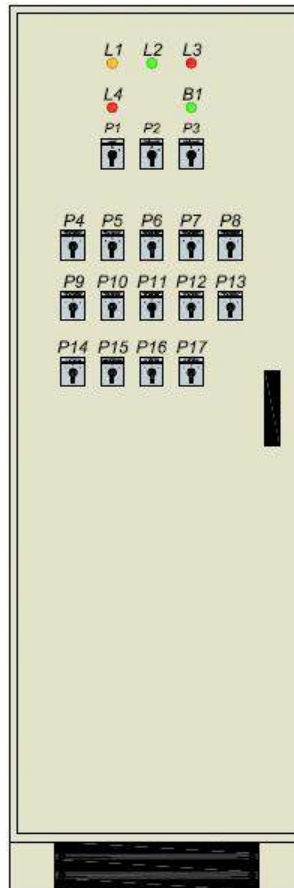




Series VKS CLIMATRON On-Off Fan Control Panels User's Guide



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SAFETY PRECAUTIONS AND WARNINGS

WARNING

Before installation and energizing of fan control panel, please read safety precautions and warnings carefully!

- Imbalances in your electricity network (low and high voltages) might destroy the panel and stop it to work properly.
- There is high voltage electricity energy which can be dangerous for human health and the equipments. Interference to the panel or equipments connected to the panel without cutting out the energy might result serious damages for human health or equipments.
- Usage of the panel for long years depends on installing properly, operating and having periodic maintenance by authorised personnel.

ATTENTION

- Please inhibit unauthorised people especially children to reach and interfere the panel.
- Please do not forget that all electrical equipments can cause fire. Because of this place the panel away from high temperature, fire and liquids. Do not put easy to fire materials near the panel like nylon, wood or chemicals.
- This panel can be used only with the equipments that are specified by VKS. Changes made without prior notice and approval of VKS might cause serious damages.
- Please place this user's guide at an easy to reach place for all operators who might be have to operate the panel.

1. GENERAL INFORMATIONS

This fan control panel that you have bought has been developed by long years of experience of VKS in the sector and by using all technologic improvements.

Poultry fan control panel is a control panel which is designed to provide the fresh air needed inside the house. It is possible to feed more bird in the equipped houses than natural ventilated houses per square meter area. In summer, when the temperature inside the house increases, the fans start to

work and make fresh air fill inside house by passing through ped panels and cool the house. The temperature is reduced to the desired value by this method. In winter the fans make fresh air come inside the house just to breathe fort he animals not to reduce the temperature. When the fans stops the shutters close and heating energy loss is minimised.

The microcomputer near by the panel is called VKS CLIMATRON. VKS CLIMATRON microcomputer makes the fans work according the house needs automatically.

In automatic mode number of working fans is determined by the microcomputer according the house needs and the parameters which will be adjusted by the operator.

When the panel is made to work in hand mode; the speed and number of working fans is controlled by the operator. In this mode the fans will work or will not work according to the comands of operator.

1.1. Technical Specifications

Supply Voltage : 3 Phase, Neutrol line and self grounded network.

Working Voltage : Between Phases 360...400 V AC.
Between Phase and Neutral 200...240 V AC.

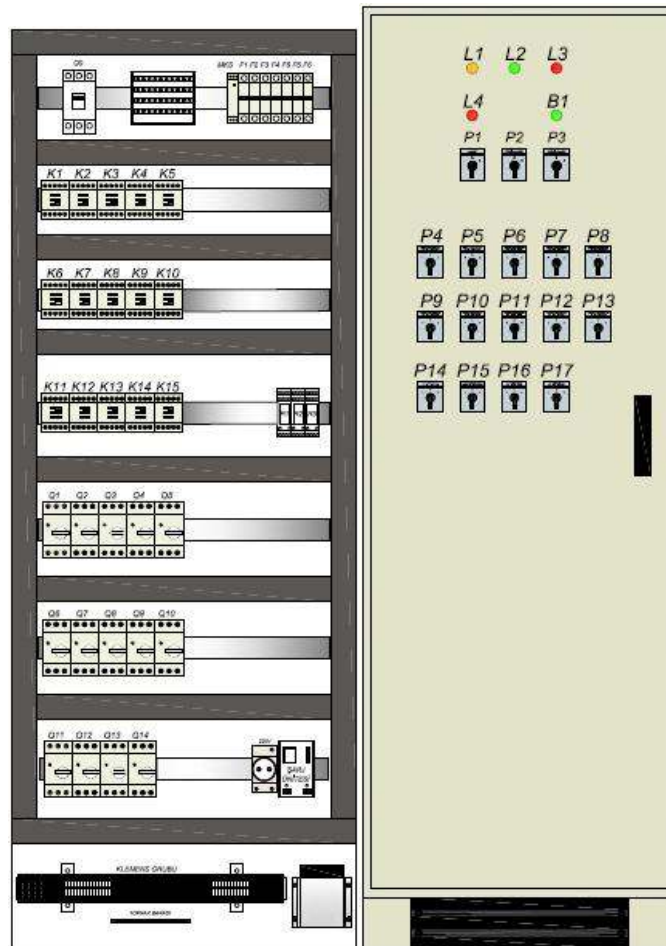
Power Consumption : Varies according to the panel type. The total power of equipments that can be connected to the panel is equal to the power of panel.

Fan Control Type: 2steps for side fans, 4 steps for tunnel on-off control by direct feeding voltage.

Panel Dimensions : Varies according to the panel type.

1.2. Panel General Appearance

PANEL INSIDE APPEARANCE FRONT PANEL APPEARANCE



1.3. Equipment Definitions

Front appearance. Front panel equipments:

- P1** 0 – 1 (off-on) positioned, main alarm switch.
In alarm situations this switch is used to silence the horn until removing the alarm situation. In normal working conditions this switch should never be closed and should always be on 1 position.
- P2** 0 – 1 positioned (Thermic alarm 1) switch, 1. group motor protection relays alarm silencing switch.
Used to silence the alarm when a thermic fault or short circuit occurs at one of the motors in 1. group.
- P3** 0 – 1 positioned (Thermic alarm 2) switch, 2. group motor protection relays alarm silencing switch.
Used to silence the alarm when a thermic fault or short circuit occurs at one of the motors in 2. group.

WARNING

Never forget to take P1 Switch to 1 position to be able to hear the after coming alarms.

- P4** 1 – 0 – 2 positioned, 1 numbered tunnel fan group hand-0-automatic selection switch.
1 position of switch makes the connected fan group work independent from the controller and named as hand mode.
0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.
2 position of switch makes the connected fan group work according to the controller and named as automatic mode.
- P5** 1 – 0 – 2 positioned, 2 numbered tunnel fan group hand-0-automatic selection switch.
1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P6 1 – 0 – 2 positioned, 3 numbered tunnel fan group hand-0-automatic selection switch.

1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P7 1 – 0 – 2 positioned, 4 numbered tunnel fan group hand-0-automatic selection switch.

1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P8 1 – 0 – 2 positioned, 5 numbered tunnel fan group hand-0-automatic selection switch.

1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P9 1 – 0 – 2 positioned, 6 numbered tunnel fan group hand-0-automatic selection switch.

1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P10 1 – 0 – 2 positioned, 7 numbered tunnel fan group hand-0-automatic selection switch.

1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P11 1 – 0 – 2 positioned, 8 numbered tunnel fan group hand-0-automatic selection switch.

1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P12 1 – 0 – 2 positioned, 9 numbered tunnel fan group hand-0-automatic selection switch.

1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P13 1 – 0 – 2 positioned, 10 numbered tunnel fan group hand-0-automatic selection switch.

1 position of switch makes the connected fan group work independent from the controller and named as hand mode.

0 position of switch makes the connected fan group stop working. The fan group does not work if the computer tries to make it work too.

2 position of switch makes the connected fan group work according to the controller and named as automatic mode.

P14 1 – 0 – 2 positioned, pump group hand-0-automatic selection switch.

1 position of switch makes the connected pump group work independent from the controller and named as hand mode.

