Date
2026-03-03

Author
Michael Ginsburg

SOFTWARE RELEASE NOTE:
Trio R9.1.15

Summary

This release includes following features:

- Up to 15 days in tabs for cooling pad (9920) (Appendix B)
- Stop by humidity level - per cooling pad (9921) (Appendix B)
- Multiple cycle periods per program in fixed cycle for Cooling pad (5443) (Appendix C)
- Stir Fan Program (9599) (Appendix D)
- Blowback fans (Appendix E)
- Expansion relay software update (Appendix F)
- LCD programmable sleep mode (Appendix G)
- Support for 15-minute history resolution
- Support for current batch history file generation to USB drive inserted into controller (Appendix H)
- Support for current batch history file sharing with Communicator-2
- Emergency high pressure mode
- Support for 4th silo weighing (8490)
- Support for 20 points at temperature curve (9917)
- Zone/Central heaters target at dashboard tile
- Displaying the weight value on RSU display according to the selected method
- Improvement on:
    - Relay Expansion connectivity due to Trio SW update (21537)
    - Relay Expansion devices attributes presentation (20871)
    - Settings security in case of low battery
    - Scale Card error handling (14251)
    - RSU-2 connectivity (13519)
    - Chinese UI (13532)
    - Scale card connectivity (13388)
    - Lights Off with Black Screen (13824)
    - History records order (8722)
    - Showing properties for air inlet devices (10020)
    - Showing sensors average in pre-heat mode (10022)
    - As Analog Output function for associated relay (10002)
    - Indication of "no battery" in display card (Ver. 1.1.0) (6467)
    - Backup file selection after SW version upgrade (9067)

Release specification

Product Name	Trio
Software Version	Trio 9.1.15
Supported Hardware	Trio Main CPU, Trio UI CPU
Communicator-2 Trio Software	Communicator-2 Trio 2.1.18
Release Date	03-March-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 supported for the Version 8.3.7 or higher
- 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

Munters

Functionality by Version

	Trio 20 Swine		
Functionality	R9.1	R8.3.7	R7.2.4
Control/Ventilation			
Temperature Curve Set	V	V	V
20 points at temperature curve	V	X	X
Min/Max Ventilation Set	V	V	V
Minimum Ventilation Level at Extra/Tunnel mode	V	V	V
Tunnel door in basic ventilation	V	V	X
Air Quality (RH%, CO2, NH3)	V	V	V
Air Quality conditions failsafe activation	V	V	X
Static Pressure Inlet/Tunnel	V	V	V
Heaters	V	V	V
Cooling	V	V	V
Up to 15 days in tabs for Cooling	V	X	X
Stop by humidity level per each Cooling Pad	V	X	X
Multiple cycle periods per program in fixed cycle for Cooling pad	V	X	X
Sprinkling	V	V	V
Timers	V	V	V
Timers control by outside temperature	V	V	V
Timers control by humidity	V	V	X
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
Minimum Ventilation fan rotation	V	V	V
Cycling Extra/Tunnel fans	V	V	V
Ventilation test for Extra/Tunnel levels	V	V	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
Positive pressure	V	V	V
Central Exhaust (30 levels)	V	V	V
Central Exhaust Cooling	V	V	V
Central Corridor	V	V	V
Vario Inlet/Fresh Air Distributor Solution	V	V	V
Measuring Fan and Ventilation Compensation	V	V	V

Munters

	Trio 20 Swine		
Functionality	R9.1	R8.3.7	R7.2.4
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
System			
Sequential deployment of output device at Power up	V	V	V
Expansion relay software update	V	X	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	X	X
Management			
Alarm Settings	V	V	V
Alarm Test	V	V	V
Alarm Test duration	V	V	X
Alarm Reset	V	V	V
Batch Management	V	V	V
Animal 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

Munters

	Trio 20 Swine		
Functionality	R9.1	R8.3.7	R7.2.4
Ammonia	V	V	V
Silo Weighing	V	V	V
Mortality	V	V	V
Power Consumption	V	V	V
Gas Consumption	V	V	V
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
Silo Weighing directly with load cell	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
Sensors testing & troubleshooting	V	V	V
Vents auto calibration - Number of steps per device	V	V	X
Installation			
Setup	V	V	V
Relay Layout	V	V	V
Relay Expansion 10	V	V	V
Relay Expansion 20	V	V	X
Relay Expansion Disable Mode	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\Curt Setup	V	V	V
Temp Definition	V	V	V
Temp Sensor Location	V	V	V
RSU-2 Remote Scale Units	V	V	V
Device Properties	V	V	V

