Integra

Software Operation Manual

EN

V01

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1. Introduction

The Integra System is designed for comprehensive control of environmental conditions and egg flow in poultry farms. Its scope includes the management of ventilation, lighting, feeding, and real-time monitoring of egg production.
With advanced automation features, the Integra System enhances operational efficiency, reduces the need for manual intervention, and directly contributes to increased productivity.

2. Interface and navigation

Integra System is a hierarchical system divided into sections. Navigate through the different sections for viewing and adjusting parameters.

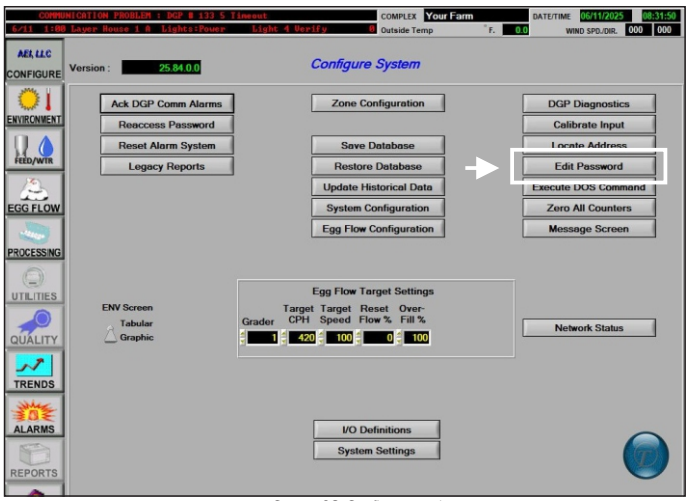
Screen 01. Initial page.

The first section is the menu bar on the left-hand side of the screen. It provides an easy method to switch between major areas of the system. Configuration, environment, egg flow, processing, utilities, quality, trends, alarms, reports, or the hypertext help screens. The next topics describe the system's main features and where/how to operate them.

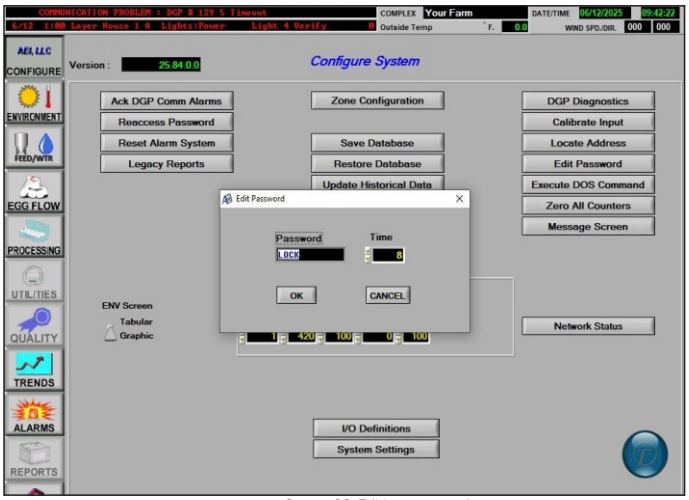
The second section is the banner at the top of the screen. The banner provides each complex information such as, name, outside temperature, wind speed and direction, date/time, any communication alarms and the highest priority alarm in the complex:

2.1 Passwords

The access to areas of the program that allows parameters changing are password protected. The standard password is 'LOCK'.
To change the password, select **Edit password** on the **Configure section**. Enter the new password and set the time in minutes during which the system won't require a password again once entered.



Screen 02. Configure section.



Screen 03. Editing password.

The system supports up to 10 users. To each user it's possible to define a specific password, as well as its level of access within the system. There are 5 levels of access:

Level	Scope
1	Can calibrate, start a manual feed cycle, save database, locate address and trigger storm button.
2	Can reset counts or usage, use diagnostics, manually start houses for flow and set flow parameters when they are password protected.
3	Can reset all counters and use the Quality or Utility screens.
4	Can disable alarms and change schedules.
5	Full access to the system for setting up all features.

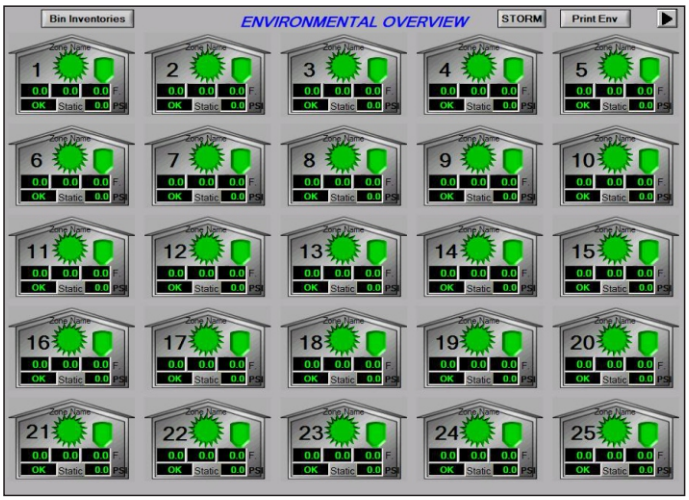
In the necessity to access **I/O Definitions**, **System Settings** or manage users, contact technical support.

3. Environment

In the **Environmental overview,** all the houses of the complex are displayed. To see the **Environmental detail** of a house, click on the sun icon. The bin icon is a shortcut to the **Current consumption** screen.

A displayed house on the screen represents a zone, such as a floor in a multi-storey building or an entire barn, according to the complex layout.

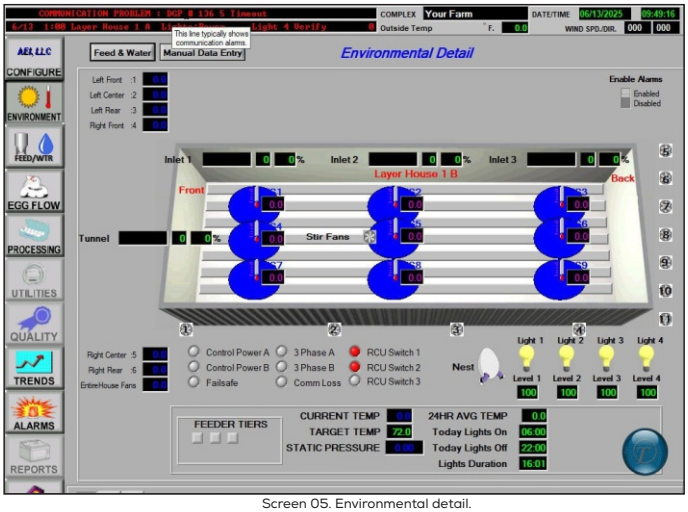
The first three fields in the first row below the icons display the lowest, average and highest temperature for the day, respectively. The bottom fields display the current static pressure and water pressure respectively.



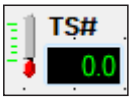
Screen 04. Environmental overview.

3.1 Environmental detail

This screen displays all sensors and environmental control devices information of the zone. All the devices are shown based on their location within the zone layout.



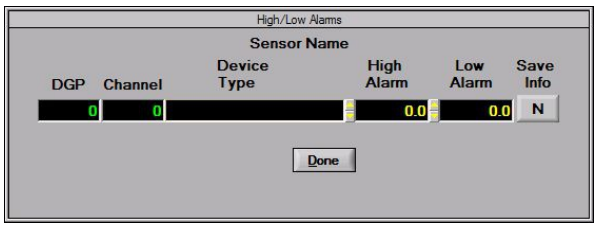
Screen 05. Environmental detail.



Temperature sensors

Shows the current reading. A colored surrounding is shown around the sensor, illustrating the temperature range in a scale from blue to low and red for high temperature. Magenta when there is an issue with the sensor. By clicking on:

- **Setup sensor:** Shortcut to **Group setup** screen.
- **Hi/Low alarms:** Allows changing the temperature alarm limits.



DGP/Channel	Displays the DGP and channel assignment.
Device Type	Displays the name for the input sensor type.
High Alarm	Set the high alarm value.
Low Alarm	Set the low alarm value.
Save Info	Select whether this sensor information is saved to the data file specified in zone

o **Calibrate sensor:** Input sensors such as temperature need to be calibrated quarterly. Enter the correct value and the software will calibrate itself.
Multiple sensors can be calibrated by changing the DGP and/or channel to a different sensor assignment. Press **Done** when finished.

Inlets

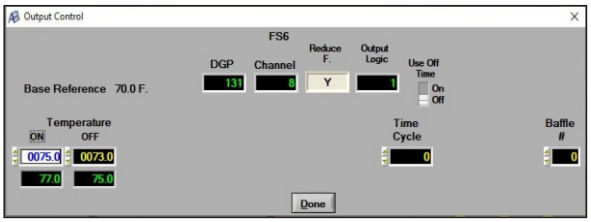
The inlets show their current state of operation (opening, closing or none(stopped)), the baffle reference and if inlet positioning is added, the current percent open. By clicking on the percentage value:

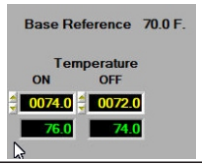
o **Sensor input:** Shortcut to **Group setup** screen.
o **Hi/Low alarms:** Not used.
o **Calibrate sensor:** Not used. Except for Inlets which rely on string sensors.

