GROW-DISK™ HSCD-100 Chain Disk Control
INSTALLATION and USER MANUAL

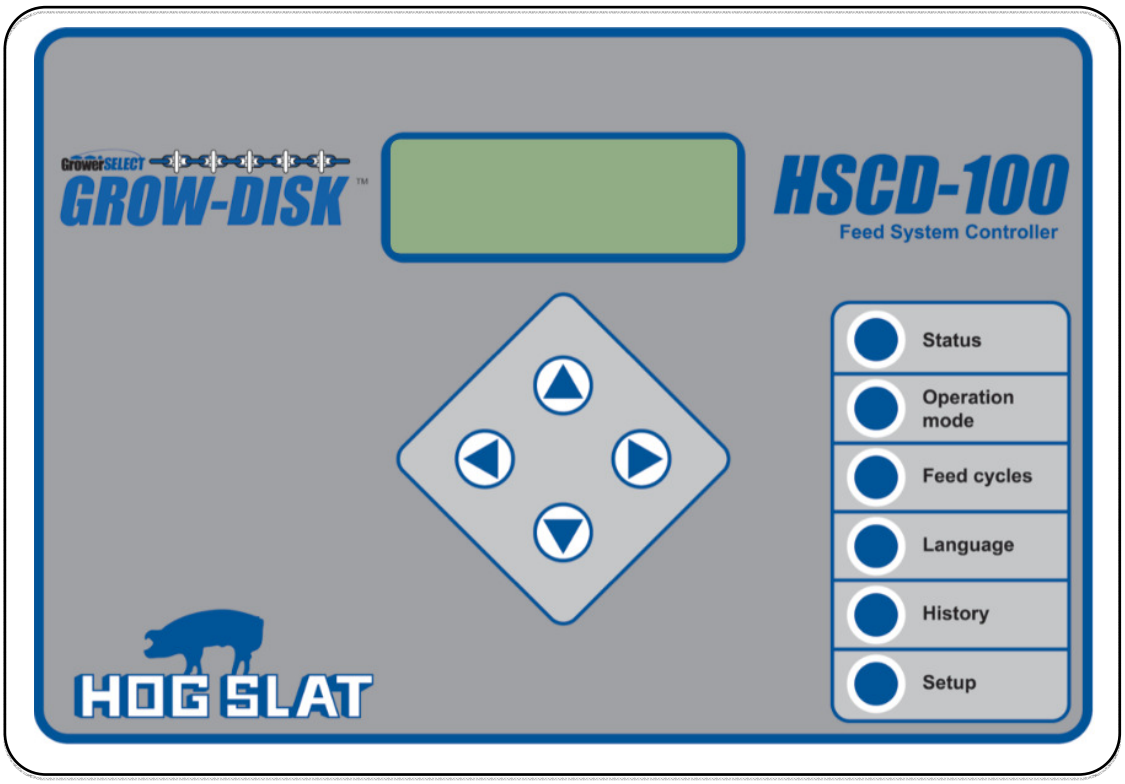


Table of Contents

DESCRIPTION 3

FEATURES 3

INSTALLATION INSTRUCTIONS 4

STATUS DISPLAY 9

USING THE INTERFACE 12

CONTROLLER SETUP 13

CONTROLLER PARAMETER VALUES 16

OPERATION MODE 17

FEED CYCLES 18

LANGUAGE 19

HISTORICAL VALUES 19

ALARM CONDITIONS 19

RECORD OF USER SETTINGS 21

DESCRIPTION

The HSCD-100 is a livestock feed system controller used to control a chain disk and auger motor with feed drop tubes. The user can define up to 12 feed cycle start and dump times over the course of a normal day. A proxy switch is used to detect feed in the last drop tube or at the end of the feed line. A toggle switch can be connected to manually stop the system without generating an alarm. The system features a current sensor input used for overload protection on the feeding system.

FEATURES

- LCD display on the front panel allows you to monitor controller status at a glance.
- Historical feed cycle times are stored over 60 days.
- 12 feeding cycles per day
- Manual or automatic operation
- Chain disk motor output
- Auger motor output
- Feed dump mechanism can be configured for actuator or electric valve operation
- Alarm output
- Chain disk motor overload protection
- Proximity switch
- Security switch indicates feed dump mechanism is closed
- Maximum fill time monitored
- Memory card allows user to save parameter settings for specific applications
- Trouble Light output

INSTALLATION INSTRUCTION

1. General Installation Notes:

Make sure that power is disconnected from system prior to servicing.

Installation of this equipment and related OEM equipment should be in accordance with these instructions, OEM's installation instructions and local codes (if applicable). Failure to follow specified instructions may cause damage to equipment and/or personal injury or death.

Take special note of any Warnings or Safety Decals on the equipment and in manuals.

Always wear protective clothing and any applicable Personal Protective Equipment (Safety Glasses and/or Ear Plugs) when working with the equipment.

Discarded materials, equipment and boxes should be recycled in accordance with local and national codes.

Note: Chain Disk Controller is to be wired in accordance with all applicable local and national electrical wiring codes. All wiring sizes and fuse capacities are to be sized according to applicable electrical code specifications or other regulations.

Safety Instructions:

Read all safety messages in this manual and on equipment safety decals. Follow recommended precautions and safe operating practices.

Ground all electrical equipment for safety.
Ground all non-current carrying metal parts to guard against electrical shock.
Always keep safety decals in good condition and replace missing or damaged decals.

2. Symbols and Definitions

Warning. Failure to follow these instructions will void the warranty and may cause significant damage such as fire or animal loss.

Danger. Failure to follow these instructions may create an electrical hazard and may cause damage and/or personal injury or death.