Munters
Devices by Version

Devices/Sensors Total No per Room/House	Trio 20 Swine – R9.1							Trio 20 Swine – R8.3						
	Output				Measurements			Output				Measurements		
	Total	Relay	0-10V	Comm	Analog	Digital	Comm	Total	Relay	0-10V	Comm	Analog	Digital	Comm
Cooling	2	2						2	2					
Cooling Central Exhaust	2	2						2	2					
Heaters	6	6	6					6	6	6				
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	20	20	8					20	20	8				
Stir Fan	6	6	6					2	2	2				
Blowback Fan	1	1	1					NA	NA	NA				
Sprinkler	1	1						1	1					
Timer	5	5						5	5					
Feeder	1	1						1	1					
As Relay	20	20	NA					20	20	NA				
As Analog Output	8	NA	8					8	NA	8				
Alarm	1	1						1	1					
Temperature Sensors					12							12		
Humidity Sensors IN					1							1		
Humidity Sensors OUT					1							1		
CO2 Sensors					1							1		
Ammonia Sensors					1							1		
Pressure Sensors					2							2		
Potentiometers					4							4		
Silo Weighing					4							3		
Water Meters						4							4	
Aux. Input						4							4	
Feeder Line Sensor						4							4	
RSU-2 Remote Scale Unit							2							2

Munters

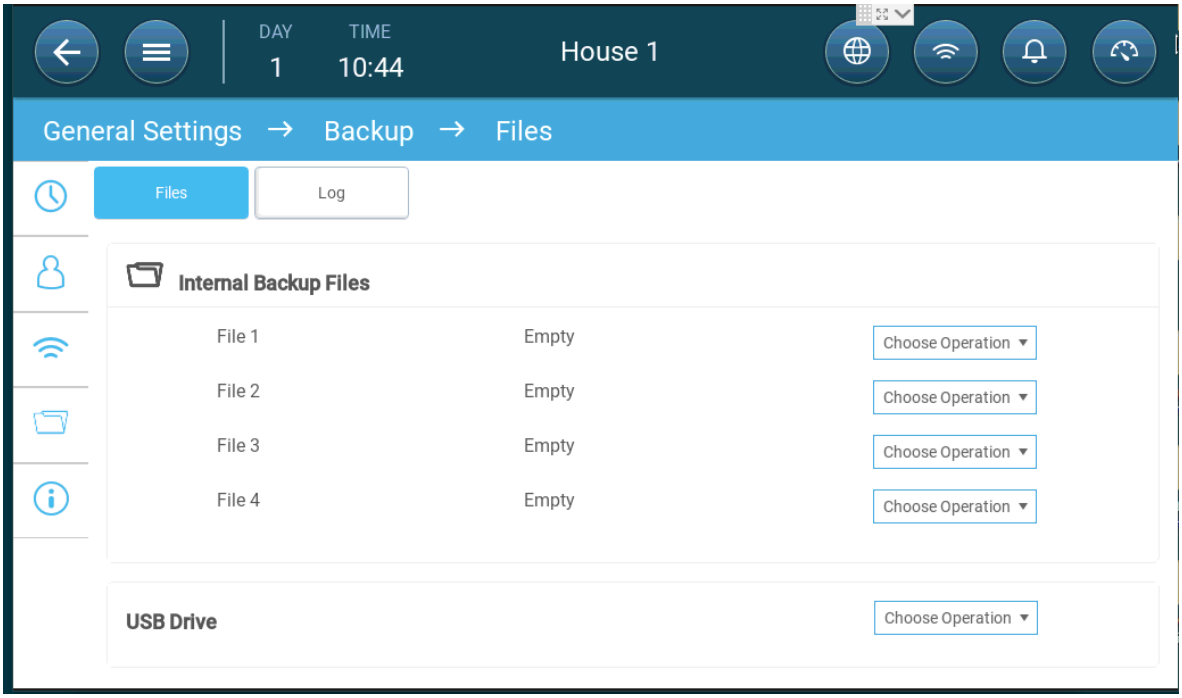
Appendix A: Upgrade to Version R9

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 R8 is done.

