

User Manual for Clima C16



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1. Introduction

1.1 Revision History

Document Version: F.060

Software Version:

Date: 09.05.2026

Description: First release of manual

1.2 Validity

This User Manual is valid for Clima C 16 controllers running software version **F.060** and compatible variants. If your controller shows a different program version in the Setup screen, some functions may not be available or may behave differently.

1.3 Disclaimer

The information contained within this document is used as a general description for the controller and its program. The information contained here may vary from the program installed in your unit.

The controller is supplied with default parameter settings. These settings are examples only and must be checked and adjusted by the user for each house.

1.4 Purpose of This Manual

This manual explains all user functions in the F.080 program; how to view, change and interpret each function; how the controller operates heating, ventilation, cooling, lighting, feeding and alarms; and key points for operation and installation.

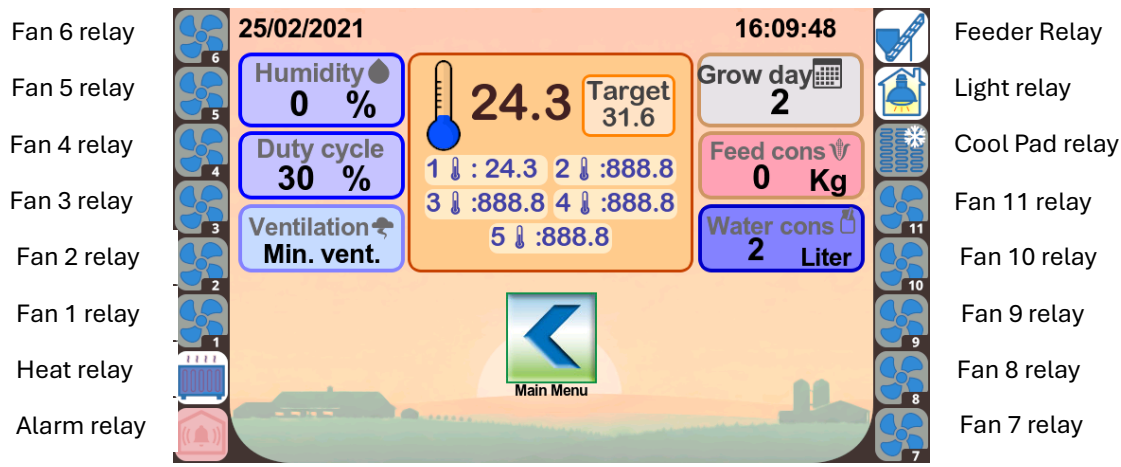
1.5 System Overview

The Clima C controller measures inside and outside temperature and humidity. It controls heaters, multiple fan groups (minimum, cross, tunnel), cooling pads or foggers, air inlets/flaps and tunnel curtains, lighting and feeding systems, and an alarm relay. It uses Required Temp, growth day, reduction tables, bird weight tables and number of birds to determine when to heat or cool and how much ventilation is required. It records 24-hour min/max values, water consumption, feed consumption and average 24-hour temperature for management analysis.

1.6 Safety & Responsibility Notes

- Verify sensor placement and wiring before enabling automatic control.
- Do not rely solely on factory defaults; adjust the settings to your specific building and flock.
- Always disconnect power before working inside the controller.
- Ensure the alarm relay is connected to a reliable alarm system.
- After major changes of set points, closely monitor livestock behavior and climate.

Main Screen



The Main Screen shows the current climate parameters for the house.

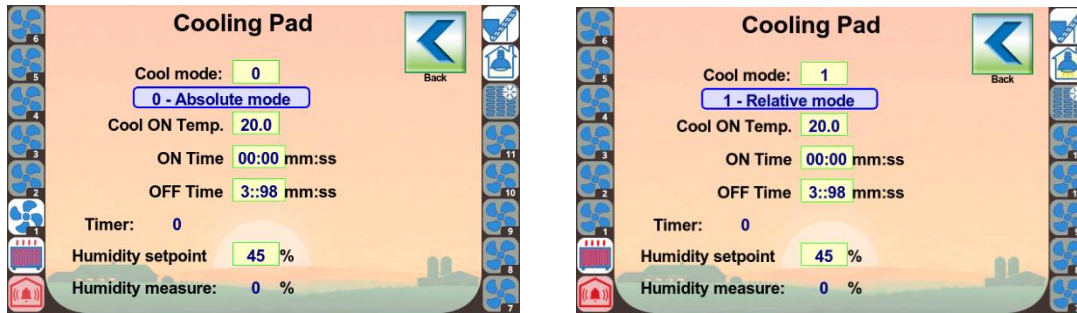
Icons along the sides of the screen indicate the status of each of the 16 relays.

