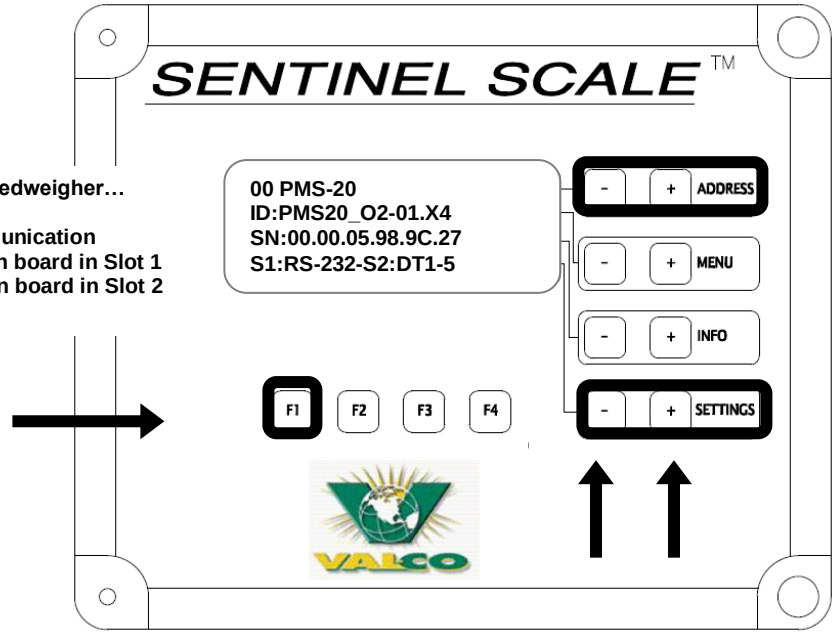
Information will vary

Example 2 = DRAWING (Inactive)

3.3 Function Key F1 – (Retrieving General Control Information)



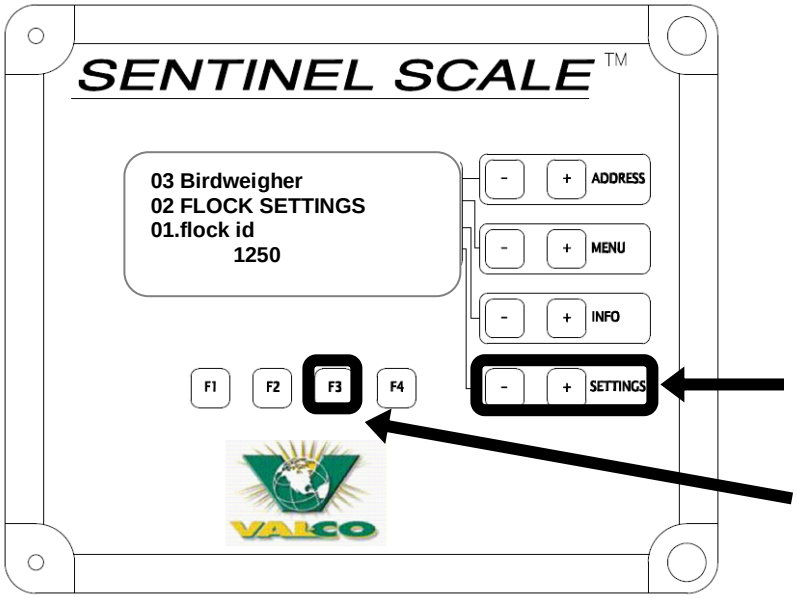
To view the control information press and hold the **F1** key. Press **"+"** key **SETTINGS** to change to slots on line 4. Same information can be retrieved in Feed weigher, Feed Distribution and Bird Weigher by pressing the **"-"** or **"+"** ADDRESS key to change to the desired application.



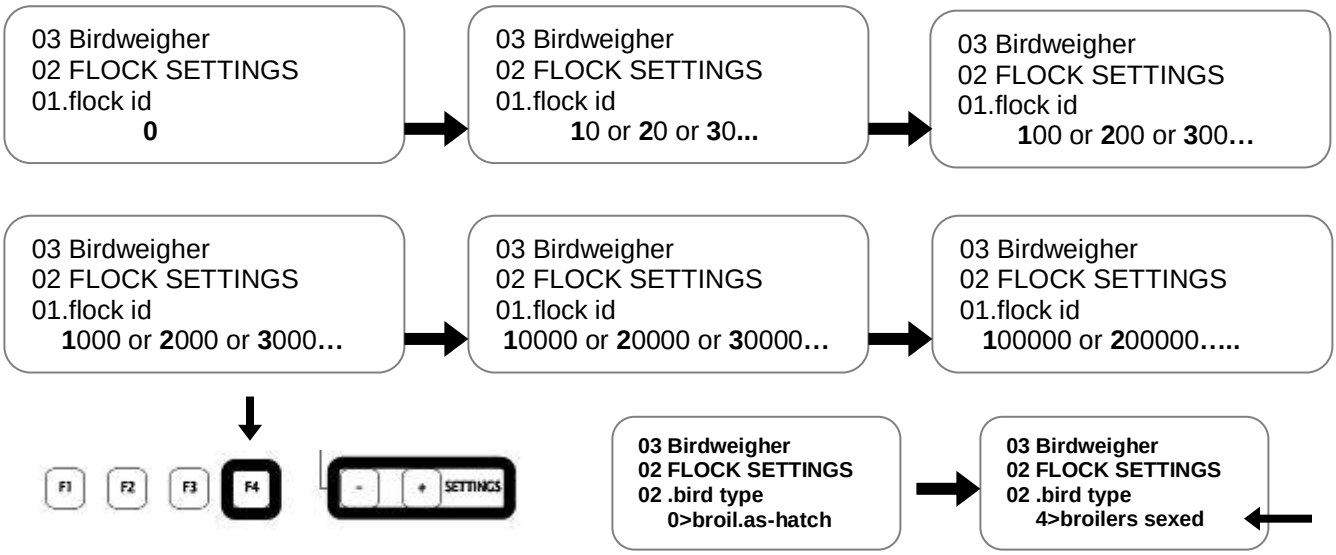
3.4 Function Keys – F3, F4 and (F2 Function Key not used)

Use the **F3** Function key to speed up entering larger numbers from the control in increments of 10, 100, 1000, 10,000, 100,000. This will allow you to save time to enter the correct number. Enter 0,1, 2, 3, 4, 5, 6, 7, 8, 9 for each increment or numbers place.

An **example** for the number **1250**: press **"SETTING"** key to number 0, then press **F3** and hold to select **INC *10** then using the **"SETTING"** key select 5 for the 10's place, press **F3** and hold to select **INC * 100** place and press **"SETTNGS"** to select 2 for the 100's place, press **F3** and hold to select **INC * 1000** place and press **"SETTINGS" t**o select 1 for the 1000's place.



(The bolded number will change in each screen using the "SETTINGS" key for each F3 selection)



(Pushing the F4 key advances the display to the next setting for the same information.)

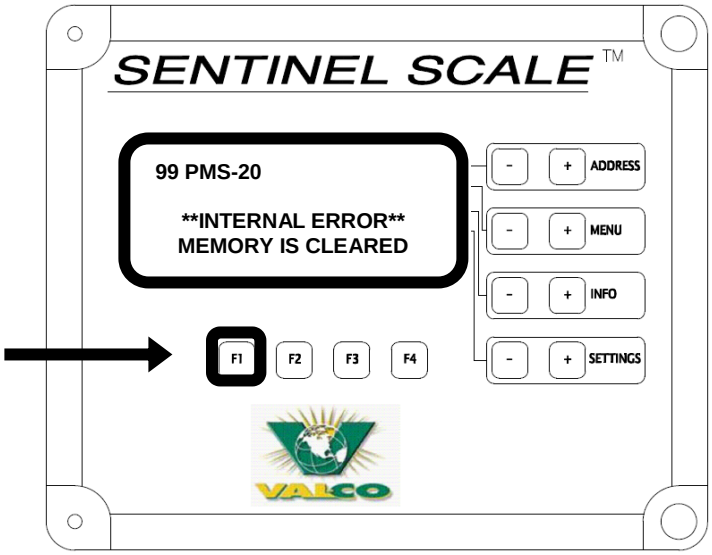
3.5 Clearing Numbers to Zero (0)

03 Birdweigher
02 FLOCK SETTINGS
01.flock id
999999

Set each number to 999999 **then** press the **"SETTINGS", "-"** key and the number will clear and go back to 0 (zero).

3.6 Internal Error Alarm

It is possible that an alarm will appear on the screen as pictured below when you power up. Press the **F1** Function Key (below the LCD display screen, as highlighted below) to clear the internal error. This should clear the alarm *but if this does not do not be concerned at this time* there is more detail on alarms in CHAPTER 4 on page 40, 41 and 42.



To get to the **00 INST.SETT.PROGRAM** for applications you must have **MENU "01 GENERAL SETTINGS"; INFO 07.install ; SETTINGS** set to **1>visible.**

INFO lines are adjustable if:
MENU "01 GENERAL SETTINGS"; INFO 06.operation permit; SETTINGS is set to **2>yes (install).** *Applications units; feedweigher, feed distribution and birdweigher must have a department number assigned before you can follow the alarm detail.)*

01 Feedweigher
01 GENERAL SETTINGS
07.install
1>visible

01 Feedweigher
01 GENERAL SETTINGS
06.operation permit
2>yes (install)

01 Feedweigher
01 GENERAL SETTINGS
01.system on/off
A 0>off

CHAPTER 4. – PROGRAMMING – 00 INST.SETT.PROGRAM (MENU)

4.1 Programming - Overview (without examples)

- Activate the desired application units:
  - -feedweigher
  - -feed distribution
  - -birdweigher
- Give each activated application unit a unique department number
  - -feedweigher – department 1
  - -feed distribution – department 2
  - -birdweigher – department 3
- If the BE-SSC-901 is equipped with a communication-board COM-31
  - -choose the desired communication–speed *(PC)*
  - -choose the desired communication-program
- Enter the current time, date, and year
- Choose the desired language
- If the BE-SSC-901 is equipped with a gsm MODEM COM-50
  - -enter the right “pincode gsm” *(see the COM-50 installation manual)*
- If the BE-SSC-901 is equipped with an analog MODEM COM-51
  - -choose the desired “nr.or rings”
  - -choose the right “country code” *(see the COM-51 installation manual)*

The above steps are an overview of the steps to programming or setting up your control.
The following pages give display screen examples to aide you with the setup.



*The **00 INST.SETT.PROGRAM** will appear for each application set up, it only needs to be ‘programmed’ and saved in one of the applications.*

4.2 Programming - Applications units (INSTALLER SETTINGS)

When the power up display screen ADDRESS **" 99 PMS-20"** application, MENU **"00 INST.SETT.PROGRAM"**, you can set up all the basic settings such as; time, date, year, language, etc. These settings will be saved for all applications when **you "accept" the settings**, as exampled, at the end of the following "**99 PMS-20", "00 INST.SETT.PROGRAM"** display screens. The feedweigher, feed distribution and birdweigher must be set up at this time, as exampled below. Each will have settings that must be setup in their individual application later. You will be changing only the INFO and the SETTINGS during this portion of the programming/setup as noted with arrows.

99 PMS-20
00 INST.SETT.PROGRAM
01.application unit 1
1>feedweigher

Press INFO to select the "01 application unit 1":

Press **SETTINGS '-'** or **'+'** to select the first application; from **0>None to 1>feedweigher**

99 PMS-20
00 INST.SETT.PROGRAM
02.dep.number unit 1
1

Give the activated feedweigher "01 application unit 1" a unique department number:

Press the **INFO '+'** key to **02.dep.number unit1**.
Press **SETTINGS '-'** or **'+'** to set the department number (0 thru 99) for the first application.

99 PMS-20
00 INST.SETT.PROGRAM
03.application unit 2
2>feed distrib.

Choose the feed distrib. for "03 application unit 2":

Press **SETTINGS '-'** or **'+'** to select the application **2>feed distrib.**

99 PMS-20
00 INST.SETT.PROGRAM
04.dep.number unit 2
2

Press **INFO "+"** key for **"04.dep.number unit 2"**
Enter department number 2 for the feed distribution using the **SETTINGS** "-" or "+" key.
(This step is repeating the same process as the feedweigher)

99 PMS-20
00 INST.SETT.PROGRAM
05.application unit 3
3> birdweigher

Press **INFO "+"** key for **"05.application unit 3"**:

Press **SETTINGS '-'** or **'+'** to select the application **3>birdweigher**

99 PMS-20
00 INST.SETT.PROGRAM
06.dep.number unit 3
3

Press **INFO "+"** key for **"06.dep.number unit 3"**:
Enter department number 2 for the feed distribution using the **SETTINGS "-"** OR **"+"** key.

***INFO pages 02, 04, 06, 08 & 10 are only available if**: INFO pages 01, 03, 05, 07 & 09 have been set in an applications*

4.3 Programming - Communications

The installer only needs to be concerned with 3 applications , Units 4 and 5 will not be activated at this time. The **BE-SSC-901 (FWS-20) has been equipped with a COM-31** communication board and it will now be necessary to enter the communication speed and the communication program if the control is directly connected to a PC.

INFO lines 11 & 12 are only available if a COM-31 (BE-SSCB-102) board is installed in one of the communications slots inside the feed scale/weigher control.

99 PMS-20
00 INST.SETT.PROGRAM
11.speed com 1
4>115200 baud

Choose the desired Communication Speed:

Press **INFO '+'** to **11.speed com 1**.
Press **SETTINGS '-'** or **'+'** to select the desired baud rate.

0> 9600 bps **1> 19200 bps** **2> 38400 bps** **3> 57600 bps**
4> 115200 bps **5> 230400 bps** **6> 460800 bps**

99 PMS-20
00 INST.SETT.PROGRAM
12.function com 1
0> optilink

Choose the desired communication program:

Press **INFO '+'** to **12.function com 1**.
Press **SETTINGS '-'** or **'+'** to set the PC communication option;

0> Optilink: select when using the Optilink for Windows program.
1> Optilink hxd: select if using another program.

INFO lines 13.speed com 2 & 14.function com 2 are only available if *a second COM-31 board is installed. (Values should be set the same as the first COM-31 board.)*

INFO lines 16-21 are only available if:
INFO lines 01, 03, 05, 07 & 09.application unit (1 -5) are set to 0>none.

Skip over INFO line **15.accept** at this time to **16.time**.
To 'accept' now would make the following INFO lines unavailable to change.

4.4 Programming - Time, Date and Real-Time Clock



```
99 PMS-20
00 INST.SETT.PROGRAM
16.time
      11:51:29  hh:mm:ss
```

Enter the current time:

Press **INFO '-'** to **16.time**.
Press **SETTINGS '-'** or **'+'** to adjust the time. The F3 function key, located below the display, can be used to speed up number entries.

```
99 PMS-20
00 INST.SETT.PROGRAM
17.date
      3-31     mm:dd
```

Enter the current month and day:



Press **INFO '-'** to **17.date**.
Press **SETTINGS '-'** or **'+'** to adjust the date.

```
99 PMS-20
00 INST.SETT.PROGRAM
18.year
      2009
```

Enter the current year:

Press **INFO '-'** to **18.year**.
Press **SETTINGS '-'** or **'+'** to adjust the year, if needed.

```
99 PMS-20
00 INST.SETT.PROGRAM
19.real time clock
      1>on
```

Set the real-time clock to on:

Press **INFO '-'** to **19.real time clock**.
Press **SETTINGS '-'** to the "internal clock off" and change to 1>on.
(The real time clock is used for the time, date, year, etc)

4.5 Programming - Language

99 PMS-20
00 INST.SETT.PROGRAM
20.language
2>english

Choose the desired language:

Press **INFO '-'** to **20.language**.
Press **SETTINGS '-'** or **'+'** to choose the displayed language.

0>Nederlands 1>Deutsch 2>English 3>Polski 4>Francais
5>Espanol 6>Dansk 7>Finnish 8>Slovencina

99 PMS-20
00 INST.SETT.PROGRAM
21.input language
0>internal

Press **INFO '-'** to **21.input language**.
Press **SETTINGS '+'** to select;

0>internal (choose when using a single control)
1>external (choose when using multiple controls – language will be chosen from the selected/connected control)



***INFO line 22 is available if**: +INFO lines 01, 03, 05, 07 & 09.application unit (1-5) are set to 0>none and 21.input language is set to 1>external.*

99 PMS-20
00 INST.SETT.PROGRAM
22.address language
1>on

Press **INFO '-'** to **22.address language**.
Press **SETTINGS '+'** to choose the default page.

Is hidden unless 1>external is chosen in INFO 21.input language.

4.6 Programming - Pincode or Landcode

99 PMS-20
00 INST.SETT.PROGRAM
23.pincode gsm com 1

Press **INFO "-" to *23.pincode gsm com1***
(Enter the pincode from the corresponding COM-50 in either communication board location 1).

Will only appear if a COM-50 board is installed

99 PMS-20
00 INST.SETT.PROGRAM
24.pincode gsm com 2

Press **INFO "-" to *24.pincode gsm com2***
(Enter the pincode from the corresponding COM-50 in either communication board location 2).

Will only appear if a COM-50 board is installed

99 PMS-20
00 INST.SETT.PROGRAM
25.mdm:nr of rings
1…….5……99

INFO lines 25.mdm: nr. of rings & 26.modem: landcode will only appear if a COM-51 (BE-SSCB-201) board is installed.

INFO line *25.mdm: nr. of rings*: choose the number of rings for the modem to pick up.

99 PMS-20
00 INST.SETT.PROGRAM
26.modem landcode
30>B5

Press the **INFO** "-" to *26.modem: landcode*: choose a country code. Use the table below for the landcode selections.

0> 00	1> 07	2> 09	3> 0A	4> 0F	5> 16	6> 26	7>31	8> 3C
9> 3D	10> 42	11> 50	12> 53	13> 57	14> 59	15> 61	16> 6C	17> 73
18> 7B	19> 7E	20> 82	21> 8A	22> 8B	23> 99	24> 9C	25> 9F	26> A0
27> A5	28> A6	29> B4	30> B5	31> FD	32> FE			

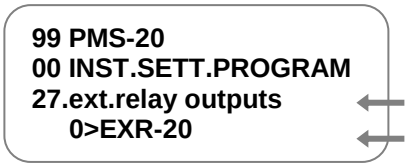
Country	Code	Country	Code	Country	Code
Argentina	07	Greece	FD	Netherlands	FD
Australia	09	Hong Kong	99	New Zealand	7E
Austria	FD	Hungary	FD	Norway	FD
Belgium	FD	Iceland	FD	Philippines	B5
Canada	B5	Indonesia	99	Portugal	FD
China	B5	Ireland	FD	Slovak Republic	FD
Cyprus	FD	Italy	FD	Spain	FD
Czech Republic	FD	Japan	00	Sweden	FD
Denmark	FD	Korea	B5	Switzerland	FD
Finland	FD	Liechtenstein	FD	Taiwan	FE
France	FD	Luxembourg	FD	United Kingdom	FD
Germany	FD	Mexico	B5	United States	B5



See the 'COM-51 (BE-SSCB-201) Installation' manual for further information.

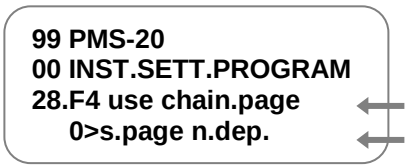
4.7 Programming - Relay Outputs

To extend the relay outputs:



Press **INFO '+'** to advance to **27.ext..relay outputs**.
Press **SETTINGS '-'** or **'+'** to select which model of external relay device is attached to the BE-SSC-901, if any;

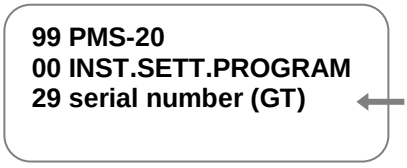
0>EXR-20 1>ORU-30[1] 2>ORU-30[1-2] 3>ORU-30[1-3] 4>ORU-30[1-4]



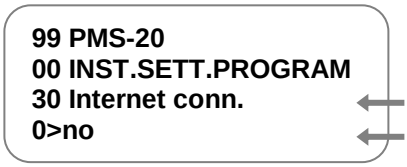
Press **INFO '+'** to **28.F4 use chain.page**.
Press **SETTINGS '-'** or **'+'** to select;
(Pushing the F4 key advances the display to similar pages or departments.)

0>s.page n.dep. 1>n.page s.dep. 2>n.page n.dep.

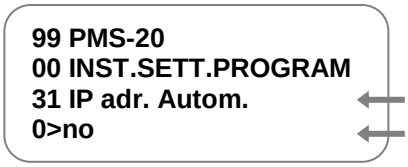
4.8 Programming - GrowTRAC and Internet



Serial identification number GrowTRAC protocol.



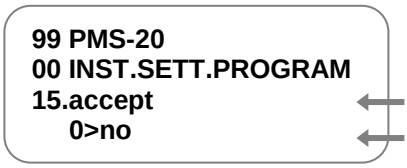
To set up an internet connection:
Press **INFO "-"** or **"+"** to select **"30 Internet conn."**
Press and hold **SETTINGS** to select **0>no** or **1>yes**



To get an internet or LAN connection, you must obtain an IP address. This can be done automatic DHCP (Dynamic Host Configuration Protocol) or set up manually.
Press **INFO "-"** or **"+"** to select **"31 IP adr.Autom."**
Press **SETTINGS "+"** key to select **0>no for manual selection,**
1>yes for automatic IP address set up,

4.9 Accept the Installer Settings

Verify all previous information before choosing 1>yes in INFO line 15.accept.



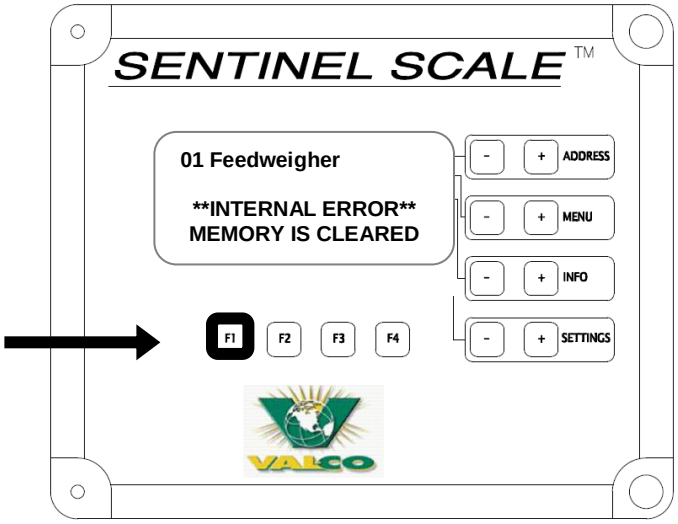
Press **INFO '-'** or '+' back to **15.accept**.
Press *and hold* **SETTINGS '+'** to ***1> yes*** to save all applications settings.
Release key once display changes to ***1>yes***.
When complete, display will automatically revert to ***0>no*** .
0>no 1>yes

These settings will be saved in all applications and an alarm may appear. Directions for resetting the alarms will follow in the next section.

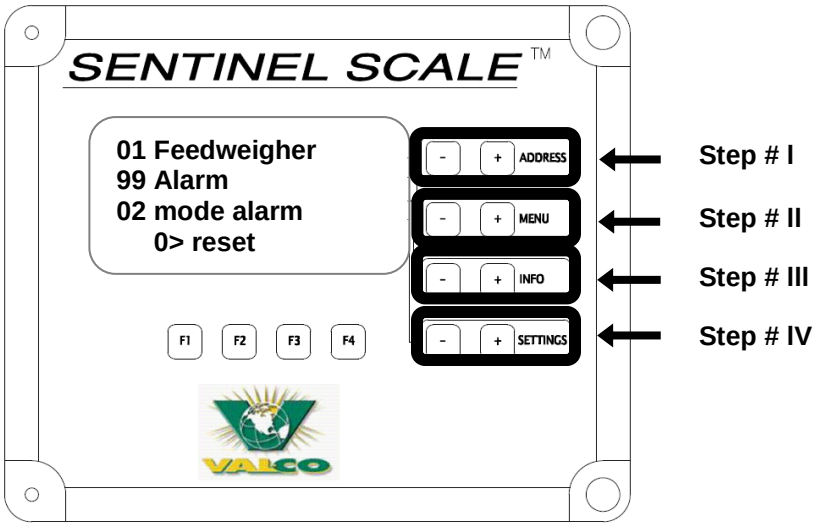
CHAPTER 5. – PROGRAMMING – 01 FEEDWEIGHER (ADDRESS)

5.1 01 Feedweigher "ADDRESS" - Settings

At this point you may again experience a memory alarm. Do not be concerned, this can be annoying so you can clear the alarm message by pressing the **F1** button below the display screen as exampled on page 31. Then continue with set up of the feedweigher application.



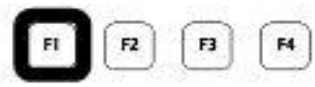
If the alarm does not go away the first line on the display will flash and in the left corner of the display you will see a flashing 'A' or 'A*' (A = Alarm). The star behind the flashing A (A*) means that the horn is activated. If the alarm is switched off, the horn will be switched off and the star behind the 'A' is gone because the horn is no longer activated. If the 'A' is still flashing the problem is not solved. *(See Table on page 39 for Alarm causes*) If the Alarm is solved it is possible to reset the alarm (as shown in the example below) and the flashing 'A' will disappear. If there is an alarm in the **Feedweigher**, the **Feed distribution** or in the **Birdweigher** you can reset the alarm. (Details on next page)



01 Feedweigher

****INTERNAL ERROR****
MEMORY IS CLEARED

Internal error ALARM



Press the **F1** Function Key (below the display) to clear the internal error.

Menu page **01 GENERAL SETTINGS** should appear.

01 Feedweigher
01 GENERAL SETTINGS
01.system on/off
A 0>off

When an alarm occurs a flashing '**A**' appears on the left side at the bottom line of display.
Press **INFO "+"** to select **"01.system on/off"** then
Press **SETTINGS "+"** to select **0>off**
(Turning the system to off will avoid alarming during setup.)

FLASHING "A" = ALARM

01 Feedweigher
99 ALARM
02. mode alarm
A 0>reset

To shut off an alarm;
*Press **MENU '-'**until **99> ALARM** appears.*
*Press **INFO '+'** to **02.mode alarm**.*
*Press **SETTINGS '-'** or **'+'** to **0>reset**.*
*This should reset the alarm and the flashing '**A**' should disappear.*
(allow a few seconds for the program to respond to reset)

02 Feed distribution
99 ALARM
02. mode alarm
A 0>reset



*If the alarm does not go away, press the **ADDRESS '+'** button to advance to another application to see where the alarm was initiated. Repeat the steps given in the above example as needed. (as exampled on the left: all alarms should be cleared for each application)*

03 Birdweigher
99 ALARM
02. mode alarm
A 0>reset

Trouble shooting guide for Alarms is provided on Appendix 1.

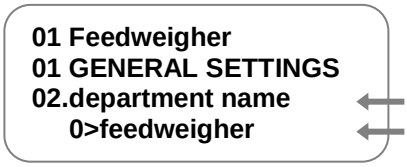
5.2 01 GENERAL SETTINGS

You should not need to set up the INFO lines 01 – 09 now since they should have been saved in the previous PMS-20 / 00 INST.SETT.PROGRAM set up if you accepted your settings.



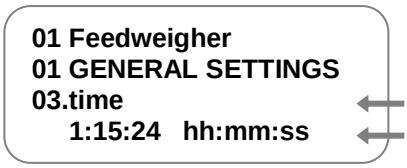
Press **INFO '-'** to get back to **01.system on/off**.

Leave the system at ***0>off*** until all 'programming' is complete to avoid the system triggering alarms.

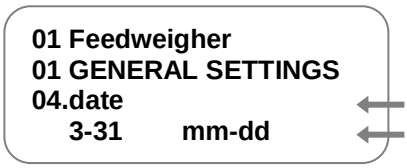


Press **INFO '+'** to **02.deparment name**.
Choose what to call the feed scale/weigher from the following list:

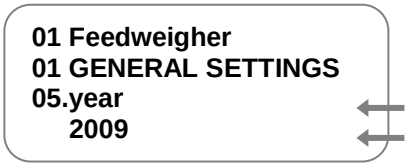
0>feedweigher 1>..20>feedweigh. 1..20 21>..40>binweigher 1..20



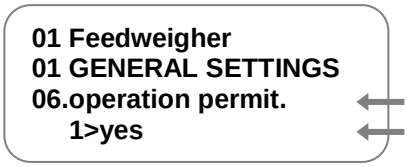
Press **INFO '+'** to **03.time**.
Adjust the time, if incorrect, using the **SETTINGS '-'** or **'+'** key. The F3 function key, located below the display, can be used to speed up number entries. See page 28 for detailed instructions on how to use the F3 function key.



