



# VKS ULTIMATE POULTRY HOUSE CLIMATE CONTROLLER OPERATION MANUEL



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## **SAFETY PRECAUTIONS AND WARNINGS**

### **WARNING**

Before installation and energizing of climate controller, please read safety precautions and warnings carefully!

- Imbalances in your electricity network (low and high voltages) might destroy the controller 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 controller without cutting out the energy might result serious damages for human health or equipments.
- Usage of the controller 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 interference the controller.
- Please do not forget that all electrical equipments can cause fire. Because of this place the controller away from high temperature, fire and liquids. Do not put easy to fire materials near the controller like nylon, wood or chemicals.
- This controller 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 controller.

## **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

equiped 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 on the front cover of the panel is called VKS ULTIMATE. VKS ULTIMATE 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.

## 2. INSTALLATION

### Analog Input Connections

#### Temperature Sensors

Input 1 is used for inside temperature sensor 1.

Input 2 is used for inside temperature sensor 2. Zone 1

Input 3 is used for inside temperature sensor 3. Zone 2

Input 4 is used for inside temperature sensor 4. Pad

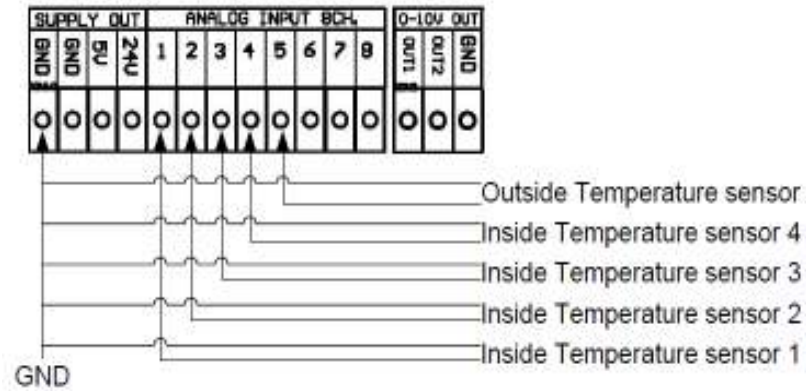
Input 5 is used for the outside temperature sensor.

#### Humidity and Pressure sensors

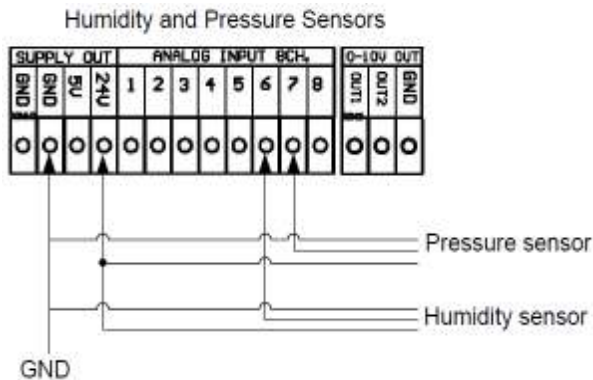
Input 6 is used for humidity sensor. Use a three wire cable.

Input 7 is used for static pressure sensor. Use a three wire cable.

#### Temperature Sensors



#### Humidity and Pressure Sensors



## Digital Inputs

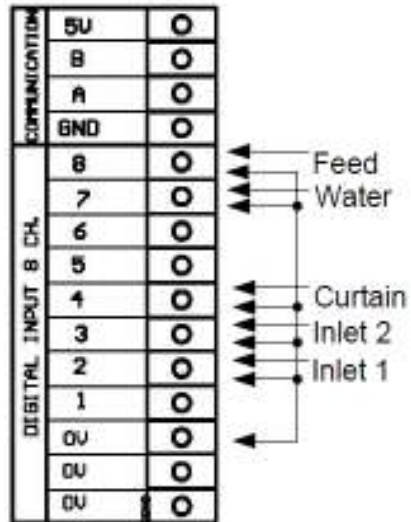
Input 2 is used for the Inlet 1

Input 3 is used for the Inlet 2

Input 4 is used for the Curtain

Input 7 is used for the Water clock dry contact signal

Input 8 is used for the feed dry contact



## The Relay Outputs To Fans

Total Fans	Fan Group 1	Fan Group 2	Fan Group 3	Fan Group 4
4	1	1	1	1
5	1	1	1	2
6	1	1	2	2
7	1	2	2	2
8	1	2	2	3
9	1	2	2	4
10	1	2	3	4
11	1	2	4	4
12	1	2	4	5
13	1	2	4	6
14	1	2	4	7
15	1	2	4	8