0 position of switch makes the connected pump group stop working. The pump group does not work if the computer tries to make it work too.

2 position of switch makes the connected pump group work according to the controller and named as automatic mode.

WARNING

P14 After making the pump group work in hand mode by making putting the switch 1 position should be again taken in to 2 position. Unless this is not done, the pump group goes on working and makes the temperature inside the house go down.

P15 1 – 0 – 2 positioned, heater group hand-0-automatic selection switch.

1 position of switch makes the connected heater group work independent from the controller and named as hand mode.

0 position of switch makes the connected heater group stop working. The heater group does not work if the computer tries to make it work too.

2 position of switch makes the connected heater group work according to the controller and named as automatic mode.

P16 1 – 0 – 2 positioned, flap group hand-0-automatic selection switch.

1 position of switch makes the connected flap work independent from the controller and named as hand mode with P14.

0 position of switch makes the connected flap stop working. The flap does not work if the computer tries to make it work too.

2 position of switch makes the connected flap work according to the controller and named as automatic mode.

- P17** 1 – 0 – 2 positioned, flap open-0-close selection switch.
1 position of switch opens the connected flap as hand mode.
0 position of switch makes the connected flap stop working.
2 position of switch closes the connected flap as hand mode.
- L1-2-3** Panel input power phase lamps. They are helpfull in observation of phase failures.
- L4** Alarm lamp.
It is a visual caution in alarm situations. It goes on working if the P7 alarm switch is closed too. It is so important in observation of alarm situations in case of horn failure or cable failure of horn.
- B1** Horn test buton. It is used to test the horn if it is working or not in normal conditions.

Interior Appearance. Equipments of assembly plate:

CHARGE UNIT

Battery charge unit.

It is used to charge the batteries that are very important fort he continuity of alarms cautions in case of power failure.

- K1, ...K6** Fan motors step contactors.
Supplies the energy needed for fan motor groups to work.
- K7** Pomp motor contactor.
Supplies the energy needed for pump group.
- K8,..K11** Flap motor contactors.
Supplies the energy needed for flap motors open and close.
- K12,..K15** Curtain motor contactors.
Supplies the energy needed for curtain motors open and close.

- Q1, ... Q16** Thermic magnetic protection relay for fan motors.
Protects fan motors against phase failure and over load current. Additionally these relays protect the panel against short circuits in field. Motors can be switched on or closed by the opening button on relays.
- Q17, Q18** Thermic magnetic protection relay for pump motors.
Protects pump motors against phase failure and over load current. Additionally these relays protect the panel against short circuits in field. Motors can be switched on or closed by the opening button on relays.
- Q19, Q20** Thermic magnetic protection relay for flap motors.
Protects flap motors against phase failure and over load current. Additionally these relays protect the panel against short circuits in field. Motors can be switched on or closed by the opening button on relays.
- Q21, Q22** Thermic magnetic protection relay for curtain motors.
Protects curtain motors against phase failure and over load current. Additionally these relays protect the panel against short circuits in field. Motors can be switched on or closed by the opening button on relays.

WARNING

Do not switch on any one of motors open button on the motor protection relays when the panel is energized. To switch on a motor, first of all switch of the energy of whole panel.

- A1, A2** Batteries
There are two batteries connected in series. Each of them has a capacity of 4 Ah and voltage of 6 V. The batteries are held under buffer charge. In any case of alarm situation the horn works through battery energy.
- MKS03** Phase protection relay
Protects the panel and motors connected to the panel against failures in the energy feeding network. Failure of any one of the phases, wrong phase sequence, neutral failure or %20

voltage drop in one phase against other phases are possible reasons for phase protection relay to stop the whole panel working. If there occurs any one of these causes, MK03 stops panel working and provides an alarm output for energy feeding problems.

- F1** Panel input fuse
Protects panel against short circuits inside the panel. In case of a short circuit inside panel, this fuse cuts off the energy and protects the panel.
- F2** Remote fuse
Energy needed for all remote equipments inside panel (VKS CLIMATRON, radiators, stove and charge unit) is provided by this fuse. If there occurs a fault in one of these equipments, this fuse cuts off energy and protects the panel.
- F3, ..F6** Radian and stove fuse
These fuses are signal and energy fuses for heater equipments.
- F7** Panel cooling fan and thermostat fuse
These fuse is signal and energy fuses for panel cooling equipments.

NOTE

When remote fuse is closed;
VKS CLIMATRON, radian, stove and charge unit stay out of energy.
Unless this fuse is opened none of these equipments work.

- R1** Alarm control relay
In alarm situations this relay makes the alarm lamp and horn work. In case of alarm system faults this relay should be checked.
- R2** Heater 1 control relay
Controls the heater equipments. When heater system is activated by VKS CLIMATRON or operator this relay is energized and provide a 220 V output for radiators and a free contact for stove. This relay should be checked in case of heater equipment failure.

- R2** Heater 2 control relay
Controls the heater equipments. When heater system is activated by VKS CLIMATRON or operator this relay is energized and provide a 220 V output for radians and a free contact for stove. This relay should be checked in case of heater equipment failure.

2. INSTALLATION and START-UP

In this section, installing the panel to it's place, connection of equipment cables, energizing and steady state adjustments will be explained.

2.1. Start-Up Controls

When you open the original package of panel please check that you comperely got all the equipments below which are supplied with panel in standart option. The equipments listed below should be supplied with panel:

- Horn, 1 piece
- Inside temperature sensor, 2 pieces
- Outside temperature sensor, 1 piece
- Humidity sensor, 1 piece
- Joining aparats for wall mounting, 4 pieces
- Panel cover key, 1 piece
- Terminal box connection scheme.
- Type code labeled on out of panel cover
- Series number and production date labeled inside of front cover.
- Battery warning and gren test approval labeled on assembly plate inside panel.

2.2. Installation

WARNING

Choosing right place for installation, wall mounting, cable choosing and cable connections are very important because these Works will be done only once and directly affects life of panel and equipments.

Panel should be placed in a closed, air conditioned and especially away from bait dust. Sun rays should not reach panel surface directly and unauthorised people should not be able to reach the panel. Panel should not be mounted on outer wall of poultry house and it should not be covered with nylon or something like this. All cables coming to the panel should enter panel through cable entrance hole which is placed under the panel.

2.3. Connecting motor and equipment cables

First think to do is connecting 3 phase 380 V AC network to panel's L1, L2 and L3 terminals as shown in terminal box diagram. Neutral line of network should be connected to terminal named as N. Besides these panel should be grounded with a separate ground line for protection of panel against electrical faults. All cables coming from equipments inside house should be connected to panel as shown in terminal box diagram properly for acceptable conductivity.

2.4. Energising and First Set-Up

After all electrical connections, panel is energised by opening the F1 and F2 named fuses. For start-up all thermic magnetic switches are closed as off position and all switches are set to 1 position for hand mode. All thermic magnetic switches are set to on position for running all motor some by one. By this way all motors and their direction of turn should be checked. If there is determined any motor with an opposite direction of turn, 2 of 3 cables of related motor should be changed to correct direction.

3. PROCESSOR USAGE AND PROGRAMMING

3.1 INSTALLATION

Open the front panel

1. Connect the VKS CLIMATRON to the wall in a dry place approximately 1 meter away from the electrical cabinet

Analog Input Connections

1. Temperature sensors

T1 is used for indoor temperature sensor 1. Use a two wire cable. Connect one wire to analog input T1 and second wire to the GND input.

T2 is used for indoor temperature sensor 2. Use a two wire cable. Connect one wire to analog input T2 and second wire to the GND input.

T3 is used for outdoor temperature sensor. Use a two wire cable. Connect one wire to analog input T3 and second wire to the GND input.

2.Humidity sensor

HUM is used for humidity sensor. Use a three wire cable.

Brown to input 12V, Green to Gnd and White to HUM.

Analog out Connections

A-OUT is used for the variable speed fan (driver)

Digital Inputs

Input 1 is used for the water clock dry contact signal. Use a two wire cable. Connect one wire to Digital Input 1 and the second wire to 0V. The signal from the water clock should be wired in such a way that when the water clock sends a pulse, the dry contact will be in a normally closed state (shorted).

