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SOFTWARE RELEASE NOTE: Rotem Trio R9.1.15

Summary

This release includes following features:

- Multiple cycle periods per program in fixed cycle for Cooling pad (5443) (Appendix B)
- Stir Fan Program (9599) (Appendix C)
- Up to 5 heat zones for Brooding (9841) (Appendix D)
- Effective nighttime temperature (7455) (Appendix E)
- Blowback fans (Appendix F)
- Support for 15-minute history resolution
- Support for current batch history file generation to USB drive inserted into controller (Appendix G)
- Support for history file export to Comm-2 Trio
- Cool Pad Off time max limit increase (10695)
- Zone/Central heaters target at dashboard tile
- Displaying the weight value on RSU display according to the selected method
- Keeping livestock data at factory-reset, load-settings, and SW-update
- Improvement on:
    - Settings security in case of low battery
    - Water overflow alarm in dark hours (17177)
    - Default configuration settings (16878, 17418, 17581, 18358)
    - Rotem Trio Switch/Relay UI when Winch Card installed (15941)
    - Scale Card error handling (14251)
    - RSU-2 connectivity (13519)
    - Relay Box connectivity
    - Scale card connectivity (13388)
    - Lights Off with Black Screen (13824)
    - Pre-heat mode settings (10836)
    - Heat settings - Send to all controllers (10424)
    - Feed settings - Send to all controllers (10186)
    - Cooling temperature setup (10843)
    - Showing water graph at dashboard (10622)
    - Showing Silo info at dashboard (10541)
    - History sorting (8913)
    - Date and time presentation (11487)

- Connectivity to Trio Air (11042, 12285)
- Showing support ID (11406)

Release specification

Product Name	Rotem Trio
Software Version	Trio 9.1.15
Supported Hardware	Rotem Trio Main CPU, Trio UI CPU
Communicator-2 Trio Software	Communicator-2 Trio 2.1.18
Release Date	03-Mar-26
Supported Languages	English, Italian, Danish, Swedish, German, Spanish, Portuguese, Russian, Chinese, Korean, Japanese, Thai, Hebrew, Arab, Turkish, Vietnamese, Polish

SW Update Issues

- The SW version rollback is not supported
- The update package performs the SW upgrade for both Trio Main CPU, Trio UI CPU
- The update is available online while connected to WEB
- USB Disk should be used for the offline updates
- It's recommended to use USB update method in case of poor Internet quality
- The special proceedings should be performed for the smooth transition to version R9 (see Appendix A)
- **R9 Version download file size is 1.2 GB (takes around 2 minutes within 100 Mbit Internet connection)**

Notes

- There is a known anomalies list (see below), which will be fixed within future versions

Known Anomalies

Description	Workaround
Ventilation & Control	
Settings & Backup	
Test & Calibration & Devices	
History	
Management	
When changing House Mode and growth day together, the Growth Day keeps the value of a previous House Mode	Change the house mode, save, and then change the growth day

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Functionality by Version

	Rotem Trio Poultry		
Functionality	9.1	8.5.30	8.2.11
Control/Ventilation			
Temperature Curve Set	V	V	V
Support for 20 points at temperature curve	V	V	X
Effective nighttime temperature	V	X	X
Min/Max Ventilation Set	V	V	V
Minimum Ventilation Level at Extra/Tunnel mode	V	V	V
Support for tunnel door in basic ventilation	V	V	X
Air Quality (RH%, CO2, NH3)	V	V	V
Air Quality Automatic treatment by Heat or by fans according to the outside temp	V	V	V
Air Quality by Zone Heaters	V	V	V
Static Pressure Inlet/Tunnel	V	V	V
Heaters	V	V	V
Cooling	V	V	V
Cooling Pad - Up to 15 days in tabs	V	V	X
Cooling Pad - Stop by humidity level per each device	V	V	X
Multiple cycle periods per program in fixed cycle for Cooling pad	V	X	X
Fogger	V	V	X
Timers	V	V	V
Timers control by outside temperature	V	V	V
Timers control by humidity	V	V	V
Ventilation levels	V	V	V
Inlet & Curtain Levels	V	V	V
Inlet & Curtain Levels Disable per level	V	V	V
Min/Max ventilation control by Outside temperature	V	V	V
Ventilation control by Wind Chill factor	V	V	V
Ventilation control by THI	V	V	V
Minimum Ventilation fan rotation	V	V	V
Cycling Extra/Tunnel fans	V	V	V
Brooding	V	V	V
Brooding support for 5 zones	V	X	X
Pre-heat with negative days	V	V	V
Separate zone\central heating system	V	V	V
Heaters ignition time support	V	V	V
Heating in special house modes	V	V	V
Low/High Heaters	V	V	V
Emergency high pressure mode	V	V	X

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	Rotem Trio Poultry		
Functionality	9.1	8.5.30	8.2.11
Ventilation types			
Minimum	V	V	V
Transitional	V	V	V
Tunnel	V	V	V
Basic Stir	V	V	V
Advanced Stir Fan Program	V	X	X
Blowback fans	V	X	X
Other Functions			
Water management	V	V	V
Feeding management	V	V	V
Feed Batch Weighing	V	V	V
Lighting	V	V	V
Lighting in special house modes	V	V	V
Service Light	V	V	X
WOD (water on demand)	V	V	X
Flushing Drinker lines	V	V	X
System			
Sequential deployment of output device at Power up	V	V	V
Support for Rotem Trio modular concept	V	V	V
Support for Expansion 70 Switches/Relays	V	V	V
Support for Winch Switch/Relay Cards	V	V	X
Support for Switch/Relay Cards attributes	V	V	X
Support for Fans manual mode Switch override	V	V	V
Support for Heaters manual mode Switch override	V	V	V
Support for Light in Manual modes	V	V	X
Support for Feed program in manual mode	V	V	X
Support for current batch history file generation to USB drive inserted into controller	V	X	X
Support for current batch history file sharing with Communicator-2	V	X	X
LCD programmable sleep mode	V	V	X