Press **INFO '+'** to **04.date**.
Adjust the date, if incorrect, using the **SETTINGS '-'** or **'+'** key.

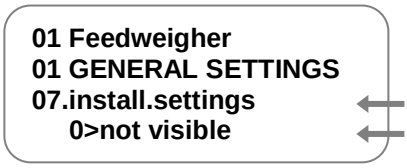


Press **INFO '+'** to **05.year**.
Adjust the year, if incorrect, using the **SETTINGS '-'** or **'+'** key.



Press **INFO '-'** to **06.operation permit**.
Press *and hold* **SETTINGS '-'** or **'+'** to change the permissions.

0>no: allows viewing of non-programmable items
1>yes: allows minimal programming
2>yes (install.): allows all programming for up to 30 minutes



Press **INFO '+'** to **07.install.settings**.
Press **SETTINGS '+'** to advance to **01>visible** to allow the visibility of programmable items.

0>not visible: 'programming' settings are not accessible
1>visible: 'programming' settings are accessible



INFO lines 08-14 are available if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible.

INFO lines 08-14 are adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.).

INFO line 09 also needs MENU 92 I-SETTING:EXT.VAR; INFO 21.input language set to 0>internal to be available.

INFO line 10 also needs MENU 92 I-SETTING:EXT.VAR; INFO 23.inp. weight meas.1 set to 0>internal to be available.

INFO line 11 also needs MENU 92 I-SETTING:EXT.VAR; INFO 25.inp. weight meas.2 set to 0>internal to be available.

01 Feedweigher
01 GENERAL SETTINGS
08.real time clock
1>on

Press **INFO '+'** to **08.real time clock**.
Press the **SETTINGS '-'** or **'+'** key to change.
The real time clock is the internal clock for time, date, year etc.

0> off 1>on

01 Feedweigher
01 GENERAL SETTINGS
09.language
2>English

Press **INFO '+'** to **09.language**.
Press the **SETTINGS '-'** or **'+'** buttons to choose the displayed language.

0>Nederlands 1>Deutsch 2>English 3>Polski 4>Francais
5>Espanol 6>Dansk 7>Finnish 8>Slovencina

01 Feedweigher
01 GENERAL SETTINGS
10.weight measurem. 1
1>lbs

Press **INFO '+'** to **10.weight measurem.1**.
Press **SETTINGS '-'** or **'+'** to choose the type of weight measurement to be used for drum and general weighing.

0>kg 1>lbs

01 Feedweigher
01 GENERAL SETTINGS
11.weight measurem. 2
0>ton

Press **INFO '+'** to **11.weight measurem. 2**.
Press **SETTINGS '-'** or **'+'** to choose the type of weight measurement to be used for the bins. (ton = 2000lbs, uk ton = 2240lbs, long ton = 2240lbs, short ton = 2000lbs)

0>ton 1>ton(uk) 2>long ton 3>short ton

*INFO line **12** also needs MENU 92 I-SETTING:EXT.VAR; INFO 27.inp. energy meas. set to **0>internal** to be available.*

*INFO line **13** also needs MENU 92 I-SETTING:EXT.VAR; INFO 29.inp. volume meas. set to **0>internal** to be available.*

01 Feedweigher
01 GENERAL SETTINGS
12.energy measurem.
0>kJ

Press **INFO '+'** to **12.energy measurem**.
Press **SETTINGS '-'** or **'+'** to choose the type of measurement used for energy.

0>kJ 1>kcal

01 Feedweigher
01 GENERAL SETTINGS
13.volume measurem.
2>gallon (us)

Press **INFO '+'** to **13.volume measurem**.
Press **SETTINGS '-'** or **'+'** to choose the type of measurement used for volume.

0>liter 1>gallon(uk) 2>gallon(us)

01 Feedweigher
01 GENERAL SETTINGS
14 water:feed meas.
2>gal/lbs

Press **INFO '+'** to **14 water:feed meas**.

Defaults from INFO lines *10.weight measurement 1* and *13.volume measurement*

5.3 03 WEIGHER INFO – (01 Feedweigher application ADDRESS)

01 Feedweigher
03 WEIGHER INFO
01 mom. feed weight
+ __lbs

Press **MENU '-'** or **'+'** to **03 WEIGHER INFO**.

Displays the current weight of the feed within the drum – will change based on drum capacity.

01 Feedweigher
03 WEIGHER INFO
02 active feed bin
0>-

Press **INFO '-'** or **'+'** to **02 active feed bin**.

Displays the current bin supplying feed to this location

INFO line, pages **01- 06** contain information only, you will need to set INFO line, pages **07-10** as part of the programming of the feedweigher.

01 Feedweigher
03 WEIGHER INFO
03 status weigher
0>off

Press **INFO '-'** or **'+'** to **03 status weigher**.
Displays one of the following weigher statuses;

0>off
1>calibrate: weigher is ready to be calibrated.
2>stand-by: weigher is on stand by.
3>tare: awaiting the next accepted weighing.
4>fill feed 1: weigher will be filled with feed ingredient 1
5>weigh feed 1: weigher will weigh feed ingredient 1
6>..15>..fill feed 2, 3, 4, 5 & 6; weigh feed 2, 3, 4, 5 & 6
16>fill feed 7: weigher will be filled with feed ingredient 7
17>weigh feed 7: weigher will weigh feed ingredient 7
18>wait: weigher will wait to open drum until hopper is empty
19>open: drum will open to drop feed
20>weigh empty: weigher will weigh the remaining feed ingredient
21>close: drum will close
22>alarm: weighing will be stopped until alarm is resolved

01 Feedweigher
03 WEIGHER INFO
04 status hopper
1>not empty

Press **INFO '-'** or **'+'** to **04 status hopper**.
Displays one of the following hopper status:

0>empty: hopper is empty – min. and max. sensor do not detect feed
1>not empty: hopper is not empty – min. sensor detects feed
2>full ?: the min. and max. sensors are incorrectly assigned
3>full: hopper is full – min. and max. sensors both detect feed

01 Feedweigher
03 WEIGHER INFO
05 total feed cons
___lbs

Displays the total amount of feed consumed.

Press **INFO "-"** or **"+"** to **05 total feed cons**.

01 Feedweigher
03 WEIGHER INFO
06.reset feed cons.
0>no

Press **INFO '-'** or **'+'** to **06.reset feed cons**.

Total feed consumption can be reset by pressing **SETTINGS '+'** for about 5 seconds.

01 Feedweigher
03 WEIGHER INFO
07.accepted tot.dev.
__%

Press **INFO '-'** or **'+'** to **07.accepted tot.dev.**.
Press **SETTINGS '-'** or **'+'** to adjust the tolerance used for feed weighing (.01 - 10%). The tighter the tolerance the longer the weighing process will take. (Tolerance is a percentage from the 'calibration drum weight'.)

01 Feedweigher
03 WEIGHER INFO
08.nr.of weight meas
4(2-200)

Press **INFO "-"** or **"+"** to **08.nr.of weight meas -** you can enter the number of measurements (weighings) between the accepted tolerance deviation that you need for calibration.

If you enter 4 the calibration will stop automatically when the system has sampled the same value 4 times within a certain deviation to create an acceptable value. Be sure the drum is stable during calibration because otherwise the calibration takes more time. The higher the figure, the more accurate the system will be, but slower.

01 Feedweigher
03 WEIGHER INFO
09.minimum quantity
11 kg (10-100 kg)

Press **INFO "-"** or **"+"**
Minimum quantity – Here you can enter the minimum batch weight the feedweigher should be able to supply.

01 Feedweigher
03 WEIGHER INFO
10.batch weight
25 kg (10-100 kg)

Batch Weight – Here you can enter the maximum batch weight the feedweigher should be able to hold in the drum.

5.4 11 NOT AKTIVE BIN 1 (11 NOT ACTIVE BIN)



*Bins must be active for **11 NOT AKTIVE BIN 1, or other bins,** for this function to be available.*

01 Feedweigher
11 NOT AkTIVE BIN 1
16.feed ingredient 1
0>

Press the **"-"** or **"+"** **MENU** to 1**1 NOT AKTIVE BIN 1** then press **INFO "-"** or **"+"** to 16 then set Accepted tolerance deviation

Here you can enter the tolerance you want to work with. Tighter the tolerance the longer the weight procedure will take

01 Feedweigher
11 NOT AkTIVE BIN 1
17.nr.of weight meas
4(2-200)

Number of weight measurement – Here you can enter the number of measurements (weighings) between the accepted tolerance and deviation that you need for calibration.

5.5 91 INSTALL. SETTINGS



MENU 91 is available if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible.
INFO lines are adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.).

01 Feedweigher
91 INSTALL.SETTINGS
01.feed bin auger 1
0>not connected

Here you can select a relay output to control feed bin auger 1.

Press **MENU '-'** to get back to **91 INSTALL SETTINGS**.
Press **SETTINGS '-'** or **'+'** to select;

0>not connected - there is no relay output selected
1>..12>rel.outp.1..12 - Relay output 1 and 2 (make and brake)
- Relays 3-12 are make-contacts
13>..18>exr.flap 1-c..3-o
19>..26>exr.outp.1..8

External outputs from an **EXR-20** which will be controlled by the **PMS-20** via the DSO-output (**D**ata **S**erial **O**utput).

13> exr.flap.1-c	14> exr.flap.1-o	15> exr.flap.2-c
16> exr.flap.2-o	17> exr.flap.3-c	18> exr.flap.3-o
19> exr.outp.1	26> exr.outp.8	

01 Feedweigher
00 INST.SETT.PROGRAM
27.ext.relay outputs
0.EXR-20

The **EXR-20** has 11 relay outputs (3 make-and-break contacts and 8 make contacts)

External outputs from one or maximal for **ORU-30**'s which will be controlled by the **PMS-20** via the DSO-output (**D**ata **S**erial **O**utput).

01 Feedweigher
00 INST.SETT.PROGRAM
27.ext.relay outputs
4>ORU-30

13> oru-1.outp.1	23> oru-2.outp.1	33> oru-3.outp.1	43> oru-4.outp.1
. >	. >	. >	
22> oru-1.outp.10	32> oru-2.outp.10	52> oru-4.outp.10	



Repeat the previous step to set up the remaining feed bin augers 2-9.

(Press the INFO '+' button to advance; Press SETTINGS '+' to adjust for INFO 2-8.)

01 Feedweigher
91 INSTALL.SETTINGS
09.drum open
0>not connected

Press **INFO '+'** to **09.drum open**.
Press **SETTINGS '-'** or **'+'** to select an output to **Open** the drum.

0>not connected 1>..12>rel.outp.1..12 13>..18>exr.flap 1-c..3-o 19>..26>exr.outp.1..8

01 Feedweigher
91 INSTALL.SETTINGS
10.drum closed
0>not connected

Press **INFO '+'** to **10.drum closed**.
Press **SETTINGS '-'** or **'+'** to select an output to **Close** the drum.

0>not connected 1>..12>rel.outp.1..12 13>..18>exr.flap 1-c..3-o 19>..26>exr.outp.1..8

01 Feedweigher
91 INSTALL.SETTINGS
11.alarm bin invent.
0>not connected

Press **INFO '+'** to **11.alarm bin invent**.
Press **SETTINGS '-'** or **'+'** to select a relay output to be activated if bin 1-18 is below his minimum inventory. This minimum inventory can be set at line 11 through18.
(relay output can be used to switch on a light to indicate min. inventory)

01 Feedweigher
91 INSTALL.SETTINGS
12.disable bin 1
0>not connected

Press **INFO '+'** to **12.disable bin 1**.
Press **SETTINGS '-'** or **'+'** to select a digital input.
Use to disable a bin in the event of the bin over filling.

0>not connected 1>..10>dig.input 1..10

Repeat the previous step to set up the remaining bins 13-19

(Press the INFO '+' button to advance; Press SETTINGS '+' to adjust for INFO 13-19.)

01 Feedweigher
91 INSTALL.SETTINGS
20.min. hoppersensor
0>not connected

Press **INFO '+'** to **20.min.hoppersensor**.
Press **SETTINGS '-'** or **'+'** to select a digital input for the minimum hopper sensor (BE-SSFS-203).

0>not connected 1>..10>dig.input 1..10

01 Feedweigher
91 INSTALL.SETTINGS
21.max. hoppersensor
0>not connected

Press **INFO '+'** to **21.max.hoppersensor**.
Press **SETTINGS '-'** or **'+'** to select a digital input for the maximum hopper sensor (BE-SSFS-203).

0>not connected 1>..10>dig.input 1..10

01 Feedweigher
91 INSTALL.SETTINGS
22.load cell drum
0>not connected

Press **INFO '+'** to **22.load cell drum**.
Press **SETTINGS '-'** or **'+'** to select a frequency **input** for the drum load cell.

0>not connected 1>..4>freq.input 1..4

01 Feedweigher
91 INSTALL.SETTINGS
23.delay-time drum
0:00 mm:ss

Press **INFO '+'** to **23.delay-time drum**.
Press **SETTINGS '-'** or **'+'** to set a time to drop the feed into the drum.

01 Feedweigher
91 INSTALL.SETTINGS
24.weigh.in advance
0>no

Press **INFO '+'** to **24.weigh.in advance**.
Press **SETTINGS '-'** or **'+'** to select;

0>no: the feed scale/weigher will start the bin auger – if hopper is empty
1>yes: the feed scale/weigher will start the bin auger – even if the hopper is not empty. (The drum will open if the hopper is empty.)

01 Feedweigher
91 INSTALL.SETTINGS
25.house after house
0>no

Press **INFO '+'** to **25.house after house**.
Press **SETTINGS '-'** or **'+'** to select.

0>no: feed distribution will start if there is a feed request
1>yes: feed distribution will be done house by house

01 Feedweigher
91 INSTALL.SETTINGS
26.load cell bin 1
0>not connected

Press **INFO '+'** to **26.load cell bin 1**.
Press **SETTINGS '-'** or **'+'** to select a frequency **input** for the bin 1 load cell.

0>not connected 1>..4>freq.input 1..4



Repeat the previous step to set up the remaining bin load cells 27-33 and refer to load cells 2-8.

*(Press the INFO '+' button to advance; Press SETTINGS '+' to adjust **INFO 27-33**)*

01 Feedweigher
91 INSTALL.SETTINGS
34.delay-t.actuators
0:00 mm:ss

Press **INFO '+'** to **34.delay-t.actuators**.
Press **SETTINGS '-'** or **'+'** to set the length of time to delay actuators.

01 Feedweigher
91 INSTALL.SETTINGS
35.actuator 1
0>not connected

Press **INFO '+'** to **35.actuator 1**.
Press **SETTINGS '-'** or **'+'** to select;

0>not connected 1>..12>rel.outp.1..12 13>..18>exr.flap 1-c..3-o 19>..26>exr.outp.1..8

Repeat the previous step to set up the remaining actuators 36-37.

(Press the INFO '+' key to advance; Press SETTINGS '+' to adjust for INFO 36-37.)

MENU 91 is available if: *+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to* ***1>visible.***
INFO lines are adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to ***2>yes (install.).***

5.6 92 I-SETTING:EXT.VAR (INSTALL-SETTINGS: EXT.VAR)

01 Feedweigher
92 I-SETTING:EXT.VAR
01.dep.nr.req.sys.1
1

Press **MENU '+'** to **92 I-SETTING:EXT.VAR**.
Press **SETTINGS '+'** to select a department number (0-99) for the requesting feed distribution on system 1.

Repeat the previous step to set up the remaining department number requests (INFO lines 02-20).
(Press the INFO '+' key to advance; Press SETTINGS '+' to adjust.)

01 Feedweigher
92 I-SETTING:EXT.VAR
21.input language
0>internal

Press **INFO '+'** to **21.input language**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.
(may have already be set up in PMS-20 install settings program.)
0>internal: choose when using a single control
1>external: choose when using multiple controls

01 Feedweigher
92 I-SETTING:EXT.VAR
22.address language
01-02-06 dd-pp-ll

Press **INFO '+'** to **22.address language**.
Press **SETTINGS '-'** or **'+'** to tell the feed scale/weigher where the language is read from.
(may have already be set up in PMS-20 install settings program.)

(dd-pp-ll: dd=ADDRESS; pp=MENU; ll=INFO)
Is hidden unless 1>external is chosen in INFO 21.input language.

01 Feedweigher
92 I-SETTING:EXT.VAR
23.inp.weight meas.1
0>internal

Press **INFO '+'** to **23.inp.weight meas.1**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.
(You will use the weight measurement 1 from a connected unit.)

0>internal: choose when using a single control
1>external: choose when using multiple controls

01 Feedweigher
92 I-SETTING:EXT.VAR
24.adr. weight meas.1
0-00-00 dd-pp-ll

Press **INFO '+'** to **24.adr.weight meas.1**.
Press the **SETTINGS '-'** or **'+'** key to tell the feed scale/weigher where the primary weight measurement is read from.

Is hidden unless 1>external is chosen in INFO 23.inp.weight meas.1.

01 Feedweigher
92 I-SETTING:EXT.VAR
25.inp.weight meas.2
0>internal

Press **INFO '+'** to **25.inp.weight meas.2**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.
(You will use the weight measurement 2 from a connected unit.)

0>internal: choose when using a single control
1>external: choose when using multiple controls

01 Feedweigher
92 I-SETTING:EXT.VAR
26.adr.weight meas.2
0-00-00 dd-pp-ll

Press **INFO '+'** to **26.adr.weight meas.2**.
Press the **SETTINGS '-'** or **'+'** key to tell the feed scale/weigher where the secondary weight measurement is read from.

(Is hidden unless 1>external is chosen in INFO 25.inp.weight meas.2.)

01 Feedweigher
92 I-SETTING:EXT.VAR
27.inp.energy meas.
0>internal

Press **INFO '+'** to **27.inp.energy meas.**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.

0>internal: choose when using a single control
1>external: choose when using multiple controls

01 Feedweigher
92 I-SETTING:EXT.VAR
28.addr.energy meas.
0-00-00 dd-pp-ll

Press **INFO '+'** to **28.addr.energy meas.**.
Press the **SETTINGS '-'** or **'+'** buttons to tell the feed scale/weigher where the energy measurement is read from.

(Is hidden unless 1>external is chosen in INFO 27.inp.energy meas.)

01 Feedweigher
92 I-SETTING:EXT.VAR
29.inp.volume meas.
0>internal

Press **INFO '+'** to **29.inp.volume meas.**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.

0>internal: choose when using a single control
1>external: choose when using multiple controls

01 Feedweigher
92 I-SETTING:EXT.VAR
30.addr.volume meas.
0-00-00 dd-pp-ll

Press **INFO '+'** to **30.addr.volume meas.**.
Press the **SETTINGS '-'** or **'+'** buttons to choose the default page.

(Is hidden unless 1>external is chosen in INFO 29.inp.volume meas.)

5.7 93 INSTALLATION INFO

The 93 INSTALLATION INFO display screens displays information.

01 Feedweigher
93 INSTALLATION INFO
01 feed ingredient
1>starter feed

Press **MENU '+'** to **93 INSTALLATION INFO**.

Displays the feed ingredient currently being used from the MENU 11 BIN 1 XXX; INFO 01.feed ingredient.

Repeat the previous step to read the remaining INFO lines (02-07).
Do the same for the display screens 08, 15, & 22 on this page.
(Press the INFO '+' button to advance.)

01 Feedweigher
93 INSTALLATION INFO
08 energy value 1
__kJ/lbs

Press **INFO '+'** to **08 energy value 1**.

Displays the energy value of the current feed if a value was entered in *MENU 11 BIN 1 XXX; INFO 12.energy value*.

01 Feedweigher
93 INSTALLATION INFO
15 desired feed 1
__lbs

Press **INFO '+'** to **15 desired feed 1**.

Displays previously set menus/information.

01 Feedweigher
93 INSTALLATION INFO
22 supplied feed 1
__lbs

Press **INFO '+'** to **22 supplied feed 1**.

Displays the amount of the current feed that has been supplied.



Press **MENU '+'** to **93 INSTALLATION INFO**.

Displays currently requested department number.



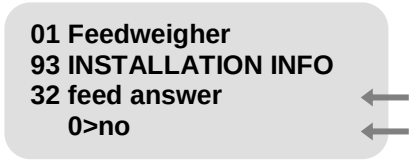
Press **INFO '+'** to **30 request id.nr**.

Displays currently requested id number.



Press **INFO '+'** to **31 feed request**.

Displays whether there is a feed request or not



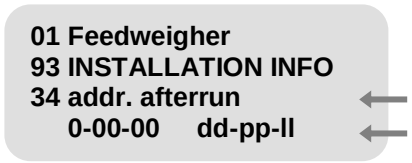
Press **INFO '+'** to **32 feed answer**.

Displays whether there will be a feed answer



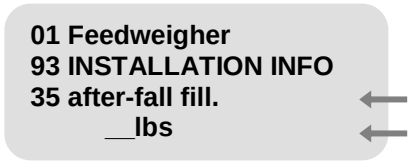
Press **INFO '+'** to **33 afterrun status**.

Displays which after run feed line auger is being used



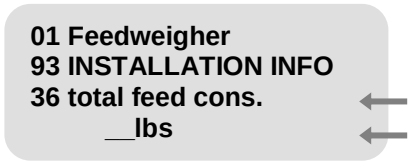
Press **INFO '+'** to **34 addr. afterrun**.

Displays the address of the after run feed line auger being used



Press **INFO '+'** to **35** .

Displays the amount of feed that is left in the drum after a drop



Press **INFO '+'** to **36 total feed cons.**.

Displays the total feed consumption amount

01 Feedweigher
93 INSTALLATION INFO
37 connect.actuators
__

Press **INFO '+'** to **37 connect.actuators**.

Displays the number of actuators detected by the feed scale/weigher

01 Feedweigher
93 INSTALLATION INFO
38 pos. actuators
__

Press **INFO '+'** to **38 pos. actuators**.

Displays the number of actuators that are currently being used

5.8 90 CALIBRATION

On this page you will find settings which are necessary for the calibration of the drum.



The feed scale/weigher drum can be calibrated if:
+MENU 90 CALIBRATION; INFO 02.calibr.mode drum is set to 0>off.
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible.
+MENU 91 INSTALL SETTINGS; INFO 22.loadcell drum has a frequency input assigned to the drum.

INFO lines 02, 03, 06, 07, 10 & 12-21 are adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.).

01 Feedweigher
90 CALIBRATION
01 act. weight drum
+ __lbs

Press **MENU '-'** or **'+'** to **90 CALIBRATION**.
Displays the actual drum weight

01 Feedweigher
90 CALIBRATION
02.calibr.mode drum
0> off + lbs

Press **INFO '-'** or **'+'** to **02.calibr.mode drum**.
Press **SETTINGS '+'** to **1>drum open** to start the calibration procedure.

0>off
1>drum open **2>drum close** **3>calibr. empty**
4>place c.weight **5>calibr. loaded**

01 Feedweigher
90 CALIBRATION
03.cal. weight drum
_____lbs

Press **INFO '-'** or **'+'** to **03.cal. weight drum**.
Press **SETTINGS '-'** or **'+'** to set the total actual weight being used to calibrate the drum.
(Minimum accepted calibration weight: 5.01lbs (11.02kg) – maximum accepted calibration weight: 220.46lbs (485.01kg))

The calibration will automatically proceed through the steps. When the display shows *4>place c.weight*, place the calibration weight(s) either inside the drum or along the sides of the bottom of the drum, then press the SETTINGS '+' key to complete the calibration. The display will then automatically revert back to *0>off* when done.

01 Feedweigher
90 CALIBRATION
04.low cal.freq. dr.
_____Hz

*Press **INFO "1"** or **"+"** to **04.low cal.freq. dr.***
*Press SETTINGS "-" or "+" to **0 Hz** or **value between (0……-250000 Hz)***

(Displays a low frequency (empty drum) when the calibration is finished)

01 Feedweigher
90 CALIBRATION
05.high cal.freq. dr.
_____ Hz

*Press **INFO "1"** or **"+"** to **05.high cal.freq. dr.***
*Press SETTINGS "-" or "+" to **value between (0……-250000 Hz)***

(Displays a high frequency (drum with calibration weight) when the calibration is finished)



We recommend that you write down the values from line 04 and 05 on a piece of paper and keep it in a safe place. These values can be useful if you replace your FWS-20 or when you update your software and you have to restart your weighing system.

Verify INFO 03.cal.weight drum matches the actual weight(s) used for the drum calibration.

*INFO lines **08 & 09** are not used.*

01 Feedweigher
90 CALIBRATION
06.max.dif.b.meas.dr
__pulses

Press **INFO '-'** or **'+'** to **06.max.dif.b.meas.dr**.
Press **SETTINGS '-'** or **'+'** to enter a number (0-200) used to determine how fast and accurately the system will measure feed within the drum. The higher the number the more accurate the measured samples will be, but the longer the process will take.

The drum will be sampled several times. The drum must be stable for consistent samplings. To get an accurate weighing it is possible to enter a value that indicates the variation you allow between each sample. The weigher must sample several times the value of the drum within this deviation before generating a figure for the accepted weight. The adjustments for these values are made on line 07.

01 Feedweigher
90 CALIBRATION
07.min.nr.of meas.dr
8

Press **INFO '-'** or **'+'** to **07.min.nr.of meas.dr**.
Press **SETTINGS '-'** or **'+'** to enter the number (0-200) used to calculate the accepted weighings used for calibration (within the deviation settings). The higher the number the more accurate the measured samples will be, but the longer the process will take.

(BIN WEIGHING IS NOT YET SUPPORTED AT THIS TIME.)

INFO lines 10-21 are available if:
+MENU 91 INSTALL. SETTINGS; INFO 26(-33).loadcell bin 1(-8) have frequency inputs assigned to the bins being used.

INFO lines 11-21 are available if:
+MENU 90 CALIBRATION; INFO 10.select feed bin has had a feed bin selected.

To calibrate the bins, verify:
+MENU 01 GENERAL SETTINGS; INFO 01.system on/off is set to 0>off.
+MENU 91 INSTALL.SETTINGS; INFO 26..33 load cell bin 1..8 have frequency inputs assigned to the bins being used.

01 Feedweigher
90 CALIBRATION
10.select feed bin
0>-

Press **INFO '-'** or **'+'** to **10.select feed bin**.
Press **SETTINGS '-'** or **'+'** to select bin.

0> -: no bin selected
1>..8>bin 1..8: bin 1.. will be calibrated

(Only one (1) bin can be calibrated at a time.)

01 Feedweigher
90 CALIBRATION
11 feed invent.bin 1
+ __lbs

Press **INFO '-'** or **'+'** to **11 feed invent.bin 1**.
Displays the bin feed inventory from *MENU 11 BIN 1-START.FEED; INFO 03 feed bin invent.*

01 Feedweigher
90 CALIBRATION
12.adjust to zero b1
0>no

Press **INFO '-'** or **'+'** to **12.adjust to zero b1**.
Press *and hold* **SETTINGS '+'** for about 5 seconds to display ***1>yes*.**
This sets the bin load cell back to zero.

0>no 1> yes

(This should be done periodically as the load cells have the ability to deviate from zero as they get older.)

01 Feedweigher
90 CALIBRATION
13.low cal.weight b1
__lbs

Press **INFO '-'** or **'+'** to **13.low cal.weight b1**.
Press **SETTINGS '-'** or **'+'** to set the empty weight of bin 1.

The calibration for **INFO 14 & 16** will automatically proceed from ***1>yes*** to ***2>in progress*** and then revert back to ***0>no*** **when done**.

01 Feedweigher
90 CALIBRATION
14.calibrate low b1
0>no

Press **INFO '-'** or **'+'** to **14.calibrate low b1**.
Press *and hold* **SETTINGS '+'** for about 5 seconds until ***1>yes*** appears to start the bin calibration.

Before continuing on with the high/full calibration, verify there is a time frame set for *MENU 11 BIN 1-XXX; INFO 08.max.delivery time*. And that the bin will be **disabled during filling at *MENU 91 INSTALL. SETTINGS; INFO 12.disable bin 1*.**

(Make sure the external push button is properly installed before pressing to fill the bin. See the wiring diagrams on how to wire in an external push button for bin filling in the installation documents for the load cells.)

Make sure of the exact weight of the feed before proceeding….

01 Feedweigher
90 CALIBRATION
15.high cal.weight 1
__lbs

Press **INFO '-'** or **'+'** to **15.high cal.weight 1**.
Press **SETTINGS '-'** or **'+'** to enter the exact weight of the feed placed inside the bin 1. The F3 function key can be used to speed up number entry.

01 Feedweigher
90 CALIBRATION
16.calibrate high b1
0>no

Press **INFO '-'** or **'+'** to **16.calibrate high b1**.
Press *and hold* **SETTINGS '+'** for about 6 seconds to start bin 1 calibration.