### 3. OPERATION

#### Display Sensor

To view each sensor readings separately, press on:

Press KEY 01 = Display Temperature Sensor 1  
KEY 02 = Display Temperature Sensor 2  
KEY 03 = Display Temperature Sensor 3  
KEY 04 = Display Temperature Sensor 4  
KEY 05 = Display Temperature Sensor 5  
KEY 06 = Display Humidity Sensor  
KEY 07 = Display Static Pressure Sensor  
KEY 10 = Display Curtain  
KEY 11 = Display Inlet 1  
KEY 12 = Display Inlet 2  
KEY 13 = Display Cycle Timer

The time in seconds that remains until the end of the minimum ventilation on-off cycle.

KEY 14 = Display Cool Timer

Display the timer for the cooling system in seconds.

This is a countdown timer showing the time in seconds that remains until the end of the on-off cycle.

KEY 15 = Display Fan Speed

KEY 16 = Digital Input Reading

This is a display of the current digital input in use.

This readout is a binary number.

Digital input 1 = 1 (cool-curtain input)

2 = 2 (inlet 1 input)

3 = 4 (inlet 1 input)

4 = 8 (curtain)

KEY 17 = Alarm Type

TS1 = Temperature Sensor 1 Alarm.

TS2 = Temperature Sensor 2 Alarm.

TS3 = Temperature Sensor 3 Alarm.

TS4 = Temperature Sensor 4 Alarm.

TS5 = Temperature Sensor 5 Alarm.

HSn = Humidity Sensor Alarm.

PSn = Pressure Sensor Alarm.

HAL = High Temperature Alarm.

LAL = Low Temperature Alarm.

HHu = High Humidity Alarm.

PAD = Cooling Pad Alarm.

Curt = Curtain Alarm.

inL 1 = Inlet 1 Alarm.

inL 2 = Inlet 2 Alarm.

AHS = Amount Hestress Alarm

THS = Time Hestress Alarm.

Pres = Pressure Alarm.

Prog = Program Alarm

## 001.Growth Day

This is the current growth day of the flock. At the beginning of the flock enter here 0.

The room temperature (code 002) will automatically receive the value as entered in Growth day 1 temp.

(code 062).

The Current weight (code 051) will automatically receive the value as entered in Day 1 Weight (code 052).



## **002. Request Temperature**

The required temperature is the requested temperature in the house. All set points (except the cool temperature set point) are set as a differential from the requested room temperature. The required temperature will be reduced daily according to the temperature reduction table. See code 062-071.

## **Minimum Ventilation**

The unit can calculate the minimum ventilation needed according to bird weight (code 051), number of birds housed (code 050), ventilation rate multiply (code 039), high outdoor temperature (code 035), low outdoor (code 036), minimum cubic air per kilo (code 049) and the maximum air per hour of the variable speed fan (code 048) and the winter fan (code 047) The unit will multiply the number of housed birds by the weight of each bird (taken from the weight increase graph (code 052-061). The result gives the approximate total weight in kilograms of the flock. The unit will multiply the total weight in kilograms of the flock by the requested minimum cubic air per kilo (code 049) and keeps the result as the minimum ventilation. The unit will also multiply the total weight in kilograms of the flock by the requested ventilation rate multiply (code 039) and keeps the result as the maximum ventilation. When the temperature reaches the high outdoor temperature (code 035), the unit operates the maximum ventilation. When the temperature reached the low outdoor temperature (036), the unit operates the minimum ventilation. The temperature in between the high outdoor and low outdoor temperature, the ventilation is calculated according to linear equation. We now have the total amount of air needed for minimum ventilation per hour. The unit will use this calculation and run the variable speed fan group at the speed needed to supply the proper amount of air for the house. In this stage the unit will open the inlets and the cool curtain according to the calculated speed of the fans. In this stage the unit will open the inlets and the cool curtain according to the calculated speed of the fans. In this mode, the maximum and minimum position of the inlets are set by code 041 and 042. If the fan