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

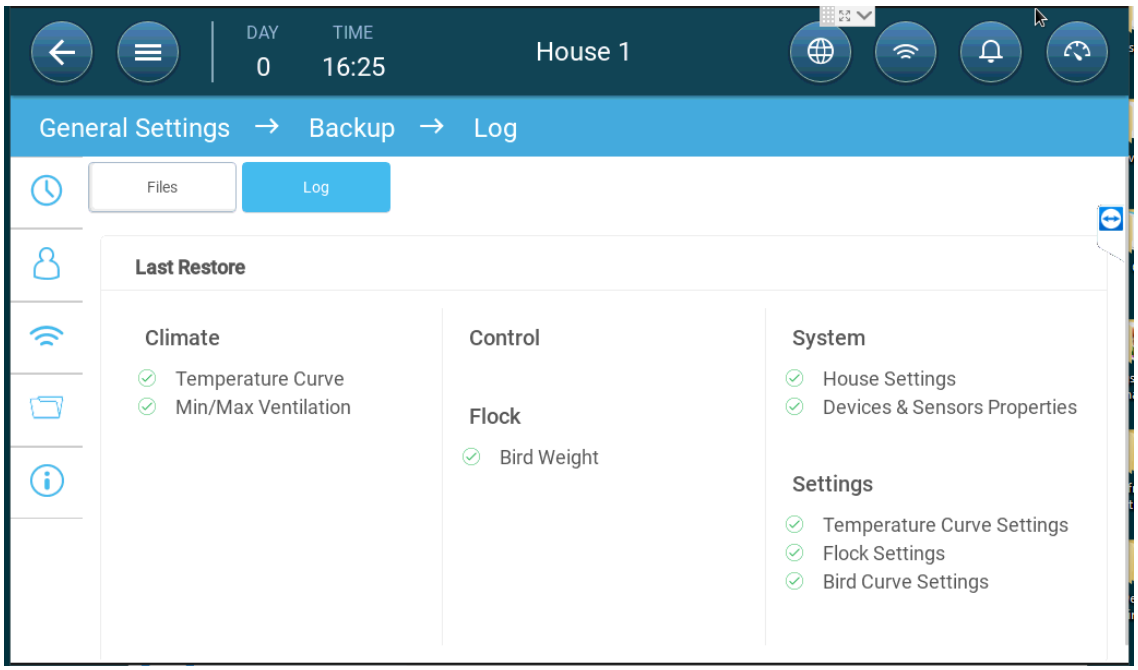
Please note, the USB backup file section will be provided only when the USB flash drive is inserted into the Trio



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.



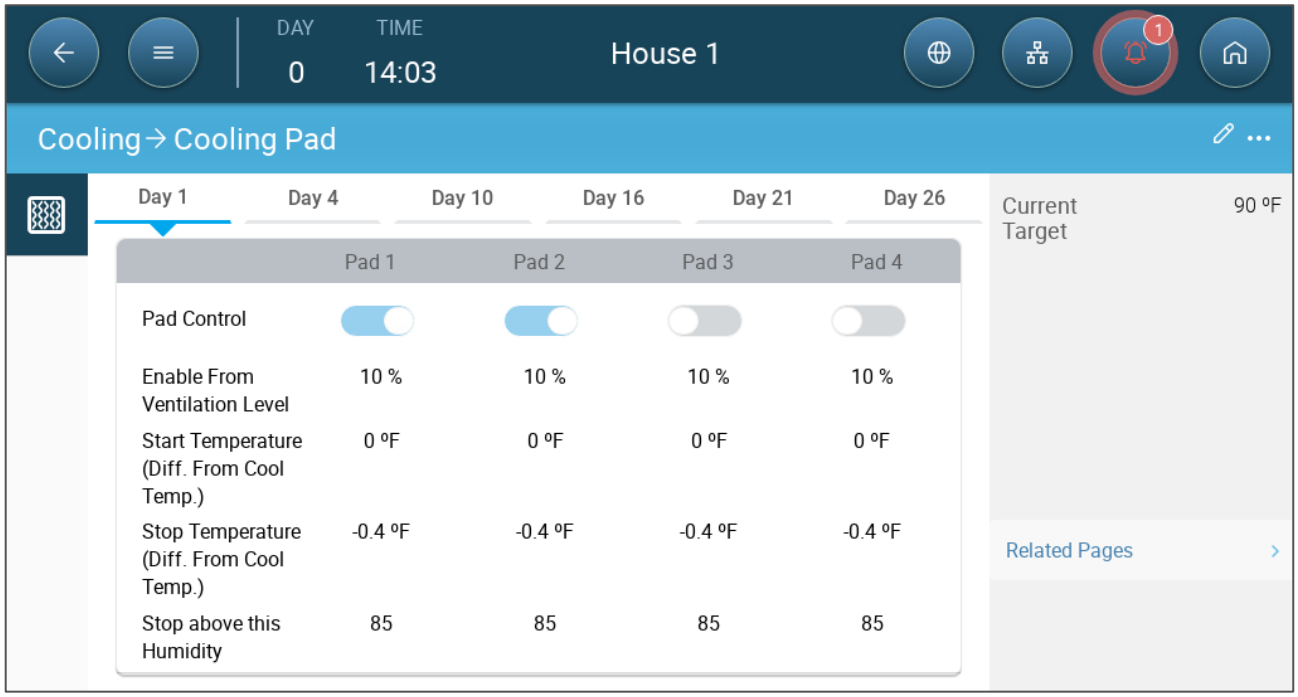
Trio Backup file – Exclusions in upgrade to R9 from R8