Pay Attention. Take the time to read and understand this as it may save you time later.

Do not place control boxes near water lines

Shut off all power to the controller before servicing.

A switch or circuit breaker must be included in the installation.

Place controller in a suitable and easily reached location.

The Toggle Switch does NOT cut the power to the chain disk controller or Chain disk system. Disconnect power before servicing.

Recommended operating temperature range is between 10° C and 40°C (50-104°F). The control must be placed in a temperature controlled environment. It must NOT be located outside or in an area where the temperature may go outside the recommended range. Heating or air-conditioning may be required to ensure this condition is met.

Do not install the controller in the room with the animals.

3. Mounting the controller on the wall.

It is recommended to mount the controller on an interior wall in the service area. The LCD screen should be at eye level. The enclosure measure approximately 10” x 7.09” x 3.5” deep. It is recommended to leave a 6” gap on the left side of the controller and a 12” on the right side to allow the door to open sufficiently for wiring.

Use 1/4” x 1 1/2" lag screws to attach the controller to the wall. The mounting holes are located in the four corners of the box and can be found by opening the cover.

4. Cleaning and Maintenance

Wipe the controller with a damp cloth. Do not use solvents or high-pressure washer to clean the controller.

NO user serviceable part inside

Please refer to certified electrician

5. Electrical connection and specifications

Warning! All wiring must be done by a certified electrician according to national and local wiring codes.

The controller must be permanently connected.

Disconnect power before opening the enclosure.

All wiring must enter from the BOTTOM of the enclosure. You must NOT drill any holes on the side or the top of the enclosure. Doing so may allow water to enter into the enclosure and cause electrical damage to circuits.

Use the recommended fuse sizes with the appropriate agency approvals. Do NOT use fuses with higher amp capacity as this will void the warranty and reduce the lifetime of the system. If a load is too high and blows the fuse regularly, use an external contactor with appropriate rating for the

Refer to the wiring diagram for connections.

6. Technical Specifications

Operating conditions:	10 to 40°C (50-104°F), 0-95% RH, non-condensing. Indoor use only.
Storage temperature:	-20 to 50°C (-4 to 120°F)
Altitude:	Up to 2000 m (6560 ft)
Enclosure:	IP66, NEMA 4X
Supply:	230 VAC, -20% +10%, 2HP, 50/60 Hz
Control Power supply fuse:	0.3A, 250 VAC, fast-blow.
Internal Contactor:	230 VAC, 2HP max (FLA 13A max, LRA 170A)
Auger Motor:	1HP, 230 VAC; 0.5HP, 115 VAC
Actuator/Electric valve:	115/230 VAC, 5A max
Alarm Relay output:	2A max, 24V AC/DC
Trouble Light:	115/230 VAC. 500W max
Insulation Class:	Class II

GROW-DISK™ Feed System

WARNING

All wiring must be done by a certified electrician according to national and local wiring codes.

DO NOT DRILL THE TOP OR THE SIDES OF THE UNIT CONTROL.
All wiring must enter from the BOTTOM of the enclosure.

1.Toggle Switch :
Connect both terminals together, if a toggle switch is not required.
The switch is Normally Closed

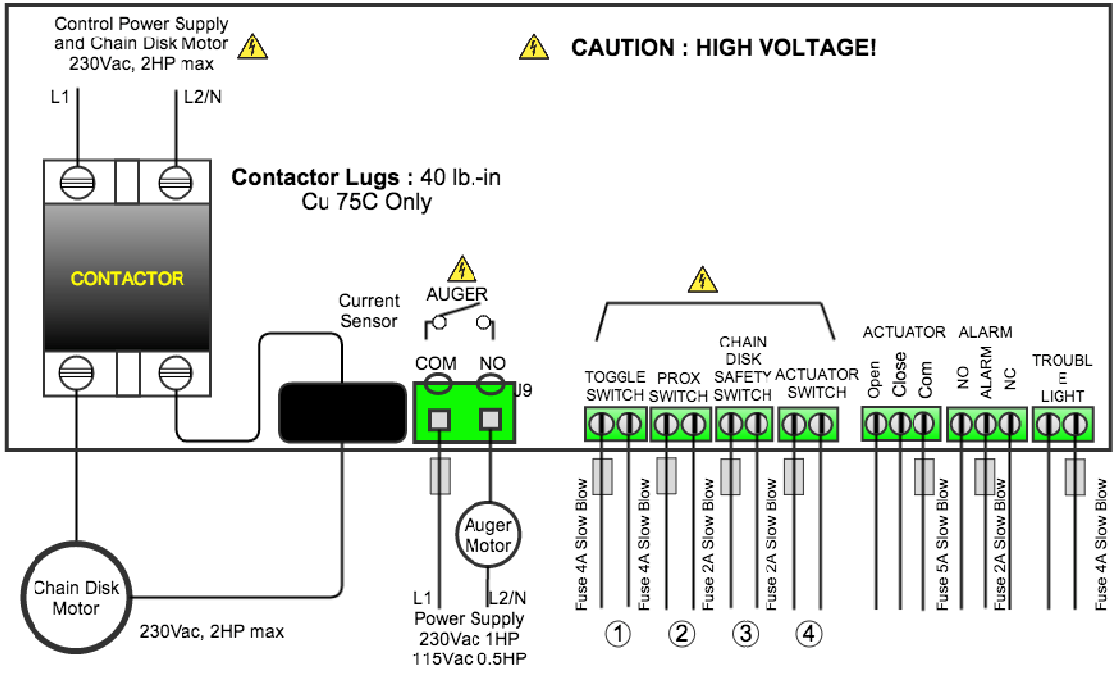
2. Proximity Sensor :
Configurable for Normally Open (NO) or Normally Closed (NC)