var minimum (code 032) is larger than the calculated speed, the speed fans will run at the minimum setting. If the calculated speed is larger, then the speed fans will run at the speed.

When the calculated amount of air that has to be entered into the house is greater than what the variable speed fan can give, the first fan group is also turned on and an on-off cycle begins. While in the on state, the variable speed fan group operates at maximum speed and the first fan group is turned on and the inlets and the cool curtain are opened to maintain the required pressure in the house according to the requested static pressure (code 037-038). While in the off state, all the fans are turned off and the inlets and the cool curtain are closed. The period of the cycle is set in code 019 and the cycle timer can be viewed in **KEY 13**. The minimum on time in percent of the whole period is set by code 032.

**Attention:** In all ventilation modes in which the inlets are opened, the position difference between the two inlets is set according to the temperature difference between the zone near inlet 1 (sensor 1) and the zone near inlet 2 (sensor 2).

If the zone near inlet 1 is hotter than the zone near inlet 2, then inlet 1 will be opened more than inlet 2 and vice versa. The exact difference is calculated according to the position difference per degree (Celsius) (code 909) and is limited by the maximum position difference (code 910). In all these modes, the cool curtain position is opened to the certain percents of the inlet 2 position (code 045).

### **003. Total Fan**

The total fans in the house or in the system.

### **004. Fan 1**

Fan 1 is the number of degrees above the required room temperature (code 002) that fan group 1 will be turned on.

### **005. Fan 2**

Fan 2 is the number of degrees above the required room temperature (code 002) that fan group 2 will be turned on.

**006. Fan 3**

Fan 3 is the number of degrees above the required room temperature (code 002) that fan group 3 will be turned on.

**007. Fan 4**

Fan 4 is the number of degrees above the required room temperature (code 002) that fan group 4 will be turned on.

**008. Fan 5**

Fan 5 is the number of degrees above the required room temperature (code 002) that fan group 5 will be turned on.

**009. Fan 6**

Fan 6 is the number of degrees above the required room temperature (code 002) that fan group 6 will be turned on.

**010. Fan 7**

Fan 7 is the number of degrees above the required room temperature (code 002) that fan group 7 will be turned on.

**011. Fan 8**

Fan 8 is the number of degrees above the required room temperature (code 002) that fan group 8 will be turned on.

**012. Fan 9**

Fan 9 is the number of degrees above the required room temperature (code 002) that fan group 9 will be turned on.

**013. Fan 10**

Fan 10 is the number of degrees above the required room temperature (code 002) that fan group 10 will be turned on.

**014. Fan 11**

Fan 11 is the number of degrees above the required room temperature (code 002) that fan group 11 will be turned on.

**015. Fan 12**

Fan 12 is the number of degrees above the required room temperature (code 002) that fan group 12 will be turned on.

**016. Fan 13**

Fan 13 is the number of degrees above the required room temperature (code 002) that fan group 13 will be turned on.

**017. Fan 14**

Fan 14 is the number of degrees above the required room temperature (code 002) that fan group 14 will be turned on.

**018. Fan 15**

Fan 15 is the number of degrees above the required room temperature (code 002) that fan group 15 will be turned on.

**019. Cycle Time Fan (mm:ss)**

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

**020. Heater 1**

Heat 1 set point is the temperature differential below the required temperature that the heating system will turn on.

**Example:** Heat 1 set point = 1.0

If the room temperature should drop 1.0 ° below the required temperature (code 002) setting then the heating system 1 will start to run.

### **021. Heater 2**

Heat 2 set point is the temperature differential below the required temperature that the heating system will turn on.