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	Rotem Trio Poultry		
Functionality	9.1	8.5.30	8.2.11
Management			
Alarm Settings	V	V	V
Alarm Test	V	V	V
Alarm Test duration	V	V	V
Alarm Reset	V	V	V
CO2 Emergency Threshold	V	V	X
Water Alarm according to light program	V	V	V
Batch Management	V	V	V
Separate Male/Female Management	V	V	V
Bird Curve Settings	V	V	V
Silo Management	V	V	V
Load/Save settings	V	V	V
Access control	V	V	V
History			
Temperature	V	V	V
Humidity	V	V	V
Water	V	V	V
Cooling Water	V	V	V
Water/Feed Conversion	V	V	V
Feed	V	V	V
Heaters	V	V	V
Alarms	V	V	V
Events	V	V	V
24 Hours history per day	V	V	V
24 Hours history per day in 15-minute resolution (Graph & File Export)	V	X	X
CO2	V	V	V
Ammonia	V	V	V
Bird Weighing	V	V	V
Silo Weighing	V	V	V
Feed Batch Weighing	V	V	V
Mortality	V	V	V
Power Consumption	V	V	V
Gas Consumption	V	V	V

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	Rotem Trio Poultry		
Functionality	9.0	8.5.30	8.2.11
Measurement & Calibration & Test			
Temperature	V	V	V
Humidity	V	V	V
CO2	V	V	V
Ammonia	V	V	V
Static Pressure	V	V	V
Water	V	V	V
Bird Weighing	V	V	V
Silo Weighing directly with load cell	V	V	V
Electronic Feed Batch Weighing	V	V	V
Mechanic Feed Batch Weighing	V	V	V
Potentiometer	V	V	V
Outside Temperature measurement sharing between controllers at the farm	V	V	V
Power Meter	V	V	V
Gas Meter	V	V	V
Lux meter (Light Intensity)	V	V	V
Sensors testing & troubleshooting	V	V	V
Installation			
Setup	V	V	V
Relay Layout	V	V	V
Analog Sensors	V	V	V
Digital Sensors	V	V	V
Analog/Digital Sensors Disable Option	V	V	V
Analog Output	V	V	V
Vent\Curtain Setup	V	V	V
Vents auto calibration - Number of steps per device	V	V	V
Temp Definition	V	V	V
Temp Sensor Location	V	V	V
Scales (Bird/Silo)	V	V	V
RSU-2 Remote Scale Units	V	V	V
RLED-2 Light Dimmer Over Communication	V	V	X
Device Properties	V	V	V

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Devices by Version

Devices/Sensors Total No per Room/House	Rotem Trio Poultry – R9.1							Rotem Trio Poultry – R8.5.30						
	Output				Measurements			Output				Measurements		
	Total	Relay	0-10V	Comm	Anal.	Dig.	Comm	Total	Relay	0-10V	Comm	Anal.	Dig.	Comm
Cooling	4	4						4	4					
Foggers	4	4						4	4					
Heaters	16	16	16					16	16	16				
Inlets	4	4	4					4	4	4				
Outlets	1	NA	1					1	NA	1				
Tunnel Doors/Curtains	4	4	4					4	4	4				
Fans Exhaust/Tunnel	30	30	16					30	30	16				
Stir Fan	6	6	6					2	2	2				
Blowback Fan	1	1	1					NA	NA	NA				
Lights	4	4	4					4	4	4				
Timer	5	5						5	5					
Auger	2	2						2	2					
Feeder	4	4						4	4					
As Relay	70	70	NA					70	70	NA				
As Analog Output	16	NA	16					16	NA	16				
Alarm	1	1						1	1					
Temperature Sensors					16							16		
Humidity Sensors IN					2							2		
Humidity Sensors OUT					1							1		
CO2 Sensors					1							1		
Ammonia Sensors					1							1		
Pressure Sensors					1							1		
Potentiometers					4							4		
Bird Weighing					4							4		
Silo Weighing					4							4		
Feed Weighing					1							1		
Lux Meter (light intensity)					1							1		
Water Meters						4							4	
Aux. Input						4							4	
Auger Sensor						2							2	
Feeder Active Sensor						4							4	
Power Meter						2							2	
Gas Meter						3							3	
Feed Weighing by Pulse						2							2	
RSU-2 Remote Scale Unit							2							2
RLED-2 Light DImmer							2							2
Analog Input Card							1							1
Digital Input Card							1							1