Main Menu



Use this screen to access the different topic screens.

Cooling Pad Screen



Cooling pads operate in an ON/OFF cycle (timer-based cooling).

Cool: Cooling system operating modes

The cooling system features two distinct operating modes, known as Mode 0 and Mode 1, each determining how and when the system is activated based on the temperature conditions in the house.

Cool Mode 0: Absolute Mode - Activation by Average Temperature.

In Mode 0, the cooling system is triggered when the average temperature in the house reaches a pre-set temperature. For example, if the activation temperature is set to 28°, the system will turn on as soon as the house average temperature hits 28°. Once activated, the cooling system operates in a cycle mode, alternating between ON and OFF times.

Cool Mode 1: Relative Mode - Activation by Temperature Offset

Mode 1 relies on an offset value above the required house temperature to control activation. For instance, if the desired house temperature is set at 26° and the cool offset temperature is set at 2.0°, the cooling system will be activated when the average house temperature rises to 28° (26° + 2.0°). Like Mode 0, upon activation, the system will operate in a cycle mode, switching ON and OFF according to the settings in functions 13 and 14.

Cool ON Temp:

Average temperature (or offset threshold) at which the cooling system starts; when reached the cooling pad pump will start to run.

ON Time: mm:ss

Defines the ON duration of the cooling system during the timer-based cycle (minutes: seconds).

OFF Time: mm:ss

Defines the OFF duration between cooling cycles during timer-based cooling operation (minutes: seconds).

Timer:

Status timer showing elapsed/remaining time within the current cycle.

Humidity setpoint %:

Humidity limit above which cooling operation may be limited or disabled (maximum allowed humidity; if passed, the cooling system will not start or run).

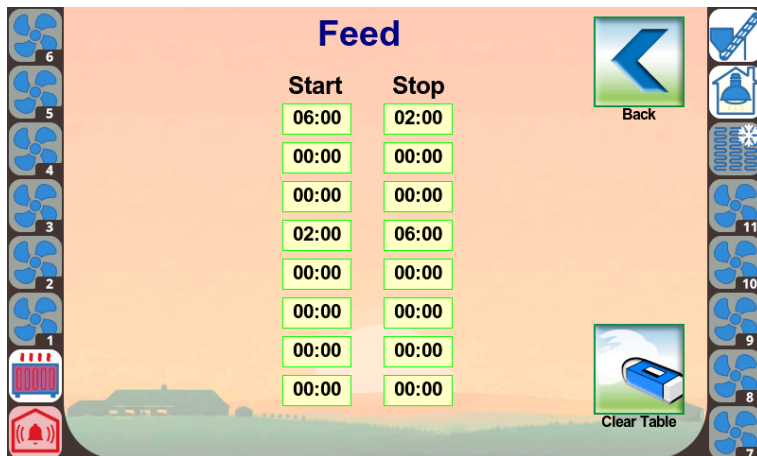
Humidity measure %:

Displays the current measured relative humidity.

Back

Navigation control that returns to the previous screen/menu without changing parameters.

Feed Screen



Feed screen is used to program feeding (feedline/auger) ON and OFF times using multiple daily timers. Each row defines one feeding interval.

Start

Start time defines when the feed relay (feedline or auger) turns ON for the selected interval.

Stop

Stop time defines when the feed relay turns OFF for the selected interval.

Clear Table

Clears all programmed start/stop feeding times in the table.

Back

Navigation control that returns to the previous screen without changing parameters.