**Example:** Heat 2 set point = 1.0

If the room temperature should drop 1.0° below the required temperature (code 002) setting then the heating system 2 will start to run.

### **022. Cool Temperature**

Enter here an absolute temperature. When the average temperature in the house is above this value, the cooling system will be activated.

### **023. Cool Tunnel Humidity (Summer Mode or Tunnel Mode)**

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

### **024. Cool Winter Humidity (Winter Mode and transition Mode)**

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

### **025. Cool On Time (mm:ss)**

Enter here the time period in minutes and seconds that the cooling system will run once the house temperature has reached the Cool Temp temperature (code 022). The cooling system will run in an on-off cycle.

**026. Cool Off Time (mm:ss)**

Enter here the time period in minutes and seconds that the cooling system will be off during the cool system cycle. If it set 00.00, the cooling system will continue operating.

**027. Cool On Time High Humidity (mm:ss)**

Enter here the time period in minutes and seconds that the cooling system will be on during the high humidity.

**028. Cool Off Time High Humidity (mm:ss)**

Enter here the time period in minute and seconds that the cooling system will be off during the high humidity. If the cool off time (code 026) is set 00.00, this code is not in used.

**029. Fan Humidity Set**

Value is set in percentage. If a humidity sensor is connected to your unit then it is possible to cause an increase in the ventilation if the humidity is too high in the house. Enter here the maximum humidity level for the house. If the humidity level is larger than this value then the unit will automatically add on extra ventilation. If the unit is in minimum ventilation using only the variable speed fan group the unit will automatically add fan group 1. If fan group 1 is running then the unit will bring into operation fan group 2. The unit will always add on the next group of fans.

**030. Fan Variable Diff**

Fan Variable Diff is set as a number of degrees above the required room temperature (code 002). Once the house temperature reaches this temperature, the variable speed fan group will start to increase in speed as set in the Band Width (code 031). The inlets and the cool curtain will open in accordance to the fan speed. At this point there is no static pressure control.

### **031. Fan Variable Band Width**

Fan Variable Band Width is the temperature differential above fans Variable Diff. It represents the temperature range in which the variable speed fan group will speed up from minimum (code 032) to maximum speed.

### **032. Fan Var Minimum**

Fan Var minimum is the minimum speed set in percentage that the variable speed fan group will run and also the minimum percents of the on state out of the whole period in the on-off cycle mode.

**Example:**

002 Room temp = 23.0°

030 Fan Variable diff = 2.0°

031 Fan Variable Band Width = 4.0°

032 Fan Var Minimum = 10

As long as the inside room temperature is below 25° (room temp+Fan Var Diff) the variable speed fan group will be running at 10% When the temperature reaches 25° the variable speed fan group will start to increase in speed. Over the next 4° the variable speed fan group will gradually increase in speed. By the time the house temperature has reached 29° the variable speed fan group will be running at 100%

### **033. Winter Tunnel Temperature**

This is a temperature setting, which represents an absolute outside temperature, under which the unit goes into “Winter Tunnel” mode when the set point of fan group 2 has been reached. In this mode the unit will continue to use the inlets and the cooling curtain to get the required static pressure in the house.

#### **034. Max Fan Exit Trans**

Enter the last fan group that the unit will run in “Transition” mode, controlling the pressure in the house with the inlets and the cool curtain. Once this group is passed the unit will exit “Transition” mode, meaning will close the inlets and open the cooling curtain 100%.

#### **035. High Outdoor Temp**

The high outdoor temperature for calculation of maximum ventilation and static pressure

#### **036. Low Outdoor Temp**

The low outdoor temperature for calculation of minimum ventilation and static pressure

#### **037. High Out Temp. Pres**

The requested static pressure for the house can be changed according to the outside temperature. Enter here the required static pressure when the outside temperature is above the set temperature as set in code 035

#### **038. Low Out Temp. Pres**

The requested static pressure for the house can be changed according to the outside temperature. Enter here the required static pressure if the outside temperature is below the set temperature as set in code 036

#### **039. Ventilation rate multiply**

The value is for multiply minimum ventilation when the temperature is higher than the high outdoor temperature (code 035)



#### **040. Pressure Hysteresis**

The value entered here will be the difference above and below the required static pressure that the unit will not attempt to change the position of the inlets/cool curtain.