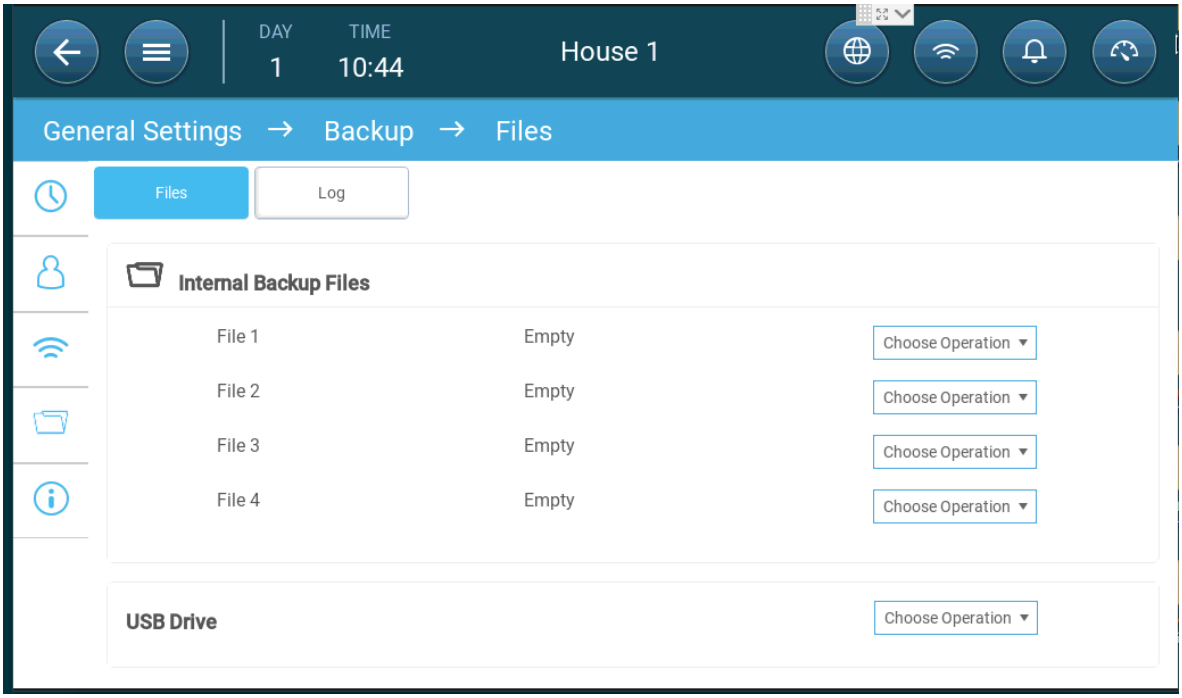
Appendix A: Upgrade to Version R9

1. Creating Backup file prior updating to Version R9

Before updating your trio controller from previous version to R9, please make sure to save a backup file to an external USB flash drive, so you can use it to load your setting to the controller once the upgrade to R9 is done.

Backup file saved to one of the internal backup Slots in the Trio, will not be transferred on to R9.

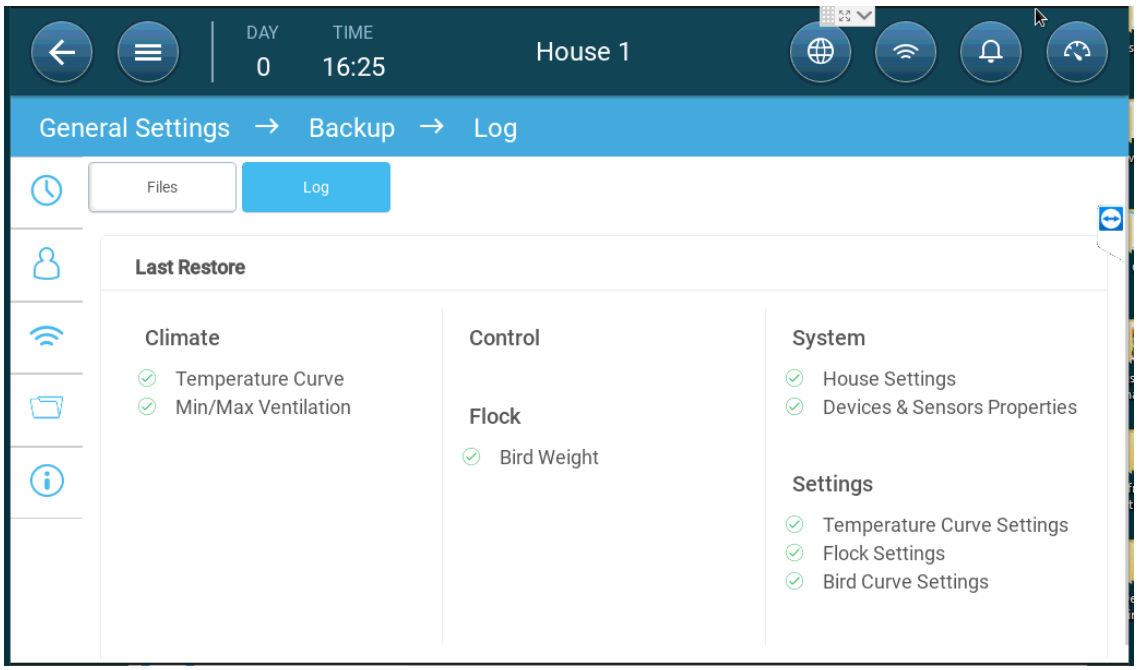
Please note, the USB backup file section will be provided only when the USB flash drive is inserted into the Trio



2. Restoring Backup file to Controller upgraded to Version R9

Use the same backup file on an external USB flash drive to restore previous versions controller settings.

The user should verify the list of loaded tables at the 'LOG' Tab.



Trio Backup file – Exclusions in upgrade to R9 from R8

The following tables will not be restored, please make sure to manually record your settings/date before upgrading to R9:

- Temperature Curve
- Heaters
- Cooling
- Stir fan

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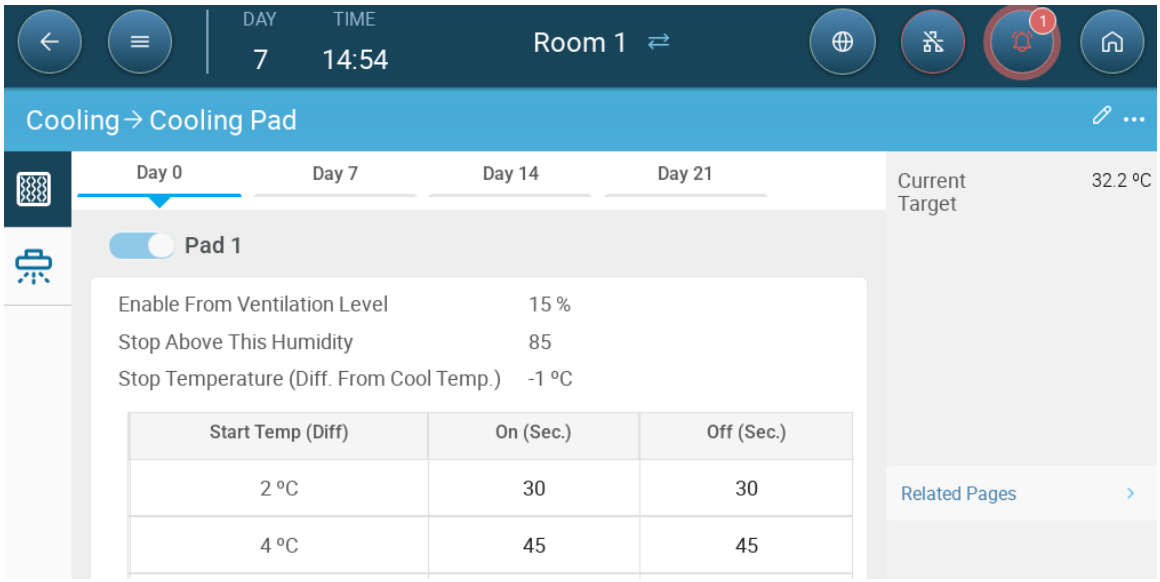
Appendix B: Multiple cycle periods per program in fixed cycle for Cooling pad

Version 9.0 enables defining up to eight cooling cycles, each with its own temperture definition and duration. Trio continually measures the difference between the current temperature and cooling temperature. When the difference exceeds the threashold, the appropriate cycle is activated. Once a cycle starts, Trio does not recheck the temperature until the cycle finishes.



- Click  and define:
  - Growth days at which the settings change.
  - Status: Enable or disable a cooling device.
  - Enable from ventilation Level: Select the level (ventilation output) to enable cooling operation. (Default 1).
    - If Extra or Tunnel ventilation modes are enabled, you can enable ventilation to start in any one of these modes.
  - Stop Above This Humidity: Stop cooling when the humidity level reaches the level defined in the Humidity settings.
  - Stop Temperature (Diff From Cool Temp.): Sets the temperature differential from the cooling temperature (Temperature Curve) to stop cooling device. Default: -0.2º. Range: -10.0º to -0.1º
    - Stop cooling device temperature = Cooling Target + Stop temperature
  - For each cycle define:
    - Start Temp (Diff): Set the temperature differential from the cooling temperature (Temperature Curve) to activate the next cycle.
    - ON/OFF Time: Define the amount of time the cycle is ON and OFF, respectively.
      - On: Default 30 seconds. Range: 5 – 999
      - Off: Default 30 seconds. Range: 0 – 9,999
    - Click ADD CYCLE to define temperature differentials and cycle times.

Appendix C: Stir Fan Program

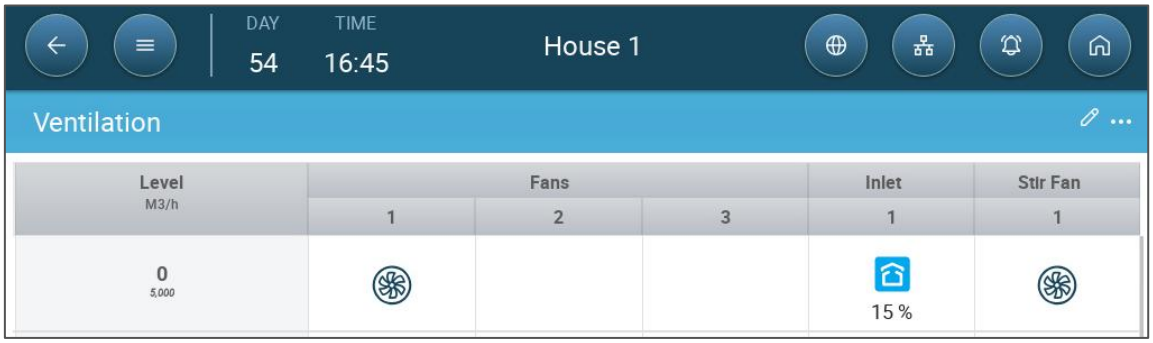
Stir fans mix the air within the rooms. Because warm air rises and cool air falls, there can be a difference of several degrees in the temperature between the floor and the ceiling. By circulating the air, heating costs can be reduced while the environmental conditions are improved.

Stir fans can work continuously or in cycles.

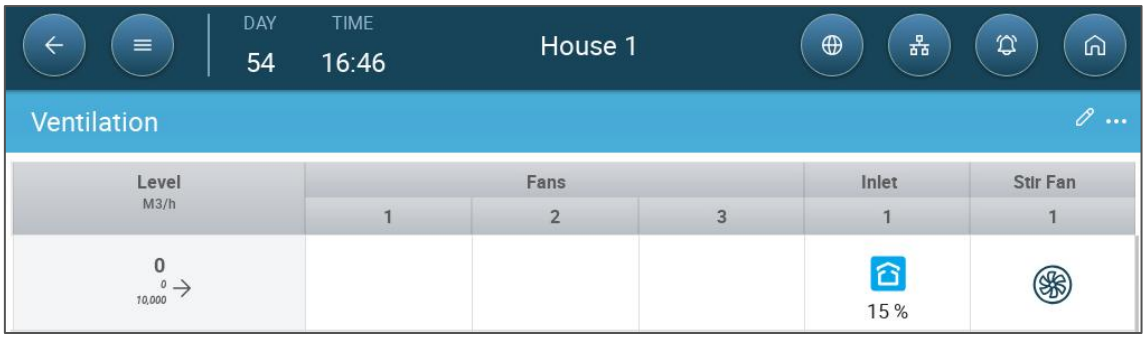
How do Stir Fans and Exhaust Fans Work Together?