Exhaust fans

The exhaust fans can be used for minimum ventilation or temperature decrease.

o **Sensor input:** Shortcut to **Group setup** screen.
o **Control parameters:** Allows changing the operation parameters.



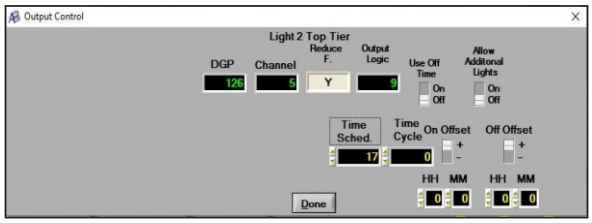
DGP/Channel	Display the DGP/Channel assignment for the output (fan stage).
Base Reference	Value used as a reference for calculating the On/Off temperature for the fans. To alter this parameter, contact customer support.
Reduce F.	If 'Y: Yes', the output follows the fan On/Off commands directly helping reduce temperature. If 'N: No', the output operates based on the heater's logic, with the On/Off behavior inverted. To change this parameter, go to the screen. **Note:** The fans should always operate in 'Y'.
Temperature	Settings to turn the output On/Off via the primary sensor readings (temperature). The system adjusts the entered values based on the following formula: On/Off target = Entered value – Based reference + Current target.
	Example: Current target = 72; Base reference: 70; On = 74; Off = 71. Primary On: 74 – 70 + 72 = **76 ºF** Primary Off: 71 – 70 + 72 = **73 ºF** 
Time cycle	Fans can operate in minimum ventilation mode by cycling the air using On/Off stages. Assign an existing **Cycle timer** by its index. To create or edit a **Cycle timer**, go to **Zone Configuration → Time sched / Cycle tmrs**.
Baffle #	The baffle control adds up the outputs assigned and can override the static pressure reading if too cold or hot in the zone. Not used.
Output Logic	The output control type used. Do not alter this setting.

o **Toggle output:** Turns the output on/off manually.
o **Manual on:** Service use only.

Lights

The light control relays on two main control outputs (Light and Level), each output has its own control parameters. Some zones might have more than one light control environment, meaning each light control environment has two control outputs.

o **Setup output:** Shortcut to **Group setup** screen.
o **Control parameters:** Allows changing the operation parameters.



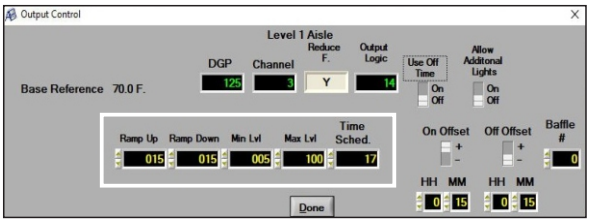
DGP/Channel	Display the DGP/Channel assignment for the output (fan stage).
Reduce F.	Not used in this feature.
Use Off time	Not used in this feature.
Output Logic	The output control type used. Do not alter this setting.
Allow additional lights	Additional on/off interval beyond the **Time schedule**. To add an additional cycle, go to the **Time schedule** screen.

Time schedule	Assigns an existing **Time schedule** to the light output. If assigned, the lights will use the Lights **On/Off** time from the **Time schedule.**
Cycle timer	Assigns an existing **Cycle timer** to the light output. A **Cycle timer** provides a cycling on/off operation to the output. To edit a **Cycle timer**, go to **Time schedule** screen.
On offset	Time added/subtracted (+/-) from **Time schedule → Lights On** time. Defines the **Ramp Up** begin **time.**
Off offset	Time added/subtracted (+/-) from **Time schedule → Lights Off** time. Defines the **Ramp Down** begin time.

- **Time schedule**: Goes to the assigned Time schedule.
- **Toggle output:** Turns the output on/off manually.
- **View schedule**: Presents the Time schedule assigned. No changes can be made to this screen.
- **Manual on:** Service use only.

Below each **Light** output is the respective **Level** output menu.

The **Level** menu presents the same options as the **Light** menu. However, in **Level → Control parameters** it's possible to configure the lights **Ramp Up/Down**:



Ramp up	Ramping up duration. From Min. to the Max. bright level configured.
Ramp down	Ramping down duration. From Max. to the Min. bright level configured.
Min. Level	When ramping up the bright starts at 00% and reaches this value instantly. When ramping down, the bright drops from this value to 00% instantly.
Max. Level	Maximum brightness level of lights.

Light ramp operation example:

Consider the following settings.

Time schedule	**Lights on**	05:00 (05:00 AM)
	Lights off	17:00 (05:00 PM)
Control parameters	**Ramp up**	15 minutes
	Ramp down	15 minutes
	On offset	+15 minutes
	Off offset	-15 minutes
	Min. Level	05%
	Max. Level	100%

Lights operation according to the parameters above:

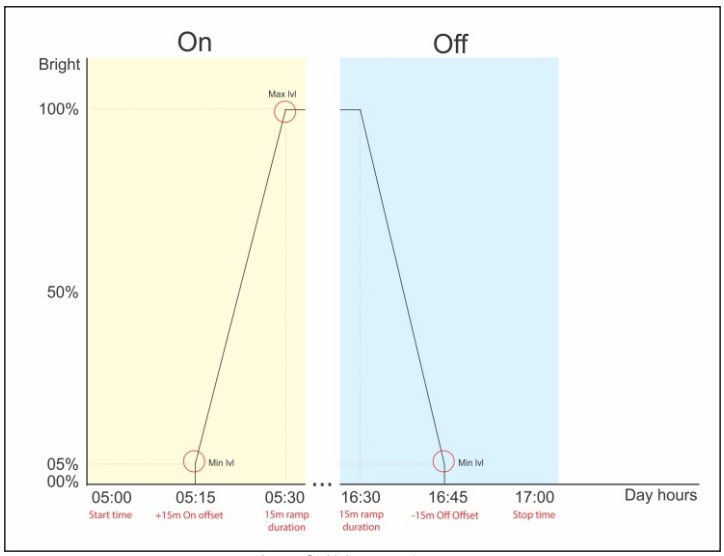


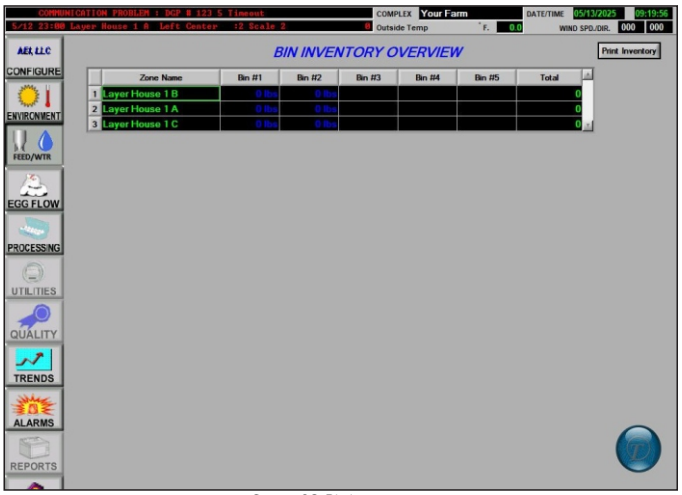
Image 01. Lights operation.

NOTE

All the parameters in the Light and Level outputs settings must match the same values (Use Off time, Allow additional lights, Time schedule, Cycle timer, On offset, Off offset), except for the DGP/Channel and Ramp settings.

3.2 Bin inventory

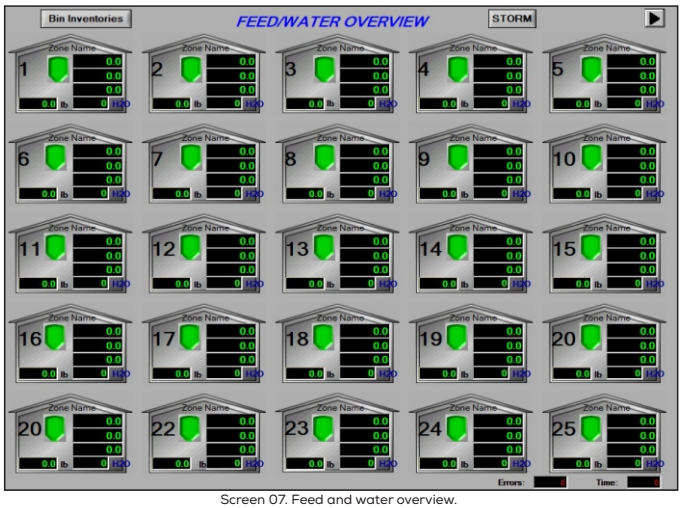
The **Bin inventory** screen displays each bin's current weight in pounds, along with the total feed pounds per zone.