0>no 1>yes 2>in progress

01 Feedweigher
90 CALIBRATION
17.low cal.freq. b1
__Hz

Press **INFO '-'** or **'+'** to **17.low cal.freq. b1**.
Displays the low frequency of the empty bin after calibration is complete.
Press **SETTINGS '-'** or **'+'** to adjust the calibration frequency – if needed. (0-250000Hz)

01 Feedweigher
90 CALIBRATION
18.high cal.freq. b1
__Hz

Press **INFO '-'** or **'+'** to **18.high cal.freq. b1**.
Displays the high frequency of the bin after calibration is complete.
Press **SETTINGS '-'** or **'+'** to adjust the calibration frequency – if needed. (0-250000Hz)

In the event the feed scale control (BE-SSC-901) would need to be replaced or the software updated, write down the values from INFO lines 17 and 18 and enter them into the updated or new control to eliminate the need for a recalibration.

01 Feedweigher
90 CALIBRATION
19.max.dif.b.meas.b1
__pulses

Press **INFO '-'** or **'+'** to **19.max.dif.b.meas.b1**.
Press **SETTINGS '-'** or **'+'** to enter a number (0-200) used to determine how fast and accurately the system will measure feed within the drum. The higher the number the more accurate the measured samples will be, but the longer the process will take.

01 Feedweigher
90 CALIBRATION
20.min.nr.of meas.b1
8

Press **INFO '-'** or **'+'** to **20.min.nr.of meas.b1**.
Press **SETTINGS '-'** or **'+'** to enter the number (0-200) used to calculate the accepted weighings used for calibration (within the deviation settings). The higher the number the more accurate the measured samples will be, but the longer the process will take.

01 Feedweigher
90 CALIBRATION
21.mx.weight tare b1
+ __lbs

Press **INFO '-'** or **'+'** to **21.mx.weight tare b1**.
Press **SETTINGS '-'** or **'+'** to enter the base weight used for bin taring. (Theoretically, if bin 1 is empty, the momentary inventory must be 0 lbs. If not, and the deviation is too large, bin 1 should be tared.)

See ***MENU 90 CALIBRATION; INFO 12.adjust to zero b1.***

5.9 Activating the Control Programming

This step requires using the INFO key/button to return to the "01 GENERAL SETTINGS"

The feed scale control needs to be **'activated'** in order to initiate the programming

01 Feedweigher
01 GENERAL SETTINGS
01.system on/off
0>off

Press **MENU '-'** or **'+'** until ***01>GENERAL SETTINGS*** appears – can be done in any one of the applications.

01 Feedweigher
01 GENERAL SETTINGS
07.install settings
1>visible

Press **INFO '-'** or **'+'** to **07.install settings**.
Press **SETTINGS '-'** or **'+'** to **1>visible**.

01 Feedweigher
01 GENERAL SETTINGS
06.operation permit.
2>yes (install.)

Press **INFO '-'** to **06.operation permit.**
Press *and hold* **SETTINGS '+'** to change to **2>yes (install.)**.

Once the control has been changed to 'yes (install)', there are only 30 minutes available to "program" the BE-SSC-901. After 30 minutes the control will revert back to "yes". If additional time is needed, go back to MENU 01 GENERAL SETTINGS; INFO 07 & 06 to 'visible' and 'yes (install.)' and continue.

Activating the 'programming' in any one of the applications, makes all the applications available for 'programming' within the 30 minute time limit. For example…if the 'programming' is activated while in the Feed Distribution application, Feedweigher and Birdweigher will also be available to 'program'. If 'programming' is activated within one application, and the time limit expires, reactivating can be done in any one of the applications.

5.10 99 ALARM

INFO lines 03 & 05 are available if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible.
INFO lines 03 & 05 are adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.).

An alarm can only be shut off when the problem which caused the alarm is first resolved.

01 Feedweigher
99 ALARM
01 alarm status
0>-

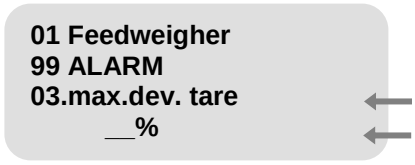
Press **MENU '+'** to **99 ALARM**.

The screen will display the name of any alarms that may be active.

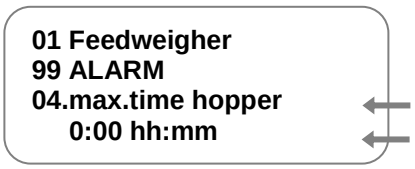
01 Feedweigher
99 ALARM
02.mode alarm
2>on

Press **INFO '+'** to **02.mode alarm**.
Press **SETTINGS '-'** or **'+'** to select;

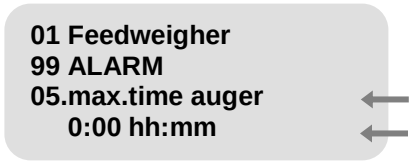
0>reset: used to shut off an alarm after a problem has been 'resolved'
1>off: only allows alarms to appear on the control display
2>on: allows alarms to be indentified with preset status'
3>test: tests preset status of alarms



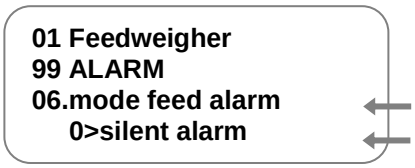
Press **INFO '-'** or **'+'** to **03.max.dev. tare**.
Press **SETTINGS '-'** or **'+'** to set the maximum deviation percentage of the drum empty weight compared to the original empty scale calibration. can be from the tare weight.
For example: if an amount of feed stays in the drum after a drop, and that weight is larger than the percentage set, an alarm will sound.
Entering 0% will result in no alarm.



Press **INFO '-'** or **'+'** to **04.max.time hopper**.
Press **SETTINGS '-'** or **'+'** to set the maximum amount of time the hopper can be full.
Setting the time to 0:00 will result in no alarm.



Press **INFO '-'** or **'+'** to **05.max.time auger**.
Press **SETTINGS '-'** or **'+'** to set the maximum amount of time the auger can run to fill the drum.



Press **INFO '-'** or **'+'** to **06.mode feed alarm**.
Press **SETTINGS '-'** or **'+'** to set the feed alarm mode (status).

0>silent alarm: flashes on display or screen only
1>loud->silent: sounds an alarm – disappears when problem is resolved
2>loud alarm: sounds an alarm – stays active when problem is resolved

Trouble shooting for alarms included in Appendix 1.

CHAPTER 6. – PROGRAMMING – 02 FEED DISTRIBUTION (ADDRESS)

6.1 01 GENERAL SETTINGS

02 Feed distribution
01 GENERAL SETTINGS
01.system on/off
0>off

Press **ADDRESS '+'** to **02 Feed distribution**.

Leave the system at **0>off** until all 'programming' is complete to avoid the system triggering alarms.

02 Feed distribution
01 GENERAL SETTINGS
02.department name
0>feed distrib.

Press **MENU '-'** or **'+'** to **01 GENERAL SETTINGS**.
Press **INFO '+'** to **02.deparment name**.
Choose what to call the feed distributions from the following list;

0>feed distrib. 1>..20>house 1..20 21>..40>brooder 1..20 41>..60>finisher 1..20 61>..80>grow out 1..20 81>..100>layer 1..20 101>..120>pull.rear. 1..20 121>..140>turkey 1..20



***INFO** items **03-09** should already be set, see section **5.1 GENERAL SETTINGS** if help is needed.*

INFO lines 08-10, 14-16 & 18-22 are available if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible.

INFO lines 08-17 are adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.).

***INFO line 11 also requires** MENU 91 INSTALL.SETTINGS; INFO 17.water valve has a relay output assigned to be available.*

02 Feed distribution
01 GENERAL SETTINGS
10.nr.t-tables feed
1

Press **INFO '+'** to **10.nr.t-tables feed**.
Press **SETTINGS '-'** or **'+'** to select 1, 2, 3, 4 or 5.

If only one (1) feed time table is selected, the system will skip INFO lines 12 and 13.

02 Feed distribution
01 GENERAL SETTINGS
11.nr.t-tables water
1

Press **INFO '+'** to **11.nr.t-tables water**.
Press the **SETTINGS '-'** or **'+'** buttons to select 1, 2, 3, 4 or 5.

If only one (1) water time table is chosen, the system will skip INFO lines 12 and 13.

INFO line 12 also need MENU 01 GENERAL SETTINGS; INFO 10.nr.t-tables feed set to a minimum of two (2) to be available.

INFO line 13 also needs MENU 01 GENERAL.SETTINGS; INFO 12.skip a day feed set to 1>yes to be available.

02 Feed distribution
01 GENERAL SETTINGS
12.skip a day feed
0>no

Press **INFO '+'** to **12.skip a day**.
Press **SETTINGS '-'** or **'+'** to select;

*(With this function it is possible to skip each day to another "time-table-feed". Select no if you have only 1 time-table –feed. Will skip INFO 13 if **0>no** is chosen.)*

02 Feed distribution
01 GENERAL SETTINGS
13.skip a day from
__days

Press **INFO '+'** to **13.skip a day from**.
Press **SETTINGS '-'** or **'+'** to select.

0>no 1>yes

(When you have selected "1>yes" for the function "

02 Feed distribution
01 GENERAL SETTINGS
14.add.auger time
00:00 mm:ss

Press **INFO '+'** to **14.add.auger time**.
Press **SETTINGS '-'** or **'+'** to set a length of time for the auger.

(If more then one feedline auger is in use, it is necessary that you enter an additional auger time to prevent that the remaining feed in the auger tube will be dropped into the wrong feedline hopper.)

02 Feed distribution
01 GENERAL SETTINGS
15.energy control
0>no

Press **INFO '+'** to **15.energy control**.
Press **SETTINGS '-'** or **'+'** to select.
(An energy value is equivalent to a specific feed weight. So it is possible that 10kg from the feed ingredient 1 has the same energy value as 12 kg from feed ingredient 2.)

0>no 1>yes

02 Feed distribution
01 GENERAL SETTINGS
16.cap.feedlines
0

Press **INFO '+'** to **16.cap.feedlines**.
Press **SETTINGS '-'** or **'+'** to select a weight between 0 and 999,999 kg.

(If the feedlines are completely filled with feed, you can enter here the amount of feed.)



INFO line 17 also requires *MENU 91 INSTALL.SETTINGS; INFO 01.water meter 1 has a digital input assigned to be available.*

If the animals leave the house and you have activated "last" for function "system on/off" (line01) the capacity feedlines (line 16) and the capacity waterlines (line 17) will be added to the total water and feed consumption (management data).

02 Feed distribution
01 GENERAL SETTINGS
17.cap. waterlines
0

Press **INFO '+'** to **17.cap. waterlines**.
Press **SETTINGS '-'** or **'+'** to select a weight between 0 and 999,999 kg.

02 Feed distribution
01 GENERAL SETTINGS
18.weight measurem. 1
0>kg

Press **INFO '+'** to **18.weight measurem. 1**.
Press **SETTINGS '-'** or **'+'** to select.
0>kg 1>lbs

02 Feed distribution
01 GENERAL SETTINGS
19. weight measurem. 2
0>ton

Press **INFO '+'** to **19.weight measurem. 2**.
Press **SETTINGS '-'** or **'+'** to select.

0>ton 1>ton(uk) 2>long ton 3>short ton

02 Feed distribution
01 GENERAL SETTINGS
20. energy measurem.
0>ton

Press **INFO '+'** to **20.enery measurem.**.
Press **SETTINGS '-'** or **'+'** to select.

0>kJ 1>kcal

02 Feed distribution
01 GENERAL SETTINGS
21. volume measurem.
0>litre

Press **INFO '+'** to **21.volume measurem.**.
Press **SETTINGS '-'** or **'+'** to select.

0>litre 1>gallon(uk) 2>gallon(us)

02 Feed distribution
01 GENERAL SETTINGS
23.displ.all t.cons.
0>no

Press **INFO '+'** to **23.displ.all t.cons.**.
Press **SETTINGS '-'** or **'+'** to select whether to display all total per feed consumptions.

0>no 1>yes

02 Feed distribution
01 GENERAL SETTINGS
24.daily res.t.cons.
0>no

Press **INFO '+'** to **24.daily res.t.cons.**.
Press **SETTINGS '-'** or **'+'** to select whether to reset the total per feed consumptions on a daily basis.

0>no 1>yes

6.2 INSTALL.SETTINGS



MENU 91 is available and adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.)

INFO line 02 is available if:
+MENU 91 INSTALL.SETTINGS; INFO 01.water meter has a digital input assigned.

02 Feed distribution
91 INSTALL. SETTINGS
01.water meter 1
1>dig.input 1

Press **MENU '-'** or **'+' to 91 INSTALL.SETTINGS**.
Press **SETTINGS '-'** or **'+'** to select a digital input for water meter 1.

0>not connected 1>…10>dig.input1..10

02 Feed distribution
91 INSTALL. SETTINGS
02.water meter 2
2>dig.input 2

Press **INFO '+' to 02.water meter 2**.
Press **SETTINGS '-'** or **'+'** to select a digital input for water meter 2.

0>not connected 1>…10>dig.input1..10

02 Feed distribution
91 INSTALL. SETTINGS
03.sensor fdln hop.1
3>dig.input 3

Press **INFO '+' to 03.sensor fdln hop.1**.
Press **SETTINGS '-'** or **'+'** to select a digital input for feedline hopper 1.

0>not connected 1>…10>dig.input1..10

Repeat step 03 for the remaining feedline hopper sensors (INFO lines 04-08).
(Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.)

02 Feed distribution
91 INSTALL. SETTINGS
09.feedline auger
1>rel.outp.1

Press **INFO '+' to 09.feedline auger**.
Press **SETTINGS '-'** or **'+'** to select a relay output for feedline auger control.

0>not connected
1>…2>rel.outp.1..2: make and break contacts
3>..12>rel.outp.3..12: make contacts

02 Feed distribution
91 INSTALL. SETTINGS
10.feedline valve 1
2>rel.outp.2

Press **INFO '+' to 10.feedline valve 1**.
Press **SETTINGS '-'** or **'+'** to select a relay output for the feedline valve 1 control.

0>not connected
1>…2>rel.outp.1..2: make and break contacts
3>..12>rel.outp.3..12: make contacts

Repeat step 10 for the remaining feedline valves (INFO lines 11-15).
(Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.)

02 Feed distribution
91 INSTALL. SETTINGS
16.enable feedlines
7>rel.outp.7

Press **INFO '+' to 16.enable feedlines**.
Press **SETTINGS '-'** or **'+'** to select a relay output to start one or all of the feedline motors. (Can be treated as a 'main switch' for the feedline motors.)

0>not connected
1>…2>rel.outp.1..2: make and break contacts
3>..12>rel.outp.3..12: make contacts

02 Feed distribution
91 INSTALL. SETTINGS
17.water valve
8>rel.outp.8

Press **INFO '+' to 17.water valve**.
Press **SETTINGS '-'** or **'+'** to select a relay output for the water valve control.

0>not connected
1>…2>rel.outp.1..2: make and break contacts
3>..12>rel.outp.3..12: make contacts

02 Feed distribution
91 INSTALL. SETTINGS
18.pulse outp. water
9>rel.outp.9

Press **INFO '+' to 18.pulse outp.water**.
Press **SETTINGS '-'** or **'+'** to select a relay output which represents the amount of water being supplied (pulse).

0>not connected
1>…2>rel.outp.1..2: make and break contacts
3>..12>rel.outp.3..12: make contacts

02 Feed distribution
91 INSTALL. SETTINGS
19.pulse output feed
10>rel.outp.10

Press **INFO '+' to 19.pulse output feed**.
Press **SETTINGS '-'** or **'+'** to select a relay output which represents the amount of feed being supplied (pulse).

0>not connected
1>…2>rel.outp.1..2: make and break contacts
3>..12>rel.outp.3..12: make contacts



INFO lines 23 & 24 are available if:
+MENU 91 INSTALL.SETTINGS; INFO 01.water meter has a digital input assigned.
+MENU 91 INSTALL.SETTINGS; INFO 22.light analog has an analog output assigned.

INFO lines 25 & 26 are available if:
+MENU 91 INSTALL.SETTINGS; INFO 18.pulse outp. water has a relay output assigned.

02 Feed distribution
91 INSTALL. SETTINGS
23.water meter meas.
2>gallon (us)

Press **INFO '+' to 23.water meter meas.**.
Press **SETTINGS '-'** or **'+'** to choose the type of weight measurement to be used for water.

0>litre 1>gallon (uk) 2>gallon (us)

02 Feed distribution
91 INSTALL. SETTINGS
24.quant/pls wtr.mtr
__gal

Press **INFO '+' to 24.quant/pls wtr.mtr.**.
Press **SETTINGS '-'** or **'+'** to enter the number of units of water to equal one pulse. *(This number can be found on the water meter.)*

02 Feed distribution
91 INSTALL. SETTINGS
25.water outp. meas.
2>gallon (us)

Press **INFO '+' to 25.water outp. meas.**
Press **SETTINGS '-'** or **'+'** to choose the type of weight measurement to be used for water output.

0>litre 1>gallon (uk) 2>gallon (us)

02 Feed distribution
91 INSTALL. SETTINGS
26.quant/pls wtr.out
__gal

Press **INFO '+' to 26.quant/pls wtr.out**.
Press **SETTINGS '-'** or **'+'** to select the number of 'units' which will represent the amount for each water pulse.
(0-100,000ltr/0-378,500 (us) gal)

INFO lines 27 & 28 are available if:
+MENU 91 INSTALL.SETTINGS; INFO 19.pulse output feed has a relay output assigned.

02 Feed distribution
91 INSTALL. SETTINGS
27.feed output meas.
1>lbs

Press **INFO '+' to 27.feed output meas.**.
Press **SETTINGS '-'** or **'+'** to choose the type of weight measurement to be used for feed output.

0>kg 1>lbs

02 Feed distribution
91 INSTALL. SETTINGS
28.quant/pls fd.outp
__lbs

Press **INFO '+' to 28.quant/pls fd.outp**.
Press **SETTINGS '-'** or **'+'** to select the number of 'units' which will represent the amount for each feed pulse. (0-100,000kg/0-220,500lbs)

02 Feed distribution
91 INSTALL. SETTINGS
29.switch off auger
0>no

Press **INFO '+' to 29.switch off auger**.
Press **SETTINGS '-'** or **'+'** to select whether to turn the feedline auger on or off on the hopper.

0>no: auger will not be turned off if the highest (last) assigned hopper sensor detects feed.
1>yes: auger will be switched off if the highest (last) assigned hopper sensor detects feed.

02 Feed distribution
91 INSTALL. SETTINGS
30.req.after transp.
0>no

Press **INFO '+' to 30.req.after transp.**.
Press **SETTINGS '-'** or **'+'** to select whether to have a feed request after a transport batch.

0>no: a new feed request will be sent even if all the previous feed has not been delivered.
1>yes: a new feed request will only occur if all the previous feed has been delivered.

02 Feed distribution
91 INSTALL. SETTINGS
31.pos. actuator 1
0>x

Press **INFO '+' to 31.pos.actuator 1.**.
Press **SETTINGS '-'** or **'+'** to select the status of actuator 1.

0>x 1>closed 2>open

Repeat step 31 for the remaining actuators (INFO lines 32-33).
(Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.)

02 Feed distribution
91 INSTALL. SETTINGS
34.use of wtr.metrs
0>meter 1 + 2

Press **INFO '+' to 34.use of wtr.metrs**.
Press **SETTINGS '-'** or **'+'** to select which option of water meters to use.

0>meter 1 + 2 **1>meter 1 - 2**

6.3 I-SETTING:EXT.VAR



MENU 92 is available and adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible.
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.).

02 Feed distribution
92 I-SETTING:EXT.VAR
01.dep.nr. weigher
2

Press **MENU '+'** to **92 I-SETTING:EXT.VAR**.
Press the **SETTINGS '+'** buttons to enter the feed distribution department number.

02 Feed distribution
92 I-SETTING:EXT.VAR
02.input language
0>internal

Press **INFO '+'** to **02.input language**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.

0>internal: choose when using a single control
1>external: choose when using multiple controls

02 Feed distribution
92 I-SETTING:EXT.VAR
03.address language
0-02-06 dd-pp-ll

Press **INFO '+'** to **03.address language**.
Press the **SETTINGS '+'** buttons to choose the default page.

Is hidden unless INFO 02.input language is set to 1>external.

02 Feed distribution
92 I-SETTING:EXT.VAR
04.inp. weight birds
0>internal

Press **INFO '+'** to **04.inp. weight birds**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.

0>internal: choose when using a single control
1>external: choose when using multiple controls

02 Feed distribution
92 I-SETTING:EXT.VAR
05.addr.weight birds
0-00-00 dd-pp-ll

Press **INFO '+'** to **05.addr. weight birds**.
Press **SETTINGS '-'** or **'+'** to choose the default page.

Is hidden unless INFO 04.inp.weight birds is set to 2>external.

02 Feed distribution
92 I-SETTING:EXT.VAR
06.inp. stand.birds
0>internal

Press **INFO '+'** to **06.inp. stand.birds**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.

0>internal: choose when using a single control
1>external: choose when using multiple controls

02 Feed distribution
92 I-SETTING:EXT.VAR
07.addr. stand birds
0-00-00 dd-pp-ll

Press **INFO '+'** to **07.addr. stand.birds**.
Press **SETTINGS '-'** or **'+'** to choose the default page.

Is hidden unless INFO 06.inp. stand.birds is set to 2>external.

02 Feed distribution
92 I-SETTING:EXT.VAR
08.birdweigher ext.
0>PMS/BMS-20

Press **INFO '+'** to **08.birdweigher ext.**.
Press **SETTINGS '-'** or **'+'** to choose the default page.

Is hidden unless INFO 04.inp.weight birds is set to 2>external OR INFO 06.inp. stand.birds is set to 2>external.

6.4 93 INSTALLATION INFO



MENU 93 is available if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible.

Press and hold the F2 Function Key for about 10 seconds to display the 'hidden' INFO lines 01 thru 32, 37 and 38.

02 Feed distribution
93 INSTALLATION INFO
01 feed ingredient 1
1>starter feed

Press **MENU '+'** to **93 INSTALLATION INFO**.
Display only…information is default from *01 Feedweigher; MENU 11..18 BIN 1...8 XXX.* (xxx is the feed type.)

Press the INFO '+' button to advance through INFO lines 02-07 to display the remaining feed ingredients.

02 Feed distribution
93 INSTALLATION INFO
08 energy value 1
__kJ/lbs

Press **INFO '+'** to **08 energy value 1**.
Display only…information is default from *01 Feedweigher; MENU 11..18 BIN 1...8 XXX*. (xxx is the feed type.)

Press the INFO '+' button to advance through INFO lines 09-14 to display the remaining energy values.

02 Feed distribution
93 INSTALLATION INFO
15 desired feed 1
__lbs

Press **INFO '+'** to **15 desired feed 1**.
Display only…information is default from *01Feedweigher; MENU 93 INSTALLATION INFO; INFO lins 15.*

Press the INFO '+' button to advance through INFO lines 16-21 to display the remaining desired feeds.

02 Feed distribution
93 INSTALLATION INFO
22 supplied feed 1
4>supplement 1

Press **INFO '+'** to **22 supplied feed 1**.
Display only…information is default from *01 Feedweigher; MENU 93 INSTALLATION INFO: INFO line 22*.

Press the INFO '+' button to advance through INFO lines 23-28 to display the remaining supplied feeds.

02 Feed distribution
93 INSTALLATION INFO
29 status weigher
0>off

Press **INFO '-'** or **'+'** to **03 status weigher**.
Displays one of the following weigher statuses;

0>off
1>calibrate: weigher is ready to be calibrated.
2>stand-by: weigher is on stand by.
3>tare: awaiting the next accepted weighing.
4>fill feed 1: weigher will be filled with feed ingredient 1
5>weigh feed 1: weigher will weigh feed ingredient 1
6>..15>..fill feed 2, 3, 4, 5 & 6; weigh feed 2, 3, 4, 5 & 6
16>fill feed 7: weigher will be filled with feed ingredient 7
17>weigh feed 7: weigher will weigh feed ingredient 7
18>wait: weigher will wait to open drum until hopper is empty
19>open: drum will open to drop feed
20>weigh empty: weigher will weigh the remaining feed ingredient
21>close: drum will close
22>alarm: weighing will be stopped until alarm is resolved

02 Feed distribution
93 INSTALLATION INFO
30 status hopper
3>full

Press **INFO '+'** to **30 status hopper**.
Displays one of the following hopper statuses;

0>empty: hopper is empty – min. and max. sensor do not detect feed
1>not empty: hopper is not empty – min. sensor detects feed
2>full ?: the min. and max. sensors are incorrectly assigned
3>full: hopper is full – min. and max. sensors both detect feed



If only one min/max sensor is being used in the hopper:
- *mount the min/max sensor as low as possible within the hopper*
- *assign the min/max sensor as both then minimum and maximum sensor*

02 Feed distribution
93 INSTALLATION INFO
31 minimum quantity
__lbs

Press **INFO '+'** to **31 minimum quantity**.

Display only…information is default from *xxxx*.

02 Feed distribution
93 INSTALLATION INFO
32 batch weight
__lbs

Press **INFO '+'** to **32 batch weight**.

Display only…information is default from *xxxx*.

02 Feed distribution
93 INSTALLATION INFO
33 request id.nr.
0

Press **INFO '+'** to **33 request id.nr.**.

Display only…information is default from *xxxx*.

02 Feed distribution
93 INSTALLATION INFO
34 feed request
0>no

Press **INFO '+'** to **34 feed request**.

Display only…information is default from *xxxx*.

02 Feed distribution
93 INSTALLATION INFO
35 feed answer
0>no

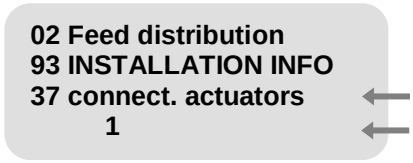
Press **INFO '+'** to **35 feed answer**.

Display only…information is default from *xxxx*.

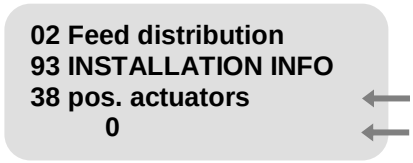
02 Feed distribution
93 INSTALLATION INFO
36 afterrun status
0

Press **INFO '+'** to **36 afterrun status**.

Display only…information is default from *xxxx*.



Press **INFO '+'** to **37 connect. actuators**.
Displays the number actuators that are connected.



Press **INFO '+'** to **38 pos. actuators**.
Displays the number of actuators that are currently in use.

CHAPTER 7. – PROGRAMMING – 03 BIRDWEIGHER (ADDRESS)

7.1 01 GENERAL SETTINGS Bird scale/weigher

You should already have 01 GENERAL SETTINGS, INFO lines 02-09 set from a previous set up in another application. It would be good to check through a few to make sure that you have them set correctly.

03 Birdweigher
01 GENERAL SETTINGS
01.system on/off
0>off

Press **ADDRESS '+'** to **03 Birdweigher**.

Leave the system at **0>off** until all 'programming' is complete to avoid the system triggering alarms.

03 Birdweigher
01 GENERAL SETTINGS
02.department name
0>birdweigher

Press **MENU '+'** (if needed) to **01 GENERAL SETTINGS**.
Press **INFO '+'** to **02.deparment name**.
Choose what to call the feed distributions from the following list:

0>feed distrib. 1>..20>birdweigher 1..20



INFO line 09 is available if:
MENU 92 I-SETTING:EXT.VAR; INFO 01.input language set to 0>internal to be available.

INFO line 10 is available if:
MENU 92 I-SETTING:EXT.VAR ; INFO 03.inp. weight meas. set to 0>internal to be available.

03 Birdweigher
01 GENERAL SETTINGS
08.real time clock
1>on

Press **INFO '+'** to **08.real time clock**.
Press **SETTINGS '-'** or **'+'** to change.
The real time clock is the internal clock for time, date, year etc.

0> off 1>on

03 Birdweigher
01 GENERAL SETTINGS
09.language
2>english

Press **INFO '+'** to **09.language**.
Press **SETTINGS '-'** or **'+'** to choose the displayed language.

0>Nederlands 1>Deutsch 2>English 3>Polski 4>Francais
5>Espanol 6>Dansk 7>Finnish 8>Slovencina

03 Birdweigher
01 GENERAL SETTINGS
10.weight meaurem.
0>kg

Press **INFO '+'** to **10.weight measurem.**.
Press **SETTINGS '-'** or **'+'** to select.

0>kg 1>lbs

7.2 02 FLOCK SETTINGS

The installer will only need to be concerned with lines 07 and 14 of the 02 FLOCK SETTINGS.

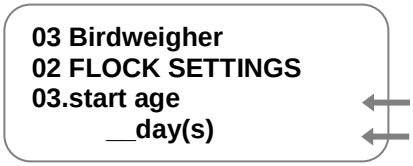


Press **MENU '-'** or **'+'** to **02 FLOCK SETTINGS**.
Press **SETTINGS '+'** to assign a number (identification) to the current flock.