Input 2 is used for the inlet dry contact signal. Use a two wire cable. Connect one wire to Digital Input and The second wire to 0V. The signal from inlet should be wired in such a way that when the inlet moves, the dry contact will be in a normally closed state (shorted).

Relay Connections

Connect the relay outputs to the various systems. All outputs are dry contacts, maximum 4 A/220V

Relay list

Relay number	Output
1	Fan group 1
2	Fan group 2
3	Fan group 3
4	Fan group 4
5	Fan group 5
6	Fan group 6
7	Fan group 7
8	Fan group 8
9	Fan group 9
10	Fan group 10
11	Fan group 11 / Inlet open
12	Fan group 12 / Inlet close
13	Cooling system
14	Cooling system 2 / Heating system
15	Lighting system
16	Alarm
17	Fan zone / Fan side

Connect a 220VAC cable to the 220V IN connector near the ALARM connector. This is the unit power input. Note that there is no breaker (fuse) inside the VKS CLIMATRON for this relay output, and it must be installed externally.

3.2 OPERATION

VKS CLIMATRON will display the average temperature of the connected temperature sensors. It is possible to display each sensor separately.

Turn on power.

1. Each time power is connected to the unit “1.0U” will appear on the display. This number is version number, and is unique for this program version.
2. The left display indicates the indoor temperature. The center display shows the outdoor temperature. And the right display shows the indoor humidity.

CHANGE OF SET POINT

It is possible to change each set point.

1. Push on “Select” button. For select the main function.
2. Push on “Δ” or “□” button. For select the sub function.
3. Push on “Program” button. The lamp program will on.
4. Push on “Δ” or “□” button. Enter the desired data. The new data will appear on the display.
5. Check the display to see if the information is correct. If yes, push on the “Program” button.

The lamp program will off. The new information has been stored into the unit’s memory.

3.3 SET POINTS

Function

1. Temperature / Humidity Data

1.1 t.1 (°C)

This is a reading of the current indoor temperature 1. It is possible here to adjust the temperature reading.

1.2 t.2 (°C)

This is a reading of the current indoor temperature 2(°C). It is possible here to adjust the temperature reading.

1.3 t.3 (°C)

This is a reading of the current outdoor temperature. It is possible here to adjust the temperature reading.

1.4 Hu (%RH)

This is a reading of the current indoor humidity. It is possible here to adjust the humidity reading.

Note It will be necessary to calibrate the temperature and humidity.

A. Push on “Program” The display shows “_ P”

B. Enter “111” and press “Program”

C. Push on “Δ” or “□” button. Enter the desired data. The new data will appear on the display.

D. Check the display to see if the information is correct. If yes, push on the “Program” button.

The lamp program will off. The new information has been stored into the unit’s memory.

1.5 inL (%)

This is a reading of the current inlet. It will be necessary to calibrate the inlet before the start of each flock

A. Push on “Program” The display shows “_ P”

B. Enter “111” and press “Program” to calibrate.

C. Enter “1” and press “Program” to calibrate inlet.

1.6 rFM

This is a reading of the required fan maximum. The required fan maximum will be increase daily according to the stage table.

1.7 rtH (°C)

This is a reading of the required temperature in the house. All set points fan are set as a differential from the requested room temperature in the house. The required temperature in the house will be from required temperature (function “rt”) subtract reduced temperature from high humidity (function “drt,HHU”).

Example:

$$rtH = rt - drt,HHU$$

$$rtH = 30.0^{\circ}\text{C} - 1.0^{\circ}\text{C}$$

$$rtH = 29.0^{\circ}\text{C}$$

1.8 APH (km³/hour)

This is a reading of the minimum ventilation needed according to total bird weight in the house.

Minimum Ventilation

The controller can calculate the minimum ventilation need

according to bird weight (function “Cur,uu”), Number of birds housed (function “nub,brd”), minimum cubic air per kilo in the stage table and the maximum air per hour of the variable speed fan (function “Cu,SPF”), the maximum air per hour of the fan zone (function “Cu,SF” and “nub,SF”) and the fan group (function “Cu,FAn”).

The controller will multiply the number of housed birds by the weight of each bird (taken from the weight increase stage table). The result gives the approximate total weight in kilograms of the house. The controller then multiplies this amount by the requested minimum cubic air per hour. We now have the total amount of air needed for minimum ventilation per hour.

1.9 ton (m.ss)

This is a reading of the time in minutes and seconds of the minimum ventilation on cycle.

1.10 toF (m.ss)

This is a reading of the time in minutes and seconds of the minimum ventilation off cycle.

1.11 tME (m.ss)

This is a reading of the time in minutes and seconds of the minimum ventilation on-off cycle.

1.12 tun

This is a reading of the mode control.

Col = cold tunnel

Hot = hot tunnel

2. Max./Min. Values

2.1 –CThis

is a reading of the total water consumption water in the house.

2.2.1 Ht1

This is a reading of the high indoor temperature in today.

2.2.2 Lt1

This is a reading of the low indoor temperature in today.

2.2.3 ht1

This is a reading of the high outdoor temperature in today.

2.2.4 lt2

This is a reading of the low outdoor temperature in today.

2.2.5 HH1

This is a reading of the high indoor humidity in today.

2.2.6 LH1

This is a reading of the low indoor humidity in today.

2.2.7 tH1

This is a reading of the longest time period, when there is a heat stress index today.

2.2.8 HS1

This is a reading of the highest value of the heat stress index today.

2.2.9 AH1

This is a reading of the amount of events when there time are the heat stress indexes today.

2.2.10 –C1

This is a reading of the water consumption in the house today.

2.3.1 Ht2

This is a reading of the high indoor temperature yesterday.

2.3.2 Lt2

This is a reading of the low indoor temperature yesterday.

2.3.3 ht2

This is a reading of the high outdoor temperature yesterday.

2.3.4 lt2

This is a reading of the low outdoor temperature yesterday.

2.3.5 HH2

This is a reading of the high indoor humidity yesterday.

2.3.6 LH2

This is a reading of the low indoor humidity yesterday.

2.3.7 tH2

This is a reading of the longest time period when there is a heat stress index yesterday.

2.3.8 HS2

This is a reading of the highest value of the heat stress index yesterday.

2.3.9 AH2

This is a reading of the amount of events when there are the heat stress indexes yesterday.

2.3.10 –C2

This is a reading of the water consumption in the house yesterday.

2.4.1 Ht3

This is a reading of the high indoor temperature two days ago.

2.4.2 Lt3

This is a reading of the low indoor temperature two days ago.

2.4.3 ht3

This is a reading of the high outdoor temperature two days ago.

2.4.4 lt3

This is a reading of the low outdoor temperature two days ago.

2.4.5 HH3

This is a reading of the high indoor humidity two days ago.

2.4.6 LH3

This is a reading of the low indoor humidity two days ago.

2.4.7 tH3

This is a reading of the longest time period when there is a heat stress index two days ago.

2.4.8 HS3

This is a reading of the highest value of the heat stress index two days ago.

2.4.9 AH3

This is a reading of the amount of events when there are the heat stress indexes two days ago.

2.4.10 –C3

This is a reading of the water consumption in the house two day ago.

3. Target / Curve Data

The left display indicates the required temperature for fan. The center display shows the required temperature for cooling system. And the right display shows the required humidity for cooling system.

A. Push on “Program” to function required (3.1).

B. Push on “□” to function stage table (3.2).

3.1.1 rt

The required temperature is the requested temperature for fan in the house. The required temperature for fan will be reduced daily according to the stage table.

3.1.2 rht

The required temperature is the requested temperature for heating system in the house. The required temperature for heating system will be reduced daily according to the stage

table. When the temperature in the house is above this value, the heating system will be deactivated.

3.1.3 rCP

The required temperature is the requested temperature for cooling system in the house. The required temperature for cooling system will be reduced daily according to the stage table. When the temperature in the house is above this value, the cooling system will be activated.