There are several rules guiding stir fan operation.

- An exhaust fan must be defined at the same level as a stir fan. The stir fan will not operate without an exhaust fan.



Valid Stir Fan – Exhaust Fan Configuration



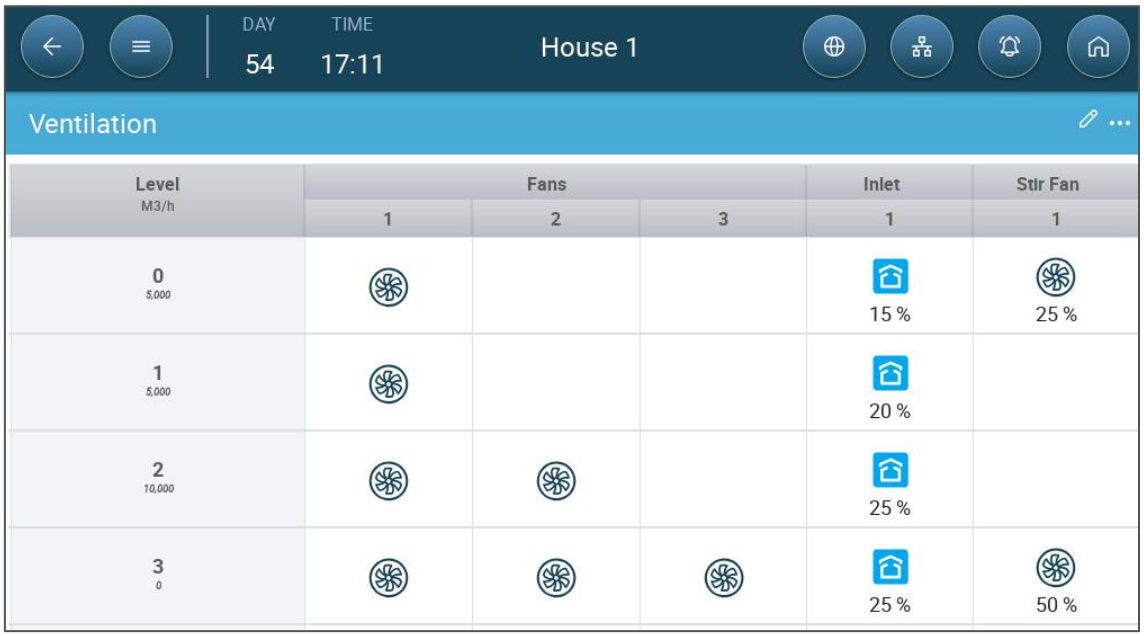
Invalid Stir Fan – Exhaust Fan Configuration

- As the level of ventilation rises, the stir fan operates until there is a change in the exhaust fan configuration. At that point, the stir fan must be redefined or it will stop operating. In upper Figure, The stir fan operates at Level 0 and Level 1. At Level 2, when the exhaust fan configuration changes, the stir fan stops operating. Lower Figure illustrates how to define the stir fan to ensure continuous operation.

Change in Exhaust Fan – Stir Fan Stops Working

Change in Exhaust Fan – Stir Fan Continues Working

- Variable speed stir fans continue working at the same level until a new level is defined; there is no ramping. In FigureError! Reference source not found. the stir fan works at 25% from Level 0 to Level 2. At Level 3, it rises to 50%.



Variable Stir Fan Speed

- If the stir fans operate in a cycle, they can synchronize their on-time with exhaust fans that operate in a cycle (refer to Cycle Time Option). If the exhaust fans work continuously, the stir fans operating in a cycle work independently of the exhaust fans.

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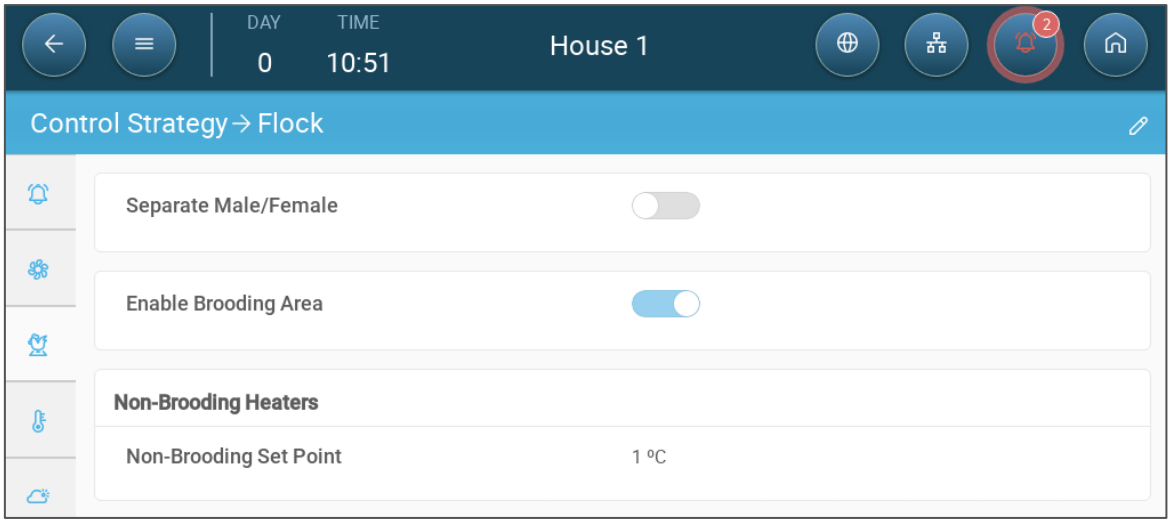
Appendix D: Brooding for up to 5 Heat Zones

Version 9.0 supports up to five (5) brooding areas. Each area is mapped to a specific temperature sensor. If more than one sensor is assigned to a brooding area, the functionality is determined by the average temperature.