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

- Temperature Curve
- Heaters
- Cooling
- Timers
- Special House modes
- Temp. sensor definition

Munters

Appendix B: Up to 15 days in tabs for cooling pad. Stop by humidity level – per cooling pad



- Define:
  - Growth days at which the settings change. Define up to 15 days. The cooling pads run at their current levels until the next defined day.
  - Pad Control: Enable or disable a cooling pad.
  - Enable from Ventilation Level: Select the level (ventilation output) to enable cooling operation. (Default 1).
  - Start Temperature (Diff from Cool Temp.): Sets the temperature differential from the cooling temperature (Temperature Curve) to activate cooling. The calculated temperature to start cooling is adjusted according to the growth-days.
  - Stop Temperature ((Diff from Cool Temp.): Sets the temperature differential from the cooling temperature (Temperature Curve) to stop the cooling pad.
    - Stop cooling pad temperature = Cooling Target ± Stop temperature
  - Stop above this Humidity: Stop cooling when the humidity level reaches the level defined in this parameter. Define the level for each individual cooling pad.
    - An indoor humidity sensor must be installed for this parameter to appear.

Appendix D: Stir Fan Program

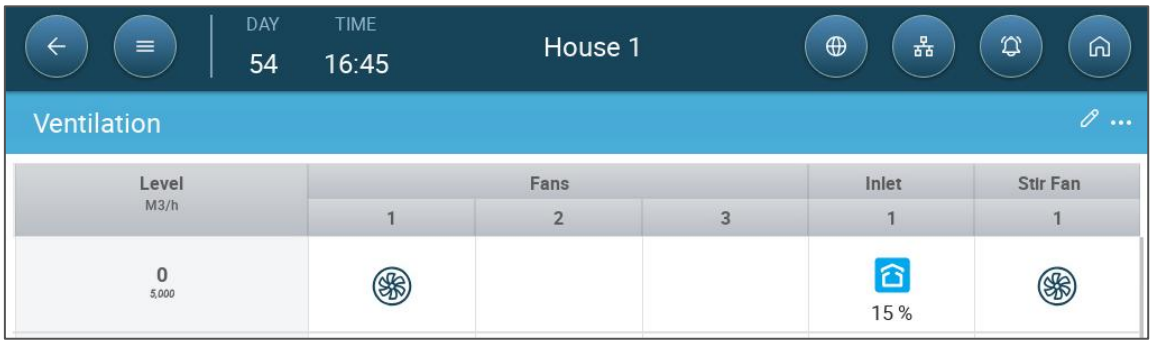
Stir fans mix the air within the rooms. Because warm air rises and cool air falls, there can be a difference of several degrees in the temperature between the floor and the ceiling. By circulating the air, heating costs can be reduced while the environmental conditions are improved.