Screen 06. Bin inventory.

4. Feed and water

In the **Feed and Water** screen, each zone is displayed. Along with up to three bins per zone. For each bin, the current weight is shown, as well as the total feed (lb) and water (H_2O) consumed during the day. To view detailed consumption information, click the bin icon.



Screen 07. Feed and water overview.

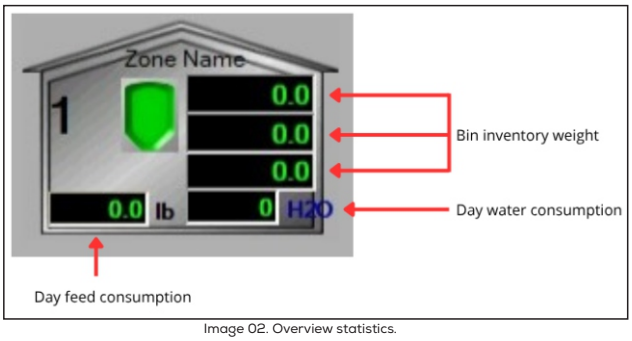
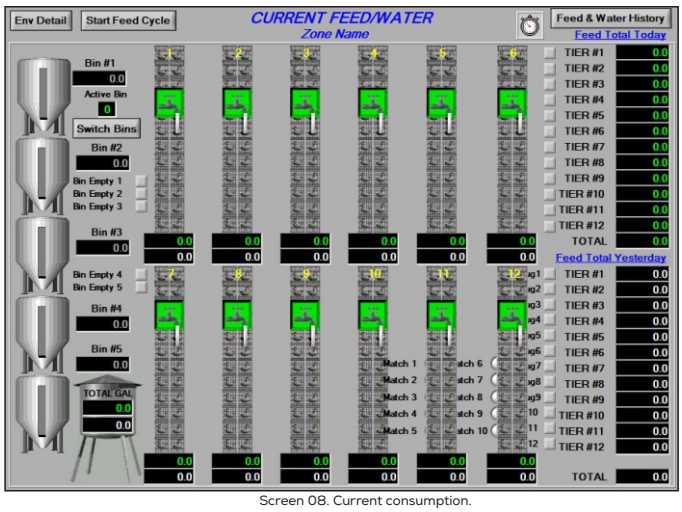


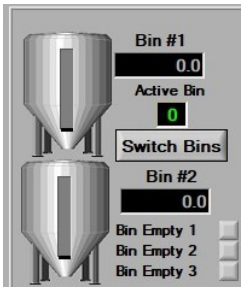
Image 02. Overview statistics.

4.1 Current consumption

This screen displays the feed and water usage and allows shortcuts to the screen.



Screen 08. Current consumption.



Bins

Each feed bin displays its current weight in pounds.

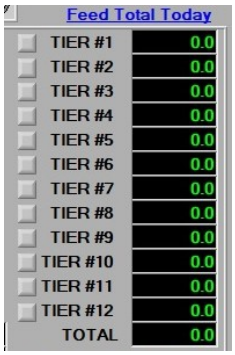
Active Bin: Which bin is currently feeding.
Switch Bin: Switches the feeding to the next bin in row.
Bin Empty : Indicates the Bin status, if empty, it turns red.

By clicking on the fields:
·**Setup feed bin:** Shortcut to the **Group setup** screen.
·**Set switch weight:** Shortcut to the **Group setup** screen.

Rows

For each water row, it's possible to see the total of water consumed in the day. Right below (displayed in white) is the same value as yesterdays as a comparison.
Example: If it's 09:00 AM, the green number indicates the water consumed from midnight till 09:00 AM for that row. In white, it's displayed the water consumed from midnight to 09:00 AM from yesterday.

By clicking on the number fields:
Setup water use: Shortcut to the **Group setup** screen.
Reset consumption: Resets the water usage indication of the row.



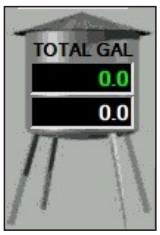
Tiers

For each tier, it's possible to see the total of feed consumed in the day. Below (Feed total yesterday) is the same value as yesterdays as a comparison.
Example: If it's 09:00 AM, the green number indicates the feed consumed from midnight till 09:00 AM for that tier. In white, it's displayed the feed consumed from midnight to 09:00 AM from yesterday.

By clicking on the number fields:
Setup output: Shortcut to the **Group setup** screen.
Control parameters:

DGP/Channel	Display the DGP/Channel assignment for the output (fan stage).
Reduce F.	Not used in this feature.
Use Off time	Not used in this feature.
Output Logic	The output control type used. Do not alter this setting.
Time schedule	Assigns an existing **Time schedule** to the tier output. If assigned, the tier will use the On/Off time from the **Time schedule**.
Cycle timer	Assigns an existing **Cycle timer** to the tier output. The **Cycle timer** provides a cycling on/off operation to the output. To add a **Cycle timer**, go to **Time schedule** screen.

Time schedule: Shortcut to the assigned **Time Schedule** screen.
Toggle output: Turns the output on/off manually.
View schedule: Presents the assigned. No changes can be made to this screen.



Total

Displays the total water gallons consumed in the day in green. The white value below is yesterday's comparison just like the other indicators of the screen. Example: If it's 09:00 AM, the green number indicates the water consumed from midnight till 09:00 AM for that zone. In white, it's displayed the water consumed from midnight to 09:00 AM from yesterday.

Start feed cycle

When the **Start Feed Cycle** button is pressed, the system performs the following actions:
1. It retrieves the duration value from the first segment of the first tier .

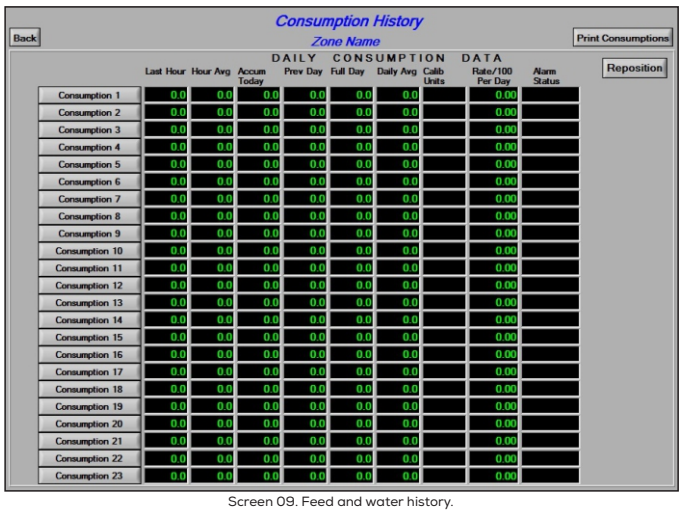
2. It immediately stops any currently running feeding operations.
3. It temporarily blocks all scheduled feeding operations from starting during the manual cycle.
4. It then runs one manual feeding cycle for each feed tier, using the duration obtained in step 1.
5. Once the manual feeding cycle is completed for all feed tiers, the system resumes normal scheduled feeding operations.

Note:
Only use this button if the feed schedules meet the following conditions:
· Each scheduled feed segment is offset by at least 2 minutes from the next segment.
· The first segment of the first schedule has the correct and intended duration for manual feeding.

If these conditions are not met, using the button may result in incorrect feeding behavior.

Feed & water history

The consumption history screen provides a more detailed look at all of the water and feed consumption data.

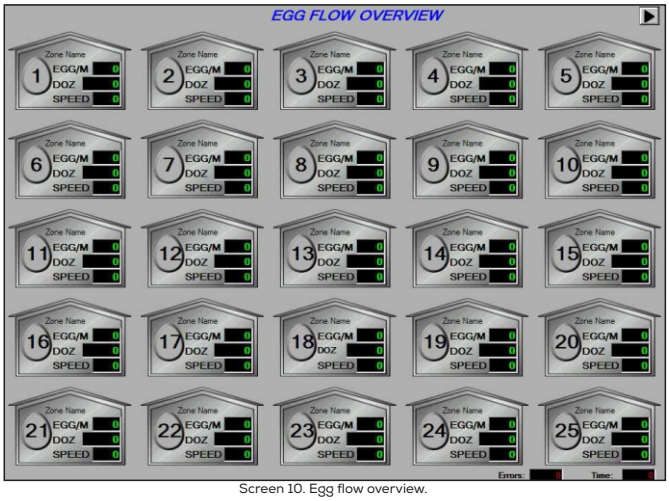


Screen 09. Feed and water history.