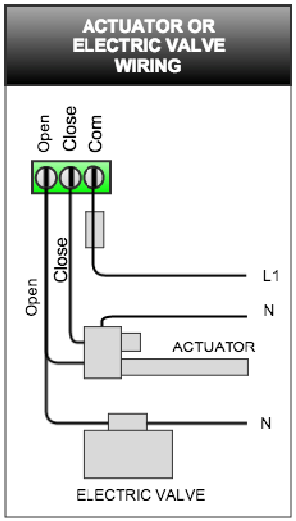
3. Chain Disk Safety Sensor :
The switch is Normally Closed

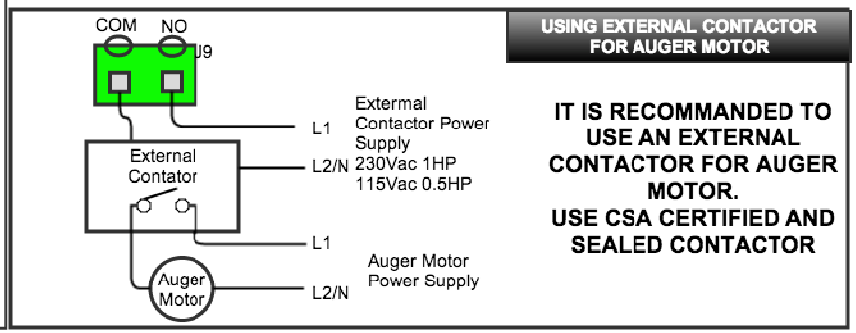
4. Actuator Security Switch :
Configurable for Normally Open (NO) or Normally Closed (NC)

Installation of a good quality alarm system is strongly suggested to warn of power failure and system alarms conditions

Provide a surge protection from the power supply to the controller and from the controller to the sensors. Consult a certified electrician if required.



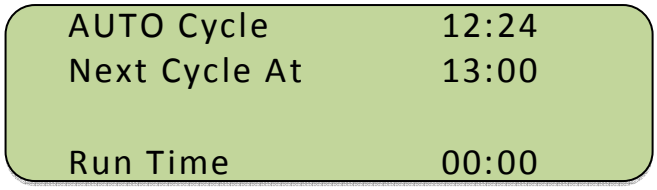




INOV-1135	
HSCD-100 WIRING DIAGRAM	
Rev. 1	2014-08-01

STATUS DISPLAY

The LCD screen on the front panel is used to interface with the user. By default, it displays the current controller status. The charts below give a line-by-line explanation of the various status messages:



LINE 1 of status display	Interpretation
MANUAL Cycle HH:MM	Manual cycle as determined by the user with current time of day
AUTO Cycle X HH:MM	Automatic operation based on user-defined feed cycle number X with current time of day
CONT. Cycle HH:MM	Automatic operation based on a continuous cycle with current time of day

LINE 2 of status display	Interpretation
Cycle Completed	End of manual cycle
FS Bypass MM:SS	Feed sensor bypass with delay countdown
Auger Delay MM:SS	Auger delay countdown
NO FEED	No feed detected by proxy switch.
AUGER ON/OFF	Auger motor status during filling
Detecting Feed	Proxy switch detects feed for 2 consecutive seconds

ShutDown D MM:SS	When proxy switch detects feed for 5 seconds, auger motor stops and countdown begins to shut down the chain disk.
Toggle Switch (flashing)	Toggle switch activated.
Animals are eating	When proximity switch is installed in last feed tube and while it detects feed, this indicates the animals are feeding (CONTINUOUS OPERATION ONLY)
Feed Delay HH:MM	Indicates the Continuous Feed Delay is counting down with time remaining. (CONTINUOUS OPERATION ONLY)
Interval HH:MM	Indicates the time remaining between two cycles (AUTOMATIC OR CONTINUOUS OPERATION ONLY)
Next Cycle at HH:MM	Indicates the next feed cycle start time (AUTOMATIC OPERATION ONLY)
Next Cycle in MM:SS	Indicates the time remaining before the next cycle start time (5 minutes countdown) (AUTOMATIC OPERATION ONLY)
Cleaning Dumps	Indicates cleaning of dumpers is in progress (AUTOMATIC OPERATION ONLY)
Feed Dump at HH:MM	Indicates time of feed dump (AUTOMATIC OPERATION ONLY)

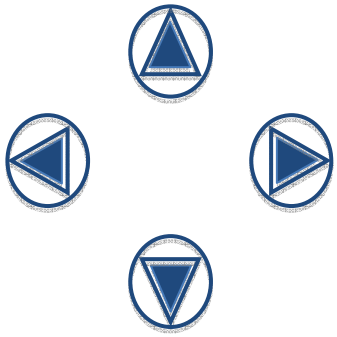
Feed Dump in MM:SS	Indicates time remaining before feed dump (5 minute countdown) (AUTOMATIC OPERATION ONLY)
Waiting for manual dump	When dumper is in manual mode, indicates that the system is ready for a feed dump (AUTOMATIC OPERATION ONLY)
Feed is being dumped	Feed dump in progress (AUTOMATIC OPERATION ONLY)

LINE 3 of status display	Interpretation
Current x.x Amp	Chain disk current draw during operation.
Cri.Amp.Draw x.x Amp (flashing)	Critical amperage draw attained when chain disk in operation
Max Current x.x Amp (flashing)	Maximum current is attained when chain disk in operation.
Opening (flashing)	Dumpers are opening (actuator-driven) (AUTOMATIC OPERATION ONLY)
Closing (flashing)	Dumpers are closing (actuator-driven) (AUTOMATIC OPERATION ONLY)
Delay MM:SS	Remaining opening delay for actuator or electric valve (AUTOMATIC OPERATION ONLY)