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

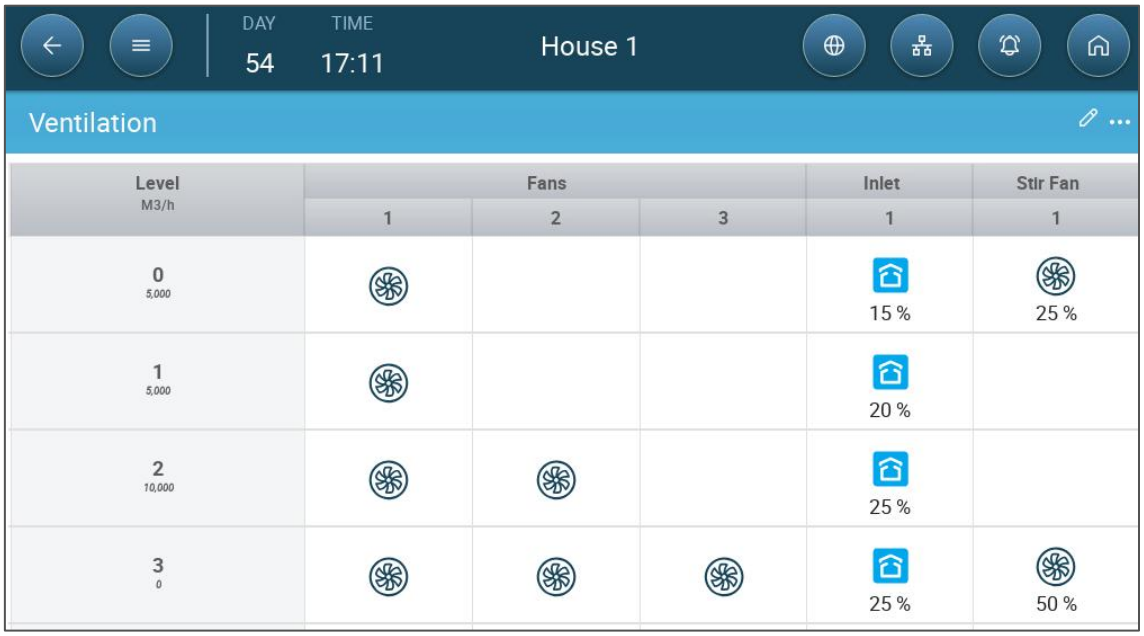
Invalid Stir Fan – Exhaust Fan Configuration

- 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 Figure**Error! Reference source not found.** the stir f an works at 25% from Level 0 to Level 2. At Level 3, it rises to 50%.

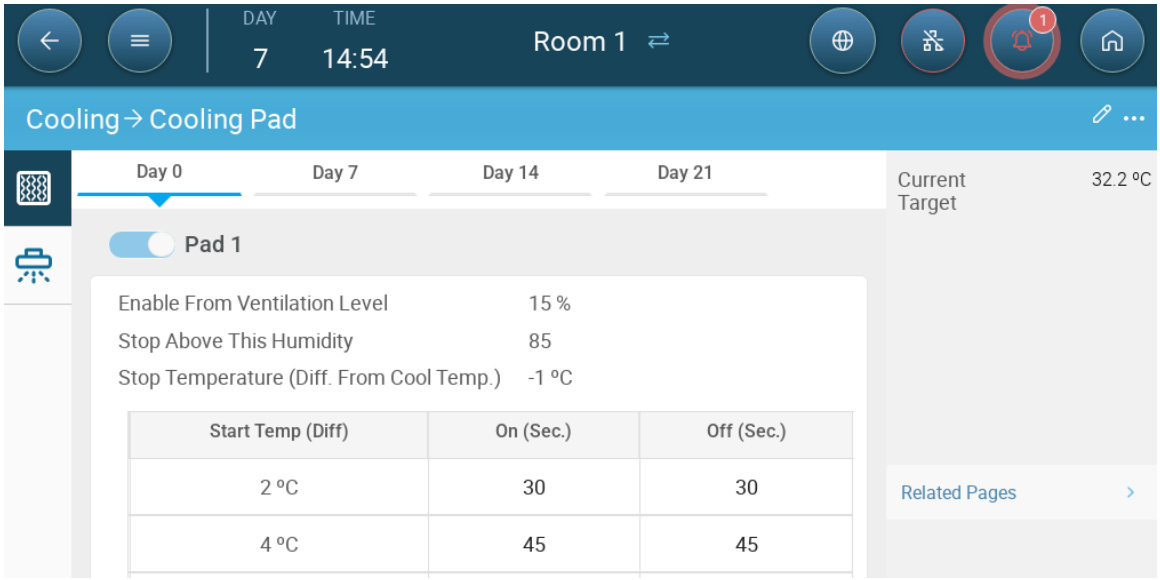


Variable Stir Fan Speed

- 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.

Appendix C: 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 E: 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 (**