Consumption Button	Press the button for the desired consumption to view the hourly values for the past 24 hours.
Last Hour	Displays the usage for the last hour.
Hour Avg	Displays the average usage for the last hour. The system averages the past 7 days to obtain this value.
Accum Today	The total usage so far today.
Prev Day	Yesterday's usage to the same time as today.
Full Day	The total usage for yesterday.
Daily Avg	The daily average of the past week's usage.
Calib Units	The units for the particular consumption.
Rate/100 Per Day	The average consumption per 1 hundred birds per day. The calculation divided the population by the number of consumptions of that type (feed or water) to get the number of birds.
Alarm Status	Shows any active alarm for the displayed consumption.

5. Egg flow

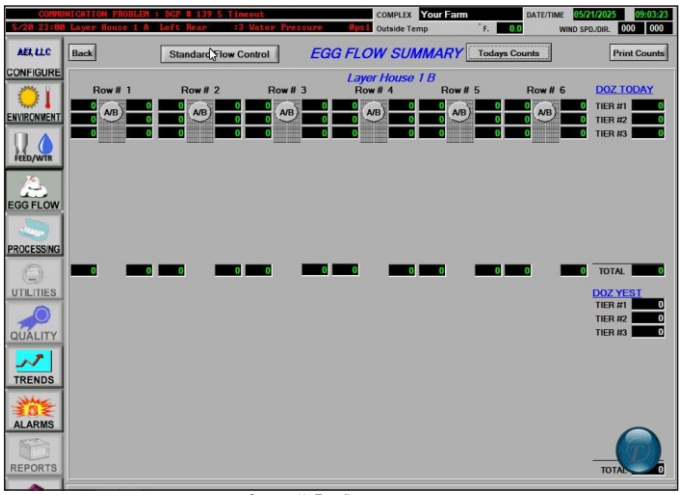
In the **Egg flow overview** each zone has a picture of an egg displayed along with the eggs per minute (eggs/min), total dozens accumulated in the day, and current conveyor speed (%). The dozens can also be viewed as total eggs instead of total dozens if required.
To see the egg flow summary, click on the egg icon.



Screen 10. Egg flow overview.

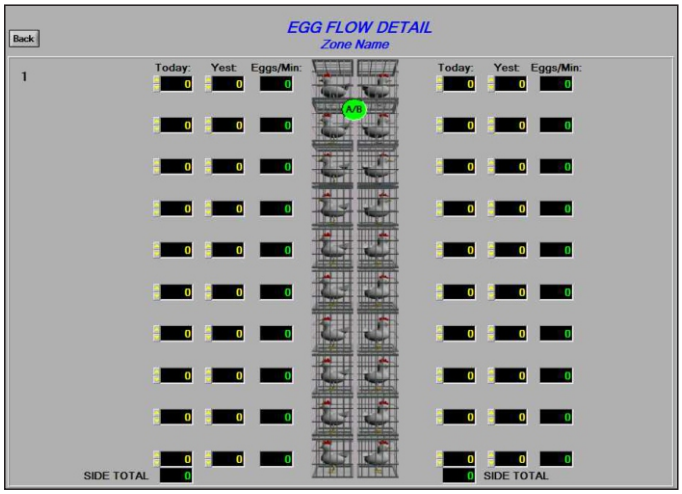
5.1 Egg flow summary

This screen displays all the zone rows/egg counters. To each row, it's possible to visualize the tiers in a left/right row layout. Depending on the zone layout (such as in cage free system), the screen should present the egg counters not in their actual position within the barn.
Each counter (field displaying a number in green) shows the accumulated count of eggs of the day. Below each row, the bottom field displays the total for that row left/right.



Screen 11. Egg flow summary.

By clicking on a counter, it's possible to see the Today against Yesterday count along with the eggs per minute comparison.

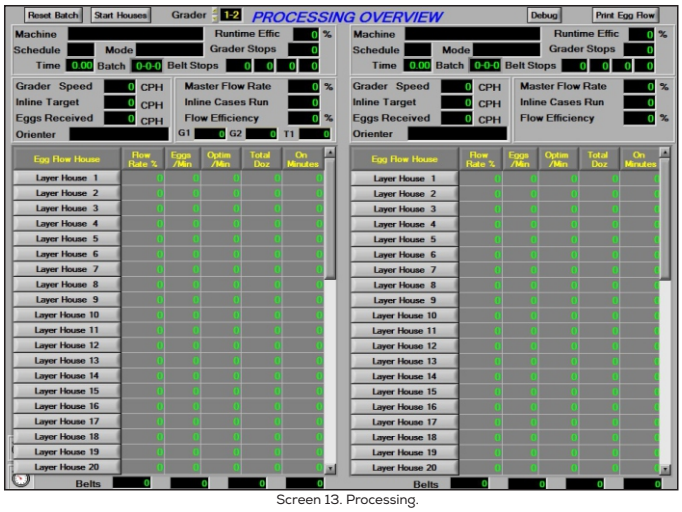


Screen 12. Egg flow detail.

6. Processing

The processing screen presents an overview of the egg flow devices and production. The screen presents the graders' operation parameters as well as the production

rate for each zone.

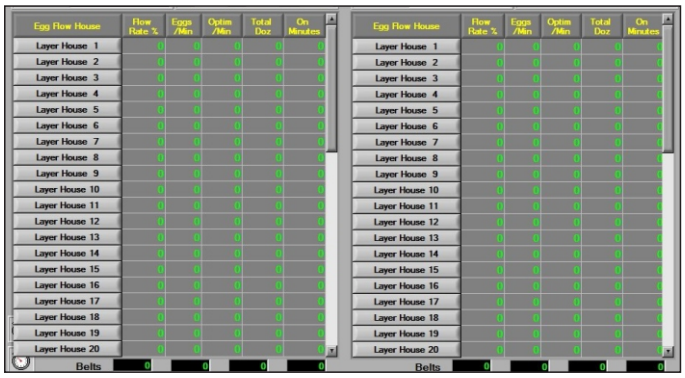


Screen 13. Processing.

Grader parameters:

Machine	Displays the name given for the machine in the **Egg flow configuration**.
Schedule	Tells whether the machine should be On or Off based on the defined **Time schedule**. Not often used.
Mode	Shows if egg flow is in Startup, Run, or Shutdown mode.
Runtime Efficiency	Compares the start time from the **Time schedule** to the actual time the machine was running.
Time	The amount of time the flow has been running during the day.
Grader Stops	The number of times the machine has stopped today.
Batch	State of the **Special Egg Flow** batch mode. Refer to the reference section on batch control.
Grader Speed	The actual speed of the grader in cases per hour or the manual target if the mode is Startup. Will also use the manual target if grader speed isn't read or the sensor is bad.
Inline Target	The target cases per hour for egg flow. This number is based on the grader speed and overfill % values. It is also adjusted as houses turn on in Startup or turn off in Shutdown. If variable speed cross belts are used, then this value is also adjusted based on the amount of time in slowdown vs. normal flow. This field will change color to magenta if too many eggs are on any cross belt to this machine. The system will not speed up any further until this condition is cleared. It will slow down if necessary.
Eggs Received	The actual cases per hour put on the cross belts over the last minute. The system attempts to target the eggs received to the inline target.
Orientor Mode	Displays Normal during normal flow and Filled if the orientor sensor is tripped. Also used to display the current state of split mode while in split.
Master Flow Rate	The average speed (%) of all the houses that are delivering eggs to this machine. This field will turn red if the target speed is reached, indicating time for shutdown mode.
Inline Cases Run	The total cases put on the cross belts at this point in the day.
Flow Efficiency	The system compares the Grader Speed and Total Cases Received during the day to calculate this value. This will display 99% if the system isn't reading the actual speed of the grader.
Crossbelt Stops	The number of times the cross belts have stopped in excess of the grader stopping. Now allows monitoring 4 separate belts.
Grader	Select between multiple machines connected to the system.

To each zone, it's possible to see egg flow statistics:

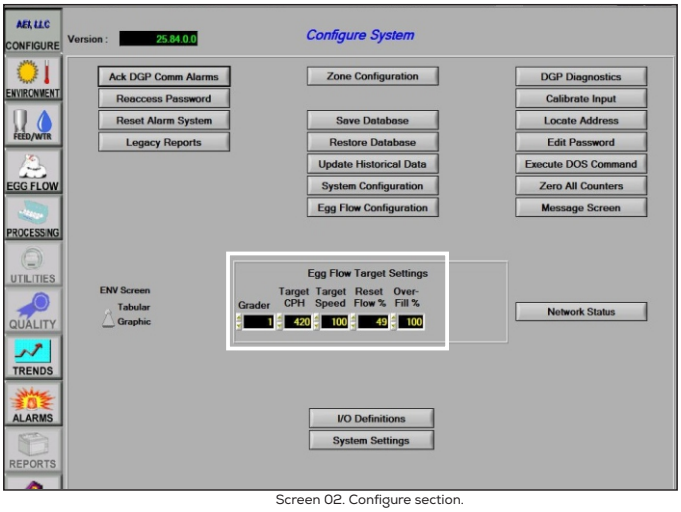


Egg Flow House	The name of each zone connected to this machine. Pressing house button will go to the Tabular Egg Summary screen to view individual row values.
Flow Rate %	The speed if the zone is on or displays the number of minutes until it turns on or off. Also displays OFF if the zone isn't running.
Eggs/min	The eggs/minute from the counters for each zone.
Optim/min	The desired eggs per minute for each zone.