3.1.4 rHu

The required humidity is set in percentage. If the humidity level in the house rises above this value, the controller will automatically deactivate the cooling system.

3.2 Stage Table

Temperature Graph

It is possible to set a temperature graph to reduce automatically the house temperature each day during the raising period. It is possible to set up to 8 stages.

Weight Graph

It is possible to enter an automatic weight increase table to be used by the minimum ventilation system.

Fan Maximum Graph

It is possible to enter an automatic maximum fan increase table to be used by the maximum ventilation system.

Important: When Day is equal to 1 it is not possible to change current weight (function "Cur,uu"), required temperature for fan, heating system and cooling system (function "rt", "rht", "rCP").

3.2.1.1 dAY,St1

This is a one day old for first. It is not possible to change day.

3.2.1.2 t,St1 (°C)

Enter here the temperature graph for fan for stage 1.

3.2.1.3 Ht,St1(°C)

Enter here the temperature graph for heating system for stage 1.

3.2.1.4 CP,St1(°C)

Enter here the temperature graph for cooling system for stage 1.

3.2.1.5 uu,St1 (x10g)

Enter here the weight graph for stage 1.

3.2.1.6 FM,St1

Enter here the maximum amount of fans for stage 1.

3.2.1.7 rA,St1 (m3/kg/hour)

Enter here the minimum amount of cubic air per kilo per hour that is to be supplied to the house for stage 1.

3.2.2.1 dAY,St2

Enter here the day for first stage 2.

3.2.2.2 t,St2 (°C)

Enter here the temperature graph for fan for stage 2.

3.2.2.3 Ht,St2(°C)

Enter here the temperature graph for heating system for stage 2.

3.2.2.4 CP,St2(°C)

Enter here the temperature graph for cooling system for stage 2.

3.2.2.5 uu,St2 (x10g)

Enter here the weight graph for stage 2.

3.2.2.6 FM,St2

Enter here the maximum amount of fans for stage 2.

3.2.2.7 rA,St2 (m3/kg/hour)

Enter here the minimum amount of cubic air per kilo per hour that is to be supplied to the house for stage 2.

3.2.3.1 dAY,St3

Enter here the day for first stage 3.

3.2.3.2 t,St3 (°C)

Enter here the temperature graph for fan for stage 3.

3.2.3.3 Ht,St3(°C)

Enter here the temperature graph for heating system for stage 3.

3.2.3.4 CP,St3(°C)

Enter here the temperature graph for cooling system for stage 3.

3.2.3.5 uu,St3 (x10g)

Enter here the weight graph for stage 3.

3.2.3.6 FM,St3

Enter here the maximum amount of fans for stage 3.

3.2.3.7 rA,St3 (m3/kg/hour)

Enter here the minimum amount of cubic air per kilo per hour that is to be supplied to the house for stage 3.

3.2.4.1 dAY,St4

Enter here the day for first stage 4.

3.2.4.2 t,St4 (°C)

Enter here the temperature graph for fan for stage 4.

3.2.4.3 Ht,St4 (°C)

Enter here the temperature graph for heating system for stage 4.

3.2.4.4 CP,St4 (°C)

Enter here the temperature graph for cooling system for stage 4.

3.2.4.5 uu,St4 (x10g)

Enter here the weight graph for stage 4.

3.2.4.6 FM,St4

Enter here the maximum amount of fans for stage 4.

3.2.4.7 rA,St4 (m³/kg/hour)

Enter here the minimum amount of cubic air per kilo per hour that is to be supplied to the house for stage 4.

3.2.5.1 dAY,St5

Enter here the day for first stage 5.

3.2.5.2 t,St5 (°C)

Enter here the temperature graph for fan for stage 5.

3.2.5.3 Ht,St5 (°C)

Enter here the temperature graph for heating system for stage 5.

3.2.5.4 CP,St5 (°C)

Enter here the temperature graph for cooling system for stage 5.

3.2.5.5 uu,St5 (x10g)

Enter here the weight graph for stage 5.

3.2.5.6 FM,St5

Enter here the maximum fan for stage 5.

3.2.5.7 rA,St5 (m³/kg/hour)

Enter here the minimum amount of cubic air per kilo per hour that is to be supplied to the house for stage 5.

3.2.6.1 dAY,St6

Enter here the day for first stage 6.

3.2.6.2 t,St6 (°C)

Enter here the temperature graph for fan for stage 6.

3.2.6.3 Ht,St6 (°C)

Enter here the temperature graph for heating system for stage 6.

3.2.6.4 CP,St6 (°C)

Enter here the temperature graph for cooling system for stage 6.

3.2.6.5 uu,St6 (x10g)

Enter here the weight graph for stage 6.

3.2.6.6 FM,St6

Enter here the maximum amount of fans for stage 6.

3.2.6.7 rA,St6 (m3/kg/hour)

Enter here the minimum amount of cubic air per kilo per hour that is to be supplied to the house for stage 6.

3.2.7.1 dAY,St7

Enter here the day for first stage 7.

3.2.7.2 t,St7 (°C)

Enter here the temperature graph for fan for stage 7.

3.2.7.3 Ht,St7 (°C)

Enter here the temperature graph for heating system for stage 7.

3.2.7.4 CP,St7 (°C)

Enter here the temperature graph for cooling system for stage 7.

3.2.7.5 uu,St7 (x10g)

Enter here the weight graph for stage 7.

3.2.7.6 FM,St7

Enter here the maximum amount of fans for stage 7.

3.2.7.7 rA,St7 (m3/kg/hour)

Enter here the minimum amount of cubic air per kilo per hour that is to be supplied to the house for stage 7.

3.2.8.1 dAY,St8

Enter here the day for first stage 8.

3.2.8.2 t,St8 (°C)

Enter here the temperature graph for fan for stage 8.

3.2.8.3 Ht,St8 (°C)

Enter here the temperature graph for heating system for stage 8.

3.2.8.4 CP,St8 (°C)

Enter here the temperature graph for cooling system for stage 8.

3.2.8.5 uu,St8 (x10g)

Enter here the weight graph for stage 8.

3.2.8.6 FM,St8

Enter here the maximum amount of fans for stage 8.

3.2.8.7 rA,St8 (m3/kg/hour)

Enter here the minimum amount of cubic air per kilo per hour that is to be supplied to the house for stage 8.

Stage Table

Stage	Day	Temperature for Fan	Temperature for Heating System	Temperature for Cooling System ("CP")	Weight "uu"	Maximum Amount of Fan ("FM")	Maximum Amount of cubic air ("rA")
1	1	32	30	40	5	3	1,0
2	7	30	28	38	18	3	1,0
3	14	28	26	32	45	3	1,0
4	21	26	23	29	90	3	1,0
5	28	24	20	28	150	7	1,0
6	35	23	18	28	215	10	1,5
7	42	22	16	28	285	10	2,0
8	49	21	16	28	350	10	2,0

4. Fan / Inlet / Alarm

4.1 diF,F01

This is a number of degrees above the required temperature in the house (function "rtH") that fan 1 will be turned on. The fan 1 used in the "Hot tunnel" mode only.

4.2 diF,F02

This is a number of degrees above the required temperature in the house (function "rtH") that fan 2 will be turn on. If the controller goes into "Cold tunnel" mode because of a low outdoor temperature (function "tS,trn") the unit will continue to open the inlet.

4.3 diF,F03

This is a number of degrees above the required temperature in the house (function "rtH") that fan 3 will be turned on.

4.4 diF,F04

This is a number of degrees above the required temperature in the house (function "rtH") that fan 4 will be turned on.

4.5 diF,F05

This is a number of degrees above the required temperature in the house (function "rtH") that fan 5 will be turned on.

4.6 diF,F06

This is a number of degrees above the required temperature in the house (function “rtH”) that fan 6 will be turned on.

4.7 diF,F07

This is a number of degrees above the required temperature in the house (function “rtH”) that fan 7 will be turned on.

4.8 diF,F08

This is a number of degrees above the required temperature in the house (function “rtH”) that fan 8 will be turned on.