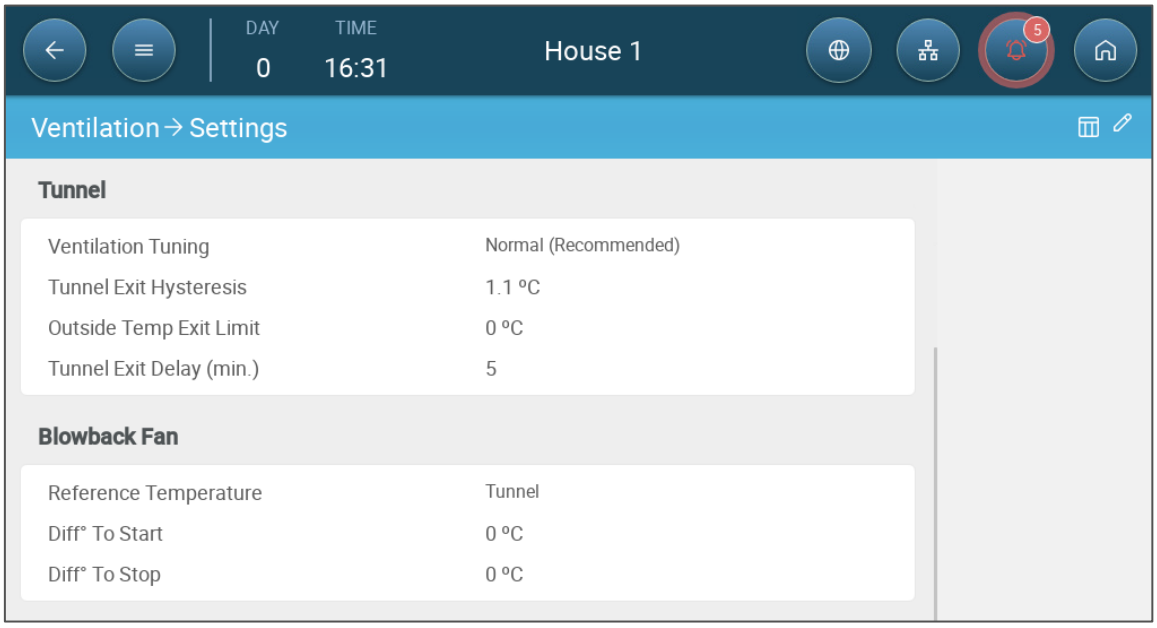
Operation

- 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.