Press **INFO '+'** to **02.bird type**.
Press **SETTINGS '+'** to select the flock bird type.

0>broil.as-hatch 1>turkeys 2>breeders 3>rearing 4>broilers sexed



Press **INFO '+'** to **03.start age**.
Press **SETTINGS '+'** to set the current age of the flock.



Press **INFO '+'** to **04.start weight**.
Press **SETTINGS '+'** to set the current average weight of the flock.

Mandatory to have as accurate as possible before starting a new flock!



Press **INFO '+'** to **05.placement time**.
Press **SETTINGS '+'** to set the time in which the flock was placed.



Press **INFO '+'** to **06.start new flock**.
Press **SETTINGS '-'** or **'+'** to select whether to start a new flock.

0>no: a new flock will not be started
1>yes: a new flock will be started – press *and hold* the **SETTINGS '+'** key/button for about 6 seconds (will automatically revert back to no after updating)

Reasons to start a new flock:

- a new set of birds is being placed
- a possible mechanical/electronic error
- bird transfers
- incorrect data was initially entered

Some items that will automatically update when a new flock is started:

MENU 03 FLOCK INFO	
03 age	10 standard deviation
04 actual mean weight	11 coefficient of variation
05 mean growth trend	12 uniformity
06 standard weight	14 males mean weight
07 difference to standard	15 males standard weight
09 weighings	16 males difference to standard



INFO lines 07 & 14 are available and adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.)

***INFO line 14 also needs** MENU 02 FLOCK SETTINGS; INFO 02.bird type set to 2>breeders to be available.*

03 Birdweigher
02 FLOCK SETTINGS
07.bandwidth uniform
10%

Press **INFO '+'** to **07.bandwidth uniform**.
Press **SETTINGS '+'** to set the bandwidth of the flock (as a percentage 0-30%).

This creates a high and low weight to be accepted against the average weight. The higher the bandwidth, the better the uniformity estimate will be.

03 Birdweigher
02 FLOCK SETTINGS
14.[E]- % male birds
8

Press **INFO '+'** to **14.[E]- %male birds**.
Press **SETTINGS '+'** to set the percentage of males in the flock.

7.3 90 CALIBRATION



MENU 90 is available and adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to 1>visible
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to 2>yes (install.)

INFO lines 02-08 are available if:
+MENU 91 INSTALL.SETTINGS; INFO 01(-03).loadcell scale 1(-3) have frequency inputs assigned for the corresponding scale (1-3).
+MENU 90 CALIBRATION; INFO 01.select scale has a scale selected (1-3).

03 Birdweigher
90 CALIBRATION
01.select scale
0>-

Press **MENU '+'** to **90 CALIBRATION**.
Press **SETTINGS '-'** or **'+'** to select the scale to calibrate first.

0>- 1>scale 1 2>scale 2 3>scale 3

03 Birdweigher
90 CALIBRATION
02 act.weight scale x
__lbs

Press **INFO '+'** to **02 act.weight scale x**. (x = scale number)

Displays the actual weight currently on the scale

03 Birdweigher
90 CALIBRATION
03.cal.weight scale x
__lbs

Press **INFO '+'** to **03.cal.weight scale x**. (x = scale number)
Press **SETTINGS '-'** or **'+'** to enter the weight amount that will be used during scale calibration.

03 Birdweigher
90 CALIBRATION
04.mode scale x
0>off

Press **INFO '+'** to **04.mode scale x**. (x = scale number)
Press *and hold* **SETTINGS '+'** (for about 6 seconds) to start the calibration process.

The calibration process will start automatically.

03 Birdweigher
90 CALIBRATION
04.mode scale x
1>empty scale

Place the calibration weight - let the scale return to rest – then press the **SETTINGS '+'** key for the calibration to proceed.

03 Birdweigher
90 CALIBRATION
04.mode scale x
2>put weight

Place the calibration weight - let the scale return to rest – then press the **SETTINGS '+'** button for the calibration to proceed.

03 Birdweigher
90 CALIBRATION
04.mode scale x
3>calibrate

After the scale calibrates, the control will revert back to *0>off*.

Repeat INFO lines 01-04 to calibrate the remaining scales.

In the event the feed scale control (BE-SSC-901) would need to be replaced or the software updated, write down the values from INFO lines 05 and 06 (for each scale) and enter them into the updated or new control to eliminate the need for a recalibration.

03 Birdweigher
90 CALIBRATION
05.freq.low scale x
__Hz

Press **INFO '+'** to **05.freq.low scale x**. (x = scale number)

Displays the low frequency of the load cell of an empty scale.

*(The **SETTINGS '-'** or **'+'** buttons can be used to enter a previously obtained low frequency for scale x..repeat for each scale.)*

03 Birdweigher
90 CALIBRATION
06.freq.high scale x
__Hz

Press **INFO '+'** to **06.freq.high scale x**. (x = scale number)

Displays the high frequency of the load cell of an empty scale with the calibration weight.

*(The **SETTINGS '-'** or **'+'** buttons can be used to enter a previously obtained high frequency for scale x. Repeat for each scale.)*

03 Birdweigher
90 CALIBRATION
07.max.diff. scale x
__pulses

Press **INFO '+'** to **07.max.diff. scale x**. (x = scale number)
Press **SETTINGS '-'** or **'+'** to enter a number (1-200) used to determine how fast and accurately the system will measure feed within the drum. The higher the number the more accurate the measured samples will be, but the longer the process will take.

It is recommended to increase the value of *INFO 07.max.diff. scale x*, if the number of weighings per day starts steadily decreasing.

03 Birdweigher
90 CALIBRATION
08.min.meas. scale x
—

Press **INFO '-'** or **'+'** to **08.min.meas. scale x**. (x = scale number)
Press **SETTINGS '-'** or **'+'** to enter the number (1-200) used to calculate the accepted weighings used for calibration. The higher the number the more accurate the measured samples will be, but the longer the process will take.

7.4 91 INSTALL. SETTINGS



MENU 91 is available and adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to *1>visible*
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to *2>yes (install.)*
+MENU 01 GENERAL SETTINGS; INFO 01.system on/off is set to *0>off.*

03 Birdweigher
91 INSTALL. SETTINGS
01.load cell scale 1
0>not connected

Press **MENU '-'** or **'+'** to **91 INSTALL. SETTINGS**.
Press **SETTINGS '-'** or **'+'** to select whether the connected scales will be used or not.

0>not connected: scale load cell is not connected/scale will not be used
1>..4>freq.input 1..4: scale load cell is connected to frequency input 1..4 - weight in 1..4

Repeat step 01 for the remaining scale load cells (INFO lines 02-03). Press the INFO '+' key to advance; Press SETTINGS '+' to adjust.)

7.5 92 I-SETTING:EXT.VAR



MENU 92 is available and adjustable if:
+MENU 01 GENERAL SETTINGS; INFO 07.install. settings is set to *1>visible*
+MENU 01 GENERAL SETTINGS; INFO 06.operation permit. is set to *2>yes (install.)*

03 Birdweigher
92 I-SETTING:EXT.VAR
01.input language
0>internal

Press **MENU '-'** or **'+'** to **92 I-SETTING:EXT.VAR**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.

0>internal: choose when using a single control
1>external: choose when using multiple controls

03 Birdweigher
92 I-SETTING:EXT.VAR
02.address language
0-02-06 dd-pp-ll

Press **INFO '+'** to **02.address language**
Press **SETTINGS "+"** to select.

03 Birdweigher
92 I-SETTING:EXT.VAR
03.inp. weight meas.
0>internal

Press **INFO '+'** to **03.inp. weight meas**.
Press **SETTINGS '+'** to select **1>external**…do nothing for **0>internal**.

0>internal: can be selected from within the feed control
1>external: can be selected from a connected control

03 Birdweigher
92 I-SETTING:EXT.VAR
04.addr.weight meas.
0-00-00 dd-pp-ll

Press **INFO '+'** to **04.addr.weight meas.**.
Press the **SETTINGS '+'** buttons to choose the default page.

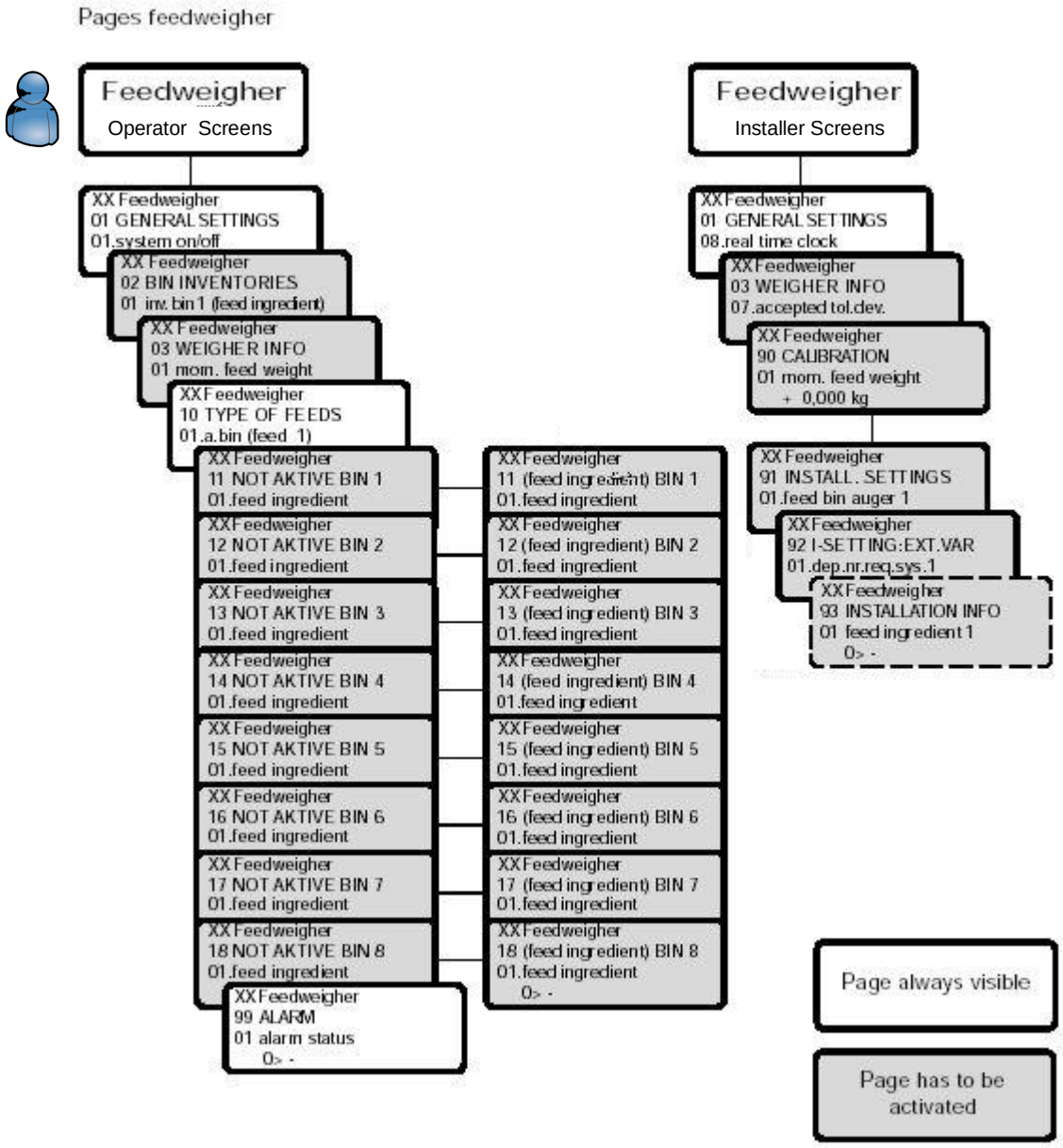
Is hidden unless 1>external *is chosen in INFO.inp.weight meas.*

At this point the Installer setup should be complete and you are ready to input your Operator or User settings. This information would be specific to the necessary animal and feed information.

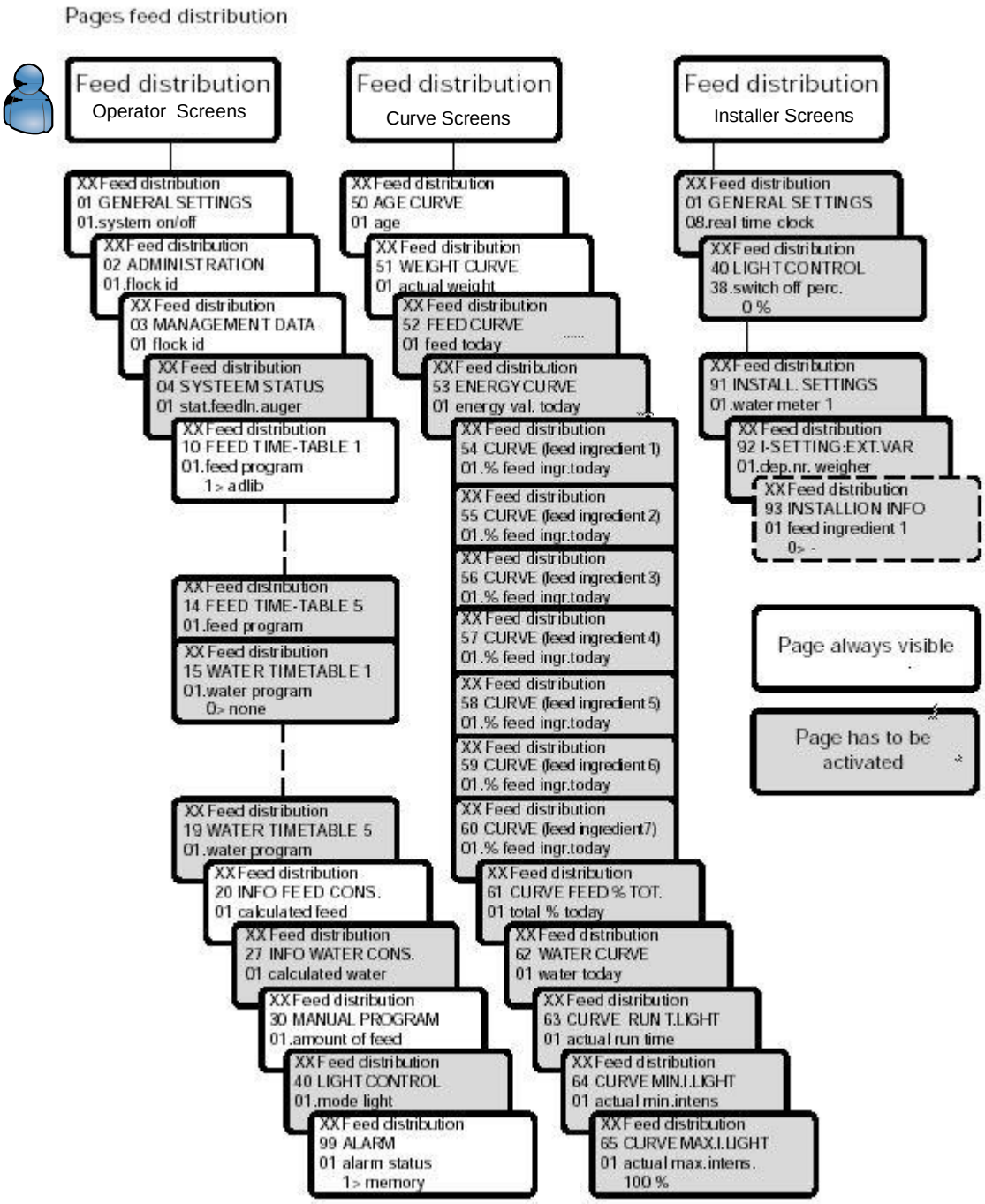
DISPLAY SCREEN OVERVIEWS

PART 2 of this manual deals with display screens that will be used primarily by the Operator. Anyone operating the Sentinel In-Line Feed Scale system should read through PART 1 for basic information and understanding of the weigher and control before trying to use the system. An overview of the Operator and Installer display screens for the Feedweigher are shown below and the Feed Distribution and Birdweigher overviews are shown on the following 2 pages. *(The Installer only needs to be concerned with PART 1 of this manual.)*

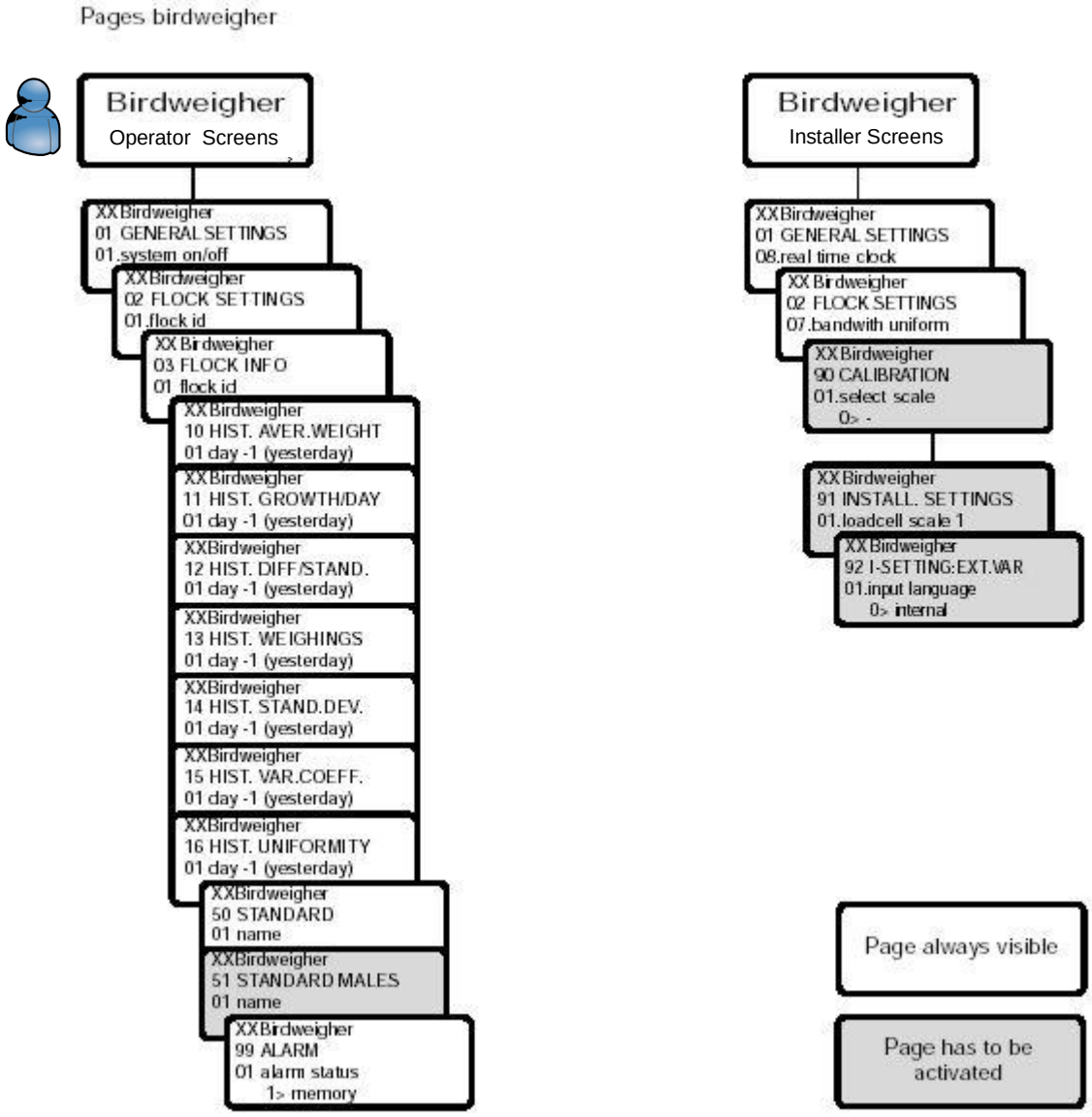
Display screens replicated



Display screens replicated



Display screens replicated



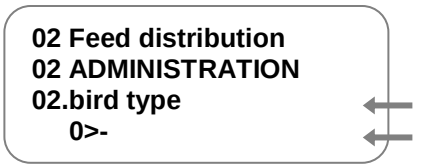
CHAPTER 8. – OPERATOR SCREENS – 02 FEED DISTRIBUTION (ADDRESS)

8.1 02 ADMINISTRATION – (USER SETTINGS - animal information)

Assuming that you have read PART 1 you can now set up the animal information. This can be done in the "02 ADMINISTRATION" INFO or in the "03 Birdweigher application and "FLOCK SETTINGS" MENU. The input of the animal information is done by the operator / user and will be repeated with each new group of birds.



Press **MENU '+'** to **02 ADMINISTRATION.**.
Press **SETTINGS '-'** or **'+'** to assign a number (0-999,999) to the flock.
The **F3** function key can be used to speed up number entry.



Press **INFO '+'** to **02.bird type**.
Press **SETTINGS '-'** or **'+'** to select the bird type.

0>- 1>Buta 2>Nicholas 3>Hybrid 4>Cobb 5>Ross 6>Hy-line



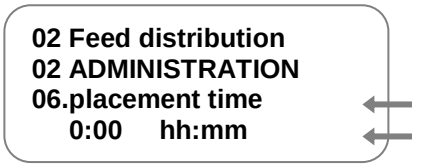
Press **INFO '+'** to **03.start age**.
Press **SETTINGS '-'** or **'+'** to enter the age of the birds when placed.



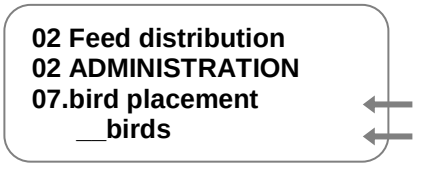
Press **INFO '+'** to **04.start weight**.
Press **SETTINGS '-'** or **'+'** to enter the start weight of the birds when placed.
(Remember to update the start weight if a new flock needs to be, or will be, started; *INFO line 10.start new flock.*)



Press **INFO '+'** to **05.placement date**.
Press **SETTINGS '-'** or **'+'** to enter the date in which the birds were placed. The F3 function key can be used to speed up number entry.



Press **INFO '+'** to **06.placement time**.
Press **SETTINGS '-'** or **'+'** to enter the time in which the birds were placed. The F3 function key can be used to speed up number entry.



Press **INFO '+'** to **07.bird placement**.
Press **SETTINGS '-'** or **'+'** to enter the number of birds placed. The F3 function key can be used to speed up number entry.

02 Feed distribution
02 ADMINISTRATION
08.feed cons. start
__lbs

Press **INFO '+'** to **08.feed cons. start**.
Press **SETTINGS '-'** or **'+'** to enter the feed consumption of the flock up to placement.
(Information will be used later in MENU's ***03 MANAGEMENT DATA*** and ***20 INFO FEED CONS.***)



INFO line 09 is available if:
+MENU 91 INSTALL.SETTINGS; INFO 01.water meter 1 has a digital input assigned.

02 Feed distribution
02 ADMINISTRATION
09.water cons. start
__gal

Press **INFO '+'** to **09.water cons. start**.
Press **SETTINGS '-'** or **'+'** to enter the water consumption of the flock up to placement.
(Information will be used later in MENU's ***03 MANAGEMENT DATA*** and ***27 INFO WATER CONS.***)

02 Feed distribution
02 ADMINISTRATION
10.start new flock
0>no

Press **INFO '+'** to **10.start new flock**.
Press **SETTINGS '-'** or **'+'** to select.

0>no: a new flock will not be started
1>yes: a new flock will be started (will automatically revert back to no after updating)

Reasons to start a new flock:

- a new set of birds is being placed
- a possible mechanical/electronic error
- bird transfers
- incorrect data was initially entered

Some items that will automatically update when a new flock is started:

MENU 02 ADMINISTRATION	MENU 03 MANAGEMENT DATA
05.placement date	03.age
15 live bird count	06 water:feed 24hr
17 dead bird count	07 water:feed total
18 mortality	10 feed conv. 24 hr
	11 feed conv. total

02 Feed distribution
02 ADMINISTRATION
11.p-sh.birds weight
0.000lbs

Press **INFO '+'** to **11.p-sh.birds weight**.
Press **SETTINGS '-'** or **'+'** to enter the mean weight of the pre-shipped birds.

02 Feed distribution
02 ADMINISTRATION
12.p-sh.birds number
+ __birds

Press **INFO '+'** to **12.p-sh.birds number**.
Press **SETTINGS '-'** or **'+'** to enter the number of birds pre-shipment.
The F3 function key can be used to speed up number entry.

02 Feed distribution
02 ADMINISTRATION
13 p-sh. weight total
0.0lbs

Press **INFO '+'** to **13.p-sh.weight total**.

Displays the total weight of the pre-shipped birds

02 Feed distribution
02 ADMINISTRATION
14.p-sh.birds total
__birds

Press **INFO '+'** to **11.p-sh.birds weight**.

Displays the total number of pre-shipped birds

02 Feed distribution
02 ADMINISTRATION
15 live bird count
__birds

Press **INFO '+'** to **15 live bird count**.

Displays the number of live birds in the flock

02 Feed distribution
02 ADMINISTRATION
16.dead birds
+ __birds

Press **INFO '+'** to **16.dead birds**.
Press **SETTINGS '-'** or **'+'** to enter the number of dead birds in the flock.

02 Feed distribution
02 ADMINISTRATION
17 dead bird count
__birds

Press **INFO '+'** to **17 dead bird count**.

Displays the total number of dead birds from the flock

02 Feed distribution
02 ADMINISTRATION
18 mortality
__%

Press **INFO '+'** to **18 mortality**.

Displays the mortality rate

$$\text{Mortality} = \frac{\text{INFO 17 dead bird count}}{\text{INFO 07.bird placement}}$$

8.2 10 – 14 FEED TIME-TABLE 1- 5

02 Feed distribution
10 FEED TIME-TABLE 1..5
01.feed program
3>feedln on time

Press **MENU '+'** to **10 FEED TIME-TABLE 1**.
Press *and hold* **SETTINGS '-'** or **'+'** to select a feed program.
*(The **SETTINGS '-'** or **'+'** key needs to be held for at least 2-3 seconds between each selection.)*

See Appendix 3 for further explanations of feed programs.

1>adlib: offers continuous supply of feed and feed requests
2>adlib/timeres.: feed will only be delivered during specified feeding times
3>feedln on time: feed will be delivered per feedline at 'set' times – *this option only works if a feed sensor has been installed and assigned*
4>st.time/fd.lim: feed will be delivered based on curves or from a 'set' feed entry
5>feedln/fd.lim: feed will be delivered based on the active feedline at a curve or from a 'set' feed entrv

INFO line 02 is available if:
+MENU 01 GENERAL SETTINGS; INFO 10.nr.t-tables feed is set to two (2) or more.
+MENU 01 GENERAL SETTINGS; INFO 12.skip a day feed set to 0>no.

INFO line 03 is available if:
+MENU 91 INSTALL.SETTINGS; INFO 20.light relay 1 has a relay output assigned for the light control.
+MENU 91 INSTALL.SETTINGS; INFO 22.light analog has an analog output assigned for the light control.

INFO line 05 is available if:
+MENU 01 GENERAL SETTINGS; INFO 15.energy control is set to 1>yes.

02 Feed distribution
10 FEED TIME-TABLE 1..5
02.active from age
__day(s)

Press **MENU '+'** to **02.active from age**.
Press **SETTINGS '-'** or **'+'** to enter the day to start 'feed time-table 1'.

02 Feed distribution
10 FEED TIME-TABLE 1..5
03.light control
2>on,min,intens

Press **INFO '+'** to **03.light control**.
Press **SETTINGS '-'** or **'+'** to select a lighting option.

0>not active 1>off 2>on,min.intens: 3>on,max.intens
4>on,manual 5>automatic 6>synchr.feed

02 Feed distribution
10 FEED TIME-TABLE 1..5
04.feed curves
2>feed ingr.act.

Press **INFO '+'** to **04.feed curves**.
Press **SETTINGS '-'** or **'+'** to select a feed curve option.

0>not visible
1>visible
2>feed ingr.act.
3>feed/energy.act: only available if *4>st.time/fd.lim* is the selected feed program
4>all active: only available if *4>st.time/fd.lim* is the selected feed program

02 Feed distribution
10 FEED TIME-TABLE 1..5
05.input feed/energy
0>feed

Press **INFO '+'** to **05.input feed/energy**.
Press **SETTINGS '-'** or **'+'** to select whether to use feed or energy as an input.

0>feed 1>energy



INFO lines 06 & 07 are available if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 01.feed program is set to:
4>st.time/fd.lim or 5>feedlin/fd.lim
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 04.feed curves is to:
0>not visible; 1>visible or 2>feed ingr.act.

INFO line 06 is adjustable if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 05.input feed/energy is set to 0>feed.