LINE 4 of status display	Interpretation
Run Time MM:SS/HH:MM	Indicates the chain disk motor run time (MM:SS up to 1 hour, then HH:MM)

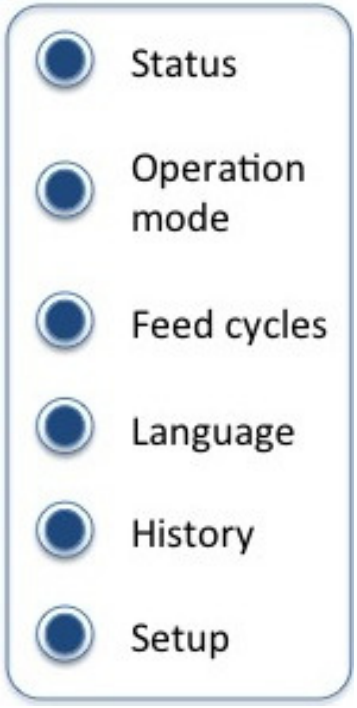
USING THE INTERFACE

To modify a parameter value: The ">" cursor symbol identifies the current parameter to be edited. Use the up and down arrow keys to position the cursor on the desired parameter. Press the right arrow key to enter edit mode. The parameter will begin flashing on the display. Use the up and down arrow keys to change the parameter value. To exit edit mode, press the right arrow key. The parameter will stop flashing and the new value will be saved.



To scroll the display: Use the up and down arrow keys to scroll the display. When the cursor is on the last line, the display scrolls to the next screen.

Quick access keys: In addition, the user interface uses push-buttons for quick access to various functions.



The **Status** button displays the current cycle operation on the chain disk.

The **Operation mode** button allows the user to define the parameters to operate the chain disk in automatic or manual mode.

The **Feed cycles** button is used to define feed cycle start and dump times.

The **Language** button switches between English and Spanish display messages.

The **History** button displays the last cycle operating time, the daily total for the current day and the daily total for the past 60 days.

The **Setup** button is used to configure the controller.

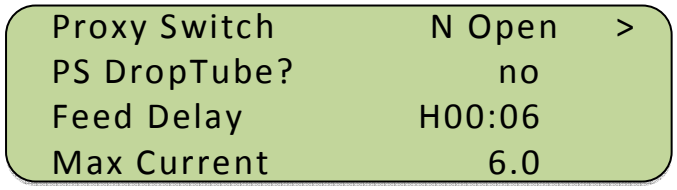
To return to a previous menu: When not in edit mode, you can return to a previous menu by pressing the left arrow key.

Time units: Parameters preceded by an "H" character are in hours and minutes (e.g. H01:30 = 1 hour 30 minutes). Parameters preceded by an "M" character are in minutes and seconds (e.g. M15:30 = 15 minutes, 30 seconds).

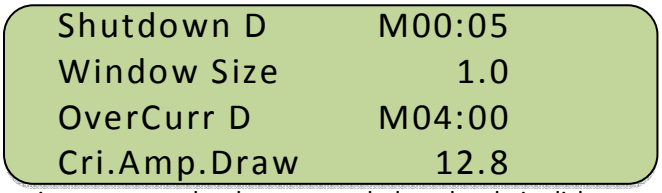
CONTROLLER SETUP

The user must configure the controller for a specific application using the setup menu. Press the **Setup** button on the front panel to access the setup menu. Use the up and down arrow keys to scroll to the desired parameter. Use the right arrow key to enter edit mode. In edit mode, use the up and down arrow keys to set the parameter value. After modifying a parameter, press the right arrow key to exit edit mode and scroll to a new parameter.

1. Press the Setup button on the front panel. The first parameter displayed is the **Proxy Switch Circuit Configuration** (Proxy Switch). Press the right arrow key to change the setting. It flashes on the display. 'N Open' is for normally open circuits while 'NClose' is for normally closed circuits.



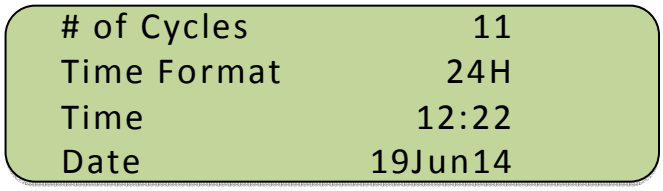
2. The next parameter is the **Proxy Switch Location** (PS Drop Tube?). Set the parameter to 'yes' if the proxy switch is located inside the last drop tube to be filled. Set the parameter to 'no' if it is located on the Chain Disk line after the last drop tube and before the fill hopper.
3. The next parameter is the current **Continuous Feed Delay** (Feed Delay). This parameter is only used in continuous feeding mode. When the proxy switch is located in the last feed drop tube, this delay indicates the time remaining before starting the next cycle and is calculated as soon as feed is no longer detected. When the proxy switch is located on the feed line after the last drop tube, this delay is an estimate of the time needed for the animals to complete feeding.
4. The next parameter is the current **Maximum Chain Disk Current** (Max Current). This is the maximum allowable current on the chain disk motor. If the current exceeds this value, the auger motor is shut down. The auger motor is restarted when the current value drops below this value by an amount equal to the Window Size parameter (see #6 below).
5. The next parameter is the current **Shutdown Delay** (Shutdown D). This timer is started after feed has been detected for 5 seconds and the auger motor is stopped. At the end of this delay, the Chain Disk motor is stopped.