4.9 diF,F09

This is a number of degrees above the required temperature in the house (function “rtH”) that fan 9 will be turned on.

4.10 diF,F010

This is a number of degrees above the required temperature in the house (function “rtH”) that fan 10 will be turned on.

4.11 diF,SF

This is a number of degrees above the required temperature in the house (function “rtH”) that fan zone will be turned on. The fan zone used in the “Cold tunnel” mode only.

4.12 dif,HAL

This is a number of degrees above the required temperature (function “rt”) that if reached the controller will activate the alarm relay and high temperature alarm status will activate. Note: Enter “0.0” to disable this function.

4.13 diF,LAL

This is a number of degrees below the required temperature (function “rt”) that if reached the controller will activate the alarm relay and low temperature alarm status will activate. Note: Enter “0.0” to disable this function.

4.14 diF,HHu

This is a number of percentages above the required humidity (function “rHu”) that if reached the controller will activate the alarm relay and high humidity alarm status will activate. Note: Enter “0.0” to disable this function.

4.15 diF,tE

This is temperature differential from 2 indoor temperature sensor that if reached the controller will activate the alarm relay and differential temperature sensor alarm status will activate

Note: Enter “0.0” to disable this function.

The controller used 2 indoor sensors for control only (Function “tSn”).

4.16 diF,SPF

This is a number of degrees above the required temperature in the house (function “rtH”). Once the house temperature reached this temperature, the variable speed fan will start to increase in speed as set in the band width (function “dif,bAn”).

4.17 dif,bAn

This is the temperature differential above “dif,SPF”. It represents minimum (function “SPF,Lo”) to maximum speed (function “SPF,Hi”).

4.18 SPF,Lo

This is the minimum speed set in percentage that the variable speed fan will run.

4.19 SPF,Hi

This is the maximum speed set in percentage that the variable speed fan will run.

Example:

“rtH” = 30.0°

“diF,SPF” = 0.0°

“dif,bAn” = 2.0°

“SPF,Lo” = 10%

“SPF,Hi” = 100%

As long as the indoor temperature is below 30° (“rtH”+“diF,SPF”) the variable speed fan will be running at 10%.

When the temperature reaches 30° the variable speed fan will start to increase in speed. Over the next 2° the variable speed fan group will gradually increase in speed. By the time the house temperature has reached 32° the variable speed fan will be running at 100%.

4.20 inL,Lo

Enter here, in percentage, the minimum position of the inlet when the controller is “Cold tunnel” mode.

Example: if 10% is entered here, then if the inlets close, they will remain open 10%

4.21 inL,SF

Enter here, the in percentage that the inlet will open each time

the corresponding fan zone come into operation.

4.22 inL,SPF

Enter here, the in percentage that the inlet will open each time the corresponding variable speed fan come into operation.

4.23 inL,F1

Enter here, the in percentage that the inlet will open each time the corresponding fan1 come into operation.

4.24 inL,F2

Enter here, the in percentage that the inlet will open each time the corresponding fan2 come into operation.

4.25 inL,F3

Enter here, the in percentage that the inlet will open each time the corresponding fan3 come into operation.

4.26 inL,F4

Enter here, the in percentage that the inlet will open each time the corresponding fan4 come into operation.

4.27 inL,F5

Enter here, the in percentage that the inlet will open each time the corresponding fan5 come into operation.

4.28 inL,F6

Enter here, the in percentage that the inlet will open each time the corresponding fan6 come into operation.

4.29 inL,F7

Enter here, the in percentage that the inlet will open each time the corresponding fan7 come into operation.

4.30 inL,F8

Enter here, the in percentage that the inlet will open each time the corresponding fan8 come into operation.

4.31 inL,F9

Enter here, the in percentage that the inlet will open each time the corresponding fan9 come into operation.

4.32 inL,F10

Enter here, the in percentage that the inlet will open each time the corresponding fan10 come into operation.

Minimum ventilation be stable

When you want to use this function. Please stop function minimum ventilation from weight. Also enter 00 to function "nub,brd".

4.33 on,F01 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan1 will run once the house temperature has below the fan1 temperature (function “diF,F01”). The fan1 will run in an on-off cycle.

4.34 oFF,F01 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan1 will be off during the fan1 cycle.

Note: Enter “0.0” to disable this function.

4.35 on,F02 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan2 will run once the house temperature has below the fan2 temperature (function “diF,F02”). The fan2 will run in an on-off cycle.

4.36 oFF,F02 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan2 will be off during the fan1 cycle.

Note: Enter “0.0” to disable this function.

4.37 on,F03 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan3 will run once the house temperature has below the fan3 temperature (function “diF,F03”). The fan3 will run in an on-off cycle.

4.38 oFF,F03 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan1 will be off during the fan3 cycle.

Note: Enter “0.0” to disable this function.

4.39 on,F04 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan4 will run once the house temperature has below the fan4 temperature (function “diF,F04”). The fan4 will run in an on-off cycle.

4.40 oFF,F04 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan4 will be off during the fan4 cycle.

Note: Enter “0.0” to disable this function.

4.41 on,F05 (mm.s)

Enter here the time period in minutes and seconds (x10) that

the fan5 will run once the house temperature has below the fan5 temperature (function “diF,F05”). The fan5 will run in an on-off cycle.

4.42 oFF,F05 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan1 will be off during the fan5 cycle.

Note: Enter “0.0” to disable this function.

4.43 on,F06 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan6 will run once the house temperature has below the fan6 temperature (function “diF,F06”). The fan6 will run in an on-off cycle.

4.44 oFF,F06 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan1 will be off during the fan6 cycle.

Note: Enter “0.0” to disable this function.

4.45 on,F07 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan7 will run once the house temperature has below the fan7 temperature (function “diF,F07”). The fan7 will run in an on-off cycle.

4.46 oFF,F07 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan7 will be off during the fan7 cycle.

Note: Enter “0.0” to disable this function.

4.47 on,F08 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan8 will run once the house temperature has below the fan8 temperature (function “diF,F08”). The fan8 will run in an on-off cycle.

4.48 oFF,F08 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan1 will be off during the fan8 cycle.

Note: Enter “0.0” to disable this function.

4.49 on,F09 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan9 will run once the house temperature has below the fan9 temperature (function “diF,F09”). The fan9 will run in an

on-off cycle.

4.50 oFF,F09 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan1 will be off during the fan9 cycle.

Note: Enter “0.0” to disable this function.

4.51 on,F10 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan10 will run once the house temperature has below the fan10 temperature (function “diF,F10”). The fan1 will run in an on-off cycle.

4.34 oFF,F10 (mm.s)

Enter here the time period in minutes and seconds (x10) that the fan1 will be off during the fan10 cycle.

Note: Enter “0.0” to disable this function.

5. Cooling Pump

When the indoor temperature is above requested the temperature for cooling system. A line can be active only when all the following condition are fulfilled: time and temperature.

Cooling Table

Period ("Pr_")	From Time (hh.m) ("on,Pr_")	To Time ("oF,Pr_")	Outdoor Temperature ("t3,Pr_")	On (mm.s) ("onP,Pr_")	Off (mm.s) ("oFP,Pr_")
1	09:00	21:30	27,0	01:00	10:00
2	09:00	21:30	28,8	01:00	05:00
3	09:00	21:30	30,0	01:00	02:00
4	12:30	16:00	32,5	01:00	00:00

Example: When the outdoor temperature is below 27°, under the assumption that the range of both time, the cooling system will not operate when the outdoor temperature reached or rises above 27°. The cooling system operates according to the firstline when the temperature rises above 28.8° the cooling system will operate according to line 2 and so on.

5.1.1 on,Pr1

Enter here the cooling system on time for cooling table period

1. Use a real time mode.

5.1.2 oF,Pr1

Enter here the cooling system off time for cooling table period

1. Use real time mode.

5.1.3 t3,Pr1

Enter here an outdoor temperature for cooling table period 1.

5.1.4 onP,Pr1

Enter here the time period in minutes and seconds that the cooling system will run in an on-off cycle for cooling table period 1.