INFO line 07 is adjustable if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 05.input feed/energy is set to 1>energy.

02 Feed distribution
10 FEED TIME-TABLE 1..5
06.feed today
__lbs/bird

Press **INFO '+'** to **06.feed today**.
Press **SETTINGS '-'** or **'+'** to enter the amount of feed to be fed per bird. *(May contain more than one feed ingredient)*

02 Feed distribution
10 FEED TIME-TABLE 1..5
07 energy val. today
__kJ/bird

Press **INFO '+'** to **07 energy val. today**.

Displays the feed energy value consumed per bird *(May contain more than one feed ingredient)*



***INFO lines 08-14 are available if**:*
+MENU 92 I-SETTING:EXT.VAR.; INFO 01.dep.nr. weigher is set to the Feedweigher application.

Feedweigher settings:
+MENU 91 INSTALL.SETTINGS; INFO 01(-08).feed bin auger 1(-8) have relay outputs assigned to the bin augers being used.
+MENU 11(-18) XXX BIN 1(-8); INFO 01.feed ingredient have been chosen for each bin being used.
+MENU 10 TYPES OF FEED; INFO 01(-07).a.bin xxx 1(-8) have been activated.

INFO lines 08-14 will vary based on selections made in INFO line 04.feed curves.

(NEXT PAGE)

02 Feed distribution
10 FEED TIME-TABLE 1..5
08.% xxx today
__%

Press **INFO '+'** to **08.%xxx today**. (xxx = feed ingredient)

08 appearance if *04.feed curves; 0>not visible* or *1>visible* is chosen.

Press **SETTINGS '-'** or **'+'** to enter the percentage of feed ingredient 1 to be supplied.

Repeat the previous step to change the rest of the feed percentages (INFO lines 09-14). (Press the INFO '+' button to advance.)

02 Feed distribution
10 FEED TIME-TABLE 1..5
08.adjust.xxx
__%

Press **INFO '+'** to **08.adjust.xxx**. (xxx = feed ingredient)

08 appearance if *04.feed curves; 2>feed ingr.act*. is chosen.

Press **SETTINGS '-'** or **'+'** to adjust the percentage of feed ingredient 1 to be supplied.

Repeat the previous step to make adjustments to the rest of the feed percentages (INFO lines 09-14). (Press the INFO '+' button to advance.)

02 Feed distribution
10 FEED TIME-TABLE 1..5
15 tot.ingr.% today
__%

Press **INFO '+'** to **08.adjust.xxx**. (xxx = feed ingredient)

Displays the combined total percentages of feed.

If the *1>adlib* feed program was selected, 'programming' in MENU 10(-14) is now complete. Please continue if using any other feed program.



INFO line 16 is available if:
+MENU 01 GENERAL SETTINGS; INFO 10.nr.t-tables feed is set to two (2) through four (4) tables – will not work if all five (5) tables are available.
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 01.feed program is set to: 2>adlib/timeres.; 3>feedln on time; 4>st.time/fd.lim or 5>feedlin/fd.lim

INFO lines 17 & 18 are available if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 01.feed program is set to: 2>adlib/timeres.; 3>feedln on time; 4>st.time/fd.lim or 5>feedlin/fd.lim

02 Feed distribution
10 FEED TIME-TABLE 1..5
16.fd.turns visible
0>01..12

Press **INFO '+'** to **16.fd.turns visible**.
Press **SETTINGS '-'** or **'+'** to select which series of feed turns will be available.

0>01..12 1>13..24 2>25..36

02 Feed distribution
10 FEED TIME-TABLE 1..5
17.feeding start 1
0:00 hh:mm

Press **INFO '+'** to **17.feeding start 1**.
Press **SETTINGS '-'** or **'+'** to set the first feeding time. The F3 function key can be used to speed up number entry.

Repeat the previous step to set the rest of the feed start times for INFO lines 21, 25, 29, 33, 37, 41, 45, 49, 53, 57 & 61. (Press the INFO '+' button to advance.)

02 Feed distribution
10 FEED TIME-TABLE 1..5
18.feeding time 1
0:00 mm:ss

Press **INFO '+'** to **18.feeding time 1**.
Press **SETTINGS '-'** or **'+'** to set the length of time in which the first feeding will span. The F3 function key can be used to speed up number entry.

Repeat the previous step to set the rest of the feed times for INFO lines 22, 26, 30, 34, 38, 42, 46, 50, 54, 58 & 62. (Press the INFO '+' button to advance.



INFO line 19 is available if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 01.feed program is set to: 4>st.time/fd.lim or 5>feedlin/fd.lim

INFO line 20 is available if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 01.feed program is set to: 3>feedln on time or 5>feedlin/fd.lim

INFO line 65 is available if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 01.feed program is set to: 4>st.time/fd.lim or 5>feedlin/fd.lim

INFO lines 66-71are available if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 01.feed program is set to: 3>feedln on time or 5>feedlin/fd.lim

02 Feed distribution
10 FEED TIME-TABLE 1..5
19.feeding perc. 1
__%

Press **INFO '+'** to **19.feeding perc.1**.
Press **SETTINGS '-'** or **'+'** to set the percentage of feed the first feeding will amount to. (0-100%)

Repeat the previous step to set the rest of the feed percentages for INFO lines 23, 27, 31, 35, 39, 43, 47, 51, 55, 59 & 63. (Press the INFO '+' button to advance.)

02 Feed distribution
10 FEED TIME-TABLE 1..5
20.sel. feedline 1
0>-

Press **INFO '+'** to **20.sel. feedline 1**.
Press **SETTINGS '-'** or **'+'** to select a feedline.

0>- 1>..6>feedline 1..6

Repeat the previous step to select which feedlines to use during feeding times for INFO lines 24, 28, 32, 36, 40, 44, 48, 52, 56, 60 & 64. (Press the INFO '+' button to advance.)

02 Feed distribution
10 FEED TIME-TABLE 1..5
65 feed % all turns
__%

Press **INFO '+'** to **65 feed % all turns**.

Displays the combined total percentages of all the feed turns.

02 Feed distribution
10 FEED TIME-TABLE 1..5
66 calc.birds fdln 1
__birds

Press **INFO '+'** to **66 calc.birds fdln 1**.

Displays an estimated number of birds being fed on feedline 1.

Repeat the previous steps for the remaining feedlines (INFO lines 67-71).

8.3 15 - 19 WATER TIME-TABLE 1 – 5



MENU 15 is available if:
+MENU 91 INSTALL.SETTINGS; INFO 17.water valve has a relay output assigned.

INFO line 02 is available if:
+MENU 01 GENERAL SETTINGS; INFO 11.nr.t-tables water is set to two (2) or more.

INFO line 03 is available if:
+MENU 91 INSTALL.SETTINGS; INFO 01.water meter has a digital input assigned.

02 Feed distribution
15 WATER TIMETABLE 1..5
01.water program
0>none

Press **MENU '+'** to **15 WATER TIMETABLE 1**.
Press *and hold* **SETTINGS '-'** or **'+'** to select a water program.
*(Hold the **SETTINGS '-'** or **'+'** buttons for at least 2-3 seconds between each selection.)*

0>none
1>continuous: offers a continuous supply of water
2>adlib/timeres.: continuous supply of water at 'set' times
3>st.time/w.lim: water will supplied at 'set' times according to a

02 Feed distribution
15 WATER TIMETABLE 1..5
02.active from age
__day(s)

Press **INFO '+'** to **02.active from age**.
Press **SETTINGS '-'** or **'+'** to enter the day to start 'water timetable 1'.

02 Feed distribution
15 WATER TIMETABLE 1..5
03.water curve
0>not visible

Press **INFO '+'** to **03.water curve**.
Press **SETTINGS '-'** or **'+'** to select a water curve option.

0>not visible
1>visible
2>active: only available if *3>st.time/w.lim* is the selected water program

If *0>none* or *1>continuous* water programs were selected, 'programming' in MENU 15(-19) is now complete. Please continue if using any other water program.



INFO lines 04 & 05 are available if:
+MENU 15(-19)WATER TIMETABLE 1(-5); INFO 01.water program is set to 3>st.time/w.lim.

INFO line 04 is available if:
+MENU 15(-19)WATER TIMETABLE 1(-5); INFO 03.water curve is set to 0>not visible or 1>visible.

INFO line 05 also requires
+MENU 15(-19)WATER TIMETABLE 1(-5); INFO 03.water curve is set to 2>active to be available.

INFO lines 04 & 05 are available if:
+MENU 15(-19)WATER TIMETABLE 1(-5); INFO 01.water program is set to: 2>adlib/timeres. or 3>st.time/w.lim.

02 Feed distribution
15 WATER TIMETABLE 1..5
04.water today
__gal/bird

Press **INFO '+'** to **04.water today** (if applicable).
Press **SETTINGS '-'** or **'+'** to enter the amount of water per bird.

02 Feed distribution
15 WATER TIMETABLE 1..5
05.adjustment water
__%

Press **INFO '+'** to **04.water today** (if applicable).
Press **SETTINGS '-'** or **'+'** to adjust the percentage of water to be supplied.

02 Feed distribution
15 WATER TIMETABLE 1..5
06.water startup 1
0:00 hh:mm

Press **INFO '+'** to **06.water startup 1**.
Press **SETTINGS '-'** or **'+'** to set the first watering time. The F3 function key can be used to speed up number entry.

Repeat the previous step to set the rest of the water start times for INFO lines 09, 12, 15, 18, 21, 24, 27, 30, 33, 36 & 39. (Press the INFO '+' button to advance.)

02 Feed distribution
15 WATER TIMETABLE 1..5
07.watering time 1
0:00 hh:mm

Press **INFO '+'** to **07.watering time 1**.
Press **SETTINGS '-'** or **'+'** to set the length of the first watering time.
The F3 function key can be used to speed up number entry.

Repeat the previous step to set the rest of the feed start times for INFO lines 10, 13, 16, 19, 22, 25, 28, 31, 34, 37 & 40. (Press the INFO '+' button to advance.)

02 Feed distribution
15 WATER TIMETABLE 1..5
08.watering perc. 1
__%

Press **INFO '+'** to **08.watering perc. 1**.
Press **SETTINGS '-'** or **'+'** to set the percentage the first watering will amount to.

Repeat the previous step to set the rest of the feed start times for INFO lines 11, 14, 17, 20, 23, 26, 29, 32, 35, 38 & 41. (Press the INFO '+' button to advance.)

02 Feed distribution
15 WATER TIMETABLE 1..5
42 water % all turns
__%

Press **INFO '+'** to **06.water startup 1**.

Displays the combined total percentages of all the water turns.

8.4 35 FEEDLINES T-TABLE

MENU 35 is available if:
+MENU 91 INSTALL.SETTINGS; INFO 16.enable feedlines have relay outputs assigned to the feedlines.

02 Feed distribution
35 FEEDLINES T-TABLE
01.mode feedlines
1>on

Press **MENU '+'** to **35 FEEDLINES T-TABLE**.
Press **SETTINGS'-'** or **'+'** to select the mode (status) the feedlines will follow.

0>off 1>on 2>automatic
3>synchr. feed: feedlines will start simultaneously with the feeding start times.
(Only available if *MENU 10(-14) FEED TIME-TABLE 1(..5); 2>adlib/timeres*, *4>st.time/fd.lim* or *5>feedln/fd.lim* have been selected as the feed program.)

02 Feed distribution
35 FEEDLINES T-TABLE
02 status feedlines
1>on

Press **INFO '+'** to **02 status feedlines**.

Displays the mode (status) option selected from INFO line *01.mode feedlines*.

02 Feed distribution
35 FEEDLINES T-TABLE
03.start time 1
0:00 hh:mm

Press **INFO '+'** to **03.start time 1**.
Press **SETTINGS'-'** or **'+'** to set a time for feedline 1 to start.

02 Feed distribution
35 FEEDLINES T-TABLE
04.run time 1
0:00 mm:ss

Press **INFO '+'** to **04.run time 1**.
Press **SETTINGS'-'** or **'+'** to set a length of time for feedline 1 to run.

Repeat steps 03 and 04 for the remaining start and run times (INFO lines 05-26).
(Press the INFO '+' button to advance.

8.5 50 AGE CURVE



MENU 50 will be available if:
any of the curves are active.

MENU 51 is available if:
+ MENU 92 I-INSTALL:EXT.VAR; INFO 04 inp. weight birds & 06 inp. stand.birds are both set to 1>internal curve.

02 Feed distribution
50 AGE CURVE
01 age
__day(s)

Press **MENU '+'** to **50 AGE CURVE**.

Displays the current age of the flock based on the curve.

02 Feed distribution
50 AGE CURVE
02.point 1
__day(s)

Press **INFO '+'** to **02.point 1**.
Press **SETTINGS '-'** or **'+'** to enter the first age point. These points will be used for comparisons along with weight, feed and light.

Repeat step 02 for the remaining age points (INFO lines 03-51). (Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.

8.6 51 WEIGHT CURVE

02 Feed distribution
51 WEIGHT CURVE
01 actual weight
__day(s)

Press **MENU '+'** to **51 WEIGHT CURVE**.

Displays the actual current weight of the flock based on the curve. (Should increase as the day progresses)

02 Feed distribution
51 WEIGHT CURVE
02.point 1
__day(s)

Press **INFO '+'** to **02.point 1**.
Press **SETTINGS '-'** or **'+'** to enter the first weight point

Repeat step 02 for the remaining weight points (INFO lines 03-51). (Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.)

8.7 52 FEED CURVE



MENU 52 is available if:
+MENU 10-14 FEED TIME-TABLE 1-5; INFO 03.feed curves is set to:
1>visible, 2>feed ingr. act., 3>feed/energy.act or 4>all active

INFO lines 02-51 are adjustable if:
+MENU 10(-14)FEED TIME-TABLE 1(-5); INFO 05.input feed/energy is set to 0>feed.

02 Feed distribution
52 FEED CURVE
01 feed today
__lbs/bird

Press **MENU '+'** to **52 FEED CURVE**.

Displays the day's current amount of feed fed to the flock based on the curve. (Should increase as the day progresses.)

02 Feed distribution
52 FEED CURVE
02.point 1
__lbs/bird

Press **INFO '+'** to **02.point 1**.
Press **SETTINGS '-'** or **'+'** to enter the first feed point.

Repeat step 02 for the remaining feed points (INFO lines 03-51). (Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.)

8.8 53 ENERGY CURVE



MENU 53 is available if:
*+MENU **01 GENERAL SETTINGS**; **INFO 15** energy control is set to 1>yes.*

INFO lines 02-51 are adjustable if:
+MENU 10-14 FEED TIME-TABLE 1-5; INFO 05.input feed/energy is set to 1>energy.

02 Feed distribution
53 ENERGY CURVE
01 energy val. today
__kJ/bird

Press **MENU '+'** to **53 ENERGY CURVE**.

Displays the actual current weight of the flock based on the curve.

02 Feed distribution
53 ENERGY CURVE
02.point 1
__kJ/bird

Press **INFO '+'** to **02.point 1**.
Press **SETTINGS '-'** or **'+'** to enter the first energy point.

Repeat step 02 for the remaining energy points (INFO lines 03-51). (Press the INFO '+' button to advance.)

8.9 54 - 60 CURVE XXX (XXX = Feed ingredient)



MENUS 54-60 will be available if:
+ MENU 92 I-INSTALL:EXT.VAR; INFO 01.dep.nr.weigher is set to "Feedweigher".

Feedweigher settings:
+ MENU 91 INSTALL. SETTINGS; INFO 01(-08).feed bin auger 1(-8) has a relay output assigned.
+ MENU 11(-18) BIN 1(-8) XXX; INFO 01.feed ingredient is set.
+ MENU 10 TYPES OF FEEDS; INFO 01.bin xxx (1-7) bins are chosen.

02 Feed distribution
54 CURVE XXX
01 % feed ingr. today
__%

Press **MENU '+'** to **54 CURVE XXX**. (XXX = Feed ingredient)

Displays the daily actual current amount of feed supplied to the flock based on the curve. (Should increase as the day progresses.)

02 Feed distribution
54 CURVE (FEED TYPE)
02.point 1
__%

Press **INFO '+'** to **02.point 1**.
Press **SETTINGS '-'** or **'+'** to enter the first feed ingredient point.

Repeat step 02 for the remaining feed type points (INFO lines 03-51).

Repeat above process for the remaining feed ingredients (MENUS 55-60).

8.10 61 CURVE FEED % TOT.

MENU 61 will be available if:
+ MENU 92 I-INSTALL:EXT.VAR; INFO 01.dep.nr.weigher is set to "Feedweigher".

Feedweigher settings:
+ MENU 91 INSTALL. SETTINGS; INFO 01-08.feed bin auger 1-8 has a relay output assigned (minimum of 2 bins assigned).
+ MENU 11-18 BIN 1-8 XXX; INFO 01.feed ingredient is set (minimum of 2 feed ingredients set).
+MENU 10 TYPES OF FEEDS; INFO 01.bin xxx 1-7 bins are chosen (minimum of 2 bins active).
+ MENU 92 I-INSTALL:EXT.VAR; INFO 01-20.dep.nr.req.sys.1 refers to feed distribution.

02 Feed distribution
61 CURVE FEED % TOT.
01 total % today
__%

Press **MENU '+'** to **61 CURVE FEED % TOT**.

Displays the daily current total percentage of all the feed ingredients supplied to the flock based on the curve. (Should increase as the day progresses.)

02 Feed distribution
61 CURVE FEED % TOT.
02.point 1
__%

Press **INFO '+'** to **02.point 1**.
Press **SETTINGS '-'** or **'+'** to enter the first feed curve percentage point.

Repeat step 02 for the remaining feed curve percentage points (INFO lines 03-51).

8.11 62 WATER CURVE



MENU 62 is available if:
+MENU 15(-19) WATER TIMETABLE 1(-5); INFO 03 water curve is set to 1>visible.

02 Feed distribution
62 WATER CURVE
01 water today
__gal/bird

Press **MENU '+'** to **62 WATER CURVE**.

Displays the daily water supplied to the flock based on the curve. (Should increase as the day progresses.)

02 Feed distribution
62 WATER CURVE
02.point 1
__gal/bird

Press **INFO '+'** to **02.point 1**.
Press **SETTINGS '-'** or **'+'** to enter the first water point.

Repeat step 02 for the remaining water points (INFO lines 03-51). (Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.)

8.12 03 MANAGEMENT DATA

02 Feed distribution
03 MANAGEMENT DATA
01 flock id
0

Press **MENU '+'** to **03 MANAGEMENT DATA**.

Displays the flock id from *MENU 02 ADMINISTRATION; INFO 01.flock id.*

02 Feed distribution
03 MANAGEMENT DATA
02 bird type
2>Nicholas

Press **INFO '+'** to **02 bird type**.

Displays the bird type from *MENU 02 ADMINISTRATION; INFO 02.bird type.*

02 Feed distribution
03 MANAGEMENT DATA
03.age
__day(s)

Press **INFO '+'** to **03.age**.

Displays the age of the birds and will update automatically.

Can be manually changed by pressing **SETTINGS '-'** or **'+'**.

INFO line 04 is adjustable if:
+MENU 92 I-SETTING:EXT.VAR; INFO 04.inp. weight birds is set to 0>internal.

INFO line 05 is adjustable if:
+MENU 92 I-SETTING:EXT.VAR; INFO 06.inp.stand. birds is set to 1>internal curve.

02 Feed distribution
03 MANAGEMENT DATA
04.act. mean weight
__lbs

Press **INFO '+'** to **04.act.mean weight**.
Press **SETTINGS '-'** or **'+'** to enter the actual mean weight of the flock.

If *1>internal curve* is chosen in *MENU 92 I-SETTING:EXT.VAR; INFO 04.inp.weight birds,* the actual mean weight will be pulled in from *MENU 51 WEIGHT INFO.*
If *2>external* is chosen in *MENU 92 I-SETTING:EXT.VAR; INFO 04.inp.weight birds,* the actual mean weight will be pulled in from application *03 birdweigher.*

02 Feed distribution
03 MANAGEMENT DATA
05.standard weight
__lbs

Press **INFO '+'** to **05.standard weight**.
Press **SETTINGS '-'** or **'+'** to enter the standard weight of the flock.

If *1>internal curve* is chosen in *MENU 92 I-SETTING:EXT.VAR; INFO 06.inp.stand.birds,* the standard weight will be pulled in from *MENU 51 WEIGHT INFO*.
If *2>external* is chosen in *MENU 92 I-SETTING:EXT.VAR; INFO 06.inp.stand.birds,* the standard weight is pulled from the *03 birdweigher* application.

INFO lines 06 & 07 are available if:
+MENU 91 INSTALL.SETTINGS; INFO 01.water meter 1 has a digital input assigned.

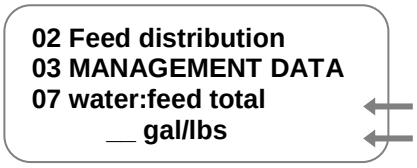
INFO lines 08 & 09 are available if:
+MENU 10(-14) FEED TIME-TABLE 1-5; INFO 04.feed curves is set to:
1>visible; 2>feed ingr.act.; 3>feed/energ.act or 4>all active.

02 Feed distribution
03 MANAGEMENT DATA
06 water:feed 24 hr
__ gal/lbs

Press **INFO '+'** to **06 water:feed 24hr**.

Displays the mean value of the water to feed ratio over the last 24 hours.

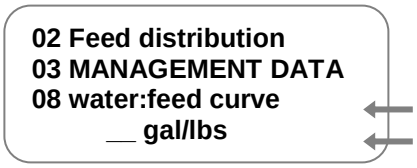
MENU 27 INFO WATER CONS.; INFO 04 water consump.24h



Press **INFO '+'** to **07 water:feed total**.

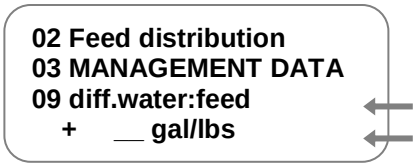
Displays the mean value of the water to feed ratio over the flock to date.

MENU 27 INFO WATER CONS.; INFO 07 water consump.total



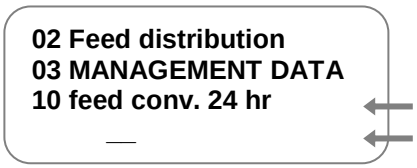
Press **INFO '+'** to **08 water:feed curve**.

Displays the mean value of the water:feed ratio based on the curves in *MENU 52 FEED CURVE* and *MENU 62 WATER CURVE*.



Press **INFO '+'** to **09 diff. water:feed**.

Displays the difference between the actual water to feed ratio total from *INFO 07 water:feed total* and the water:feed ratio based on the curves in *MENU 52 FEED CURVE* and *MENU 62 WATER CURVE*.

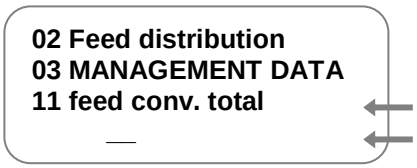


Press **INFO '+'** to **10 feed conv. 24hr**.

Displays the feed conversion over the last 24 hours.

MENU 20 INFO FEED CONS.; INFO 18 feed consumpt.24h

Press **INFO '+'** to **11 feed conv. total**.



Displays the feed conversion over the flock to date.

MENU 20 INFO FEED CONS.; INFO 21 feed consumpt.total
feed conv. total = ----------
MENU 02 ADMINISTRATION; INFO 15 live bird count [MENU 03 MANAGEMENT DATA; INFO 04.act.mean weight – MENU 02 ADMINISTRATION; INFO 04.start weight] + MENU 02 ADMINISTRATION;



INFO lines 12 & 13 are available if:
+MENU 10(-14) FEED TIME-TABLE 1(-5); INFO 04.feed curves is set to 1>visible.
+MENU 92 I-SETTING:EXT.VAR; INFO 06.inp.stand. birds is set to 1>internal curve or 2>external.

02 Feed distribution
03 MANAGEMENT DATA
12 feed conv. curves
__

Press **INFO '+'** to **12 feed conv. curves**.

Displays the feed conversion related to the curve *MENU 52 FEED CURVE.*

02 Feed distribution
03 MANAGEMENT DATA
13 diff. feed conv.
+ __

Press **INFO '+'** to **13 diff. feed conv.**.

Displays the difference between the actual feed conversion total from *INFO 11 feed conv. total* and the feed conversion based on the curves in *MENU 52 FEED CURVE*.

02 Feed distribution
03 MANAGEMENT DATA
14 feed program
__ **gal/lbs**

Press **INFO '+'** to **14 feed program**.

Displays the feed program being used



INFO lines 15 & 16 are available if:
+MENU 01 GENERAL SETTINGS; INFO 10.nr.t-tables feed is set to two (2) or more.

INFO line 16 is available if:
MENU 01 GENERAL SETTINGS; INFO 12.skip a day feed set to 1>yes to be available.

02 Feed distribution
03 MANAGEMENT DATA
15 act.t-table feed
1

Press **INFO '+'** to **15 act.t-table feed**.

Displays the feed time table being used

02 Feed distribution
03 MANAGEMENT DATA
16 funct. skip a day
1>yes

Press **INFO '+'** to **16 funct. skip a day**.

Displays when the *MENU 01 GENERAL SETTINGS; INFO 12.skip a day feed* is active.



INFO lines 17 & 18 are available if:
+MENU 91 INSTALL.SETTINGS; INFO 17.water table has a relay output assigned.

INFO line 18 also needs MENU 01 GENERAL SETTINGS; INFO 11.nr.t-tables water set to two (2) or more to be available.

02 Feed distribution
03 MANAGEMENT DATA
17 water program
1>continuous

Press **INFO '+'** to **17 water program**.

Displays the water program being used.

02 Feed distribution
03 MANAGEMENT DATA
18 act.t-table water
1

Press **INFO '+'** to **18 act.t-table water**.

Displays the water time table being used

8.13 04 SYSTEM STATUS



MENU 04 is available if:
+MENU 91 INSTALL.SETTINGS; INFO 09.feedline auger has a relay output assigned.
+MENU 91 INSTALL.SETTINGS; INFO 10(-15).feedline valve 1(-6) have relay outputs assigned for the feedlines being used.
+MENU 91 INSTALL.SETTINGS; INFO 17.water valve has a relay output assigned.

INFO lines 02-07are available if:
+MENU 91 INSTALL.SETTINGS; INFO 03(-8).sensor fdln hop.1(-6) have digital inputs assigned.

02 Feed distribution
04 SYSTEM STATUS
01 stat.feedln.auger
0>off

Press **MENU '-'** or **'+'** to **04 SYSTEM STATUS**.

Displays the status of the feedline auger.

0>off 1>on

02 Feed distribution
04 SYSTEM STATUS
02 stat.feedlin.hop.1
1>full

Press **INFO '+'** to **02 stat.feedline.hop.1**.

Displays the status of feedline hopper 1.

0>not full: sensor does not detect feed
1>full: sensor detects feed

Press the INFO '+' button to advance through INFO lines 03-07 to display the remaining feedline hopper statuses

02 Feed distribution
04 SYSTEM STATUS
08 stat.fdln valve 1
0>closed

Press **INFO '+'** to **08 stat.fdlin valve 1**.

Displays feedline 1 valve status.

0>closed 1>open

Press the INFO '+' button to advance through INFO lines 09-13 to display the remaining feedline valve statuses.

02 Feed distribution
04 SYSTEM STATUS
14 stat.water valve
0>closed

Press **INFO '+'** to **14 stat.water valve**.

Displays the water valve status.

0>closed 1>open

INFO line 15 is available if:
+MENU 10(-15)FEED TIME-TABLE 1(-5); INFO 01.feed program is set to:
4>st.time/fd.lim or *5>feedlin/fd.lim.*

INFO line 16 is available if:
+MENU 15(-19)WATER TIMETABLE 1(-5); INFO 01.water program is set to 3>st.time/w.lim.

02 Feed distribution
04 SYSTEM STATUS
15 last feeding time
0:00 hh:mm

Press **INFO '+'** to **15 last feeding time**.

Displays the time span of the last feeding time.

02 Feed distribution
04 SYSTEM STATUS
16 last water. time
0:00 hh:mm

Press **INFO '+'** to **16 last water.time**.

Displays the time span of the last watering time.

8.14 20 INFO FEED CONS.



INFO lines 01 & 03-04 are available if:
+MENU 10(-15)FEED TIME-TABLE 1(-5); INFO 01.feed program is set to: 4>st.time/fd.lim or 5>feedln/fd.lim.

02 Feed distribution
20 INFO FEED CONS.
01 calculated feed
__lbs/bird

Press **MENU '+'** to **20 INFO FEED CONS.**.

Displays the calculated feed consumption per bird for the day.

02 Feed distribution
20 INFO FEED CONS.
02 h. feed consumpt.
__lbs/bird

Press **INFO '+'** to **02.h. feed consumpt.**.

Displays the hourly feed consumption per bird.