Egg Flow House	The name of each zone connected to this machine. Pressing house button will go to the Tabular Egg Summary screen to view individual row values.
Flow Rate %	The speed if the zone is on or displays the number of minutes until it turns on or off. Also displays OFF if the zone isn't running.
Eggs/min	The eggs/minute from the counters for each zone.
Optim/min	The desired eggs per minute for each zone.
Total doz	The total dozens delivered to the cross belt for the zone. This can be changed to total eggs or cases if desired. Contact customer support if counting is desired in another form other than dozens.
On minutes	The total number of minutes the system found the house running egg flow.

7. Egg flow configuration

Most of the useful parameters of **Egg Flow Configuration**, are displayed on the main screen of the **Configure** section.

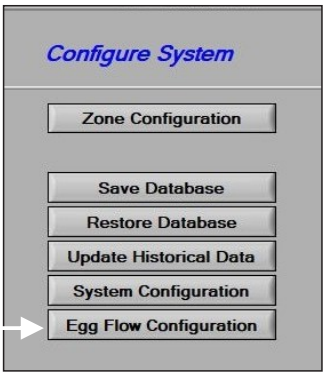


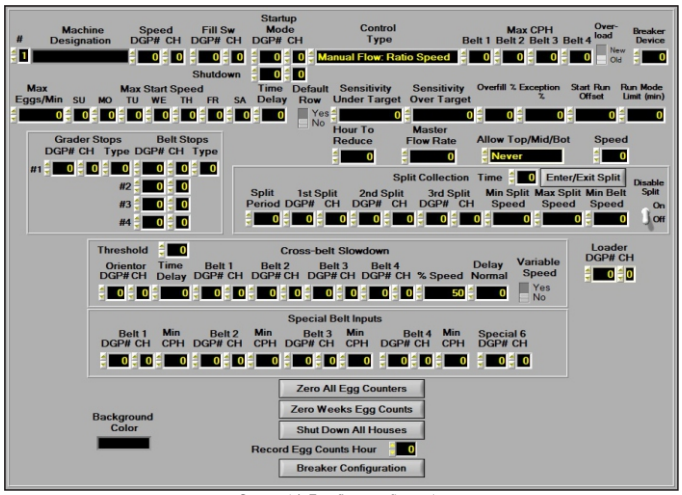
Screen 02. Configure section.

To each processing machine (grader), its possible to set:

Grader #	Grader machine
Target CPH	Sets the amount of eggs in cases per hour to be delivered to the grader by the flow system IF one of two conditions occurs. 1. Operating under manual flow, selections 1 or 2 for Control Type. This means not relying on the grader speed to determine the eggs needed by the grader. 2. Grader speed sensor is not working. The system switches to this value. This value is also used for STARTUP MODE,
	since the grader is not running; the system needs to know the speed the grader normally runs at to bring the proper number of eggs to it during startup.
Target speed %	Used to judge when the collection system has achieved a % overall speed at which time the grader operator should be alerted. It means that enough eggs have run off so is recommended to go into Shutdown Mode. Setting this number compares this percentage with the overall average percent belt speed for each building (master flow rate). When the master flow rate exceeds the Target Speed %, an alarm is issued. You can set up an alarm output to give a light indicator in the egg room designating that the target speed % has been achieved. This signals the operator to check the screen to put the system into Shutdown Mode. To turn on an indicator light when the target speed is reached, assign the alarm channel in any zone assigned to the grader for the grader input type. Also, the target speed must be set less than 99% for this feature to work.
Reset flow %	Allows you to reset the master flow rate of your egg flow system for each grader. It is used primarily when a major breakdown of equipment occurs, not processing according to the schedule. After start back up, the system would start at the speed it left off, and then slowly compensating for the more concentrated eggs on the line. Typically, this overfills the cross belt for a few minutes, until the system realize it has too many eggs. Resetting this parameter and lowering the flow % will not overload the cross belt. The system will begin controlling from this point.
Overfill %	Takes a percentage of your grader speed and targets the actual cases per hour required. Use this parameter to take into account dirties coming back around a belt onto the orientor, fine-tuning the flow to minimize belt stops.
Loader overfill	This parameter is activated in case if an offline loader. Designate a different overfill percent when the loader is running and when you are full inline.

To see the entire **Egg Flow configurations**, on **Configure** section click on **Egg Flow Configuration**.





Screen 14. Egg flow configuration.

7.1 Processing machines (graders)

Processing machine (grader) operation parameters:

Machine Designation	Enter a name to reference the processing machine.
Speed DGP/CH	The DGP assignment where the pulse from the machine is brought in. The eggs per pulse varies by machine type and are usually 18 or 24 eggs per pulse.
Fill Sw DGP/CH	Used when running inline/offline systems. This input determines if the loader is running and whether it is running at 33%, 50%, or 66% of the spool capacity. The system responds by reducing the inline flow as necessary and tracks the flow efficiency independent of the loader.
Startup Mode DGP/CH	The DGP assignment for the Mode Switch (Startup/Run/Shutdown). Systems where the cross-belts are emptied at the end of the day use this feature. In the morning, the operator places the system in Startup mode, which automatically sequences the buildings on in order. Thus, when the grader starts up, it starts with a full line. Once the grader is started, the switch is placed in Run mode, giving optimum flow for the day. At the end of the day, the operator places the switch in Shutdown mode, which sequences the buildings off, again ending with a full line.
Shutdown Mode DGP/CH	If this DGP is defined the system reads the mode switch differently. Instead of using the startup assignment to read all three positions of the mode switch it uses both the startup and shutdown assignments to determine which switch is on. If the startup switch is closed the system will be in startup mode or if the shutdown switch in closed the system will be in shutdown mode. If neither switch is
	then the system is in run mode. This allows using two switch inputs to determine the three states rather than one analog input with resistor dividers.
Control	There are 4 types of egg flow control available in the system. They can be broken down into two categories: Manual or Auto Flow, and Ratio or Rate Based Control.
Max CPH	Set the maximum cases per hour for up to 4 belts connected to the processing machine. It helps prevent overloading a belt connected to the grader when multiple belts are used, even if the grader wants more eggs.

Control types:

1. Manual Flow

· **Definition:** Ignores the grader speed; the operator manually targets how many eggs are delivered.

· **How It Works:** The flow does not adjust automatically with grader speed changes. The operator must update the manual target.

· **When to Use:** In cases where full manual control is needed or grader feedback is unavailable.

· **Important Notes:**

Requires operator attention to maintain proper flow when grader speed changes.

2. Auto Flow

· **Definition:** Uses the grader speed to automatically adjust egg flow.

· **How It Works:** The system increases or decreases flow based on grader speed changes.

· **When to Use:** For automated egg flow control based on real-time grader demand.

· **Important Notes:**

Still uses the manual target in two cases:

- If the grader signal is faulty, the system reverts to the manual target.
- During Startup mode, the grader is off, so the manual target determines flow.

3. Ratio Based Control

· **Definition:** Adjusts each building's speed proportionally to ensure all buildings run out of eggs simultaneously.

· **How It Works:** Compares relative size and speed of each building. Syncs buildings with different lengths, equipment, or bird counts.

· **When to Use:** During Run mode to optimize blending and coordinated depletion.

· **Important Notes:**

o Ensures optimum blending

o Controlled by the Runtime ratio parameter in egg flow settings per zone

4. Rate Based Control

· **Definition:** Uses production history from each building to optimize flow rate.

· **How It Works:** Adjusts egg flow from each house individually to reach the target eggs per minute.

· **When to Use:** During Startup mode, when not all houses are running – ratio-based control isn't possible.