1. Go to System › Control Strategy › Flock  .

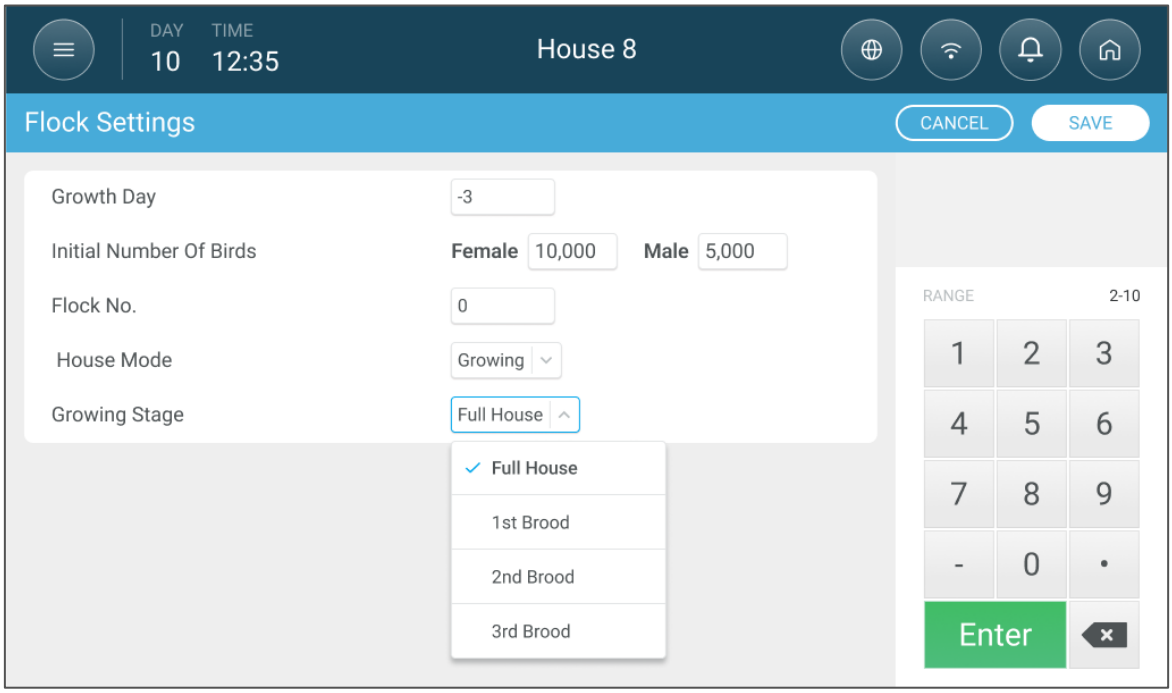


   a. Enable Brooding Area.

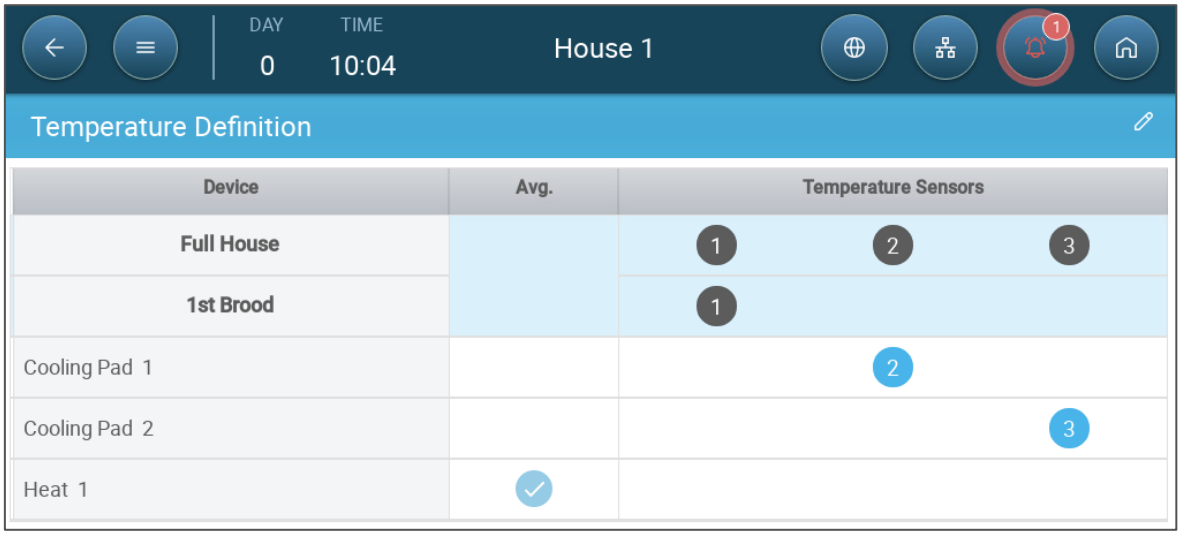
   b. If required, enable non-brood heaters and define the set point. These heaters are mapped to those sensors not mapped to the brooding area temperature sensors (next step).

   - This function must be enabled for these heaters to operate.

2. Go to Flock › Flock Settings.



3. Select the number of brood areas.
4. Go to System › Temperature Definition (temperature sensors must be defined).
5. Map each brood zone to one or more temperature sensors.