Example

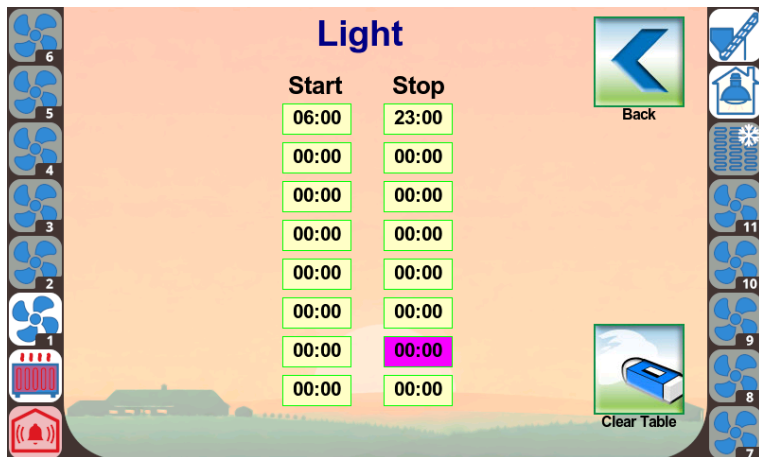
Example feeding schedule:

- Start: 06:00 — Stop: 06:30
- Start: 12:00 — Stop: 12:30
- Start: 18:00 — Stop: 18:30

In this example, the feed relay turns ON at 06:00 and turns OFF at 06:30. The same operation is repeated at 12:00 and again at 18:00.

Each row in the table defines one feeding interval. The feedline or auger operates only between the programmed Start and Stop times.

Light Screen



Light screens are used to program lighting ON/OFF schedules. The controller supports multiple daily lighting intervals.

Start

Start time defines when the light relay turns ON for a specific lighting interval.

Stop

Stop time defines when the light relay turns OFF for a specific lighting interval.
stop times.

Clear Table

Clears all programmed lighting start/stop times in the lighting table.

Back

Navigation control that returns to the previous screen without changing parameters.

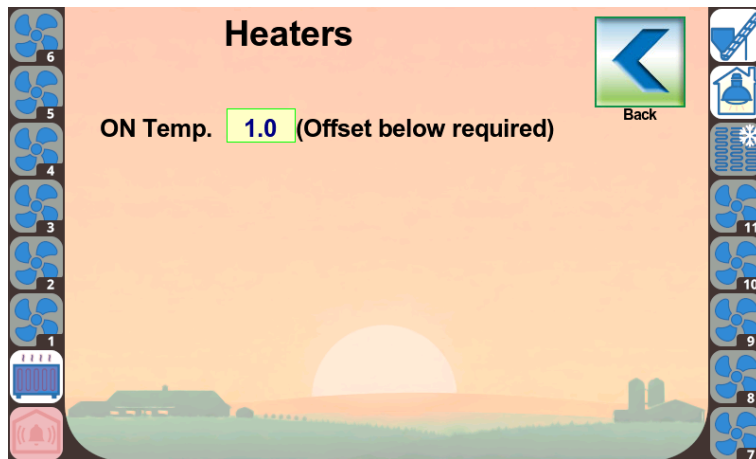
Example

Example lighting schedule:

- Start: 06:00 — Stop: 10:00
- Start: 16:00 — Stop: 22:00

In this example, the light relay turns ON at 06:00 and turns OFF at 10:00. Later in the day, the light relay turns ON again at 16:00 and turns OFF at 22:00.

Heat Screen



On temperature:

Heat set point is the temperature differential below the required temperature that the heating system will turn on.

Example heating setting:

- Required temperature: 28.0°C
- Heat ON temperature: 1.0°C below required temperature
- Heating starts at: 27.0°C

In this example, the controller starts the heating system when the average house temperature drops to 27.0°C. This is 1.0°C below the required temperature.

The heating system continues to operate until the house temperature rises back toward the required temperature, according to the controller settings.

Minimum Ventilation

Minimum Ventilation

Cycle Time: 08:00 mm:ss

Fan Minimum Duty: 10 %

Number Of Birds: 15000

Current Weight: 0.070 Kg

Fan Capacity: 60 CMH

Volume Air/Hour per Kg: 0.75 CMH/Kg

Cycle Fan Groups: 1

Back

Weight Gain Table

Status Table

Duty Cycle:10

Timer:473

Minimum Ventilation

Minimum ventilation operates when the average house temperature is below the required temperature plus Stage 1 offset. Fans operate in an on-off cycle to supply adequate fresh air based on bird number and weight.

Cycle Time

Total duration of one minimum ventilation cycle, set in minutes and seconds, used to control the on-off fan operation.

Fan Minimum Duty

Defines the minimum ON percentage of the ventilation cycle, ensuring fans operate for a minimum portion of each cycle.

Number Of Birds

Total number of birds in the house, used to calculate the required ventilation air volume.

Current Weight

Average current bird weight in kilograms, calculated automatically from the Weight Gain Table or entered manually, used in air volume calculations.