5.1.5 oFP,Pr1

Enter here the time period in minutes and seconds that the cooling system will be off during the cooling system cycle for cooling table period 1.

5.2.1 on,Pr2

Enter here the cooling system on time for cooling table period

2. Use a real time mode.

5.2.2 oF,Pr2

Enter here the cooling system off time for cooling table period

2. Use real time mode.

5.2.3 t3,Pr2

Enter here an outdoor temperature for cooling table period 2.

5.2.4 onP,Pr2

Enter here the time period in minutes and seconds that the cooling system will run in an on-off cycle for cooling table period 2.

5.2.5 oFP,Pr2

Enter here the time period in minutes and seconds that the cooling system will be off during the cooling system cycle for cooling table period 2.

5.3.1 on,Pr3

Enter here the cooling system on time for cooling table period

3. Use a real time mode.

5.3.2 oF,Pr3

Enter here the cooling system off time for cooling table period

3. Use real time mode.

5.3.3 t3,Pr3

Enter here an outdoor temperature for cooling table period 3.

5.3.4 onP,Pr3

Enter here the time period in minutes and seconds that the cooling system will run in an on-off cycle for cooling table period 3.

5.3.5 oFP,Pr3

Enter here the time period in minutes and seconds that the cooling system will be off during the cooling system cycle for cooling table period 3.

5.4.1 on,Pr4

Enter here the cooling system on time for cooling table period 4. Use a real time mode.

5.4.2 oF,Pr4

Enter here the cooling system off time for cooling table period 4. Use real time mode.

5.4.3 t3,Pr4

Enter here an outdoor temperature for cooling table period 4.

5.4.4 onP,Pr4

Enter here the time period in minutes and seconds that the cooling system will run in an on-off cycle for cooling table period 4.

5.4.5 oFP,Pr4

Enter here the time period in minutes and seconds that the cooling system will be off during the cooling system cycle for cooling table period 4.

5.5.1 on,Pr5

Enter here the cooling system on time for cooling table period 5. Use a real time mode.

5.5.2 oF,Pr5

Enter here the cooling system off time for cooling table period 5. Use real time mode.

5.5.3 t3,Pr5

Enter here an outdoor temperature for cooling table period 5.

5.5.4 onP,Pr5

Enter here the time period in minutes and seconds that the cooling system will run in an on-off cycle for period 5.

5.5.5 oFP,Pr5

Enter here the time period in minutes and seconds that the cooling system will be off during the cooling system cycle for cooling table period 5.

6. Growth Day / Current Weight

6.1 day

This is the current grow day of the flock. At the beginning of the flock enter here 1.

The requested temperature for fan will automatically receive the value as entered in stage 1 table.

The requested temperature for cooling system will automatically receive the value as enter in stage 1 table. The requested temperature for heating system will automatically receive the value as enter in stage 1 table.

6.2 Cur,uu

This is the current weight of one bird according to the weight increase graph. This value is used in calculating the minimum ventilation needed for the house as explained above.

6.3 nub,brd

Enter here at beginning of the flock the number of birds placed in the house. This value is used in calculating the minimum ventilation needed for the house as explained above.

7. Set Times For Lighting ON / OFF

7.1.1 onL,Pr1

Enter here the light on time for period 1. Use a real time mode.

7.1.2 oFL,Pr1

Enter here the light off time for period 1. Use a real time mode.

Example:

“onL,Pr1” = 06.0

“oFL,Pr1” = 18.0

“onL,Pr2” = 22.0

“oFL,Pr2” = 01.0

In this example the lights will go on at 06:00 and off at 20:00. At 22:00 the light will come back on and then go off at 01:00.

7.2.1 onL,Pr2

Enter here the light on time for period 2. Use a real time mode.

7.2.2 oFL,Pr2

Enter here the light off time for period 2. Use a real time mode.

7.3.1 onL,Pr3

Enter here the light on time for period 3. Use a real time mode.

7.3.2 oFL,Pr3

Enter here the light off time for period 3. Use a real time mode.

7.4.1 onL,Pr4

Enter here the light on time for period 4. Use a real time mode.

7.4.2 oFL,Pr4

Enter here the light off time for period 4. Use a real time mode.

7.5.1 onL,Pr5

Enter here the light on time for period 5. Use a real time mode.

7.5.2 oFL,Pr5

Enter here the light off time for period 5. Use a real time mode.

8. Parameter Setup**8.1 id**

This is the formula number of the controller.

8.2 tSn

It is possible to use indoor temperature sensor for control.

To use 1 sensor enter the corresponding 1.

To use 2 sensor enter the corresponding 1_2.

8.3 tE1,AL

It is possible to enable temperature sensor 1 alarm

To disable an alarm enter the corresponding off.

To enable an alarm enter the corresponding on.

Note: If an alarm is disabled then the alarm relay will not be activated when there is a problem.

8.4 tE2,AL

It is possible to enable temperature sensor 2 alarm

To disable an alarm enter the corresponding off.

To enable an alarm enter the corresponding on.

Note: If an alarm is disabled then the alarm relay will not be activated when there is a problem.

8.5 tE3,AL

It is possible to enable temperature sensor 3 alarm

To disable an alarm enter the corresponding off.

To enable an alarm enter the corresponding on.

Note: If an alarm is disabled then the alarm relay will not be activated when there is a problem.

8.6 inL,AL

It is possible to enable inlet alarm

To disable an alarm enter the corresponding off.

To enable an alarm enter the corresponding on.

Note: If an alarm is disabled then the alarm relay will not be activated when there is a problem.

8.7 Fan,HYS

Enter here the number of degrees below the fan temperature that fan will be turn off.

8.8 CP,HYS

Enter here the number of degrees below the requested temperature for cooling system (function “rCP”) that cooling system will be turn off.

8.9 Ht,HYS

Enter here the number of degrees below the requested temperature for heating system (function “rht”) that heating system will be turn on.

8.10 Hu,HYS

Enter here the number of percentage below the requested humidity for cooling system (function “rHu”) that cooling system will be turn on.

8.11 drt,HHU

Enter here the number of degrees for reduce required temperature for fan (function “rt”) in case of high humidity(function “rHu”).

8.12 on,drt

Enter here the time period in minutes and seconds that the reduced temperature for fan in case of high humidity (function “rHu”) will run.

8.13 oF,drt

Enter here the time period in minute and seconds that the reduced temperature for fan in case of high humidity (function “rHu”) will be off.

8.14 onP,HHu

Enter here the time period in minutes and seconds that the cooling system will run once the indoor temperature has reached the required temperature for cooling system and indoor humidity rises above required humidity. The cooling system will run in an on-off cycle.

8.15 oFP,HHu

Enter here the time period in minute and seconds that the cooling system will be off during the cool system high humidity cycle.

8.16 Cu,Fan

Enter here the total amount of cubic air per hour that fan 1 to 10 can supply divided by 1000. Example if fan 1 can supply 33,900 cubic meters of air per hour then enter here the value 33.9.

Note: This value is used in calculating the minimum ventilation needed for the house as explained above.

Cubic meter per hour = (cubic feet per minute / 2119) x 3600

8.17 Cu,SPF

Enter here the total amount of cubic air per hour that variable speed fan can supply divided by 1000. Example if variable speed fan can supply 33,900 cubic meters of air per hour then enter here the value 33.9.

Note: This value is used in calculating the minimum ventilation needed for the house as explained above.

Cubic meter per hour = (cubic feet per minute / 2119) x 3600

8.18 nub,SPF

Enter here the number of variable speed fan in the house.

Example if variable speed fan can supply 33,900 cubic meter of air per hour and they have 2 number of fan zone then they can supply 67,800 cubic meters of air per hour.

Note: This value is used in calculating the minimum ventilation needed for the house as explained above.

8.19 CtL,SPF

It is possible to used control variable speed fan in the mode.

To use in the “Cold tunnel” mode only enter the corresponding “Col”.

To use in the all mode (cold and hot tunnel) enter the corresponding “All”

8.20 Cu,SF

Enter here the total amount of cubic air per hour that fan zone can supply divided by 1000. Example if fan zone can supply 15,200 cubic meters of air per hour then enter here the value 15.2.