**Example:** Press His = 1.0

If the required static pressure in the house is 2.0 then any pressure reading between 1.5 and 2.5 will be acceptable.

#### **041. Inlet Max Pos %**

Enter here, in percentage, the maximum opening of the inlets during minimum ventilation. This value is used when only the variable speed fan group is active.

#### **042. Inlet Min Pos %**

Enter here, in percentage, the value for the minimum position of the inlets while the variable speed fan group is active.

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

#### **043. Press Min% Inlet**

Enter here, in percentage, the minimum position of the inlet when the unit moves them to regulate the static pressure in the house.

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

#### **044. Press Min% Curtain**

Enter here, in percentage, the minimum position of the cool-curtain when the unit moves it to regulate the static pressure in the house.

**Example:** If 10% is entered here, then if the cool-curtain closes, it will remain open 10%

#### **045. Curtain Position %**

Enter here the percentage of the cool-curtain position out of the position of inlet 2.

This value is effective when the inlets and the cool-curtain are used together to control the ventilation of the house.

**Example:** When the position of inlet 2 is 80% and the value entered in Curtain Pos Per is 50%, then the coolcurtain position will be 40%

#### **046. Max Air Tunnel Fans**

Enter here the total amount of cubic air per hour that variable fan group 1 can supply divided by 1000.

**Example:** If fan group 1 can supply 40,000 cubic meters of air per hour then enter the value 40.0.

#### **047. Max Air Winter Fan**

Enter here the total amount of cubic air per hour that variable winter fan can supply divided by 1000.

**Example:** If winter fan can supply 30,400 cubic meters of air per hour then enter the value 30.4.

#### **048. Max Air Variable Speed Fan**

Enter here the total amount of cubic air per hour that variable speed fan group can supply while working at 100%, divided by 1000.

**Example:** If the fan group can supply 20,000 cubic meters of air per hour then enter the value 20.0.

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

#### **049. Min Air Kg Low**

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

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

#### **050. No of Birds**

Enter here at the beginning of the flock the number of birds placed in the house.

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

#### **051. Current Weight**

This is the current weight of one bird according to the weight increase graph. See (code 052-031). This value is used in calculating the minimum ventilation needed for the house as explained above.

#### **052. Day 1 Weight**

It is possible to enter an automatic weight increase table to be used by the minimum ventilation system. Enter here the weight of one bird at one day old. The current weight (code 051) will be updated.

**Important:** When Day is equal to 1 it is not possible to change current weight (code 051)

#### **053-061. Weight Graph**

It is possible to set up to 9 groups. Max. 999 days. Temperature display shows weight. Humidity display shows day of age.

#### **062. Day 1 Temperature**

Day 1 temperature is the starting temperature for the first growth day. It is the temperature that will appear as the required temperature (code 002) when 1 is entered here. The room temp will be reduced according to the following table.

**Important:** When Day is equal to 0 it is not possible to change Required Temperature (code 002).

### **063-071. Temperature Graph**

It is possible to set a temperature graph to reduce automatically the room temperature each day during the raising period.

### **072. Reset Time**

The unit collects all its information on a 24 hours basis. It is possible to set the reset time. The growth day also changes after this time is passed. All information, temperature, humidity, water count and feed consumption will reset at this time.