Fan Capacity

Fan airflow capacity in cubic meters per hour (CMH), used to determine ventilation output.

Volume Air/Hour per Kg

Calculated air volume required per kilogram of bird weight, derived from the Air/Kg vs Outside Temperature table.

Cycle Fan Groups

Defines which fan groups are used during minimum ventilation cycling.

- Example: Enter here 1. Minimum ventilation cycles will use only fan 1 for ventilation.
- Example 2: Enter here 2. The first Minimum ventilation cycle will use fan 1 for ventilation. The second cycle will use fan 2. The third cycle will use fan 1.
- Example 3: Enter here 3. The first Minimum ventilation cycle will use fan 1 for ventilation. The second cycle will use fan 2. The third cycle will use fan 3.

Status Table

Displays calculated duty cycle, active stage, and cycle timer values during minimum ventilation operation.

Duty Cycle

Calculated percentage of fan ON time within the ventilation cycle.

Timer

Displays the remaining time in the current minimum ventilation cycle.

Weight Gain Table

Opens the weight gain table used to calculate bird weight for minimum ventilation calculations.

Example

Example minimum ventilation setting:

- Number of birds: 20,000
- Current weight: 0.795 kg
- Fan capacity: 20,000 CMH
- Cycle time: 05:00 mm:ss
- Fan minimum duty: 20%
- Cycle fan groups: 3
- Volume Air/Hour per Kg: 0.7 CMH/kg

Minimum ventilation air calculation:

Total bird weight = Number of birds × Current weight

20,000 birds × 0.795 kg = 15,900 kg total bird weight

Required air volume = Total bird weight × Volume Air/Hour per Kg

15,900 kg × 0.7 CMH/kg = 11,130 CMH

The controller compares the required air volume with the fan capacity to calculate the required fan duty cycle.

Duty cycle = Required air volume ÷ Fan capacity × 100

$$11,130 \text{ CMH} \div 20,000 \text{ CMH} \times 100 = 55.65\%$$

In this example, the calculated duty cycle is about 56%. This means the fan group should run for about 56% of each minimum ventilation cycle.

In this example, the controller uses the number of birds and the current bird weight to calculate the required fresh air for the house.

The fans operate in a 5-minute cycle. With a fan minimum duty of 20%, the selected fan group runs for at least 1 minute and remains OFF for the rest of the cycle.

Because Cycle Fan Groups is set to 3, the controller rotates the minimum ventilation cycle between fan group 1, fan group 2, and fan group 3. This helps distribute airflow more evenly in the house.

If the average house temperature rises above the required temperature plus the Stage 1 offset, the controller leaves minimum ventilation and moves to the regular ventilation stages.

Weight Gain Table

Grow Day	Weight Gain	Calc. Weight
7	0.150	0.195
14	0.250	0.445
21	0.350	0.795
28	0.450	1.245
35	0.400	1.645
42	0.350	1.995
49	0.000	1.995
51	0.000	1.995
52	0.000	1.995
53	0.000	1.995

First day weight: 0.045
 Grow day: 2
 Current weight: 0.070

Grow Day Column

Enter the age (day) of the birds for each weight increase. This represents the bird age at the end of each gain period. The first row must not be 0 or 1.

Weight Gain Column

Enter the bird weight increase over the number of days defined in the Grow Day column.

Calculated Weight Column

Displays the calculated bird weight at the specified grow day.

First Day Weight

Enter the weight of one bird on day one. This value is used to initialize current weight when grow day is set to 1.

Grow Day

Shows the current grow day. It increments automatically at reset time when midnight has passed.

Current Weight

Displays the current bird weight (kg). This value is used for ventilation air calculations.

Clear Table

Clears all weight gain table entries.