Note: This value is used in calculating the minimum ventilation needed for the house as explained above.

Cubic meter per hour = (cubic feet per minute / 2119) x 3600

8.21 nub,SF

Enter here the number of fan zone in the house. Example if fan zone can supply 15,200 cubic meter of air per hour and they have 2 number of fan zone then they can supply 30,400 cubic meters of air per hour.

Note: This value is used in calculating the minimum ventilation needed for the house as explained above.

8.22 dLY,onF

Enter here the time period in minutes and seconds that the fan will delay turn on.

8.23 dLY,oFF

Enter here the time period in minutes and seconds that the fan will delay turn off.

8.24 tF,CYC

The time in minutes and seconds of the minimum ventilation on-off cycle

8.25 Fd,CYC

This is the calculated duty cycle (percent) of the fan cycle time according to the minimum ventilation mode. If this number is larger then the minimum duty cycle time then the fan will run this amount out of the fan cycle time. If the minimum duty cycle time is larger then the calculated duty cycle time the fans will run according to the minimum.

8.26 dLY,SYS

Enter here the time period in seconds that the controller will be delay turn on relay in case of power on.

8.27 PLS,Lit

Enter here the number of pulse per liter used in the water meter.

8.28 HS

Enter here the number of the heat stress index. When the indoor temperature plus indoor humidity in the house is above this value, the heat stress status will be activated.

8.29 AHS

Enter here the number of amount time in the heat stress. When amount time in the heat stress is above this value, the controller will activate the alarm relay and amount time heat stress alarm status will activate.

8.30 tHA

Enter here the time in minutes of amount time in the heat stress.

8.31 tHS

Enter here the time in minutes of time in the heat stress. When time period in the heat stress is above this value, the controller will activate the alarm relay and the time heat stress alarm status will activate.

8.32 on,AL

Enter here the time period in seconds that the alarm system will run. The alarm system will activate.

8.33 oF,AL

Enter here the time period in seconds that the alarm system will be off.

8.34 tdL

Enter here the time in minutes that the data logger will be record.

8.35 L-F,trn

Enter the last fan that the controller will run in “Cold Tunnel” mode. Once this fan is passed the controller will exit “Cold Tunnel” mode, meaning will close the inlet.

8.36 t5,trn

This is a temperature setting, which represents an absolute outdoor temperature, under which the controller goes into “Cold Tunnel” mode when the set point of fan 2 has been reached. In this mode the controller will continue to use inlet.

8.37 dLY,Vnt

Minimum time setting set in minutes and seconds that the unit would remain in the current ventilation mode.

Suggested time setting: 1.0 (60 seconds).

8.38 Hn

It is possible to connect the unit to a PC computer with the help of the "TEMPVIEW" software package. It is possible to manage up to 99 units. Each controller needs a house number.

8.39 C_P

Enter here a change password.

8.40 UL

This function is copy formula in the controller to data loader. It is possible to connect the controller to a data loader with the help of the data loader manual.

8.41 trL

This is function for test relay. To be used by technicians.

8.42 tSP

This is function for test variable speed fan. To be used by technicians.

8.43 dd,dAY

This is a reading of the current day setting. It is possible here to adjust the day reading.

8.44 MM,dAY

This is a reading of the current month setting. It is possible here to adjust the month reading.

8.45 YY,dAY

This is a reading of the year setting. It is possible here to adjust the year reading.

8.46 hh,tME

This is a reading of the hour setting. It is possible here to adjust the hour reading.

8.47 mm,tME

This is a reading of the minute setting. It is possible here to adjust the minute reading.

Flap Calibration

It will be necessary to calibrate the inlet before the start of each flock. This will start the calibration process. The inlet will first close to 0 percent and then open to 100 percent. the inlet will

then go to its required position.

TROUBLE-SHOOTING

1. If a temperature sensor or its cable is disconnected, the sensor reading will show **OPn**.

2. If a temperature sensor or its cable is shorted, the sensor reading will show **Sht**.

If one sensor is disconnected, the system will automatically word on the remaining sensor (**tSN = 1_2**).

3. If a humidity sensor or its cable is disconnected, the sensor reading will show **OPn**.

2. If a humidity sensor or its cable is shorted, the sensor reading will show **Sht**.

4. PERIODIC MAINTANANCE

Fan control panel does not need a heavy maintainance. In busy working conditions it's working should be checked. The alarm system should be checked frequently. It should be cleaned from dust and powders between growth sessions. The biggest problem for control panels in usage is dust. If the panel is wanted to be used for long years, it's periodic maintainance should be done. Just because of this dust and powder cleaning is very important for control panels.

Between growth sessions the battery cables should be disconnected to disable alarms and make the batteries long life.

The alarm system should be checked frequently by testing thermic magnetic switches and VKS CLIMATRON temperature alarms. It is always very important to keep the alarm system working.

The equipments used inside panel has an end of mechanical and electrical life like everything on earth. Their failure by the time is a normal result. Making the panel and equipment's using life longer depends on installation place choice, electrical network conditions, periodic maintainance, humidity and other environmental conditions. The most important factor for contactor's life is dust. Because of this panel periodic maintainance should be done frequently.

It's adviced to change all contacter switchs with new ones once in 2 or 3 years. It should bdone not to live a fault with panel when there is animal inside house. Possible contacter faults will be seen probably at the first step contacters by time. When there is animal inside, for not to fall in trouble with a contacter fault, it is adviced to keep spare 1 or 2 contacters near panel.

5. SUGGESTIONS

WARNING

This section is prepared to make your panel life longer and work properly. All suggestions are advised because of experiences.

- You should not connect motor or equipment more than the capacity of panel. No more equipment should not be energised through panel accept the ones explained in technical specifications of panel.
- If the distance between the panel and fan motors with power of 1.1 kw, the connection cable should be choosen with dimensions of 4x2.5 mm.
- All fan motors should be grounded locally.
- Front cover of panel should always be closed.
- Between two aniimal growth term, the panel should be cleaned with vacuum cleaner. Panel should never be cleaned with water or any liquid else.
- No cable or connection inside the panel should be changed.
- You should use a power generator against power failures.
- In case of power failures, the power generator should be tested against fan directions.
- The cable canals inside panel should always be kept closed.
- If there is a telephone near the panel, it will be easier to solve the problems that can ocur in future.
- It will protect the animals against death because of closeness if you have natural vantilating system in case of panel failures.
- The horn should be placed at a place that everybody interested in safety of animals inside can hear it.
- The inside temperature sensor should be placed just in to the midpoint of house. It should be placed as near as possible to flor but as high as the animals can not damage the sensor.
- During cleanup between growth terms, the energy of panel should be cut and panel should be closed with a cover like nylon or something like this to protect the panel against water and disinfectant vapour.
- In electric circuit of panel, there should not be made any addition or subtraction.
- Panel should never be used with out of it's aim.

6. FAULT DETECTION AND TROUBLE SHOOTING

This section is prepared to help user in case of possible faults. It is aimed to solve possible problems as quick as possible by the operator.

FAULT DETECTION AND TROUBLE SHOOTING		
Energy connections are made but stil the panel is not energised.		
POSSIBLE REASON	FAULT DETECTION	SOLUTION
There may not be enery in connection cables.	Please control network volrages. (Between phases 360...400 V AC) (Between phase neutral 200...240 V AC)	If the problem occurs because of network voltages, the problem must be solved by energy supplier.
Phase sequence might be wrong.	Control the light on MKS03 that if it is on or off.	If the light is off, change the phase sequence until the light comes on position.
The voltages might be low.	Please control network volrages. (Between phases 360...400 V AC) (Between phase neutral 200...240 V AC)	If the problem occurs because of network voltages, the problem must be solved by energy supplier.
One or some of network voltages might be off.	Please control network volrages. (Between phases 360...400 V AC) (Between phase neutral 200...240 V AC)	If the problem occurs because of network voltages, the problem must be solved by energy supplier.
MKS03 might be broken.	Control the light on MKS03 that if it is on or off.	If the light is on, change the MKS03 with a new one.Eğer ışık yamıyorsa MKS03'ü yenisi ile deęiştirin. NOTE: Do not change the sequence of cables connected to MKS03 when changing MKS03.
F1 And F2 fuses might be off.	Control F1 and F2 fuses.	If the fuses are off, turn on them and energise the panel.