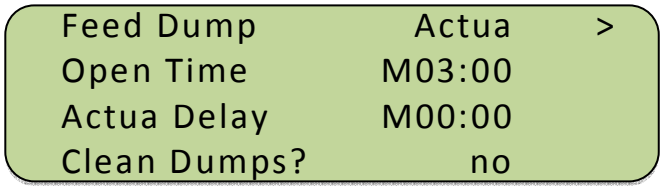
6. The next parameter is the current **Window Size**. This is the difference in current below which the auger motor is restarted after the maximum current has been exceeded on the chain disk motor.
7. The next parameter is the current **Overcurrent Delay** (OverCurr D). When maximum current is exceeded on the chain disk motor, a timer starts counting. If the timer exceeds the overcurrent delay while the current still exceeds the maximum value, the controller goes into alarm mode.
8. The next parameter is the current **Critical Amperage Draw** (Cri.Amp.Draw). When this critical value is exceeded on the chain motor load, the system is shut down and the controller goes into alarm mode. This parameter is used with the Critical Amperage Delay (see #9 below).
9. The next parameter is the current **Critical Amperage Delay** (Cri.Amp.Del). When the critical current is exceeded on the chain disk motor for the duration of this delay,

the system shuts down and the controller goes into alarm mode.

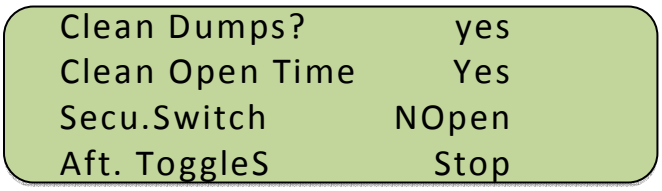
10. The next parameter is the current **Auger Delay**. This timer is used to delay starting the auger motor after chain disk startup.
11. The next parameter is the current **Maximum Run Time**. This timer is started at the beginning of each feed cycle. If it is elapsed and no feed has been detected by the proxy switch, the system shuts down and the controller goes into alarm mode.
12. The next parameter is the **Feed System Bypass** (FS Bypass). This delay is used to run the chain disk and purge the line before activating the auger motor. The proxy switch status is ignored during this delay.
13. The next parameter is the **Number of Cycles**. Up to 12 cycles can be programmed in the unit. Set the parameter to 'Cont.' for continuous operation of the chain disk.



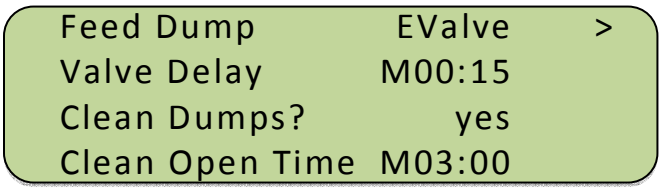
14. The next parameter is the **Time Format**. Set the parameter to '24H' for 24-hour format or '12H' for 12-hour format.
15. The next parameter is **Current Time**. Press the right arrow key to set the hours. The hours value flashes on the display. Use the up and down arrow keys to set the hours to the correct value. Press the right arrow key to set the minutes, etc.
16. The next parameter is **Current Date**. Press the right arrow key to set the day. The day value flashes on the display. Use the up and down arrow keys to set the day to the correct value. Press the right arrow key to set the month, etc .
17. The next parameter is the **Feed Dump Option**. This is the mechanism used to drop feed down the feed tubes. The options are 'Actua' for actuator, 'EValve' for electric valve, and 'None'.



18. The **actuator feed dump option** is selected, the controller displays a set of parameter settings for operating the actuator. The **Actuator Open Time** (Open Time) is the time required to fully open actuator-controller feed dumps. The **Actuator Delay** (Actua Delay) is the time the feed dumps remain open. Once this delay is elapsed, the actuator closes for twice the duration of the Actuator Open Time or until the actuator security switch is closed. This switch must be closed before the start of the next feed cycle; otherwise the controller goes into alarm mode. The **Clean Dump** parameter specifies whether the feed dumps need cleaning at the start of each feed cycle. If this is set to 'yes', the controller operates three open-close cycles on the actuator at the start of each feed cycle. The **Clean Open Time** is the actuator opening time during cleaning dumps. The **Security Switch** (Secu Switch) parameter defines the type of safety switch being used. Options are 'NOpen' for normally open switches, 'NClose' for normally closed switches and 'no' if no switch is being used.

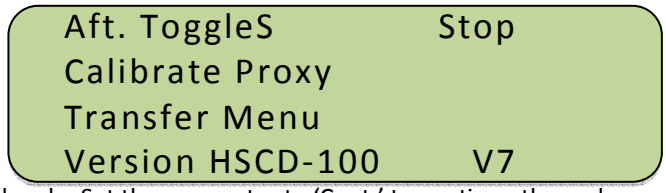


19. If the **electric valve feed dump option** is selected, the controller displays a set of

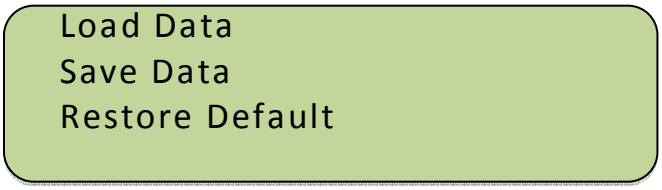


parameter settings for operating the electric valve. The **Electric Valve Delay** is the time the electric valve remains open. The **Clean Dump** parameter specifies whether the feed dumps need cleaning at the start of each feed cycle. If this is set to 'yes', the controller operates three open-close cycles on the electric valve at the start of each feed cycle.

20. The next is the **After Toggle Switch** parameter. This specifies what action to take when the toggle switch is activated manually (if such as switch is connected to the unit). Set the parameter to 'Stop.' to stop the feed cycle and wait for the next feed cycle. Set the parameter to 'Cont.' to continue the cycle where it left off.