Example

Example weight gain table:

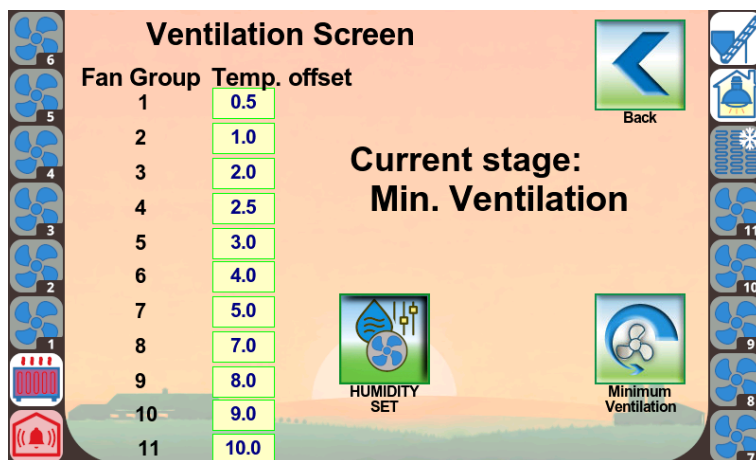
- First Day Weight: 0.045 kg
- Row 1 — Grow Day: 7, Weight Gain: 0.150 kg, Calculated Weight: 0.195 kg
- Row 2 — Grow Day: 14, Weight Gain: 0.250 kg, Calculated Weight: 0.445 kg
- Row 3 — Grow Day: 21, Weight Gain: 0.350 kg, Calculated Weight: 0.795 kg

In this example, the bird weight on day 1 is 0.045 kg. By grow day 7, the birds have gained 0.150 kg, so the calculated weight is 0.195 kg.

By grow day 14, an additional 0.250 kg is added to the previous calculated weight. The calculated weight becomes 0.445 kg. By grow day 21, another 0.350 kg is added, giving a calculated weight of 0.795 kg.

The controller uses the current grow day to calculate the current bird weight. This weight is then used in the minimum ventilation calculations.

Ventilation Screen



Fan Group

Each ventilation stage represents a fan group. The controller progresses through stages based on temperature offsets above the required temperature, activating fan groups accordingly.

Temp. Offset

Each stage has an offset temperature above the required temperature. When the average house temperature exceeds the required temperature plus this offset, the corresponding ventilation stage is activated.

Humidity Set

Opens the Humidity Control settings. Humidity control can advance the ventilation stage when humidity exceeds the configured threshold, provided temperature conditions allow.

Example

Example ventilation screen settings:

- Required temperature: 27.0°C
- Fan Group 1 — Temp. Offset: 0.5°C
- Fan Group 2 — Temp. Offset: 1.0°C
- Fan Group 3 — Temp. Offset: 2.0°C
- Humidity Set: 78%

In this example, the required house temperature is 27.0°C.

When the average house temperature reaches 27.5°C, the controller activates Fan Group 1.

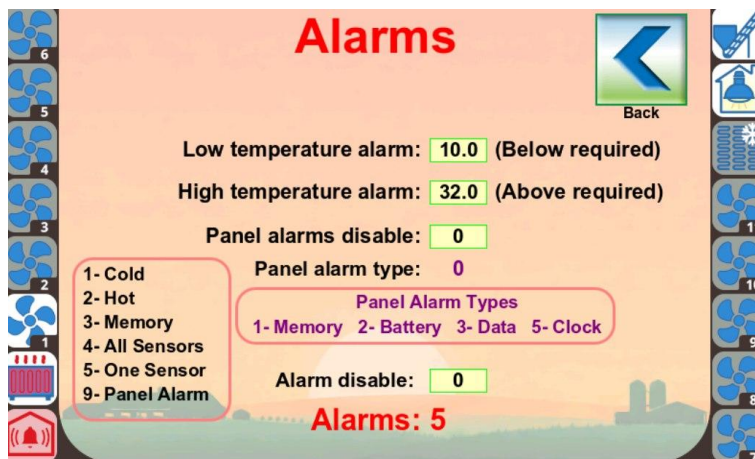
When the average house temperature reaches 28.0°C, the controller moves to Fan Group 2.

When the average house temperature reaches 29.0°C, the controller moves to Fan Group 3.

The controller uses the **Temp. Offset** value of each fan group to decide when to move to the next ventilation stage.

If the measured humidity rises above 78%, the controller may increase the ventilation stage to remove humidity from the house.

Alarm Screen



Low temperature alarm

Sets the temperature differential below the required temperature that will trigger a cold alarm. When the average house temperature drops below the required temperature minus this offset, the alarm is activated.

High temperature alarm

Sets the temperature differential above the required temperature that will trigger a hot alarm. When the average house temperature rises above the required temperature plus this offset, the alarm is activated.

Panel alarms disable

Allows clearing or disabling specific panel alarm types by entering the corresponding alarm number. Only Battery and Clock panel alarms can be disabled.