VKS CLIMATRON is working out of parameters installed in it.		
POSSIBLE REASON	FAULT DETECTION	SOLUTION
VKS CLIMATRON parameters might be entered different.	Check the parameter values.	Correct the parameter values. If you couldn't detect the wrong parameter make your VKS CLIMATRON turn back to factory settings.

VKS CLIMATRON is working out of parameters installed in it. (When the VKS CLIMATRON is made to turn back to factory settings.).		
POSSIBLE REASON	FAULT DETECTION	SOLUTION
VKS CLIMATRON might be broken.	Check if you made the VKS CLIMATRON turn back to factory settings correctly.	If you are sure that you have made the VKS CLIMATRON turn back to factory settings correctly and stil it is not working, please contact to your seller.

Faults occuring time to time.

POSSIBLE REASON	FAULT DETECTION	SOLUTION
Equipment screws, terminal box screws or sockets of equipments might be loosen.	Check all the screws inside panel, on equipments and the sockets.	If the fault is occuring because of this reason, tihten all screws and solve the problem.

VKS CLIMATRON is working but fans are not working.		
POSSIBLE REASON	FAULT DETECTION	SOLUTION
Thermic magnetic protection relay might be off.	Check the butons on the thermic magnetic protection relay if they are open or closed.	If the buttons are closed turn on them and solve the problem.
The temperature set value that VKS CLIMATRON will start fans working mignt be set too high.	Control the temperature set value.	If it is set too high, solve problem by correcting the temperature set value.

Switches that control working type of fan groups might be closed.	Control the switches.	If the switches are closed, change them to (2) automatic working condition.
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Fan thermic magnetic switches goes off.		
POSSIBLE REASON	FAULT DETECTION	SOLUTION
The temperature at the room that the panel works in might be too high.	Check the room temperature.	If the problem occurs because of high temperature, cool the room and solve problem.
Panel might be placed under direct sun light.	Check the panel placement.	If the panel is placed under direct sun light, embrass the sunlight.
Contacters might be broken.	Check the contacters.	Change the broken contacters with the new ones.

Fan thermic magnetic switches goes off consecutively.		
POSSIBLE REASON	FAULT DETECTION	SOLUTION
Current set of thermic magnetic switch might be set too low for related motor.	Check the current set of thermic magnetic switch.	If the current is set too low, increase it up to the value that is declared on the lable of related motor.
Motor might be broken.	Check the related motor.	If the motor is broken change it with a new one.
Cable that connects the motor to the panel might be broken.	Check the related cable.	If the cable is broken, change it with a new one.

Fans are working in hand mode but they are not working in automatic mode.		
POSSIBLE REASON	FAULT DETECTION	SOLUTION
The voltages might be low.	Please control network voltages. (Between phases 360...400 V AC) (Between phase neutral 200...240 V AC)	If the problem occurs because of network voltages, the problem must be solved by energy supplier.
Phase sequence might be wrong.	Control the light on MKS03 that if it is on or off.	If the light is off, change the phase sequence until the light comes on position.
MKS03 might be broken.	Control the light on MKS03 that if it is on or off.	If the light is on, change the MKS03 with a new one.Eğer ışık yamıyorsa MKS03'ü yenisi ile değiştirin. NOTE: Do not change the sequence of cables connected to MKS03 when changing MKS03.

Radians are not working.		
POSSIBLE REASON	FAULT DETECTION	SOLUTION
Radian working temperature set value might be set to a very high or low value.	Check the radian working temperature set value.	If the problem occurs because of radian working temperature set value, correct it and solve the problem.

The radian relay on VKS CLIMATRON might be broken.	Check the relay.	If the relay on VKS CLIMATRON is broken, please refer to your seller.
The terminal box or the cable connected to radian valve might be broken.	Check the terminal box and cable.	If there is a problem with terminal box, solve it by tightening the screw on terminal. If the cable is broken change it with a new one.
Gas valve might be broken.	Check the valve. NOTE: When you energise the valve from panel, the valve must make a noise if it is working. You can check the valve by this way.	If the gas valve is broken change it with a new one.

Radians are working continuously.

POSSIBLE REASON	FAULT DETECTION	SOLUTION
Radian working temperature set value might be set to a very high or low value.	Check the radian working temperature set value.	If the problem occurs because of radian working temperature set value, correct it and solve the problem.
The radian relay on VKS CLIMATRON might be broken.	Check the relay.	If the relay on VKS CLIMATRON is broken, please refer to your seller.

Pump motors are not working.

POSSIBLE REASON	FAULT DETECTION	SOLUTION
Pump working temperature set value might be set to a very high value.	Check the pump working temperature set value.	If the pump working temperature set value is set to a very high value, solve the problem by correcting it.
P12 switch might be at (0) position.	Control the position of P12 switch.	If P12 switch is at (0) position, solve the problem by taking it to (1) or (2) position.

P12 switch might be broken.	Check the P12 switch.	If P12 switch is broken, change it with a new one.
Pump thermic magnetic protection switch might be off.	Check the pump thermic magnetic protection switch.	If pump thermic magnetic protection switch is at off position, take it to on position.
Pump contactor switch might be broken.	Check the pump contactor switch.	If it is broken, change it with a new one.
The pump relay on VKS CLIMATRON might be broken.	Check the relay.	If the relay on VKS CLIMATRON is broken, please refer to your seller.

Pumps are working continuously.

POSSIBLE REASON	FAULT DETECTION	SOLUTION
Pump working temperature set value might be set to a very low value.	Check the pump working temperature value.	If pump working temperature set value is set to a very low value, solve the problem by correcting pump working temperature set value.
The pump relay on VKS CLIMATRON might be broken.	Check the relay.	If the relay on VKS CLIMATRON is broken, please refer to your seller.
P13 switch might be at (1) position.	Check the P12 switch position.	If the switch is at (1) position, solve the problem by taking the switch to (0) or (2) position.
Pump contactor switch might be broken.	Check the pump contactor switch.	If it is broken, change it with a new one.
Pump thermic magnetic protection switch might be broken.	Check the pump thermic magnetic switch.	If it is broken, change it with a new one.

Pump motor thermic magnetic protection switch is going off. (Stops the motor)

POSSIBLE REASON	FAULT DETECTION	SOLUTION
The temperature at the room that the panel works in might be too high.	Check the room temperature.	If the problem occurs because of high temperature, cool the room and solve problem.

Pump contactor switch might be broken.	Check the pump contactor switch.	If it is broken, change it with a new one.
Motor might be broken.	Check the related motor.	If the motor is broken change it with a new one.
Cable that connects the motor to the panel might be broken.	Check the related cable.	If the cable is broken, change it with a new one.

Fuses inside the panel go off.

POSSIBLE REASON	FAULT DETECTION	SOLUTION
There might be connected motor or equipment to panel more than capacity of the panel.	Check the equipment and motor numbers connected to panel.	Disconnect the equipment connected to the panel that are not declared by VKS for the related panel.
Charge unit might be broken.	Check the charge unit.	If the charge unit is broken, change it with a new one.
One of the fan or pump contactor switches might be broken.	Check all the contactor switches.	If there is a broken contactor switch inside panel, change it with new one.
Fuse might be broken. NOTE: This situation has never been observed before.	Check the fuse.	If it is broken change it with a new one.

VKS CLIMATRON microcontroller is not working.

POSSIBLE REASON	FAULT DETECTION	SOLUTION
The connectors of VKS CLIMATRON might be loose.	Check the sockets of VKS CLIMATRON microcontroller.	If there is a loose socket, tighten it and solve the problem.
VKS CLIMATRON might be broken.	If you tried to solve your problem with all ways explained above but you could not solve your problem, this means that your VKS CLIMATRON microcontroller is broken.	Please refer to your seller.