### **073. Set date**

Enter day:month:year

### **074. Set Time**

Enter time clock

### **075. Time Alarm On**

Enter period of alarm ON when alarm is activated

### **076. Time Alarm Off**

Enter period of alarm OFF when alarm is activated

### **077. Set Temperature 1 Alarm**

Set alarm when temperature sensor #1 is faulty. 0 = not activated 1 = activated

### **078. Set Temperature 2 Alarm**

Set alarm when temperature sensor #2 is faulty. 0 = not activated 1 = activated

**079. Set Temperature 3 Alarm**

Set alarm when temperature sensor #3 is faulty. 0 = not activated 1 = activated

**080. Set Temperature 4 Alarm**

Set alarm when temperature sensor #4 is faulty. 0 = not activated 1 = activated

**081. Set Temperature 5 Alarm**

Set alarm when temperature sensor #5 is faulty. 0 = not activated 1 = activated

**082. Set Humidity Sensor Alarm**

Set alarm when humidity sensor is faulty. 0 = not activated 1 = activated

**083. Set Pressure Sensor Alarm**

Set alarm when pressure sensor is faulty. 0 = not activated 1 = activated

**084. Set High Temperature Alarm**

Set alarm when the temperature in house is too high. 0 = not activated 1 = activated

**085. High Temperature Alarm**

Enter the number of degrees **Above** the required house temperature that if reached

The unit will activate the alarm relay.

Example: Required temperature 25.0

Alarm high: 5.0

If the house temperature reaches 30.0 then the alarm relay will be activated.

### **086. Set Low Temperature Alarm**

Set alarm when the temperature in house is too low. 0 = not activated  
1 = activated

### **087. Low Temperature Alarm**

Enter the number of degrees **below** the required house temperature that if reached the unit will activate the alarm relay.

**Example:** Required temperature 25.0°

Alarm Low: 5.0°

If the house temperature drops to 20.0° then the alarm relay will be activated.

### **088. Set High Humidity Alarm**

Set alarm when the humidity in house is too high. 0 = not activated 1 = activated

### **089. High Humidity Alarm**

Enter the number of percentage above the high humidity (code 023,024) that if reached

The unit will activate the alarm relay.

**Example:** Code 023 90.0

Alarm high: 5.0

If the house humidity reaches 95.0% then the alarm relay will be activated.

### **090. Set Pad Alarm**

Set alarm for the temperature sensor after cooling pad. 0 = not activated 1 = activated

### **091. Pad Alarm Diff Temperature**

Set differential temperature of outside temperature sensor and pad sensor. If temperature is less than preset Diff temperature, the alarm will be activated.

**Example:** Requires Diff temperature 5.0

If outdoor temp (5) = 37.0 and pad temp sensor (4) = 36.0, the Diff is 1.0°(37.0-36.0 = 1.0). The unit will wait until reach preset time period (code 092) and activate alarm. If the Diff is high 5.0, the unit will not activate alarm.

### **092. Pad Alarm Time**

Set period of time for pad alarm diff temperature (code 091) When the diff temperature is less than preset value, the unit wait for this period before activate alarm.

### **093. Curtain Alarm**

Set alarm for the curtain is faulty 0 = not activated 1 = activated

### **094. Inlet 1 Alarm**

Set alarm for the inlet #1 is faulty 0 = not activated 1 = activated

### **095 Inlet 2 Alarms**

Set alarm for the inlet #2 is faulty 0 = not activated 1 = activated

### **096. Set Heatstress Alarm**

Set alarm for the Heatstress Index 0 = not activated 1 = activated

### **097. Heatstress Alarm**

Set the summation of temperature and humidity (Temperature oC + Humidity % RH = Heatstress Index).

### **098. Amount Heatstress Time**

Set period of time considered as one event. If set 15 minutes and Heatstress (code 097), when Heatstress continue 15 minutes is as consider one event. If Heatstress is only 10 minutes or less than 10 minutes is not counting as one event.

### **099. Amount Heatstressa**

Set the amount of events (code 098) within 1 day to alarm. If set 30 events, when temperature and humidity reach Heatstress (code097) for 30 events, the unit will alarm. The data logger is clear at 00.00 O'Clock.

### **100. Set Time Heatstress**

Set the continuous time or period of one event to alarm. If set 45 minutes, when temperature and humidity reach Heatstress Indes (code097) for 45 minute, the unit will alarm.

### **101. High Press Alarm**

Enter here the maximum static pressure reading for the house. When the pressure measured is above this value for more than 30 seconds, the alarm will be activated.