· **Important Notes:**

oFocuses on optimum flow first, and blending second

o Can be less accurate if production data is skewed (e.g., a house was offline)

o More difficult to maintain than ratio-based flow

Max Eggs/Min	Defines the most eggs per minute that would be possible for an individual counter to count. If this value is exceeded, the system will ignore any counts above this value. This is used to ignore cobwebs and other problems that can give false counts.
Max Start Speed	The maximum egg flow speed for any zone while in startup only. This number helps regulate egg flow in the mornings until the system can establish the correct speed. A different setting is
Time Delay	Due to the variation in egg collection systems, this parameter allows the inclusion of a delay between the time the system establishes a rate for control of egg flow, and the implementation of a change in control speed. When counters are on each tier, this is normally set to 0 or 1 minute. On systems with counting on the rod conveyor, there is a physical time delay between the actual rate calculation, a speed change, and the result of that speed change. A Time Delay of 1 or 2 is then used.
Default Row	Determines whether the row names on the egg flow screens will default to standard names, i.e. Row 1, Row 2, etc. or whether the rows will use the Group Name entered for this row. Normally, this is set to <Y>.
Sensitivity Under Target	Establishes how responsive the system is when the flow is too light. It establishes the magnitude of the change in speed the collectors make in conjunction with how light the flow is. Valid numbers are 0 - 6. A setting of 0 allows the greatest speed change to occur when the flow is too light. Each increment above 0 HALVES the response for values to 3. For example, if the flow is too light and the computer calculates a 12 increase in speed, at 0 the speed will increase by 12%, at 1 by 6%, at 2 by 3%, and at 3 1.5%. This setting is normally set to 1 or 2. For a value of 4 it adjusts by 3/4, 5 adjusts by 3/8 and 6 by 3/16. Values of 4-6 are typically used with breakers.
Sensitivity Over Target	Used when the flow is too heavy. It follows the identical logic to the above setting. Very often these two settings are NOT set the same, allowing for greater changes below, or above the target. These are extremely important is achieving optimum flow.
Overfill %	This parameter is active in Auto Flow ONLY. It establishes the percentage over or under the grader speed that you are requesting the flow to produce. A setting of 100 give you a flow target of your machine speed. An overfill percentage of 95% gives you 95% of your grader speed for flow into the machine. This is used primarily on systems that have a dirty egg belt returned onto the orientor. You estimate what percentage of dirties you normally run and reduce your flow using this parameter. An overfill percentage of 102% can be used on system that speeds up the grader when the orientor gets full. It can increase throughput by constantly being at or above the grader capacity.
Exception %	Used for the EXCEPTION REPORT. It established a range of acceptable deviation in the total egg count for each building. The exception report will list all counters that exceed or are below the exception percent based on what an average counter should be. For instance: If the total dozens counted were 6000 dozens, with 60 counters per house, the average counter should have shown 100 dozens. With an exception percent of 10, any counter showing less than 90 dozens or move than 110 dozens will show up on this report. This parameter is also used in the zone display screen for all the egg counts, when there are too many or too few counts for this tier.
Start Run Offset	Used to increase speed when first entering run mode from startup.
Run Mode Limit (min)	Sets the number of minutes to limit the flow rate to the Max Start Speed when first starting egg flow each day. This is useful when Startup Mode isn't used to prevent an overflow condition at the beginning of the day. A value of zero disables this feature.
Hour To Reduce/Master Flow Rate	These parameters establish a point in time at which the SENSITIVITY UNDER and OVER the target is modified. In most egg flow systems, there comes a time when the eggs have been run off the first time, or the birds are not laying eggs at as heavy a rate as they had previously in the day. The system is required to make larger speed changes due to a less concentration of eggs on the belt lines. After the HOUR TO REDUCE, and when the MASTER FLOW RATE exceeds this setting, all sensitivities are reduced by 1, which a sensitivity of 2 becomes 1, 1 becomes 0, etc. This allows the flow system to keep the grader full later in the day.

Allow Top/Bot	Select when top/bottom houses can run both top and bottom together. Always setting allows them to run together anytime, while After Reduce setting only allows them to run together after the Hour to Reduce time. Never setting doesn't allow them to run together at anytime during egg flow.
Speed	Adjustment to system speed when entering top/bottom flow.

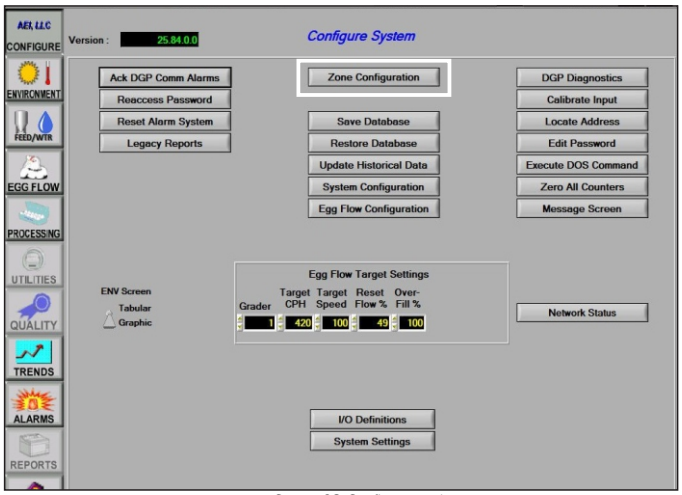
7.2 Split

Split parameters:

Enter/Exit Split	Allows system to enter or exit split immediately. Useful if the system was rebooted or some other problem requires a significant flow change.
Min Split Speed	Defines the minimum belt speed allowed before entering split mode. If the Master Flow Rate falls below this value, the system automatically enters split mode. On the processing screen, you will see the orientor mode displayed as HALF A or HALF B indicating split mode is activated.
Max Split Speed	Defines the maximum belt speed allowed in split mode. Exceeding this belt speed will reduce the time to exit the current split mode and enter the next. When both split modes exceed this value, the system will be forced out of split mode and back to regular mode.
Min Belt Speed	Defines the minimum speed allowable for any motor to run on the egg collection system. The collectors will never go below this value, except when variable speed cross belts are used. It will only go below this value while in slowdown due to an orientor full condition.
Disable Split	Switch to enable/disable split mode. Ocassionally it might be desirable to disable split mode in complexes with top/bottom switching.

8. Zone configuration

A zone is a physical area such as a building or layer that requires its own independent operation from other zones in the system. There can be 50 zones in the system. Use the **Zone Configuration** to add, delete, or modify zones. Within each zone, up to 18 groups can be configured. Groups are usually created to control inlets, fans, feeders, etc. with each group controlling a specific feature.



Screen 02. Configure section.

By clicking on:
Add Zone: Use this to create a new zone. Enter a name for the zone (up to 16 characters). Once entered, the system will ask if you would like to copy from an existing zone. The new zone will be listed as the last zone.
Delete Zone: Use this function to remove a zone from the system. A box will appear to select the zone to be deleted. Once deleted, all information for that zone is lost.

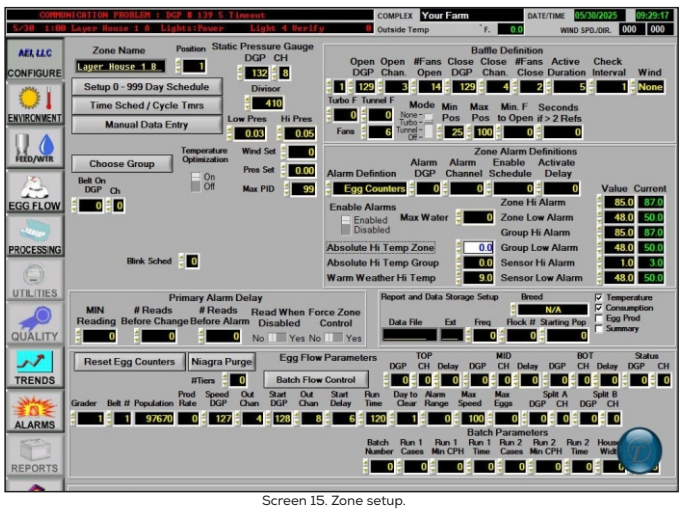
Note:
You can change the order of zones listed by using the position field within the zone setup.

Note:
Save the database before deleting a zone so it can be restored if you make a mistake.

Double click to enter the specific **Zone setup.**

8.1 Zone setup

Use this section to rename, reposition or modify zone parameters.