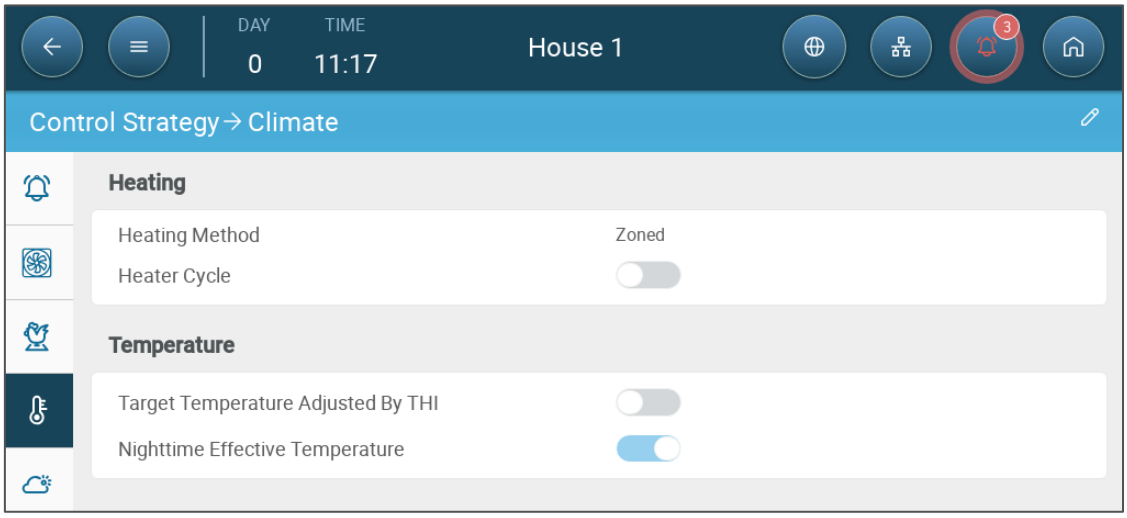


Appendix E: Effective Nighttime Temperature

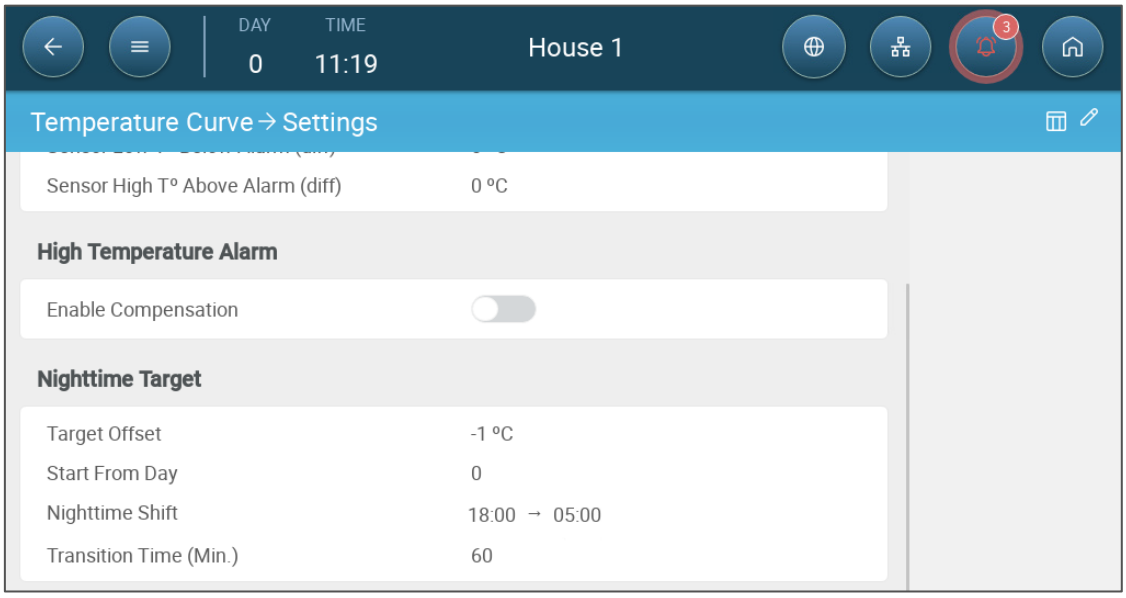
As an option, Version 9.0 enables defining a nighttime temperature differential. This option lowers the target temperature during the night (the user defines the nighttime period), starting from a user defined day. Effectively this function means that the heater starts functioning at a lower temperature.

To enable a nighttime differential:

1. Go to System › Control Strategy › Climate and enable **Effective Nighttime Temperature**.



2. Go to Climate › Temperature Curve › Settings.



3. Define:
   - Target Offset: Define the nighttime temperature offset. Default: -1° C. Range: -5° - 0° C.
   - Start from Day: Define the growth day at which the function begins to operate. Default: 0. Range: 0 - 999
   - Nighttime: Define the nighttime hours. Default: 18:00 – 5:00.
   - Transition Time: Define the amount of time over which the temperature curve transitions between day to night and night to day. Default: 60 minutes. Range: 5 – 120.

Appendix F: Blowback Fan

As an option, blowback fans can be used during tunnel ventilation to improve airflow in the area of the cooling pads. Their purpose is to distribute air in areas with limited air flow.