21. The next parameter is the **Calibrate Proxy** function. This allows the user to calibrate the operation of the proxy switch. The value ranges from 0 to 1000. Set the parameter to the value that corresponds to the sensitivity required on the chain disk.
22. The next parameter is the **Transfer menu** function. This allows the user to save the parameter settings on the memory card and reload them into the controller when required. The memory card must be inserted on the inside top cover of the controller before using this function. Use the **Load Data** function to load the memory card parameter values into the controller. Use the **Save Data** to save the current controller parameter settings to the memory card. Use the **Restore Default** function to restore controller parameters to their factory settings.



23. The last parameter displayed is the controller software version. Refer to this number when speaking with Customer Service.

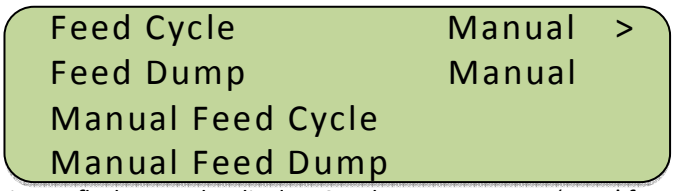
CONTROLLER PARAMETER VALUES

PARAMETER	DEFAULT VALUE	WORDING	MIN	MAX
Proxy Switch	NOpen	NOpen/NClose		
PS Droptube?	No	Yes/No		
Feed Delay	1 hour		H00:01	H12:00
Max Current	6.0 Amps		1.0 Amps	14.0 Amps
Shutdown D	10 sec		M00:00	M10:00
Window Size	1.0 Amps		0.5 Amps	3.0 Amps
OverCurr D	4 min.		M00:30	M15:00
Cri.Amp.Draw	8.0 Amps		6.0 Amps	15.0 Amps
Cri.Amp.Del	10 sec		M00:01	M02:00
Auger Delay	15 sec		M00:00	M60:00
Max Run Time	1 hour 30 min.		H00:01	H04:00
FS Bypass	30 sec		M00:00	M30:00
# of Cycles	Cont.		1	12
Time Format	12H	12H/24H		
Feed Dump	None	None/Actua/EValve		
Open Time	3 min.		M00:00	H02:00
Actua/Valve Delay	1 min.		M00:00	M60:00
Clean Dumps?	No	Yes/No		
Clean Open Time	3 min.		M00:00	M60:00
Secu.Switch	NOpen	NOpen/NClose/no		
Aft. ToggleS	Stop	Stop/Cont		

OPERATION MODE

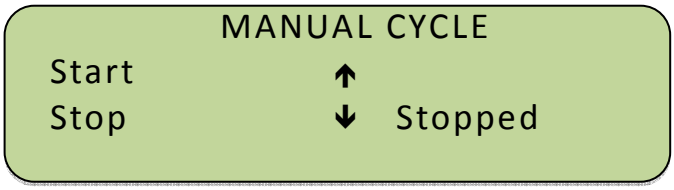
The controller can be operated in automatic or manual mode. In automatic mode, the controller operates the feed system according to the feed cycles defined by the parameter settings. In manual mode, the user manually starts and stops a feed cycle in real time. The user can operate both the feed cycle and feed dump functions in manual mode. In this mode, the feed cycle stops once feed is detected or when the user manually stops the feed cycle. The user can also operate the feed cycle in automatic mode while manually controlling the dump function. Note that if no feed drop mechanism is used (i.e. actuator or electric valve), no manual feed dump operation is allowed.

1. Press the **Operation Mode** button on the front panel. The current operation modes are displayed. Use the up and down arrow keys to select the function to adjust (feed cycle or feed dump).

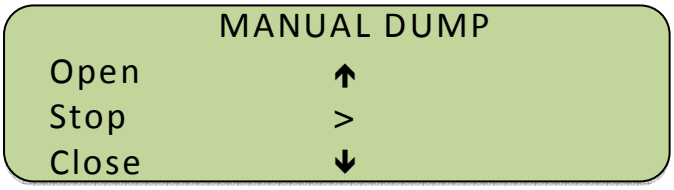


Press the right arrow key to change the setting. It flashes on the display. Set the parameter to 'Auto' for automatic operation. Set the parameter to 'Manual' for manual operation. The manual cycle starts the feed cycle. The cycle stops once feed is detected or if the user manually stops it.

2. If manual operation is selected on the feed cycle, press the down arrow key to select **Manual Feed Cycle**, then press the right arrow key to begin manual operation. The manual cycle is initially stopped. Press the up arrow key once to start a feed cycle. The controller operates the feed system accordingly and displays 'Running' next to the Start command. To end the feed cycle, press the down arrow key. The controller stops the feed cycle and displays 'Stopped' next to the Stop command. Press the left arrow key to return to the previous menu.