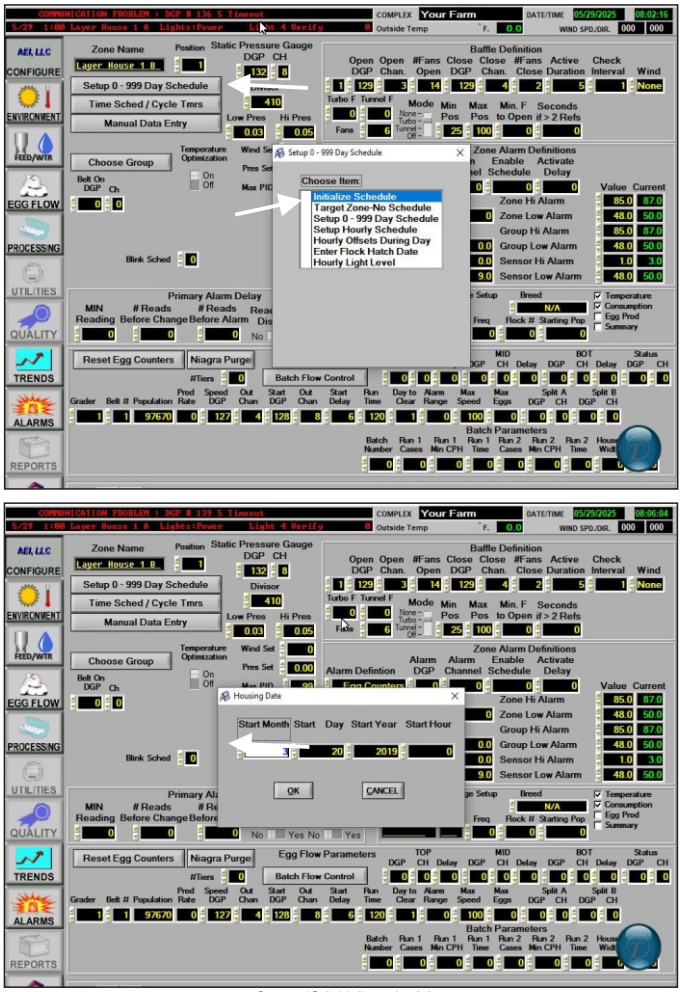


Screen 15. Zone setup.

0-999 Schedule

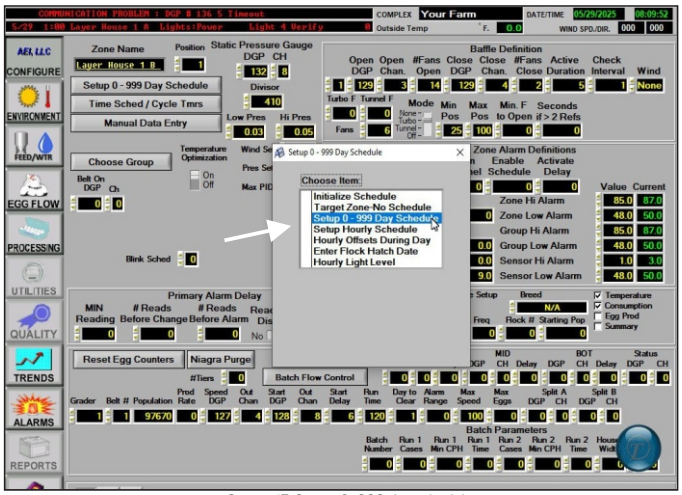
Use this screen to set up a schedule targeting temperature, auxiliar sensors and the lights throughout the flock.

To initialize a new flock, click on **Setup 0-999 day schedule** button on **Zone setup**. Then click **Initialize schedule.** Enter the date and time for starting a new flock.
The **0-999 day schedule** instantly starts running when the date and time configured are reached.

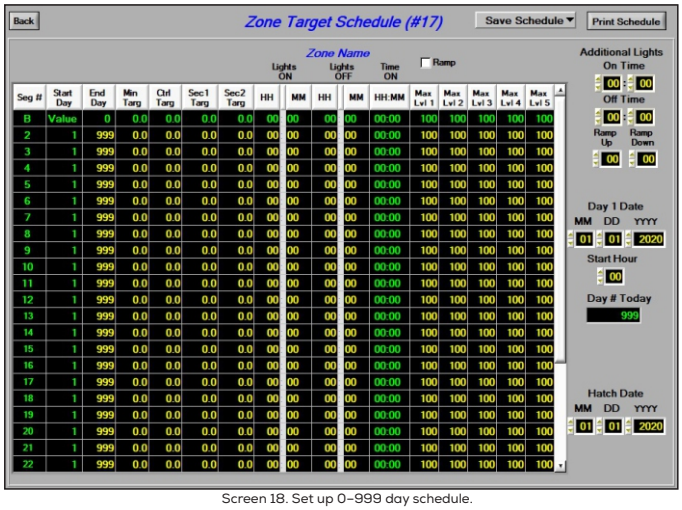


Screen 16. Initialize schedule.

Enter the schedule clicking on **Setup 0-999 day schedule** button on . Then click on **Setup 0-999 day schedule**. This schedule is also tracked as **Time schedule 17**.



Screen 17. Set up 0-999 day schedule.



Screen 18. Set up 0-999 day schedule.

The system supports up to 30 segments. Parameters:

Start Day	Displays the starting day for this segment. It is always one day after the previous segments end day. Refers to flock day.
End Day	Each segment is active from the start day to the end day. Enter a new end day for each segment, the program will automatically change the start day for the next segment. Setting 999 as end day ends the segments (set 999 as end day only in the last desired segment and any other value on regular segments).
Minimum Targ	This is the minimum target temperature for the flock and serves two purposes:
	Temperature Optimization: When enabled, the system may reduce the target temperature at night to help achieve a 24-hour average close to the set target, especially during hot weather. However, it will never go below the Min Targ.
	Heating Control: If heaters are used, this temperature is used as the heating setpoint. When the temperature drops below Min Targ, the system activates the heaters to maintain it.

Control target	The control target is the target temperature for the zone in the segment. Fans and any other cooling control use this temperature for the control point. Temperature optimization can lower the cooling target if enabled.
Sec1 Targ	A control target can be set for a secondary sensor. Normally used for humidity, ammonia, water consumption, etc. Otherwise, it is typically not used and should be left at 0.
Sec2 Targ	A control target can be set for a terciery sensor also. Set it to 0 if not being used.
Lights On	Set the time (00:00 to 23:59) for turning the zone lights on. If intermittent lighting is needed, use a regular **Time schedule** instead of this. To assign the **0-999 day schedule**, assign the light outputs to schedule 17. Note: There is normally
Lights Off	Set the time (00:00 to 23:59) for turning the zone lights off. This time must occur after the lights on time.
Time On	Displays the total time the lights will be on for the segment.
Max Level	Allows setting a different maximum light level for each segment to each of the light levels output. Level must be between Min/Max values set in the zone configuration section for this to work. For instance, if the output has a maximum of 90% then this field can be set to 90% or lower.

Ramp: When checked, will calculate the daily temperature targets and lights on/off between each segment such that the system ramps the values rather than stepping from one value to the next.

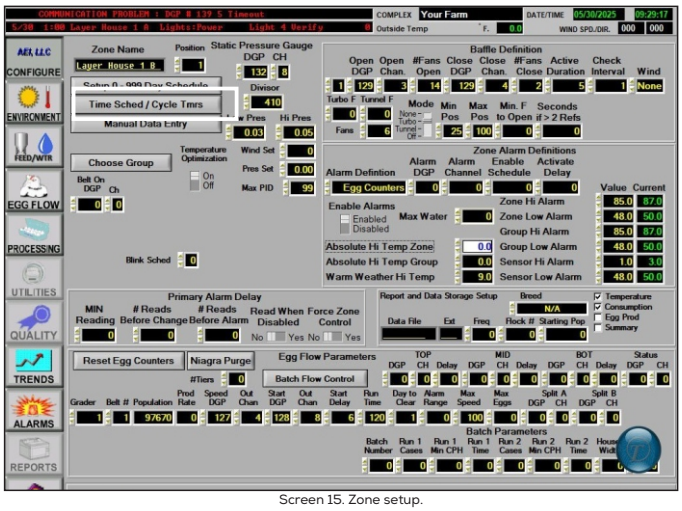
Additional Lights: Enter an additional light On/Off time for midnight feeding or other use. Leaving these fields at zero disables this feature. Dimming of lights during this period can be set to either the minimum, ramp or maximum level.

Day 1 date: Changing this value instantly updates the current flock age. Can be used for starting a new flock.

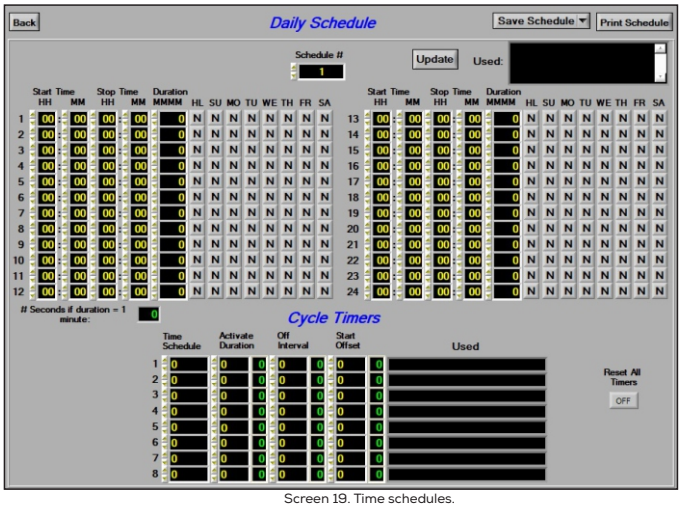
Additional Lights: Enter an additional light On/Off time for midnight feeding or other use. Leaving these fields at zero disables this feature. Dimming of lights during this
Day 1 date: Changing this value instantly updates the current flock age. Can be used for starting a new flock.