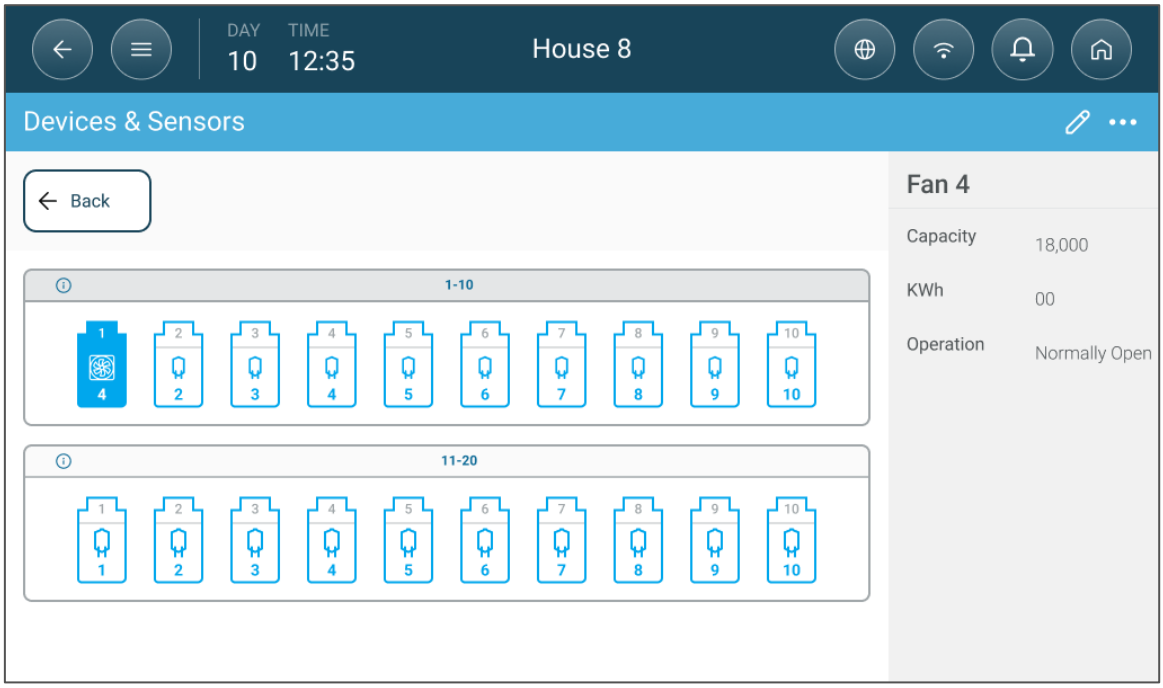


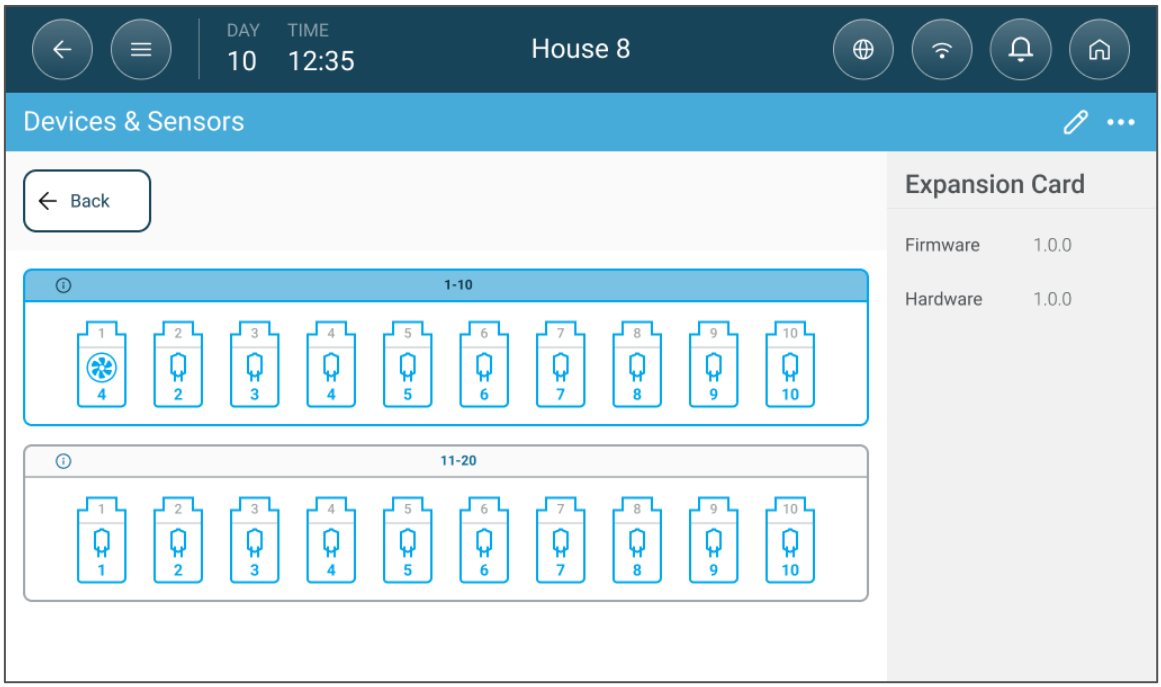
2. Select the reference temperature: Tunnel or Cooling.
3. Define the differential between the reference temperature and the start/stop temperature. Default: 0°. Range: -10° to +10°

Munters

Appendix F: Expansion relay software update

Rotem Trio, Version 9.0 supports a 10 or 20 relay expansion unit.