➲ Go to System › Devices and Sensors and set relays as Blowback Fans (

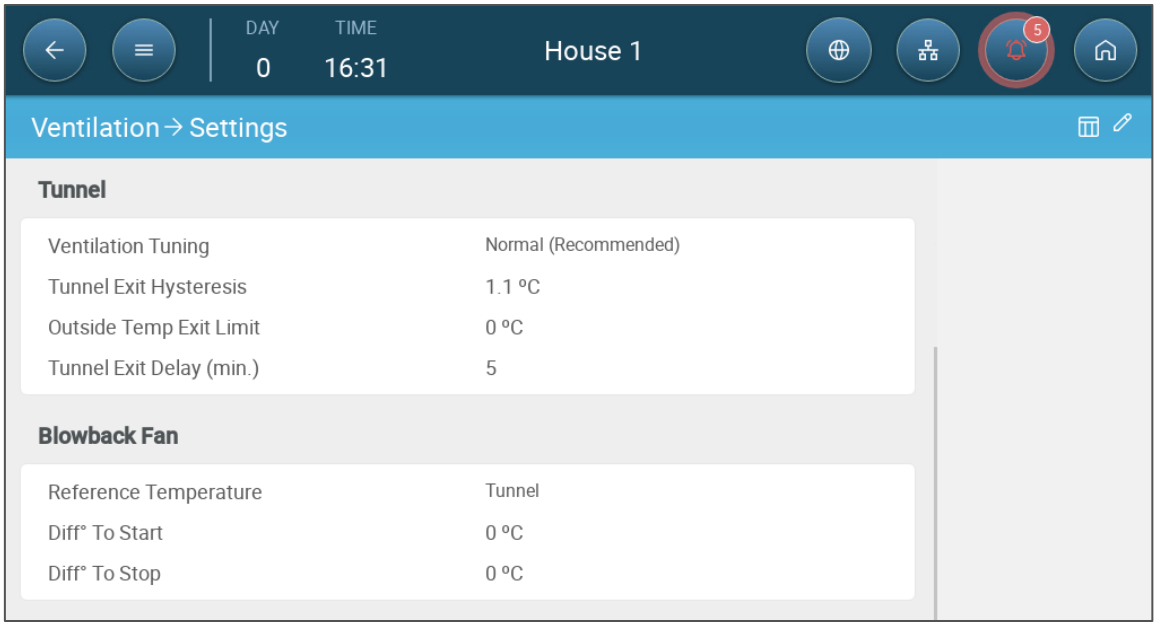
Operation

- Blowback fans operate according to temperature readings. The fans must be mapped to a specific temperature sensor(s).
  - These fans do not operate according to the average temperature reading. If the mapped sensors fail, the fans cease operating.
- Blowback fan activation and deactivation temperatures are in reference to the tunnel temperature or the cool pad temperature.

Configuration

➲ Tunnel Ventilation must be enabled

1. Go to Climate › Ventilations › Settings.



2. Select the reference temperature: Tunnel or Cooling.
3. Define the differential between the reference temperature and the start/stop temperature. Default: 0°. Range: -10° to +10°

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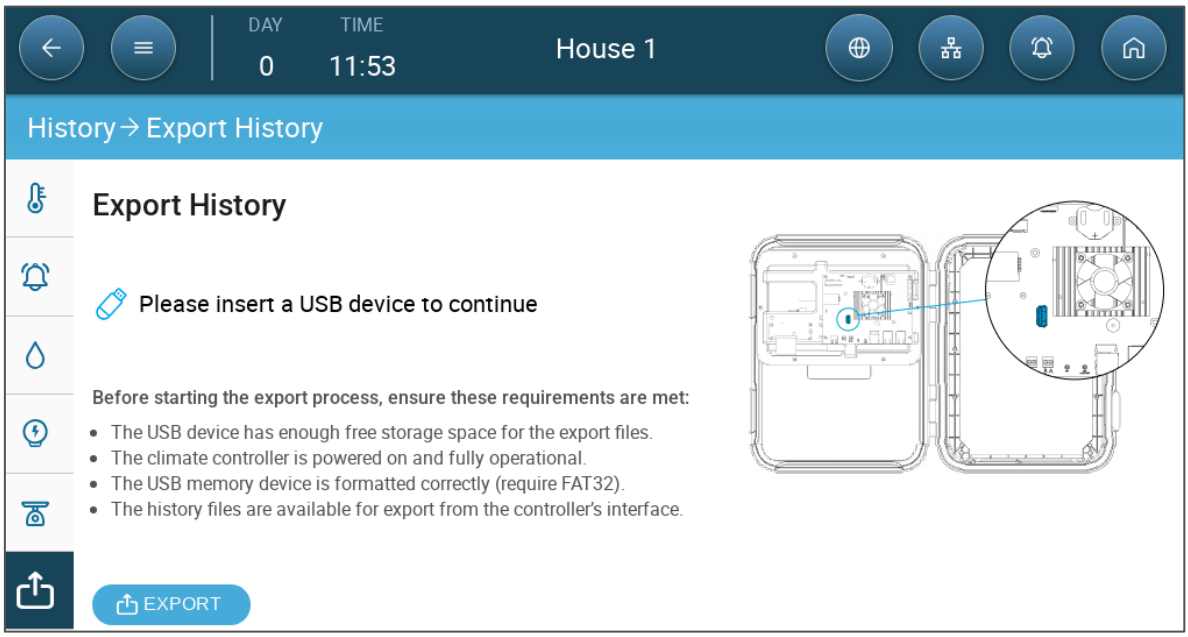
Appendix G: Support for current batch history file generation to USB drive inserted into controller

Exporting History Data

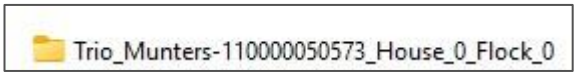
Version 9.0 enables exporting history data to a USB device (flash drive). Data points are generated every 15 minutes.

1. Go to Flock › History › Export History . The following screen appears.



2. Insert a USB drive into the port as indicated and click **Export**.
3. Once the process is complete, remove the USB drive.

A directory containing excel files has been created on the drive.



- Click the clock symbol ( ) to view a detailed breakdown.