Time Schedule/Cycle Timer

Use this screen to set the **Time schedules** and **Cycle timers** for the zone. There are 16 Time schedules in each zone with 24 intervals in each schedule. Use these **Time schedules** to set controls for feeders, flush controls, intermittent lights or any other functions that require cycling an output during the day.



Screen 15. Zone setup.



Screen 19. Time schedules.

Select the **Time schedule** (1 to 16) you wish to edit.

Parameters.

Start/Stop time	Enter the start/stop time (00:00 - 23:59) for this interval execution.
Duration	Enter the duration of the schedule execution in minutes. The system will calculate the correct stop time
Weekday	Day of the week the schedule will be executed.

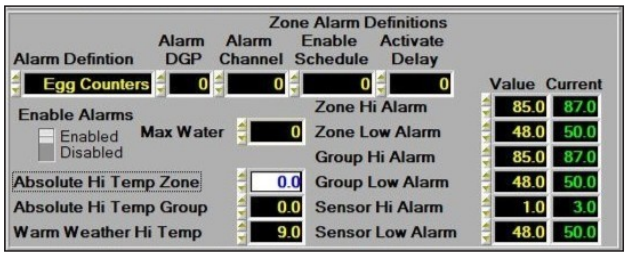
There are 8 **Cycle timers** within the system. Parameters:

Time schedule	Assigns a **Time schedule**. If assigned, the **Cycle timer** only operates when a segment is active on the Time schedule. The **Cycle timer** instantly stops if the segment in the Time schedule turns off.
Activate duration	The number of minutes this cycle timer will be on.
Off interval	The number of minutes this cycle timer will be off.
Start offset	Number of minutes delays the activation of the cycle.

Reset all timers: Resets all cycle timers in the system.

Alarms

Alarms set on the **Zone setup** screen are zone level alarms. To define alarms to the entire complex, reach out to customer support.alarms. To define alarms to the entire complex, reach out to customer support.



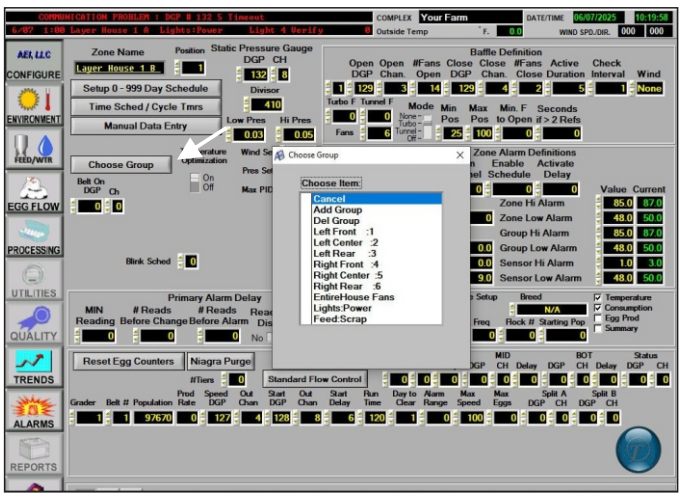
Parameters.

Max Water	Set the maximum water use per minute. Exceeding this value generates an alarm. Set to zero to disable.
Enable Alarms	Enable or disable alarms for this zone.
Absolute Hi Temp Zone	The temperature to alarm for this zone regardless of target temperature. Zero disables this feature; however, the Warm Weather Hi Temp applies. For example, if the outside temperature was 85 °F and the warm weather value was 5 °F, then the zone average would have to be above 90°F before this value could trigger an alarm.
Absolute Hi Temp Group	Same as above for this zone groups.
Warm Weather Hi Temp	The number of degrees above the outside temperature before a temperature alarm can occur. This prevents alarms during summer when the outside temperature is higher than the target. A value of zero disables this feature.
Zone Hi/Low Alarm	The temperature above or below the zone average at which to alarm. Integra automatically calculates a current alarm setting based on several factors, including the difference between base reference and target temperature, optimization adjustments, and programmed offsets. The high alarm divides the difference by 2 if the target is below the base. The low alarm uses the full difference. Warm Weather Hi Temp helps prevent false alarms in hot weather.
Group Hi/Low Alarm	Same as above for group averages.
Sensor Hi/Low Alarm	Same as above for individual sensors.

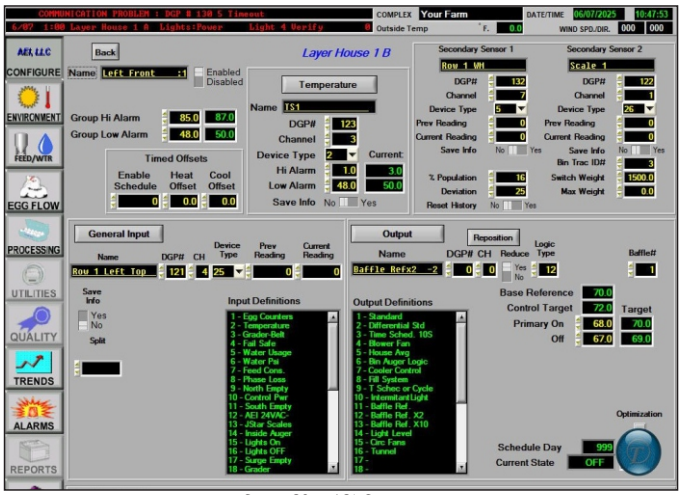
8.2 Group setup

Groups are used to control related devices. Each group usually controls one specific feature such as Inlets, feeders, fans, etc.
Usually, a group name suggests the physical position of the grouped devices within the barn such as: Left front, right center, etc.

To edit a group setting, in **Zone setup** go to **Choose group** and select the desired group.

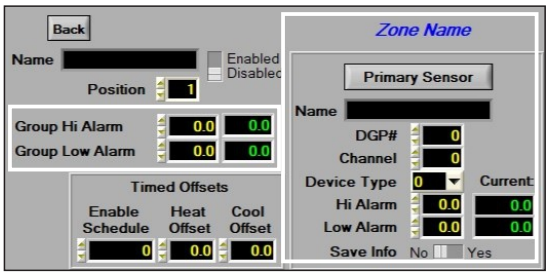


Screen 20 and 21. Group setup.

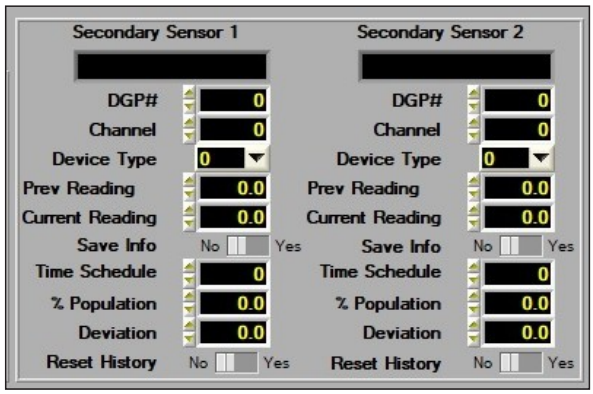


Screen 20 and 21. Group setup.

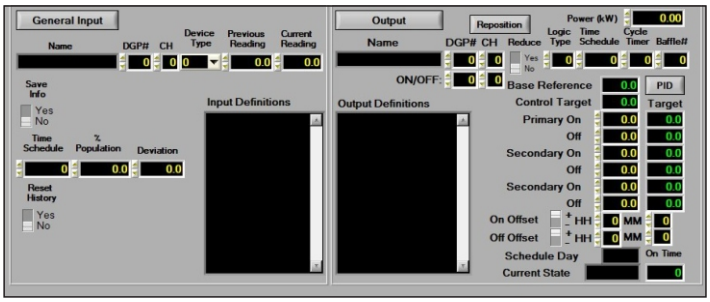
Each group can have alarms. The alarms (Group high alarm and Group low alarm) will be the average of the primary sensors set to the group. Edit the primary sensors and the alarms values at any time.



The secondary sensors are input sensors. Use secondary sensors to monitor these input sensors. Edit any field by clicking on it.
The device type (from Input definitions) defines the secondary sensor parameters. Each device type has its own parameters.



The General input and General output buttons allow selecting each of the group's sensors. To each sensor the respective parameters will be displayed on the screen, edit the values by clicking on the fields.



9. Help center

To assist you with common questions and issues, we've created a dedicated Help Center where you can find step-by-step guides, troubleshooting articles, and frequently asked questions. If you're unable to find the solution you need, you can also submit a support ticket directly through the Help Center. Our team will be happy to assist you.
For the best experience, we recommend checking the Help Center first before reaching out.

https://munters-aei.zendesk.com/hc/en-us

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