Panel alarm type

Displays the current panel alarm type code. Panel alarms include Memory (1), Battery (2), Data (3), and Clock (5). Multiple alarms may be displayed as combined numbers.

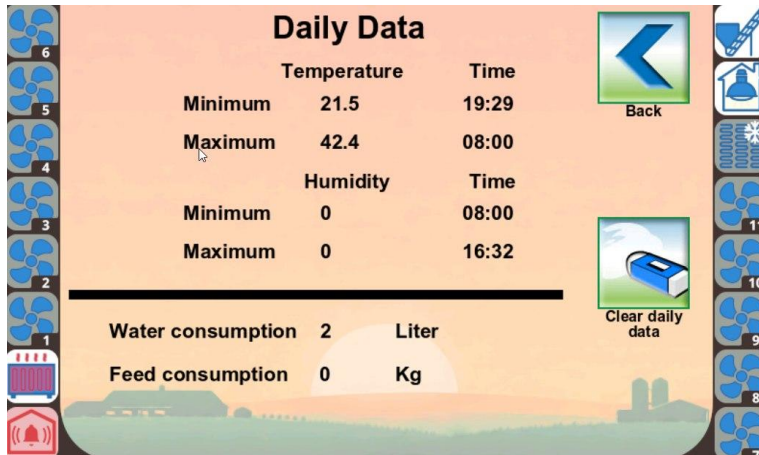
Alarm disable

Allows disabling selected alarm types by entering the alarm number. This is used to temporarily suppress specific alarms.

Alarms

Displays the current active alarm number. A value of 0 indicates that no alarms are currently active.

Daily Data



Temperature – Minimum

Displays the lowest average house temperature recorded during the last 24-hour period (from reset time to reset time).

Temperature – Maximum

Displays the highest average house temperature recorded during the last 24-hour period.

Temperature – Time

Shows the exact time at which the minimum or maximum temperature was recorded.

Humidity – Minimum

Displays the lowest humidity value recorded in the house during the last 24-hour period.

Humidity – Maximum

Displays the highest humidity value recorded in the house during the last 24-hour period.

Humidity – Time

Shows the time at which the minimum or maximum humidity value occurred.

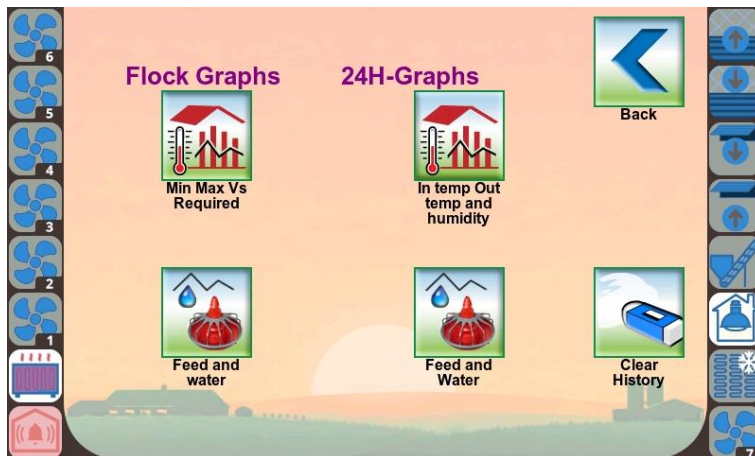
Water consumption

Displays the total water consumption in litres accumulated during the last 24-hour period.

Feed consumption

Displays the total feed consumption in kilograms accumulated during the last 24-hour period.

History



Flock Graphs

Displays flock-related graphs accumulated over the grow period, allowing long-term performance analysis.

Min Max Vs Required

Shows minimum and maximum recorded values compared against the required setpoint to evaluate environmental control accuracy.

Feed and water

Displays historical feed and water consumption data for the flock over the selected period.

24H-Graphs

Displays graphs based on the last 24 hours of operation, providing short-term trend analysis.

In temp Out temp and humidity

Shows indoor temperature, outdoor temperature, and humidity trends over time for environmental monitoring.