02 Feed distribution
20 INFO FEED CONS.
03 balance to feed
__lbs/bird

Press **INFO '+'** to **03 balance to feed**.

Displays the remaining amount of feed left to deliver per bird for the day.



INFO lines 04-17 & 34-40 are available if:
+MENU 92 I-SETTING:EXT.VAR.; INFO 01.dep.nr. weigher is set to the Feedweigher application.

Feedweigher settings:
+MENU 91 INSTALL.SETTINGS; INFO 01(-08).feed bin auger 1(-8) have relay outputs assigned to the bin augers being used.
+MENU 11(-18) XXX BIN 1(-8); INFO 01.feed ingredient have been chosen for each bin being used.
+MENU 10 TYPES OF FEED; INFO 01(-07).a.bin xxx 1(-8) have been activated.
+MENU 92 I-SETTING:EXT.VAR.; INFO 01(-20).dep.nr.req.sys.1(-20) are set to the Feed Distribution application.

02 Feed distribution
20 INFO FEED CONS.
04 calc.xxx
__lbs/bird

Press **INFO '+'** to **04 calc.xxx**. (xxx = feed ingredient)

Displays the calculated feed ingredient for the day. *(Dependent on information pulled from the curves, feed ingredient adjustments and feeding cycle percentages.)*

02 Feed distribution
20 INFO FEED CONS.
05 h.f.cons. starter
__lbs/bird

Press **INFO '+'** to **05 h.f.cons.starter**.

Displays the hourly feed consumption of the first feed ingredient.

Repeat steps 04 & 05 for the remaining feeds (INFO lines 06-17). (Press the INFO '+' button to advance.)

02 Feed distribution
20 INFO FEED CONS.
18 feed consumpt. 24h
__lbs/bird

Press **INFO '+'** to **18 feed consumpt.24h**.

Displays the feed consumption over the past 24 hours.

INFO lines 19-20 & 22-23 are available if:
+MENU 10(-15)FEED TIME-TABLE 1(-5); INFO 04.feed curves is set to:
1>visible; 2>feed ingr.act.; 3>feed/energy.act. or 4>all active.

02 Feed distribution
20 INFO FEED CONS.
19 feed cons.crv.24h
__lbs/bird

Press **INFO '+'** to **19 feed cons.crv.24h**.

Displays the feed consumption calculated from the curve over the past 24 hours.

02 Feed distribution
20 INFO FEED CONS.
20 dif.feed.cons.24h
+ __lbs/bird

Press **INFO '+'** to **20 dif.feed.cons.24h**.

Displays the difference between the actual feed consumption total from *INFO 18 feed consumpt.24h* and the feed consumption based on the curves in *INFO 19 feed cons.crv.24h*.

02 Feed distribution
20 INFO FEED CONS.
21 feed consumpt.tot
__lbs/bird

Press **INFO '+'** to **21 feed consumpt. tot**.

Displays the total feed consumption for the flock to date.

02 Feed distribution
20 INFO FEED CONS.
22 feed.cons.crv.tot
__lbs/bird

Press **INFO '+'** to **22 feed.cons.crv.tot**.

Displays the total feed consumption calculated from the curve.

02 Feed distribution
20 INFO FEED CONS.
23 dif.feed.cons.tot
+ __lbs/bird

Press **INFO '+'** to **23 dif.feed.cons.tot**.

Displays the difference between the total feed consumption from *INFO 21 feed consumpt.tot* and the total feed consumption based on the curves in *INFO 22 feed.cons.crv.tot*.

02 Feed distribution
20 INFO FEED CONS.
24 feed cons. day-1
+ __lbs/bird

Press **INFO '+'** to **24 feed cons. day-1**.

Displays yesterday's feed consumption per bird

Repeat step 24 for the last 10 days of feed consumption (INFO lines 25-33).

02 Feed distribution
20 INFO FEED CONS.
34 tot.cons. xxx
__lbs

Press **INFO '+'** to **34 tot.cons.xxx**. (xxx = feed ingredient)

Displays the total feed consumption of the first feed ingredient

Repeat step 34 for the remaining feed ingredients (INFO lines 35-40).

INFO lines 67-88 are available if:
+MENU 10-15 FEED TIME-TABLE 1-5; INFO 01.feed program is set to: 3>feedln on time or 5>feedln/fd.lim.
+MENU 91 INSTALL.SETTINGS; INFO 10-15 .feedline valve 1-6 have relay outputs assigned.

02 Feed distribution
20 INFO FEED CONS.
67 tot.feed consumpt
__lbs

Press **INFO '+'** to **67 tot.feed consumpt**.

Displays the total feed consumption from all the feed ingredients.

02 Feed distribution
20 INFO FEED CONS.
68 tot.feed cons.fl1
__lbs

Press **INFO '+'** to **68 tot.feed cons. fl1**.

Displays the total feed consumption from feedline 1.

Repeat step 68 for the remaining feedlines feed totals (INFO lines 69-73).



Press **INFO '+'** to **74 feed cons. today**.

Displays the feed consumption for the current day.



Press **INFO '+'** to **75 feed cons. tdy.fl1**.

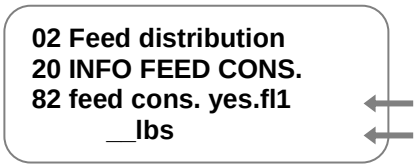
Displays the feed consumption from feedline 1 for the current day.

Repeat step 75 for the remaining feedlines (INFO lines 76-80).



Press **INFO '+'** to **81 feed cons. yest**.

Displays the feed consumption for yesterday.



Press **INFO '+'** to **82 feed cons. yes.fl1**.

Displays the feed consumption from feedline 1 for yesterday.

Repeat step 82 for the remaining feedlines (INFO lines 83-87).



Press **INFO '+'** to **88 feed cons. 24-48h**.

Displays the feed consumption from 24-48 hours ago. Will change as the day progresses.

8.15 27 INFO WATER CONS.



MENU 27 is available if:
+MENU 91 INSTALL.SETTINGS; INFO 01.water meter 1 has a digital input assigned.

INFO lines 01 & 03 are available if:
+MENU 15(-19)WATER TIMETABLE 1; INFO 01.water program is set to 3>st.time/w.lim.

02 Feed distribution
27 INFO WATER CONS.
01 calculated water
__gal/bird

Press **MENU '+'** to **27 INFO WATER CONS.**.

Displays the calculated water consumption per bird for the day.
(Dependent on information pulled from the curves, water adjustments and watering cycle percentages.)

02 Feed distribution
27 INFO WATER CONS.
02 h.water consumpt.
__gal/bird

Press **INFO '+'** to **02 h.water consumpt**.

Displays the hourly water consumption per bird.

02 Feed distribution
27 INFO WATER CONS.
03 balance to water
__gal/bird

Press **INFO '+'** to **03 balance to water**.

Displays the remaining amount of water left to deliver per bird for the day.

02 Feed distribution
27 INFO WATER CONS.
04 water consump.24h
__gal/bird

Press **INFO '+'** to **04 water consump.24h**.

Displays the water consumption from the last 24 hours.



INFO lines 05-06 & 08-09 are available if:
+MENU 15(-19) WATER TIMETABLE 1(-5); INFO 03.water curve is set to 1>visible.

02 Feed distribution
27 INFO WATER CONS.
05 wtr.cons.crv. 24h
__gal/bird

Press **INFO '+'** to **05 wtr.cons.crv.24h**.

Displays the feed consumption calculated from the curve over the past 24 hours.

02 Feed distribution
27 INFO WATER CONS.
06 diff.wtr.cons.24h
+ __gal/bird

Press **INFO '+'** to **06 dif.wtr.cons.24h**.

Displays the difference between the actual water consumption total from *INFO 04 water consump.24h* and the water consumption based on the curves in *INFO 05 wtr.cons.crv.24h*.

02 Feed distribution
27 INFO WATER CONS.
07 water consump.tot
__gal/bird

Press **INFO '+'** to **07 water consump.tot**.

Displays the total water consumption.

02 Feed distribution
27 INFO WATER CONS.
08 wtr.cons.crv. tot
__gal/bird

Press **INFO '+'** to **08 wtr.cons.crv.tot**.

Displays the water consumption calculated from the curve over the past 24 hours.

02 Feed distribution
27 INFO WATER CONS.
09 diff.wtr.cons.tot
+ __gal/bird

Press **INFO '+'** to **09 diff.wtr.cons.tot**.

Displays the difference between the total water consumption from *INFO 07 water consump.tot* and the total water consumption based on the curves in *INFO 08 diff.wtr.cons.tot*.

02 Feed distribution
27 INFO WATER CONS.
10 water cons. day-1
__gal/bird

Press **INFO '+'** to **10 water cons. day-1**.

Displays yesterday's water consumption per bird.

Repeat step 10 for the last 10 days of feed consumption (INFO lines 11-19).

02 Feed distribution
27 INFO WATER CONS.
20 tot.water consump
__gal

Press **INFO '+'** to **20 tot.water consump**.

Displays the total water consumption.

02 Feed distribution
27 INFO WATER CONS.
21 water cons. today
__gal

Press **INFO '+'** to **21 water cons. today**.

Displays the water consumption for the current day.

02 Feed distribution
27 INFO WATER CONS.
22 water cons. yest.
__gal

Press **INFO '+'** to **21 water cons. today**.

Displays the water consumption from yesterday.

8.16 30 MANUAL PROGRAM

02 Feed distribution
30 MANUAL PROGRAM
01.amount of feed
+ __lbs

Press **MENU '+'** to **30 MANUAL PROGRAM**.
Press **SETTINGS '-'** or **'+'** to enter the amount of feed that will be manually supplied. *(-999999……..+999999)*

02 Feed distribution
30 MANUAL PROGRAM
02.% xxx
__%

Press **INFO '+'** to **02.% xxx**. (xxx = feed ingredient)
Press **SETTINGS '-'** or **'+'** to set the percentage of the first manually supplied feed ingredient.

Percentage of the overall amount of feed manually supplied from INFO line 01.amount of feed (0% - 100%).

Repeat step 02 for the remaining feed types (INFO lines 03-08). (Press the INFO '+' button to advance.)



INFO line 09 is available if:
+MENU 10(-15)FEED TIME-TABLE 1(-5); INFO 01.feed program is set to: 3>feedln on time or 5>feedln/fd.lim.

INFO line 09 is adjustable if:
+MENU 91 INSTALL.SETTINGS; INFO 10(-15).feedline valve 1(-6) have relay outputs assigned to the feedline valves being used.

02 Feed distribution
30 MANUAL PROGRAM
09.select feedline
0>-

Press **INFO '+'** to **09.select feedline**.
Press **SETTINGS '-'** or **'+'** to select a feedline to use for the manually supplied feed.

0>- 1>..6>feedline 1..6

02 Feed distribution
30 MANUAL PROGRAM
10.start/stop feed
0>stop

Press **INFO '+'** to **10.start/stop feed**.
Press **SETTINGS '-'** or **'+'** to select whether to start the manual feed supply or not.

0>stop: no feed will be supplied
1>start: the manual feed supply will start – the manual feed supply will stop when the amount entered in INFO line *01.amount of feed* has been met.

02 Feed distribution
30 MANUAL PROGRAM
11.add up feed
0>no

Press **INFO '+'** to **11.add up feed**.
Press *and hold* **SETTINGS '+'** (for about 6 seconds) to add up the feed amounts that have been manually supplied (from INFO lines 02-08).



INFO lines 12-14 are available if:
+MENU 91 INSTALL.SETTINGS; INFO 01.water meter 1 has a digital input assigned.

***INFO line 13 are available if**:*
MENU 91 INSTALL.SETTINGS; INFO 17.water valve set to have a relay output assigned to be available.

02 Feed distribution
30 MANUAL PROGRAM
12.amount of water
+ __gal

Press **INFO '+'** to **12.amount of water**.
Press **SETTINGS '-'** or **'+'** to enter the amount of water that will be manually supplied. *(-999999……..+999999)*

02 Feed distribution
30 MANUAL PROGRAM
13.start/stop water
0>stop

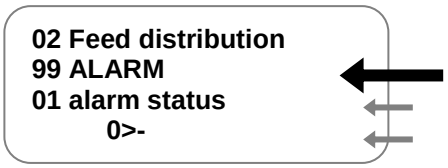
Press **INFO '+'** to **10.start/stop water**.
Press **SETTINGS '-'** or **'+'** to select whether to start the manual water supply or not.

0>stop: no water will be supplied
1>start: the manual water supply will start – the manual water supply will stop when the amount entered in INFO line *12.amount of water* has been met.

02 Feed distribution
30 MANUAL PROGRAM
14.add up water
0>no

Press **INFO '+'** to **14.add up water**.
Press *and hold* **SETTINGS '+'** (for about 6 seconds) to add up the water amounts that have been manually supplied (from INFO line 12).

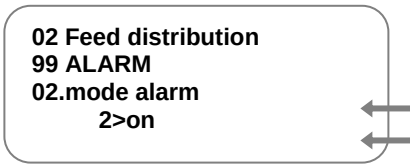
8.17 99 ALARM (Detailed for Feed distribution)



Press **MENU '+'** to **99 ALARM**.

Displays any alarms that may occur.

See page 45 for a list of alarms that may occur.

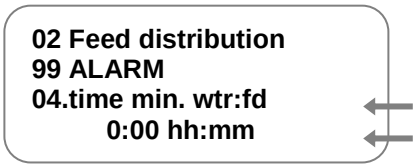


Press **INFO '+'** to **02.mode alarm**.
Press **SETTINGS '-'** or **'+'** to select an alarm mode (status) for any alarms that may occur within the control.

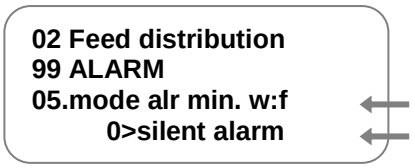
0>reset: used to shut off an alarm after a problem has been 'resolved'
1>off: only allows alarms to appear on the control display
2>on: allows alarms to be indentified with preset status'
3>test: tests preset status of alarms



Press **INFO '+'** to **03.min.str:fd ratio**.
Press **SETTINGS '-'** or **'+'** to set the minimum water to feed ratio within the time span to be entered in *INFO 04.time min.wtr:fd*.

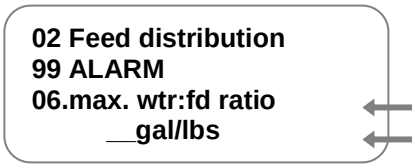


Press **INFO '+'** to **04.time min.wtr:fd**.
Press **SETTINGS '-'** or **'+'** to set the maximum time to reach the minimum water to feed ratio. (1-120 minutes)

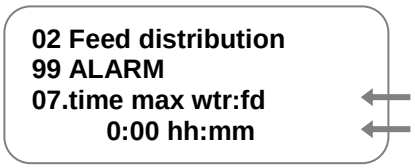


Press **INFO '+'** to **05.mode alr min.w:f**.
Press **SETTINGS '-'** or **'+'** to select an alarm mode (status) for the minimum water to feed ratio.

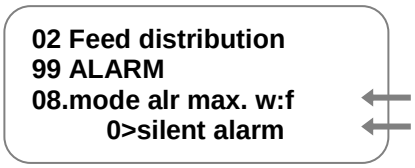
0>silent alarm: flashes on display or screen only
1>loud->silent: sounds an alarm – disappears when problem is resolved
2>loud alarm: sounds an alarm – stays active when problem is resolved



Press **INFO '+'** to **06.max. str:fd ratio**.
Press **SETTINGS '-'** or **'+'** to set the maximum water to feed ratio within the time span to be entered in *INFO 07.time max wtr:fd*.

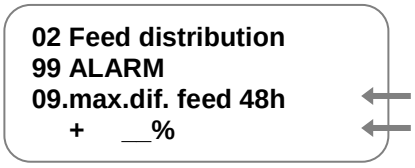


Press **INFO '+'** to **07.time max wtr:fd**.
Press **SETTINGS '-'** or **'+'** to set the maximum time to reach the maximum water to feed ratio. (1-120 minutes)

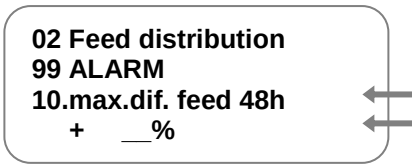


Press **INFO '+'** to **08.mode alr max. w:f**.
Press **SETTINGS '-'** or **'+'** to select an alarm mode (status) for the maximum water to feed ratio.

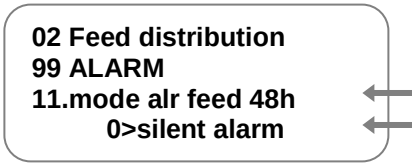
0>silent alarm: flashes on display or screen only
1>loud->silent: sounds an alarm – disappears when problem is resolved
2>loud alarm: sounds an alarm – stays active when problem is resolved



Press **INFO '+'** to **09.max.dif. feed 48h**.
Press **SETTINGS '-'** or **'+'** to enter the maximum amount of variation (as a percentage) from the feed supplied over the last 48 hours.

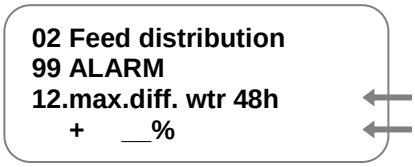


Press **INFO '+'** to **10.min.dif. feed 48h**.
Press **SETTINGS '-'** or **'+'** to set the minimum amount of variation (as a percentage) from the feed supplied over the last 48 hours.

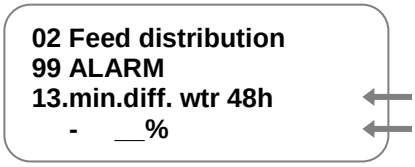


Press **INFO '+'** to **11.mode alr feed 48h**.
Press **SETTINGS '-'** or **'+'** to select an alarm mode (status) for the minimum and maximum feed difference over the past 48 hours from *09.max.dif.feed 48h* and *10.min.dif.feed 48h*.

0>silent alarm: flashes on display or screen only
1>loud->silent: sounds an alarm – disappears when problem is resolved
2>loud alarm: sounds an alarm – stays active when problem is resolved



Press **INFO '+'** to **12.max.diff. wtr 48h**.
Press **SETTINGS '-'** or **'+'** to enter the maximum amount of variation (as a percentage) from the water supplied over the last 48 hours.



Press **INFO '+'** to **13.min.diff. wtr 48h**.
Press **SETTINGS '-'** or **'+'** to set the minimum amount of variation (as a percentage) from the water supplied over the last 48 hours.

02 Feed distribution
99 ALARM
14.mode alr wtr 48h
0>silent alarm

Press **INFO '+'** to **14.mode alr wtr 48h**.
Press **SETTINGS '-'** or **'+'** to select an alarm mode (status) for the minimum and maximum feed difference over the past 48 hours from *12.max.diff.wtr 48h* and *13.min.diff.wtr 48h*.

0>silent alarm: flashes on display or screen only
1>loud->silent: sounds an alarm – disappears when problem is resolved
2>loud alarm: sounds an alarm – stays active when problem is resolved

02 Feed distribution
99 ALARM
15.max. leakage wtr
__gal/min

Press **INFO '+'** to **15.max. leakage wtr**.
Press **SETTINGS '-'** or **'+'** to set a maximum amount of water leakage allowed per minute.

02 Feed distribution
99 ALARM
16.mode alr max. leak
0>silent alarm

Press **INFO '+'** to **16.mode alr max. leak**.
Press **SETTINGS '-'** or **'+'** to to select an alarm mode (status) for the maximum water leakage allowed (based on a 5 minute time span).

0>silent alarm: flashes on display or screen only
1>loud->silent: sounds an alarm – disappears when problem is resolved
2>loud alarm: sounds an alarm – stays active when problem is resolved

02 Feed distribution
99 ALARM
17.time-out feed req
0:00 hh:mm

Press **INFO '+'** to **17.time-out feed req**.
Press **SETTINGS '-'** or **'+'** to set a maximum time span allowed between a feed request and a feed answer.

02 Feed distribution
99 ALARM
18.mode alr time-out
0>silent alarm

Press **INFO '+'** to **18.mode alr time-out**.
Press **SETTINGS '-'** or **'+'** to select an alarm mode (status) for the maximum water leakage allowed (based on a 5 minute time span).

0>silent alarm: flashes on display or screen only
1>loud->silent: sounds an alarm – disappears when problem is resolved
2>loud alarm: sounds an alarm – stays active when problem is resolved

Trouble shooting for Alarms can be found in Appendix 1.

An alarm can only be shut off when the problem which caused the alarm is first resolved.

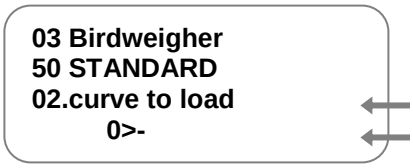
CHAPTER 9. – OPERATOR SCREENS – 03 BIRDWEIGHER (ADDRESS)

9.1 50 STANDARD



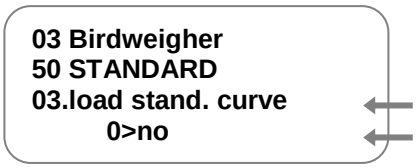
Press **MENU '+'** to **50 STANDARD**.

Displays the name of the loaded standard curve from *INFO 02.curve to load & 03.load stand. curve.*



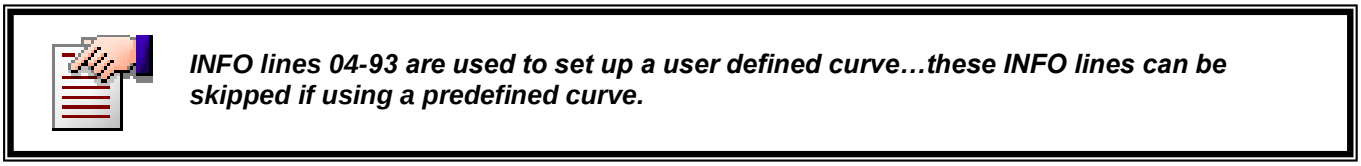
Press **INFO '+'** to **02.curve to load**.
Press **SETTINGS '-'** or **'+'** to select one of the pre-programmed standard curves.

0>-	**1>Nich.male tom**	**2>Nich.300 hens**
3>Nich.700 hens	**4>Buta 39 toms**	**5>Buta 39 R hens**
6>Buta big6 toms	**7>Buta big6 hens**	**8>Buta big9 toms**
9> Buta big9 hens	**10>Hybr.eur.toms**	**11>Hybr.eur.hens**
12>Hybr.cnv.toms	**13>Hybr.cnv.hens**	**14>Ross 208 male**
15>Ross 208 fema	**16>Ross 308 male**	**17>Ross 308 fema**
18>Ross 508 male	**19>Ross 508 fema**	**20>Ross br.208ah**
21>Ross br.208 f	**22>Ross br.208m**	**23>Cobb br.as-ha**
24>Cobb br.femal	**25>Cobb br.males**	**26>user defined**



Press **INFO '+'** to **03.load stand.curve**.
Press *and hold* **SETTINGS '+'** (for about 6 seconds) to activate the selected standard curve from *02.curve to load*.

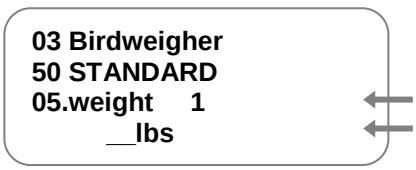
0>no **1>yes** (will revert back to no when curve is loaded)





Press **INFO '+'** to **04.age 1**.
Press **SETTINGS '-'** or **'+'** to enter the first curve age to compare against the current flock.

Will automatically display if using a predefined curve.



Press **INFO '+'** to **05.weight 1**.
Press **SETTINGS '-'** or **'+'** to enter the first curve weight to compare against the current flock.

Will automatically display if using a predefined curve.

Repeat steps 04 and 05 for the remaining age and weights (INFO lines 06-93). (Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.

9.2 51 STANDARD MALES



MENU 51 will only be available if:
+MENU 02 FLOCK SETTINGS; INFO 02.bird type is set to 2>breeders

03 Birdweigher
51 STANDARD MALES
01 name
0>-

Press **MENU '+'** to **51 STANDARD MALES**.

Displays the name of the loaded standard curve from *INFO 02.curve to load & 03.load stand. curve*.

03 Birdweigher
51 STANDARD MALES
02.curve to load
0>-

Press **INFO '+'** to **02.curve to load**.
Press **SETTINGS '-'** or **'+'** to select one of the pre-programmed standard curves.

0>-	**1>Nich.male tom**	**2>Nich.300 hens**
3>Nich.700 hens	**4>Buta 39 toms**	**5>Buta 39 R hens**
6>Buta big6 toms	**7>Buta big6 hens**	**8>Buta big9 toms**
9> Buta big9 hens	**10>Hybr.eur.toms**	**11>Hybr.eur.hens**
12>Hybr.cnv.toms	**13>Hybr.cnv.hens**	**14>Ross 208 male**
15>Ross 208 fema	**16>Ross 308 male**	**17>Ross 308 fema**
18>Ross 508 male	**19>Ross 508 fema**	**20>Ross br.208ah**
21>Ross br.208 f	**22>Ross br.208m**	**23>Cobb br.as-ha**
24>Cobb br.femal	**25>Cobb br.males**	**26>user defined**

03 Birdweigher
51 STANDARD MALES
03.load stand. curve
0>no

Press **INFO '+'** to **03.load stand.curve**.
Press *and hold* **SETTINGS '+'** (for about 6 seconds) to activate the selected standard curve from *02.curve to load*.

0>no **1>yes** (will revert back to no when curve is loaded)

03 Birdweigher
51 STANDARD MALES
04.age 1
__day(s)

Press **INFO '+'** to **04.age 1**.
Press **SETTINGS '-'** or **'+'** to enter the first curve age to compare against the current flock.

Will automatically display if using a predefined curve.

03 Birdweigher
51 STANDARD MALES
05.weight 1
__lbs

Press **INFO '+'** to **05.weight 1**.
Press **SETTINGS '-'** or **'+'** to enter the first curve weight to compare against the current flock.

Will automatically display if using a predefined curve.

Repeat steps 04 and 05 for the remaining age and weights (INFO lines 06-93). (Press the INFO '+' button to advance; Press SETTINGS '+' to adjust.)

9.3 03 FLOCK INFO



Press **MENU '-'** or **'+'** to **03 FLOCK INFO**.

Displays the flock id number assigned in *MENU 02 FLOCK SETTINGS; INFO 01.flock id.*



Press **INFO '+'** to **02 bird type**.

Displays the bird type assigned in *MENU 02 FLOCK SETTINGS; INFO 02.bird type.*



Press **INFO '+'** to **03 age**.

Displays the age assigned in *MENU 02 FLOCK SETTINGS; INFO 03.start age.*



Press **INFO '+'** to **04 act. mean weight**.

Displays the actual average mean weight calculated from the initial start weight assigned in *MENU 02 FLOCK SETTINGS; INFO 04.start weight.*



Press **INFO '+'** to **05 mean growth trend**.

Displays the growth trend over the last 24 hours. (May be positive or negative.)



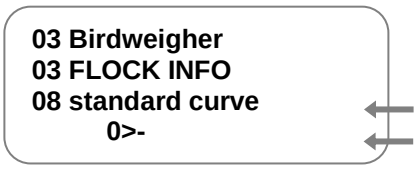
Press **INFO '+'** to **06 standard weight**.

Displays the calculated weight dependent on the selected standard curve. (Must have a curve set and multiple weighings to be active.)



Press **INFO '+'** to **07 diff. to standard**.

Displays the difference between the actual mean weight from *INFO 04 act. mean weight* and the 'target' weight based on the curve in *INFO 08 standard curve*.



Press **INFO '+'** to **08 standard curve**.

Displays the selected standard curve from *MENU 50 STANDARD; INFO 02.curve to load*.

03 Birdweigher
03 FLOCK INFO
09 weighings
__

Press **INFO '+'** to **09 weighings**.

Displays the total number of accepted weights for the current day. (Will change as the day progresses.)

03 Birdweigher
03 FLOCK INFO
10 standard dev.
__lbs

Press **INFO '+'** to **10 standard dev.**.

Displays the actual standard deviation of the flock. (Will change as the day progresses.)

Example of how standard deviation is calculated:

act. mean weight = 1000g (x)
weighings = 4 (n)

weight of bird 1 = 1100g (y^1)
weight of bird 2 = 950g (y^2)
weight of bird 3 = 1050g (y^3)
weight of bird 4 = 900g (y^4)

$$\text{Standard dev} = \sqrt{\frac{(y^1-x)^2 + (y^2-x)^2 + (y^3-x)^2 + (y^4-x)^2}{(n-1)}} = 0.0912 \text{ kg}$$

03 Birdweigher
03 FLOCK INFO
11 coeff. of var.
__%

Press **INFO '+'** to **11 coeff. of var.**.

Displays the actual coefficient of the flock hourly - It is the standard deviation expressed as a percentage of the average weight.