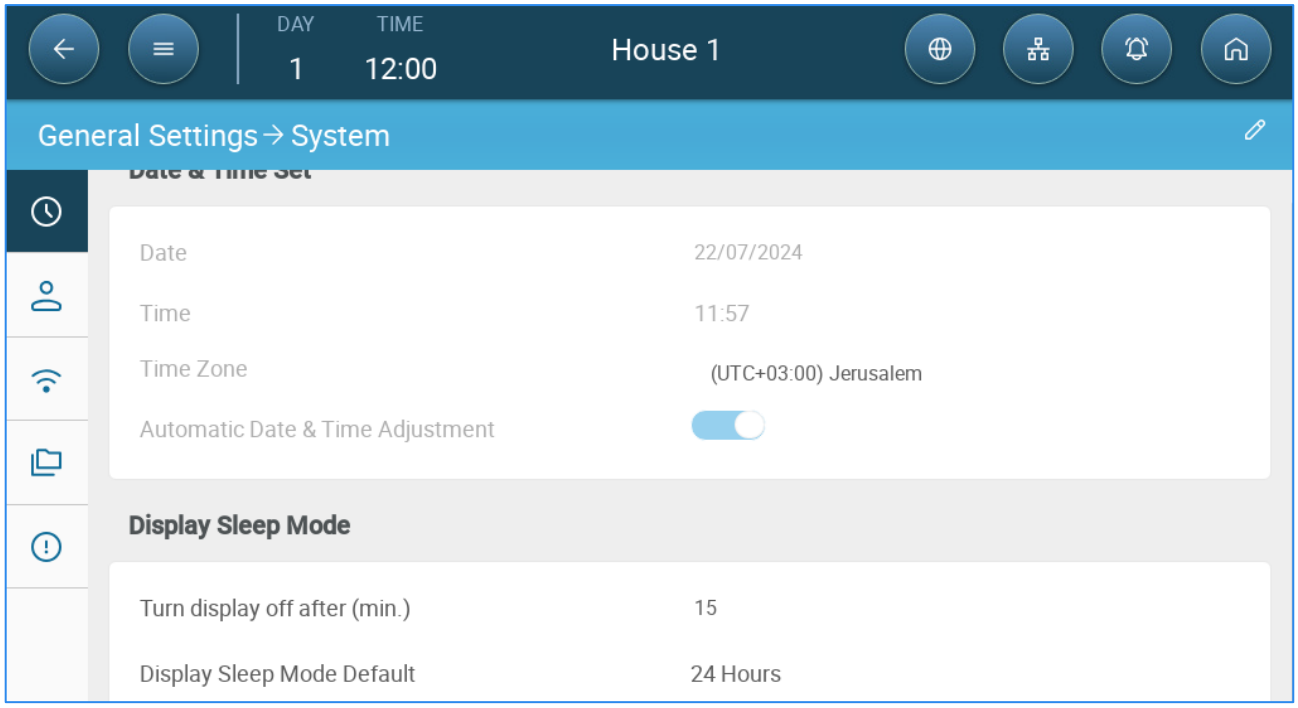
Munters

Appendix G: LCD programmable sleep mode

Defining the Sleep Mode

To extend the life time of the controller display screen's LEDs, the screen dims after a given amount of time has passed since a user touches the screen.

1. Go to System › General Settings › Time & Date  .



2. Click Edit and define:
   - Turn Display Off After: 15, 30, 45 minutes (15 minute default).
   - Display Sleep Mode Default: Choose 24 hours or define the time frame.

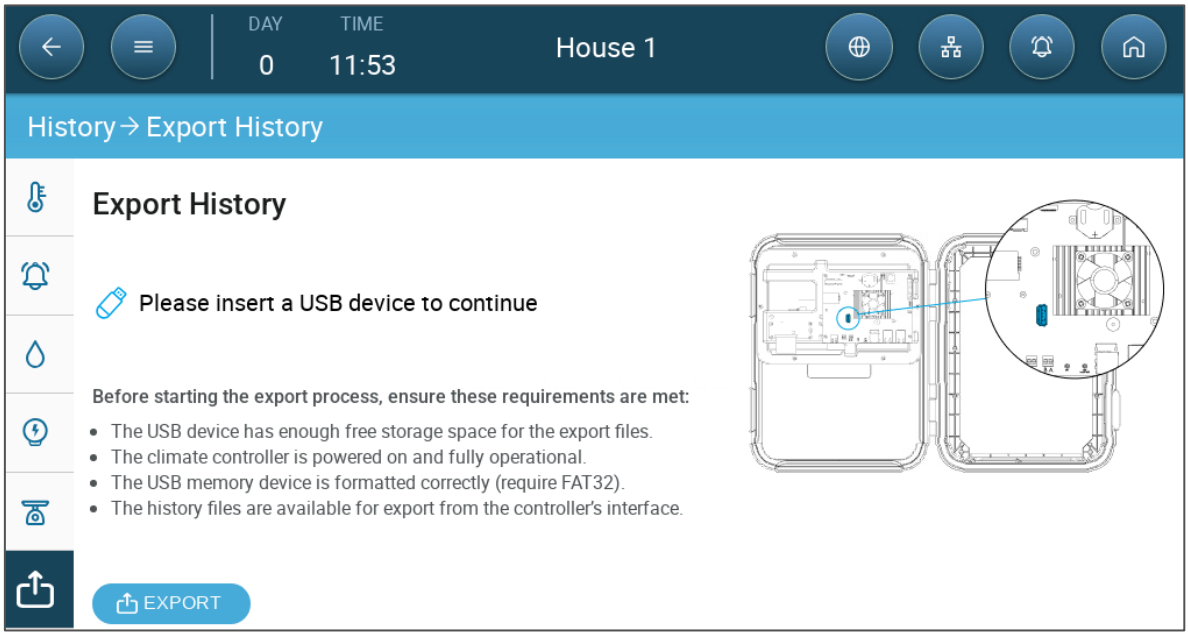
Munters

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

Exporting History Data

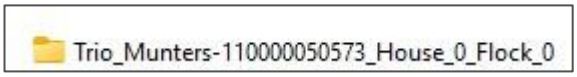
Version 9.0 enables exporting history data to a USB device (flash drive). Data points are generated every 15 minutes.

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.