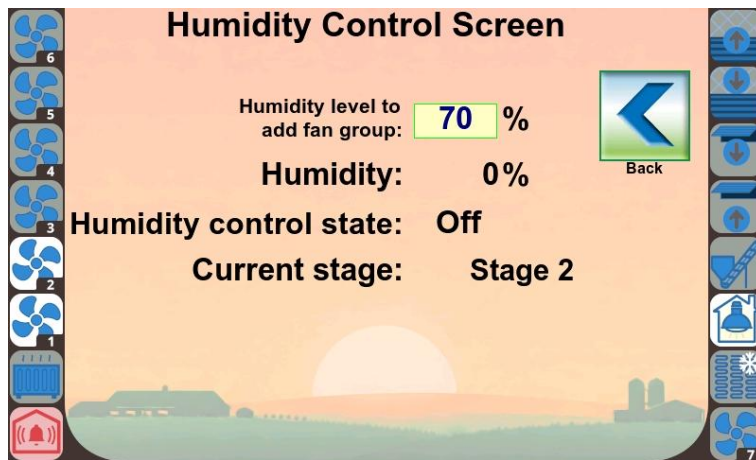
Feed and Water

Shows detailed feed and water consumption graphs, typically in a 24-hour view.

Clear History

Clears stored historical data and restarts data collection for a new flock or analysis period.

Humidity Control Screen



Humidity level to add fan group

Enter the humidity level (%) at which the controller will advance to the next ventilation stage in order to increase airflow and reduce humidity in the house.

Humidity

Displays the current measured house humidity in percent, based on the connected humidity sensor.

Humidity control state

Indicates whether humidity control is active or inactive. When enabled, ventilation stages can be increased based on humidity level, subject to temperature conditions.

Current stage

Displays the ventilation stage currently operating. This stage may be increased automatically by humidity control if the configured humidity level is exceeded.

Required Temperature Reduction Table

Required Temperature Reduction

First day temperature **32.0**

Grow Day	Temp. Diff.	Calc. Temp.
7	2.0	30.0
14	2.0	28.0
21	2.0	26.0
28	2.0	24.0
0	0.0	24.0
0	0.0	24.0
0	0.0	24.0
0	0.0	24.0
0	0.0	24.0
0	0.0	24.0

Grow day 1
Required temp. 32.0

Back
Clear Table

First day temperature

Sets the required house temperature for the first grow day. When Grow Day is equal to 1, the required temperature automatically takes this value and cannot be manually changed.

Grow Day Column

Defines the bird age (day) at which each temperature reduction step is completed. The value represents the grow day at the end of the reduction period. Do not use 0 or 1 in the first row.

Temp. Diff.

Specifies the total temperature reduction that will occur over the number of days defined in the Grow Day column. The reduction is applied linearly.

Calc. Temp.

Displays the calculated required temperature after applying the programmed reduction for each grow day step.

Grow day

Displays the current grow day. Grow day is incremented automatically after reset time once midnight has passed.

Required temp.

Shows the current required house temperature after applying the temperature reduction table.

Installation

Program F.060

Digital input connectors

DIG 1	
DIG 2	
DIG 3	Water count (2 wires – Dig3 and 0)
DIG 4	Feed count (2 wires – Dig4 and 0)
COM	

Analog outputs

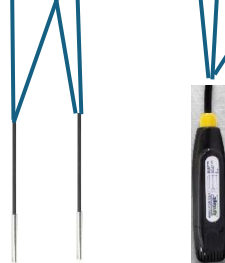
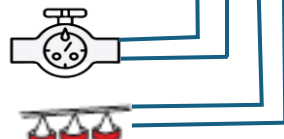
Out 1	
Out 2	
GND	

Temperature inputs

1	Temperature sensor 1 (2 wires – 1 and GND)
2	Temperature sensor 2 (2 wires – 2 and GND)
3	Temperature sensor 3 (2 wires – 3 and GND)
4	Temperature sensor 4 (2 wires – 4 and GND)
GND	

Analog inputs

1	Temperature sensor 5 (2 wires – Analog in 1 and GND)
2	Humidity sensor (3 wires – Yellow to Analog in 2, Brown to 12V, Blue to GND)
3	
4	
GND	



Relay connections

<i>Relay Name</i>	<i>Relay Number</i>
ALARM_RELAY	1
HEAT_RELAY	2
FAN_1_RELAY	3
FAN_2_RELAY	4
FAN_3_RELAY	9
FAN_4_RELAY	11
FAN_5_RELAY	13
FAN_6_RELAY	15
FAN_7_RELAY	5
FAN_8_RELAY	6
FAN_9_RELAY	7
FAN_10_RELAY	8
FAN_11_RELAY	10
COOL_RELAY	12
LIGHT_RELAY	14
FEED_RELAY	16