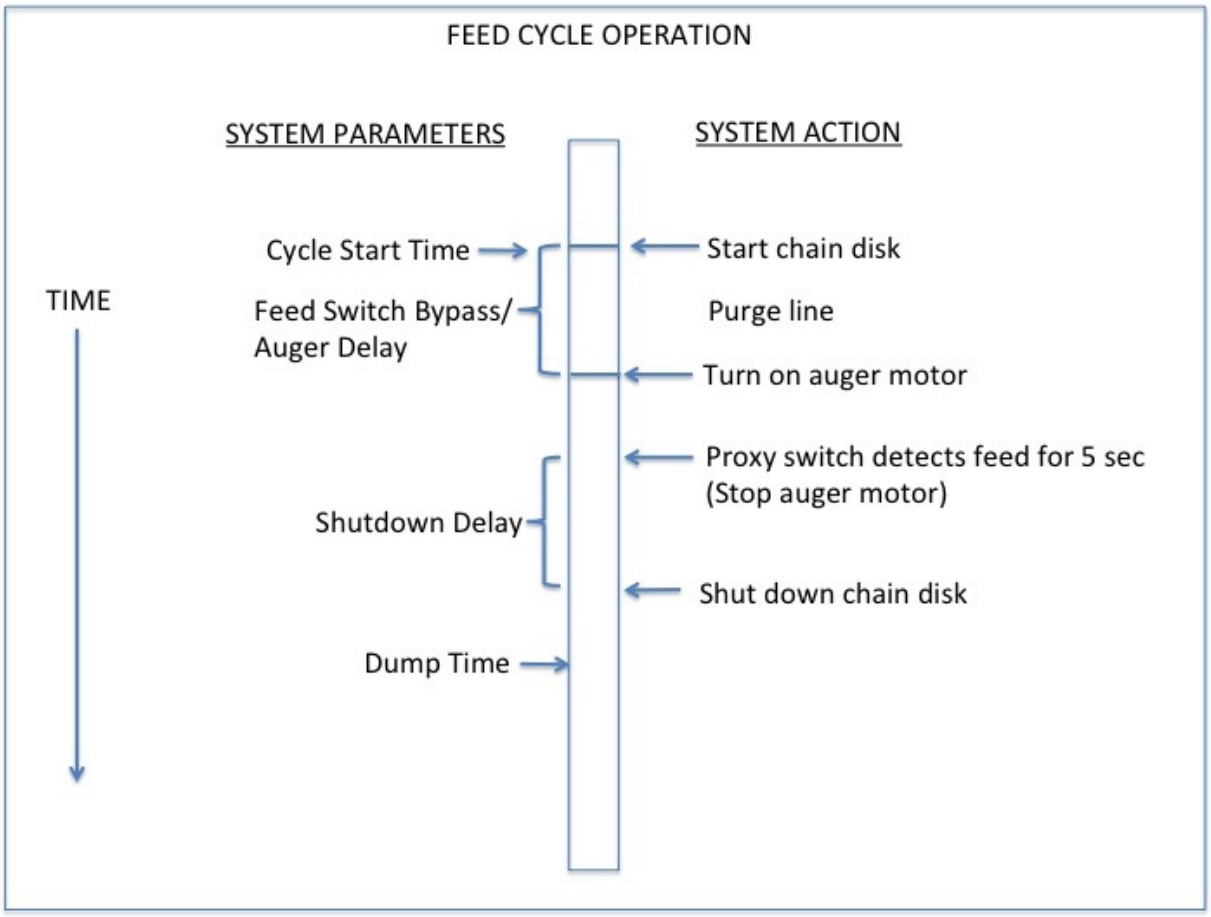


3. If manual operation is selected on the feed dump, press the down arrow key to select **Manual Feed Dump**, then press the right arrow key to begin manual operation. Press the up arrow key to open the feed dump mechanism. Press the right arrow key to stop the feed dump mechanism. Press the down arrow key to close the feed dump mechanism (Note that this function is available only if the feed dump mechanism is an actuator). Press the left arrow key to return to the previous menu.



FEED CYCLES

The user must define the start times for each feed cycle. These values apply when the controller is in automatic mode. If a feed drop mechanism is used, such as an actuator or electric valve, the user must also define a dump time. The following diagram illustrates one feed cycle operation. Note that the Feed Switch Bypass and Shutdown Delay parameters are defined in the Setup procedure (see page 13).



Adjusting the parameter settings:

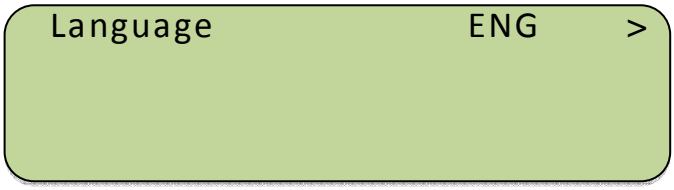
Cycle 1 St	01:00
Dump Time 1	01:30
Cycle 2 St	02:00
Dump Time 2	08:12

1. Press the **Feed Cycles** button on the front panel. The controller displays the cycle start times and dump times. Note that if no feed dump mechanism is connected to the feed tubes (i.e. electric valve or actuator), dump times are not used. Use the up and down arrow keys to step to the cycle to be adjusted. Press the right arrow key to adjust the cycle start and dump time values. The hours value starts flashing. Use the up and down arrow keys to adjust the hours to the desired value. Press the right arrow key to set the value. The minutes value starts flashing. Use the up and down arrow keys to adjust the minutes to the desired value. Press the right arrow key to save the value.

LANGUAGE

The controller can be operated in English or Spanish.

Press the **Language** button on the front panel. The current language setting is displayed. Press the right arrow key to change the setting. The value flashes on the display. Use the up and down arrow keys to set the parameter to the desired value. Press the right arrow key to save the setting.



HISTORICAL DATA

The controller displays the last cycle operation time.

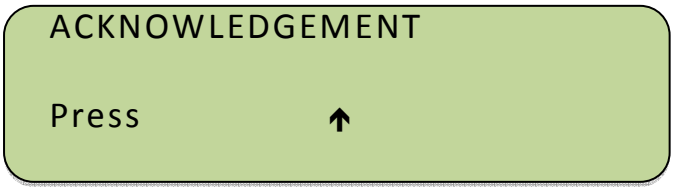
Press the **History** button on the front panel to display historical data values. Use the up and down arrow keys to scroll through the available dates.