The larger the end value, the more variation there is within the flock.

Example of how coefficient of variation is calculated:

$$\text{Coefficient of variation} = \frac{\text{Standard deviation}}{\text{Actual mean weight}} \times 100\%$$

03 Birdweigher
03 FLOCK INFO
12 uniformity
__%

Press **INFO '+'** to **12 uniformity**.

Displays the percentage of the flock that is within the uniformity from *MENU 02 FLOCK SETTINGS; INFO 07.bandwidth uniformity*

Example of how uniformity is calculated:

$$\text{uniformity} = \frac{\text{number of weighings in bandwidth}}{\text{total number of weighings}} \times 100\%$$

03 Birdweigher
03 FLOCK INFO
13 weigher mode
0>stop

Press **INFO '+'** to **13 weigher mode**.

Displays the mode (status) of the weigher

0>stop: a new flock has not been started
1>first weighing: a new flock has been started; the weigher is waiting on the first weighing
2>weigher active: the weigher has accepted weighings and is considered active



*INFO lines **14-17** also need MENU 02 FLOCK SETTINGS; INFO 02.bird type set to 2>breeders to be available.*

03 Birdweigher
03 FLOCK INFO
14 males mean weight
__lbs

Press **INFO '+'** to **14 males mean weight**.

Displays the actual mean weight of the male birds in the flock

03 Birdweigher
03 FLOCK INFO
15 males std. weight
__lbs

Press **INFO '+'** to **15 males std. weight**.

Displays the calculated weight derived from the selected standard male curve. (Will display after the first 'accepted' male weight is taken)

03 Birdweigher
03 FLOCK INFO
16 males diff. to std
+ __lbs

Press **INFO '+'** to **16 males diff. to std**.

Displays the difference between the actual mean weight of the male birds from *INFO 14 males mean weight* and the calculated weight based on the curve in *INFO 17 stand.curve males*.

03 Birdweigher
03 FLOCK INFO
17 stand.curve males
0>-

Press **INFO '+'** to **17 stand. curve males**.

Displays the standard curve of the males in the flock compared with the real growth of the rest of the flock

INFO lines 18-23 are available if:
+MENU 91 INSTALL. SETTINGS; INFO 01.loadcell 1(-3) have frequency outputs assigned for the corresponding scale (1-3).

03 Birdweigher
03 FLOCK INFO
18 l.weight scale 1
__lbs

Press **INFO '+'** to **17 stand. curve males**.

Displays the standard curve of the males in the flock compared with the real growth of the rest of the flock.

Repeat step 18 for the remaining scale last accepted weights (INFO lines 19-20).
(Press the INFO '+' button to advance.)

03 Birdweigher
03 FLOCK INFO
21 weighings scale 1
__

Press **INFO '+'** to **17 stand. curve males**.

Displays the number of weighings on scale 1 from the current day. (Will increase as the day progresses)

Repeat step 21 for the remaining scale weighings (INFO lines 22-23).
(Press the INFO '+' button to advance.)

9.4 10 HIST. AVER.WEIGHT

03 Birdweigher
10 HIST. AVER.WEIGHT
01 day -1
__lbs

Press **MENU '-'** or **'+'** to **10 HIST. AVER.WEIGHT**.

Displays the last 50 days of the flock's average weight

Press the INFO '+' button to advance through the remaining history INFO lines (day-2-day-50).

9.5 11 HIST. GROWTH/DAY

03 Birdweigher
11 HIST. GROWTH/DAY
01 day -1
+ __lbs

Press **MENU '-'** or **'+'** to **11 HIST. GROWTH/DAY**.

Displays the last 50 days of the flock's daily growth.

Press the INFO '+' button to advance through the remaining history INFO lines (day-2-day-50).

9.6 12 HIST. DIFF/STAND.



Press **MENU '-'** or **'+'** to **12 HIST. DIFF/STAND.**.

Displays the last 50 days of the flock's daily difference to the standard curve

Press the INFO '+' button to advance through the remaining history INFO lines (day-2-day-50).

9.7 13 HIST. WEIGHINGS



Press **MENU '-'** or **'+'** to **13 HIST. WEIGHINGS**.

Displays the last 50 days of the flock's daily weighing totals.

Press the INFO '+' button to advance through the remaining history INFO lines (day-2-day-50).

9.8 14 HIST. STAND.DEV.

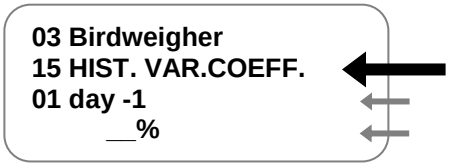


Press **MENU '-'** or **'+'** to **14. HIST. STAND.DEV.**.

Displays the last 50 days of the flock's standard deviation.

Press the INFO '+' button to advance through the remaining history INFO lines (day-2-day-50).

9.9 15 HIST. VAR.COEFF.

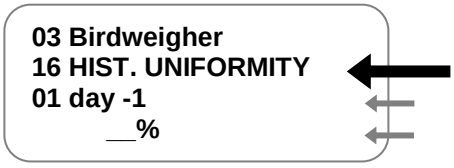


Press **MENU '-'** or **'+'** to **15 HIST. VAR.COEFF.**.

Displays the last 50 days of the flock's coefficient of variation.

Press the INFO '+' button to advance through the remaining history INFO lines (day-2-day-50).

9.10 16 HIST. UNIFORMITY



Press **MENU '-'** or **'+'** to **16 HIST. UNIFORMITY**.

Displays the last 50 days of the flock's uniformity

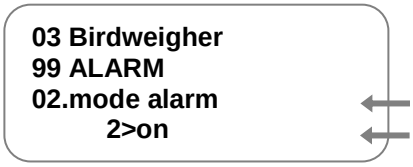
Press the INFO '+' button to advance through the remaining history INFO lines (day-2-day-50).

9.11 99 ALARM



Press **MENU '+'** to **99 ALARM**.

Displays any alarms that may occur.



Press **INFO '+'** to **02.mode alarm**.
Press **SETTINGS '-'** or **'+'** to select an alarm mode (status) for any alarms that may occur within the control.

0>reset: used to shut off an alarm after a problem has been 'resolved'
1>off: only allows alarms to appear on the control display
2>on: allows alarms to be indentified with preset status'
3>test: tests preset status of alarms

Trouble shooting for Alarms can be found in Appendix 1.

An alarm can only be shut off when the problem which caused the alarm is first resolved.
See page 45 for possible alarms that may occur.

Once all 'programming' is complete go back to each application that will be used and turn the system on.

+MENU 01 GENERAL SETTINGS; INFO 01.system on/off.
Press and hold SETTINGS '+' for about 6 seconds.

All applications that were turned on should now be operational.

See Troubleshooting (Appendix 2) for any possible issues that may arise.

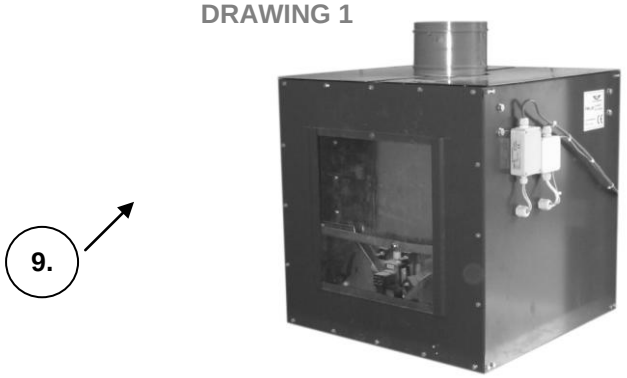
Appendix 1: Mechanical Feed Scale-Hardware and Assembly

It is suggested that before attempting installation of the VAL-CO™ Feed Scale system that you verify that the correct parts have been delivered. Below a list with drawings/pictures and Ref # used to follow as a guide for assembly.

Key

Key#	Description	Quantity
1.	inside legs	4 each
2.	hopper	1
3.	M8x10 bolt+ M8 nuts	16 each
4.	outside legs	4 each
5.	joining piece	4 each
6.	angle joint (narrow)	4 each
7.	angle joint (wide)	4 each
8.	M6x15 bolt / M6 nuts	24 each
9.	drum	1

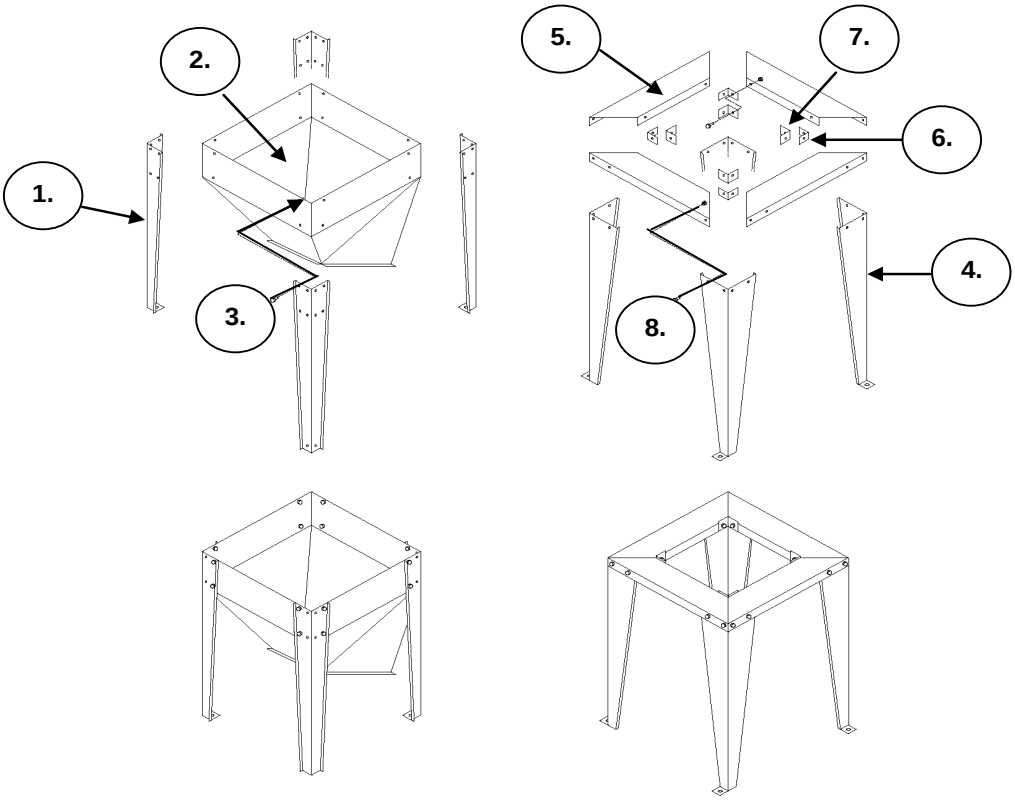
DRAWING 1



DRAWING 2

Inside legs with hopper

Outside legs for drum



Construction 1

Construction 2

Assembly of the Legs and Hopper

- **Refer to DRAWING 2 on previous page 9 for these instructions:**

1. Assemble the inside legs using the M8 bolts and nuts (3 in drawing)

2. Assemble the outside legs using the M6 bolts and nuts (8 in drawing)

3. First place the narrow angle joint (6 in drawing) and then the wide angle joint (7 in drawing) to the inside from the joining pieces and screw them together using the M6 bolts and nuts (8 in drawing).

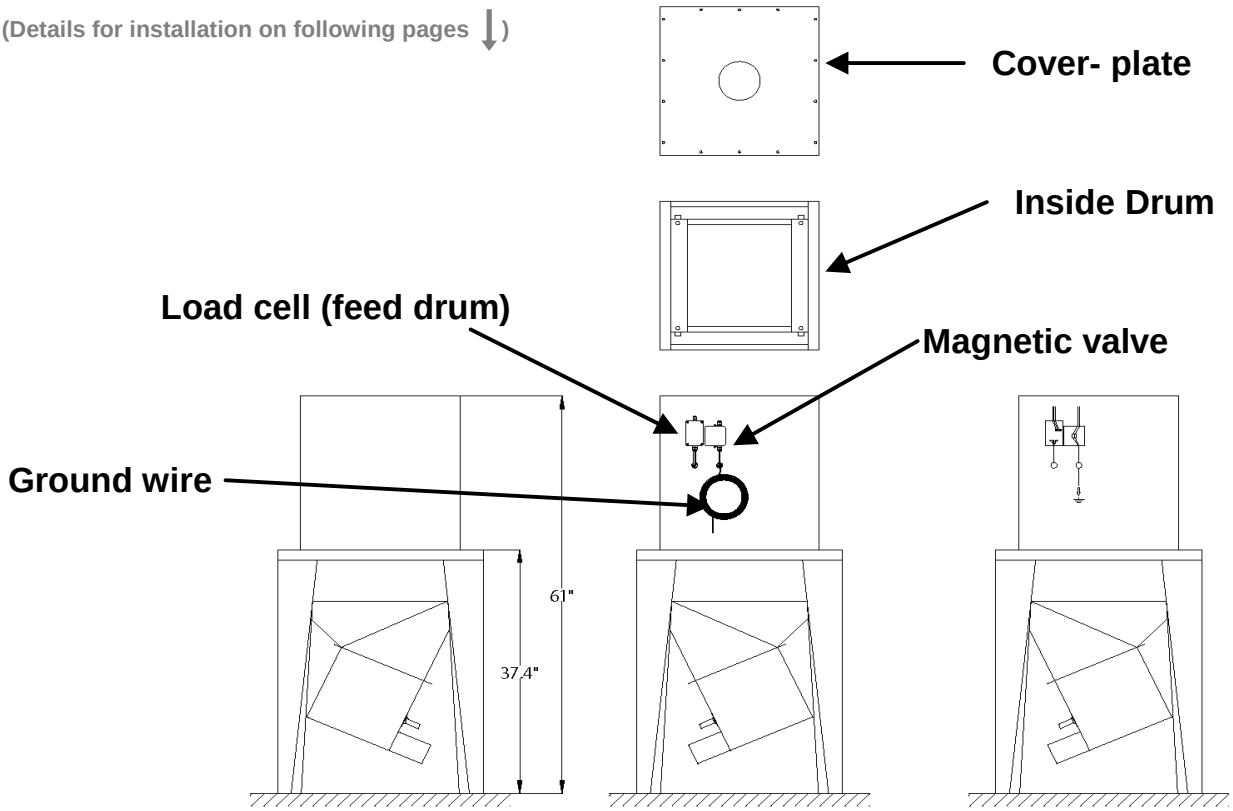
4. Take “Construction 2” and put it over “Construction 1”. Be sure the 4 inside legs (1.) don’t touch the 4 outside legs (4.) and put it on a solid base (without vibrations).

5. Take the drum (1.) pictured in DRAWING 1 page 9 and put it over both constructions.

Mechanical Feed Scale (Weigher) Installation

DRAWING 3 – Overview of Installation

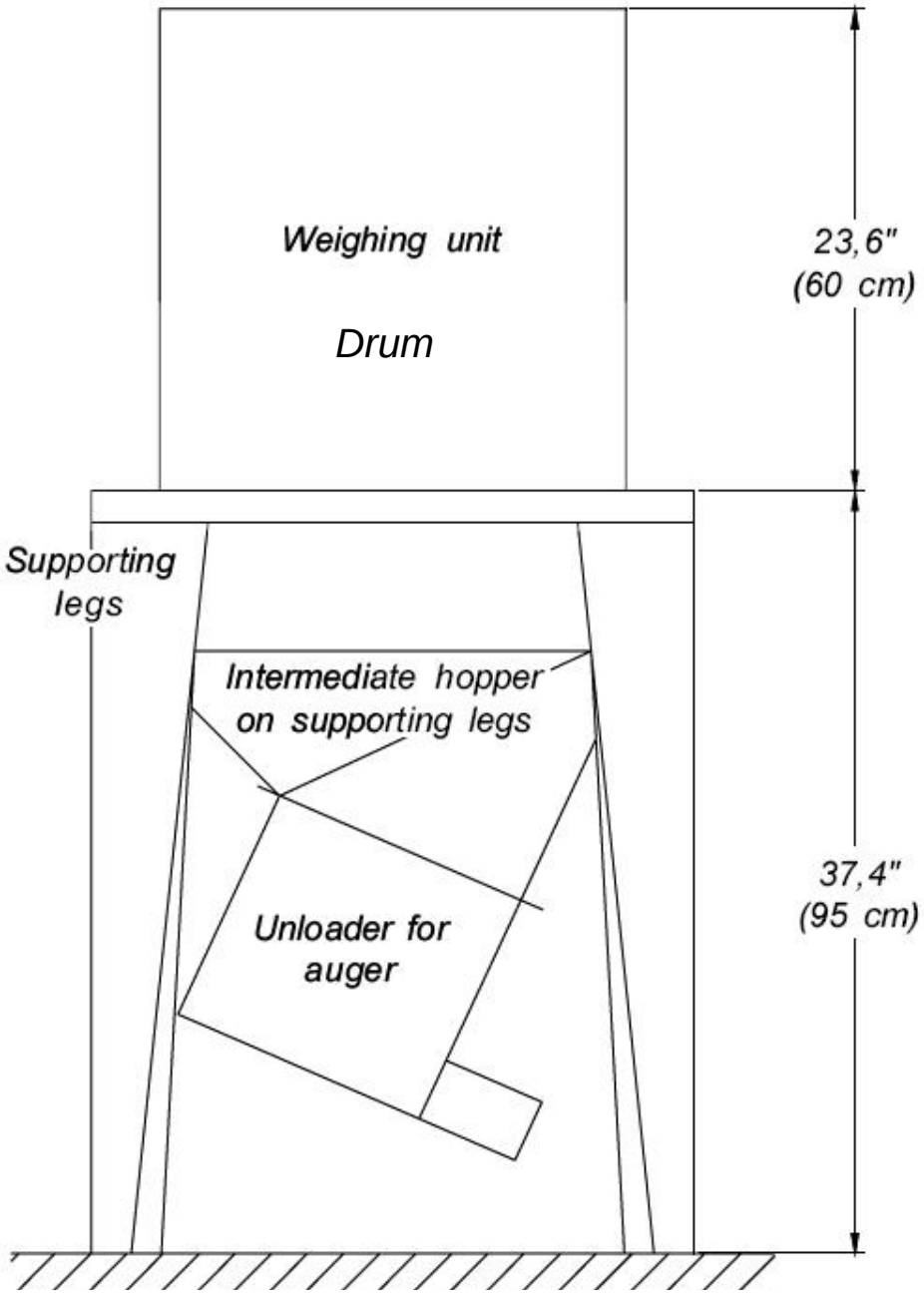
(Details for installation on following pages)



Overview of Mechanical Scale (Weigher)

DRAWING 3 – Overview of Installation

(Details for installation on following pages ↓)

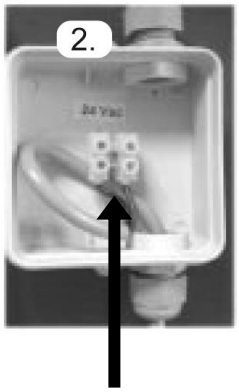


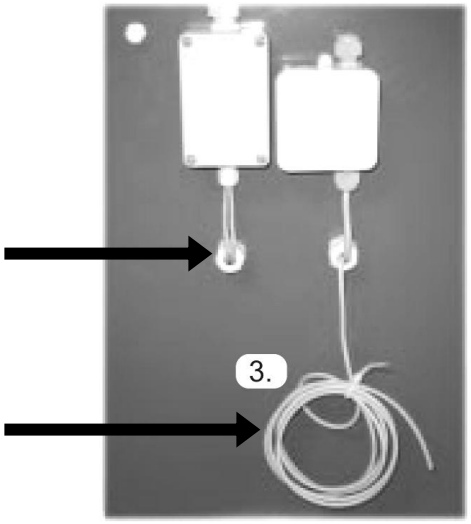
Wiring the Load Cell and Magnetic Valve

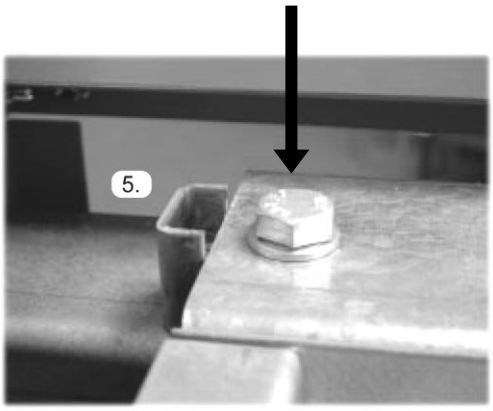
- **Pictures below ↓ show details of the installation. (Ref. #s coincide with numbered steps.)**

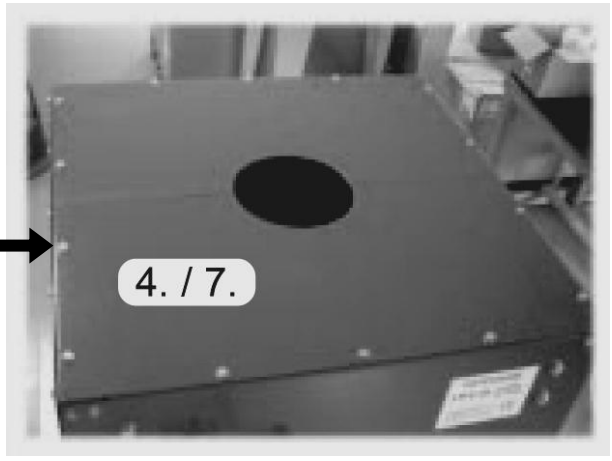
1. Connect the feed drum to the selected frequency as shown on pages 16 and 23.
2. Connect the magnetic valve from the feed drum to the selected relay-output as shown on page 23.
3. Fasten the ground wire to the central ground terminal.
4. Loosen the 14 bolts (M5x10) and remove the cover-plate.
5. Loosen the 4 bolts (M8x30) and remove the safety hangers with bolts (this is transport equipment).
6. Calibrate the drum as explained in on page 60.
7. Fasten the cover-plate using the 14 bolts (M5x10).
8. Install the feed bin auger.
9. Install the feed line auger.







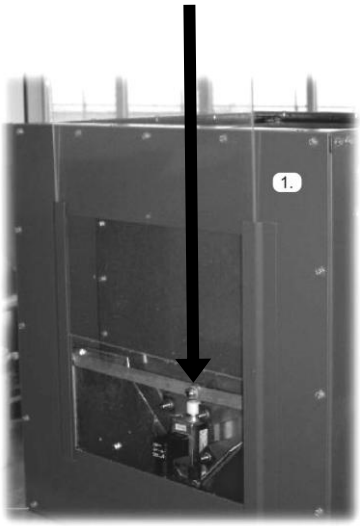


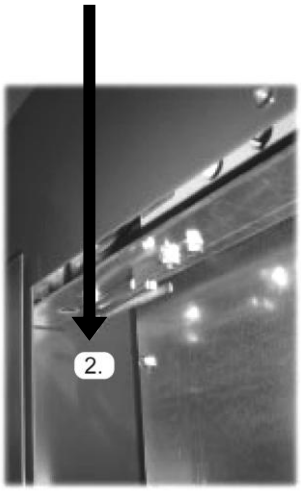


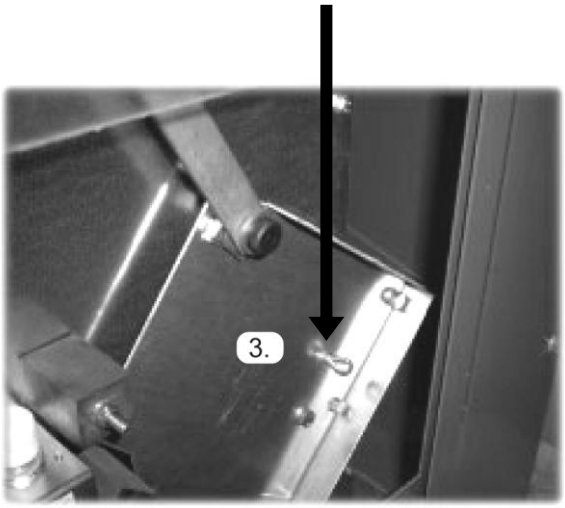
Locking the flaps in the OPEN position

If you do not want to use the drum for automatic feed distribution you can open the flaps for continuous. Pictures with Ref #s below detail the numbered steps.

1. Unscrew the bolt (M5x16) and remove the “inspection-window”
2. Unscrew the cotter pins (M6 lock nut)
3. Open both flaps and lock the flaps with the cotter pins.







If necessary, refer to the product manual for your feed bin auger or feed line auger for installation instructions. This feed system is compatible with most feed auger or feed line products

Once you have completed the installation of the feed scale you are ready to install the feed scale control. Please review and familiarize yourself with the next section (2) Applications and Technical Specifications as this will help you in understanding the installation of the control in addition to pointing out important warnings and information.

Completed Installation



Appendix 2: Alarms

Alarm	Cause
Feed scale/weigher	
1> memory	Problem with RAM memory
2> 24V freq. inp	Possible short in wiring/incorrect wiring
3> 24 dig. inp	Possible short in wiring/incorrect wiring
4> load cell drum	A drum load cell frequency has not been detected
5> dev. tare drum	Last drum did not complete
6> drum	Too much time has elapsed for filling the drum
7> hopper	The preset time has been reached before the hopper has been completely emptied
8>..15> load cell bin 1..8	A load cell frequency has not been detected for bin 1..8
16>..23> bin 1..8 min.	The minimum feed within bin 1..8 has been exceeded
24>..31> bin 1..8 max.	The maximum feed within bin 1..8 has been exceeded
32>..38 no feed 1..7	Bin 1..7 is empty
Feed Distribution	
1> memory	Problem with RAM memory
2> time-out feed	Feed scale/weigher does not respond to a feed request
3> 24V dig. inp	Possible short in wiring/incorrect wiring
4> min. water:feed	The minimum water:feed preset has been exceeded
5> max. water:feed	The maximum water:feed preset has been exceeded
6> feed cons. last 24h	Feed consumption is too far above or below the preset for the last 24 hours
7> water cons. last 24h	Water consumption is too far above or below the preset for the last 24 hours
8> max. leak	The maximum leakage limit has been reached in 5 minutes or less
Poultry scale/ bird weigher	
1> memory alarm	Problem with RAM memory
2> 24V freq.	Possible short in wiring/incorrect wiring
3>..5> no signal scale 1..3	Possible short in wiring/incorrect wiring inside control
6>..8> alarm scale 1..3	No weighings recorded/accepted on scale 1..3 for a 24 hour period
9> no weighings house	No weighings recorded/accepted within barn for a 24 hour period

Appendix 2: Trouble Shooting

Problem	Cause	Solution
-display is blank -active alarm	-check there is power to the control -fuse is blown -fuse cover is loose -flat cable is loose between boards	-initiate power to control -replace fuse -tighten fuse cover -lock flat cable into connectors
-no weight is displayed after calibration -low & high calibration frequencies are equal	-the wrong frequency input (WEIGHT IN) is connected	-verify frequency inputs are correct
-feed weigher or feed distribution has an alarm message 3 (3>24V dig in)	-min. sensor is defective -max. sensor is defective -hopper sensor is defective	-replace sensor(s) -verify digital inputs with a make contact push button by testing the push button several times
-feed weigher produces alarm 4 (4>loadcell drum)	-load cell is defective -the wrong frequency input (WEIGHT IN) is connected	-replace load cell(s) -verify the frequency inputs with a frequency meter
-feed weigher produces alarm 5 (5>dev. tare)	-there may be interference between the drum and the feed bin auger or feedline auger	-verify the drum is stable -verify the 'maximum deviation tare' setting -verify feed is dry
-drum stays filled	-release flaps stay closed -release flap is jamming	-verify the release flap produces a signal -clean the release flap with air or alcohol
-inventory bin xx fluctuates -'momentary feed weight' fluctuates (+/- 300 g/.66 lbs or more)	-interference with the frequency signal	-connect the shield from the signal cable to the '-' terminal clamp of the frequency input (WEIGHT IN)

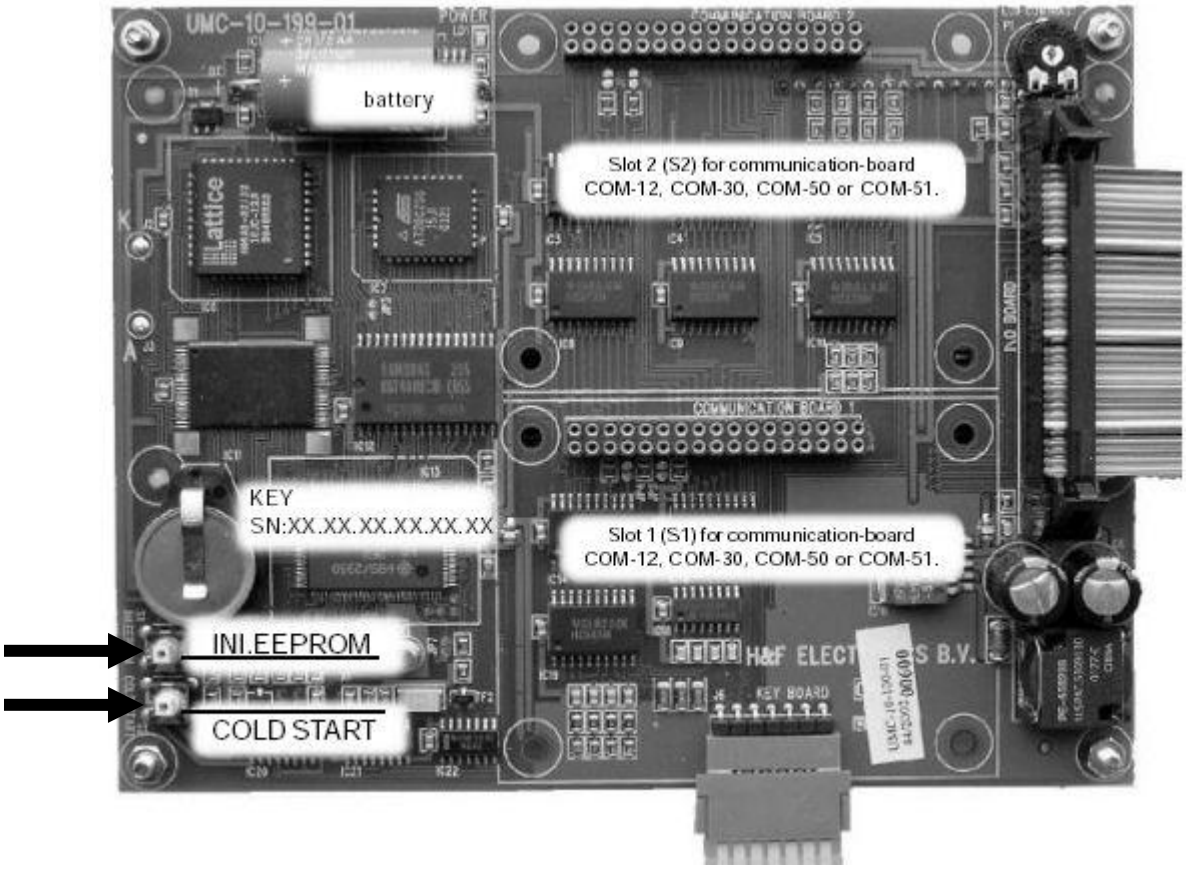
Appendix 3: ‘Cold Start’ and ‘Initial Settings’

‘Cold Start’: Pushing the ‘cold start’ allows a restart of the BE-SSC-901 feed scale control in the event the control would become corrupt. Install and user settings are not lost after a ‘COLD START. **Before performing a ‘COLD START, make sure to clear any alarm messages first. If alarm messages were present, wait at least one (1) minute before performing the ‘COLD START’.**
Example of corrupt data: date is 45-20 / dd-mm

‘Initial Settings’ (factory settings): To restart the BE-SSC-901 feed scale control with the original settings, push the ‘INI.EEPROM’ and ‘COLD START’ buttons at the same time.