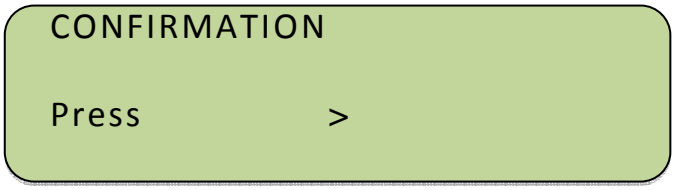
ALARM CONDITIONS

The controller monitors many possible alarms conditions, which are described below. When an alarm occurs, the user must acknowledge the alarm condition to reset the controller and resume operations.

When an alarm condition occurs, press the right arrow key. Press the up arrow key to acknowledge the alarm, then press the right arrow key once again to confirm acknowledgement.

The controller includes a trouble light output that is activated in case of an alarm condition and can be connected to an alarm signalling mechanism.





ALARM CONDITION	PARAMETERS	MEANING	ACTION TAKEN
MAXIMUM RUN TIME OCCURRED	Max Run Time	Time elapsed is greater than the time normally taken to fill the system	System shuts down and requires alarm acknowledgement, then waits until next feed cycle
CURRENT OVERLOAD OCCURRED	Maximum Amps Overcurrent Delay	Maximum current exceeded on chain disk motor for a set period of time	System shuts down and requires alarm acknowledgement, then waits until next feed cycle
CRITICAL AMPERAGE	Critical Amps Critical Amp Delay	Critical current load exceeded on chain disk motor for a set period of time	System shuts down and requires alarm acknowledgement, then waits until next feed cycle
ACTUATOR IS NOT OPENED	Security Switch	Actuator security switch is still activated after opening time has elapsed	System shuts down and requires alarm acknowledgement, then waits until next feed cycle
ACTUATOR IS NOT CLOSED	Security Switch	Actuator security switch not activated after closing time has elapsed OR actuator security switch not closed at start of feed cycle.	System shuts down and requires alarm acknowledgement, then waits until next feed cycle
CHAIN DISK SAFETY SWITCH	Security Switch	The chain disk safety switch has been activated.	System shuts down and requires alarm acknowledgement, then waits until next feed cycle

RECORD OF USER SETTINGS

PARAMETER	DEFAULT VALUE	ACTUAL FIELD SETTINGS
Proxy Switch	NOpen	Normally Open - Normally Closed
PS Droptube?	No	Yes - No
Feed Delay	1 hour	
Max Current	6.0 Amps	
Shutdown D	10 sec	
Window Size	1.0 Amps	
OverCurr D	4 min.	
Cri.Amp.Draw	8.0 Amps	
Cri.Amp.Del	10 sec	
Auger Delay	15 sec	
Max Run Time	1 hour 30 min.	
FS Bypass	30 sec	
# of Cycles	Cont.	SET FEED DELAY ABOVE
# of Cycles	1….12	
	Cycle 1 START	
	Cycle 2 START	
	Cycle 3 START	
	Cycle 4 START	
	Cycle 5 START	
	Cycle 6 START	
	Cycle 7 START	
	Cycle 8 START	
	Cycle 9 START	
	Cycle 10 START	
	Cycle 11 START	
	Cycle 12 START	
Time Format	12H	12 Hour - 24 Hour
Feed Dump	None	None – Actuator –Electric Valve
	Dump TIME 1	
	Dump TIME 2	
	Dump TIME 3	
	Dump TIME 4	
	Dump TIME 5	
	Dump TIME 6	
	Dump TIME 7	
	Dump TIME 8	
	Dump TIME 9	
	Dump TIME 10	
	Dump TIME 11	
	Dump TIME 12	

PARAMETER	DEFAULT VALUE	ACTUAL FIELD SETTINGS
Open Time	3 min.	
Actua/Valve Delay	1 min.	
Clean Dumps?	No	Yes - No
Clean Open Time	3 min.	
Secu.Switch	NOpen	Normally Open - Normally Closed
Aft. ToggleS	Stop	Stop - Continue

Hog Slat Limited Warranty

Hog Slat warrants products to be free from defects in material or workmanship for a period of twenty-four (24) months from the date of **original purchase**. Hog Slat will credit, repair, or replace, at its option any product deemed defective within this time period. Labor costs associated with the replacement or repair of the product are not covered by the Seller/Manufacturer.

Conditions and Limitations

1. The product must be installed by and operated in accordance with the instructions published by the **Seller/Manufacturer or Warranty will be void**.

2. Warranty is void if **all components** are not original equipment supplied by the **Seller/Manufacturer**.

3. This product must be purchased from and installed by an authorized retailer/distributor or certified representative thereof or the Warranty will be void.

4. Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under the Warranty.
5. This Warranty applies only to components/systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this Warranty.

6. This Warranty applies only to the Original Purchaser of the product.

The **Seller/Manufacturer** shall not be liable for any **Consequential or Special Damage** which any purchaser may suffer or claim to suffer as a result of any defect in the product. **"Consequential"** or **"Special Damages"** *as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies.*
THIS WARRANTY CONSTITUTES THE SELLER/MANUFACTURER'S ENTIRE AND SOLE WARRANTY AND THIS MANUFACTURER EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSES SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.
Hog Slat Retailers/Distributors are not authorized to modify or extend the terms and conditions of this Warranty in any manner or to offer or grant any other warranties for GrowerSelect products in addition to those terms expressly stated above. An officer of Hog Slat must authorize any exceptions to this Warranty in writing. The Seller/Manufacturer reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

This equipment must be installed in accordance with all State and Local Codes and applicable Regulations which should be followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

Hog Slat, Inc.
PO Box 300
Newton Grove, NC 28366

Phone: (910) 594-0219
Fax: (910) 594-1392

www.hogslat.com

Part Number: HSManual-048 Rev A1
HSART-367
Market – Hog