Steps to follow for a ‘COLD START’ or a ‘COLD START’ with ‘initial settings’:

- power down the control
- open the cover
- for a ‘COLD START’: push and hold the ‘COLD START’ button
- for a ‘COLD START’ with ‘initial settings’: push and hold the ‘COLD START’ AND ‘INI.EEPROM’ buttons at the same time ***DO NOT RELEASE***
- power up the control
- release the two push-buttons 3-5 seconds after power is restored
- close the cover



Appendix 4: Feed Distribution Programs and Examples

The BE-SSC-901 has the following feed programs:
1> adlib – General description

With this feed program there will be a continuous supply of feed to the animals.

In the example below we assume that we have only one feed ingredient to weigh with the 'Feedweigher' and we have a few feed line augers in one house which we call the 'Feed distribution'. So we have two departments: 'Feedweigher' and 'Feed distribution.'

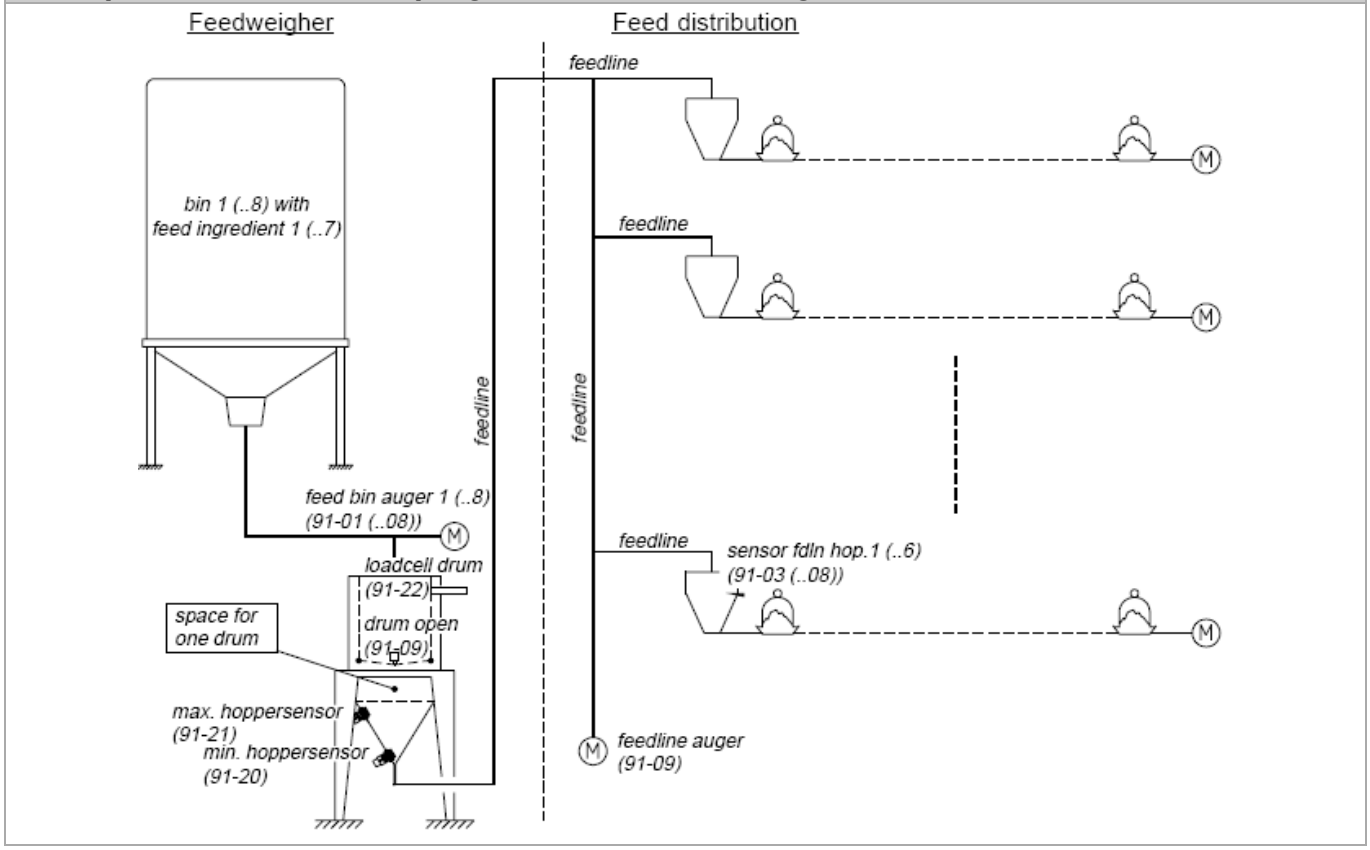
The BE-SSC-901 assumes that when the system is started there is no feed in the weighing drum, the intermediate hopper, the feed line hoppers, the feed lines or the auger tubes. If you start the system for the first time with the feed lines filled you should manually enter this amount of feed (the amount of feed in the feed lines) so it can be taken into account for the calculated FCR and other management data. It is entered in the following menu:

02 Feed Distribution
02 ADMINISTRATION
08.feed cons. start

feed cons. start (Feed consumption at start of new group)

Here you can enter the amount of feed already in the lines prior to starting the new group. This allows more accurate calculations in menu 3 (management data) and menu 20 (info feed consumed)

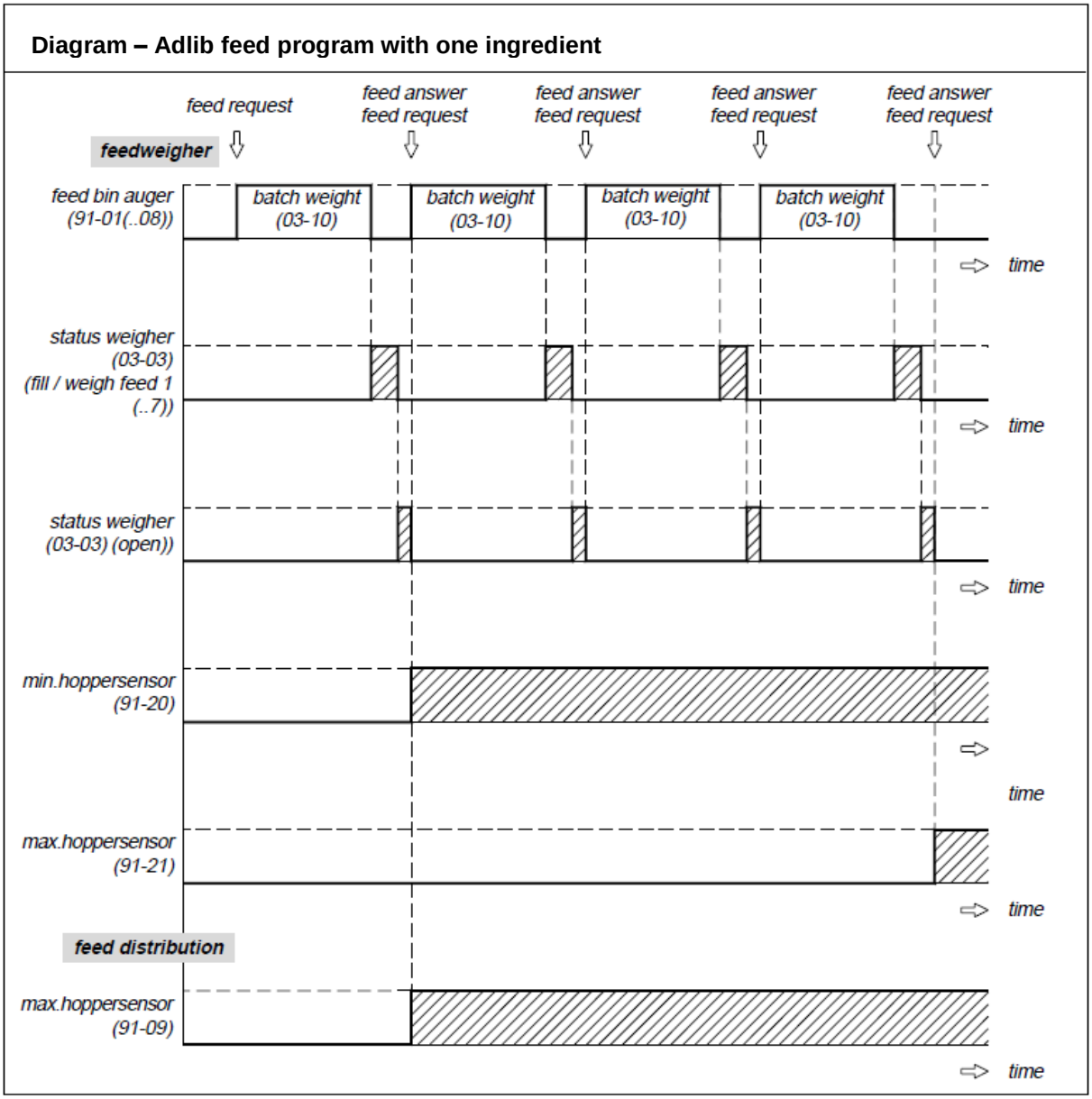
Example of the adlib feed program with one feed ingredient



1> adlib – Detailed description of the feed program for <u>one</u> house
Look at the graphic on the previous page and the chart below.

When the feedweigher is set to ‘1> on’ and the ‘feed distribution’ is set to ‘1> automatic’ there will be a ‘feed request’ from the feed distribution and successively the following will happen:
- The ‘feed bin auger’ will be switched on and the drum will be filled.
- The ‘feed bin auger’ will be switched off when the ‘batch weight’ has been reached
- If the drum is stabilized the weight will be recorded.
- The drum will be opened and the feed will be dropped into the intermediate hopper.
- If the feed reaches the minimum hopper sensor, the feed line auger will be switched on.
- There will be a continuous ‘feed request’ if the feed is below the feed line hopper sensor.
- Once the feed level reaches the feed line hopper sensor, the feed line auger will be switched off, and the drum will stay closed.
- If the feed is below the maximum hopper sensor the drum will be filled again.

Diagram – Adlib feed program with one ingredient



Once the feed has reached the feed line hopper sensor from the last hopper the feed line auger will be switched off. In that case there will be no 'feed request' from the feed distribution department to the feed weigher department. Because we have only one house it is not necessary to assign a digital input for this sensor. In that case the feed line auger has to be switched off (externally) when the feed reaches the feed line hopper sensor. The sensor has to be mounted in such a way that there is still enough room for a complete drum of feed, because it is possible that the system is weighing a new drum when the sensor gives the signal, so this feed has to be supplied. Because we didn't assign a digital input for the feed line hopper sensor the feed distribution will continuously be making a 'feed request' to the feed weigher. In this case the feed line auger will always be switched on and off by the feed line hopper sensor.

1> adlib – Detailed description of the feed program for <u>multiple</u> houses

If you have more than one house being supplied by the BE-SSC-901, you have to assign a digital input for the feed line hopper sensor from the last hopper in each house and you have to activate the function ***'house after house (91-25)'*** in the feedweigher so the feed distribution will be done in the right order.

If there is one feedweigher for a few feed distribution systems, the feedweigher will give each feed distribution system a turn to make one 'feed request'. A feed distribution system will make a 'feed request' when the feed is below the feed line hopper sensor from the last hopper in the house. In that case the feed bin auger will be switched on until the 'batch weight' has been reached. If the drum is stabilized and the weight is recorded, the drum will be opened and the feed will be dropped into the intermediate hopper. The feed in the intermediate hopper will reach the minimum hopper sensor so the feed line auger from the concerned house will be switched on. Once the feed is below the minimum hopper sensor the feed line auger will be switched off when the after-run auger time is past. By entering an 'additional auger time (01-14)' we are sure that all the feed will be supplied into the right house.

2> adlib/timeres. (adlib/time-restriction) – Detailed description of the feed program for <u>one</u> house

This program acts in the same manner as the ***1>adlib*** program, but with the feed only supplied during the specified feeding times (times will be entered in hours and minutes (hh:mm)).

You can enter up to 36 run (feeding) times for each time-table.

2> adlib/timeres. (adlib/time-restriction) – Detailed description of the feed program for <u>multiple</u> houses

If you have more houses, you have to activate the function ***'house after house (91-25)'*** in the feedweigher so the feed distribution will be done in the right order.

See ***1> adlib – Detailed description of the feed program for <u>multiple</u> houses*** above for more information.

If the 'feed distribution system' makes a 'feed request' to the feed weigher when the feeding times are almost over, this 'feed request' will be answered and will be completed even if the feeding time is done by the time the request is completed. The process will be stopped if the feed is below the minimum hopper sensor and the 'additional auger time (01-14)' is over.

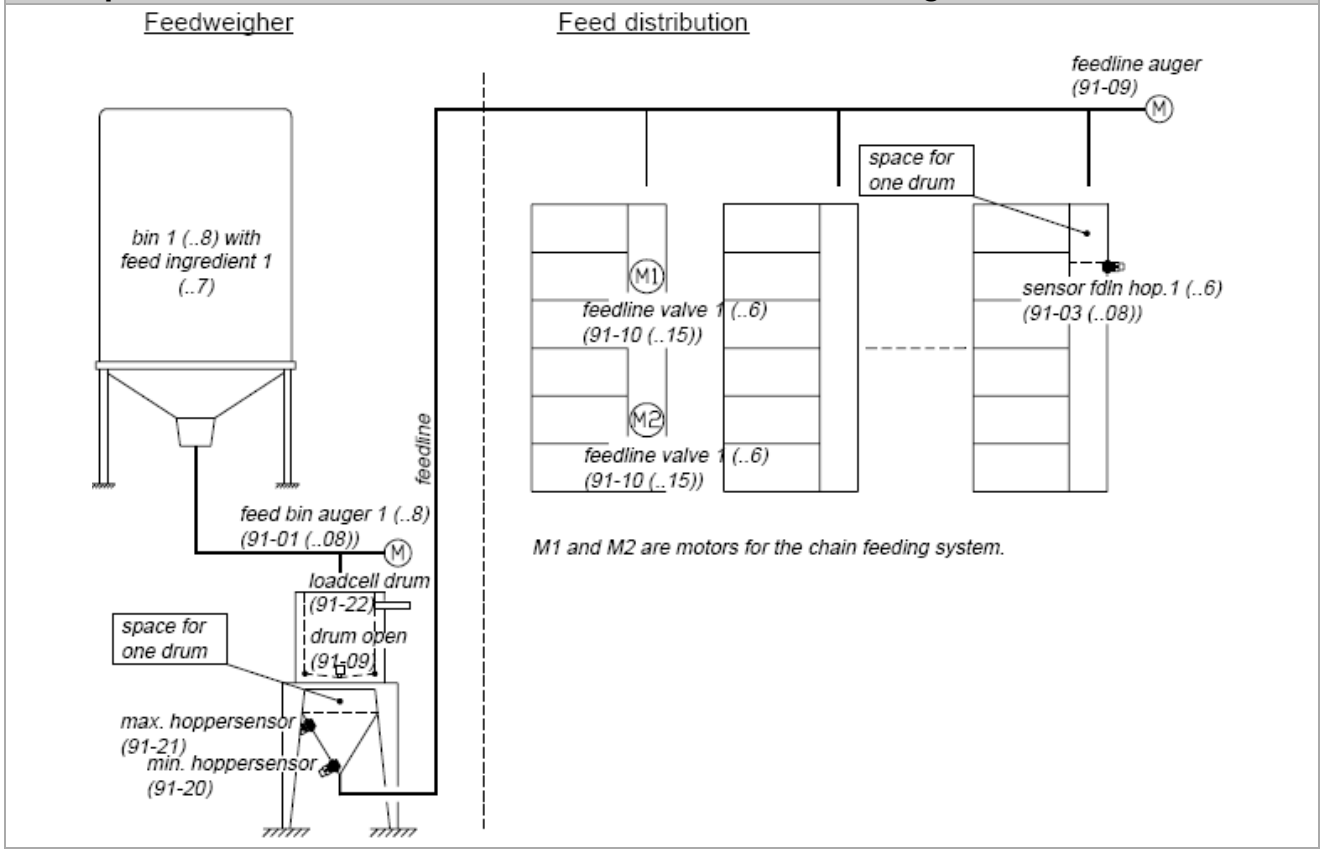
3> feedln on time (feed line on time) – General description

(The feeding times will be entered in minutes and seconds (mm:ss).)
With this feed program the feed will be supplied per feed line at programmed times.
In the example below we assume that we have only one feed ingredient to weigh with the 'feedweigher' with two feed loops for laying hens in cages which we call the 'feed distribution'. So we have two departments: 'Feedweigher' and 'Feed distribution.'

The BE-SSC-901 assumes that when the system is started there is no feed in the weighing drum, the intermediate hopper, the feed line hoppers, the feed lines or the auger tubes. If you start the system for the first time with the feed lines filled you should manually enter this amount of feed (the amount of feed in the feed lines) so it can be taken into account for the calculated FCR and other management data. See page 135 for where to manually enter the amount in the lines prior to animal placement.

3> feedln on time (feed line on time) – Detailed description of the feed program for <u>one</u> house
This feed program is almost the same as the already described feed program ***'2> adlib – detailed description of the feed program for multiple houses'***. The only difference is that we use chain-motors instead of hopper valves which will be started at entered start times. When each 'chain-motor' (M1 and M2) is scheduled to be started, the feed in the feed line hopper will sink until the feed is below the 'sensor feed line hopper' and the 'feed line auger' will be switched on. The feed in the intermediate hopper will sink and a new drum has to be filled. The process repeats until the feeding is done. The system will only start the chain-motor (M1 and M2) if the 'sensor feed line hopper' detects feed.

Example of feed line on time for one house with one feed ingredient



4> st.time/fd.lim (start time/feed limitation) – Detailed description

With this feed program the feed will be supplied at programmed times according to the preprogrammed curve or the amount of feed you have entered.

Example:
When the start time has been reached there is a 'feed request'. On the concerned curve pages the user has entered that 360 kg of feed has to be supplied. If the 'batch weight' is 25 kg the feedweigher will divide this into (360 kg: 25 kg = 14.4 batches) 15 batches of 24 kg each (15 x 24 kg = 360 kg).

The process will be stopped when the feedweigher has weighed and delivered 360 kg of feed, the feed is below the minimum hopper sensor in the intermediate hopper, and the 'additional auger time (01-14)' is past.
If a new start time is reached and the feeding isn't finished, than this feeding will be aborted and the new feeding will start. The remaining feed will ***not*** be supplied later. If this is a common occurrence then the feeding program should be adjusted to better reflect the speed of the loading and unloading augers.

5> feedln/fd.lim (feed line/feed limitation) – Detailed description

With this feed program, feed will be supplied to the active feed line at programmed times according to the pre-programmed curve or the amount of feed you have entered.

Appendix 5: How to Start a New Flock

The BE-SSC-901 can calculate the “feed conversion” (page 03 “feed distribution) if the Feed Distribution and the Birdweigher is activated in the BE-SSC-901. In that case you have to choose “external” for the “input weight birds” and the “input standard birds” at the Feed Distribution and you have to enter the INFO from the Birdweigher where you can get these weights.

You have to start the flock in the Birdweigher FIRST.

Activate the departments

- Go to page 01 from the Feedweigher and select line 01 and activate the system(1>on).
- Go to page 01 from the Feed Distribution and select line 01 and activate the system (1>automatic).
- Go to page 01 from the Birdweigher and select line 01 and activate the system (1>on).

Enter the flock data

- Go to page 02 from the Birdweigher and enter the flock data on line 01 -05, go to line 06 and start the new flock.
- Got to page 02 from the Feed Distribution and enter the flock data on line 01-09. go to line 10 and start the new flock.

If you want to start a new flock (1>yes) you have to depress and hold the “+” SETTINGS key for about 6 seconds.

Enter the delivered feed

- Go to page 11-18 from the Feedweigher and enter the feed data.
    - Select line 01 and enter the “feed ingredient” from bin 1-08.
    - Select line 02 and enter the “energy value” of the feed ingredient in bin 1-08.
    - Select line 05 and enter the “feed delivery input”.
    - Select line 06 and select the bin you want to switch to, when bin 1-08 is empty.

Administration

- Go to page 02 from the Feed Distribution and enter the data.
    - Select line 11 and enter the “pre-shipped birds mean weight”.
    - Select line 12 and enter the “pre-shipped birds number”,
    - Select line 16 and enter the “dead bird count”.

Appendix 6: Transferring Birds from Brooder to Grower / Finisher Barn

The BE-SSC-901 can calculate the “feed conversion” (page 03 FEED DISTRIBUTION) if the Feed distribution and the Birdweigher is activated in the BE-SSC-901. In that case you have to choose “external” for the “input weight birds” and the “input standard birds” at the Feed distribution and you have to enter the address from the Birdweigher where you can get these weights.

You have to start the flock in the Birdweigher first.

Transfer the birds from brooder to grower / finisher barn

- Go to page 01 from the Feedweigheer which will be used by this finisher barn and select line 01 and activate the system (1>on).
- Go to page 01 from the finisher barn (Feed distribution) and select line 01 and activate the system (1>automatic).
- Go to page 01 from the Biredweigher and select line 01 and activate the system (1>on).
- Go to page 02 from the finisher barn (Feed distribution) and enter the flock data:
    - Select line 02 and choose the “bird type”. You can find the “bird type” at line 02 from the brooder barn.
    - Select line 03 and enter the “start age”. You can find the “start age” at line 03 from the brooder barn.
    - Select line 04 and enter the “start weight”. Here you enter the start weight at placement in the brooder barn (0, 11 lbs).
    - Select line 07 and enter the “bird placement” (number of birds placed). Here you enter the number of birds place in the brooder barn.
    - Select line 08 and enter the “feed consumption start”. You can find this “feed consumption” at line 21 from page 20 in the brooder barn.
    - Select line 09 and enter the “water consumption start”. You can find this “water consumtion” at line 20 from page 27 in the brooder barn.
    - Select line10 and “start new flock”. If you want to start a new flock (1>yes) you have to depress and hold the “+” SETTINGS key for about 6 seconds.
    - Select line 16 and enter the “dead bird count”. The “dead bird count” is the difference between the at line 07 (brooder barn) entered “bird placement” and the at line 15 (brooder barn) displayed “live bird count”.

Appendix 7: Maintenance

clean it out a few time a year (2 times):

1)Remove the top plate and,
a) Check the inside of the weigher if there is no feed sticking against the side.

2)Open the front (window) and,
a) Remove the dust inside to keep it working. (use high airpessure or vacuum cleaner)
b) Clean the electrical valve which is opening the drum.
c) Check the calibration afther this cleaning.

Do never use oil !!!

Appendix 8: Sentinel Feed Scale Parts List

Sentinel In-Line Feed Scale

Catalog #	Item Description
BE-SSC-901	CONTR.SENT.FEED SCALE-INC.LICENSE, COM-31 4 inputs for feed (2 houses) or bird scales (1 house)
BE-SSFS-200	SENTINEL FEED SCALE HOPPER – 2 LOAD CELLS – TRANS BOX SOL
BE-SSFS-201	LEGS INNER FEED SCALE - Need 1per BE-SSFS-200
BE-SSFS-202	LEGS OUTER HOPPER INTERM – Intermediate hopper – Need 1 per BE-SSFS-200
BE-SSFS-203	SENSOR HOPPER – Min/Max sensor – Need 1 per BE-SSFS-200
BE-SSFS-204[1]	PANEL RELAY 2/MANUAL OVERRIDE – OPTIONAL – External relay panel

Sentinel In-Line Feed Scale Accessories

Catalog #	Item Description
BE-SSC-201[2]	MULTIPLE SCALE CONTROL INTERFACE – Ties multiple controllers to PC up to 32
ZC-183F	18 AWG 3 CONDUCTOR COMMUNICATION WIRE – Per Foot
BE-SSCB-101	BOARD, COM-30 RS232C – Allows communication between control and PC-Serial
BE-SSCB-102	BOARD, COM-31 RS232C – Allows communication between control and PC-USB
BE-SSCB-201	BOARD, COM 51 MODEM – Allow access to control via phone modem
BE-SSCB-301	BOARD, COM-12 RS485 TO RS422 – Allows communication between an interface control to a PC
BE-SSCB-501	BOARD, COM-40 CLIENT (CONTROL) – Wireless 3000' range connects control to interface
BE-SSCB-502	BOARD, COM-40 SERVER (INTERFACE) – Wireless 3000' range connects interface to control.
BE-SSA-101	ANTENNA, COM-40 W/30' CABLE AND MOUNT – Need 1 per BE-SSCB-501 or BE-SSCB-502
BE-SSCB-503	YEARLY LICENSE FEE FOR BE-SSCB-503 – Requires 1 for each BE-SSCB-60
BE-SSCB-601	ADAPTOR, USB TO 9 PIN SERIAL
BE-SSLU-101	OPTILINK 7.0x LICENSE UPGRADE – Upgrade from Optilink 6.0x
BE-SSW-30[3]	30LB CALIBRATION WEIGHT
VE-016-001[4]	DEADBOLT SURGE PROTECTION FOR POWER SOURCE
VE-013-001[4]	DEADBOLT SURGE PROTECTION FOR PHONE LINE
VE-013-101[4]	DEADBOLT SURGE PROTECTION FOR DATA LINE

Appendix 9: Notes on Settings

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Appendix 9: Notes on Settings

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CUSTOMER SERVICE

VALCO™ has provided the Troubleshooting section Appendix 2 on page 123 in case of failure to operate. Our products are designed and manufactured to provide reliable operation with quality control procedures. However; if there is an event that you should have difficulty, your dealer will be happy to answer all technical questions or put you in contact with a VALCO™ representative.

My dealer's name: _____

How to contact my dealer:

Street/PO Box _____
City _____
State/Province _____
Zip/Postal _____

Phone _____
Fax _____
E-mail _____
Web site _____

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