### **102. Low Press Alarm**

Enter here the minimum static pressure reading for the house. When the unit moves the inlets/cool-curtain to regulate the pressure in the house and the measured static pressure is below this value for a period set by Press Low Delay (code 103), the alarm will be activated. The alarm will remain activated until the pressure reading in the house will be above the value entered here.



### **103. Press Low Delay (mm:ss)**

This is a value in minutes and seconds. Once the unit regulates the pressure in the house and the measured pressure is below Low Press Alarm (code 102), the unit will wait this entered time period before activating the alarm. The alarm will be deactivated the moment the measured pressure is above Low Press Alarm (code 102).

### **110. Light Dawn/Dusk Time**

Set period of time for light intensity (code 111) from 0% - 100% or from dawn to dusk or dusk to dawn.

### **111. Light Intensity**

Set the brightest of light intensity. (0% = 0.0V 100% = 10V)

### **112. Light On Time Period 1**

Set time clock On of the light in the period 1

### **113. Light Off Time Period 1**

Set time clock Off of the light in the period 1

### **114. Light On Time Period 2**

Set time clock On of the light in the period 2

### **115. Light Off Time Period 2**

Set time clock Off of the light in the period 2

### **116. Light On Time Period 3**

Set time clock On of the light in the period 3

**117. Light Off Time Period 3**

Set time clock Off of the light in the period 3

**118. Light On Time Period 4**

Set time clock On of the light in the period 4

**119. Light Off Time Period 4**

Set time clock Off of the light in the period 4

**120. Light On Time Period 5**

Set time clock On of the light in the period 5

**121. Light Off Time Period 5**

Set time clock Off of the light in the period 5

**122. Light On Time Period 6**

Set time clock On of the light in the period 6

**123. Light Off Time Period 6**

Set time clock Off of the light in the period 6

**124. Light On Time Period 7**

Set time clock On of the light in the period 7

**125. Light Off Time Period 7**

Set time clock Off of the light in the period 8

**126. Light On Time Period 8**

Set time clock On of the light in the period 8

**127. Light Off Time Period 8**

Set time clock Off of the light in the period 8

**128. Feed On Time Period 1**

Set time clock On of the feed in the period 1

**129. Feed Off Time Period 1**

Set time clock Off of the feed in the period 1

**130. Feed On Time Period 2**

Set time clock On of the feed in the period 2

**131. Feed Off Time Period 2**

Set time clock Off of the feed in the period 2

**132. Feed On Time Period 3**

Set time clock On of the feed in the period 3

**133. Feed Off Time Period 3**

Set time clock Off of the feed in the period 3

**134. Feed On Time Period 4**

Set time clock On of the feed in the period 4

**135. Feed Off Time Period 4**

Set time clock Off of the feed in the period 4

**136. Feed On Time Period 5**

Set time clock On of the feed in the period 5

**137. Feed Off Time Period 5**

Set time clock Off of the feed in the period 5

**138. Feed On Time Period 6**

Set time clock On of the feed in the period 6

**139. Feed Off Time Period 6**

Set time clock Off of the feed in the period 6

**140. Feed On Time Period 7**

Set time clock On of the feed in the period 7

**141. Feed Off Time Period 7**

Set time clock Off of the feed in the period 7

**142. Feed On Time Period 8**

Set time clock On of the feed in the period 8

**143. Feed Off Time Period 8**

Set time clock Off of the feed in the period 8

**200. Today Max Temp. In**

Display the reading of the highest house temperature with in 24 hours

**201. Today Min Temp. In**

Display the reading of the lowest house temperature with in 24 hours

**202. Today Max Temp. Out**

Display the reading of the highest outdoor temperature with in 24 hours

**203. Today Min Temp. Out**

Display the reading of the lowest outdoor temperature with in 24 hours

**204. Today Max Humidity**

Display the reading of the highest house humidity with in 24 hours

**205. Today Min Humidity**

Display the reading of the lowest house humidity with in 24 hours

**206. Today Water Cons.**

Display the reading of the total water consumption with in 24 hours

**207. Today Feed Cons.**

Display the reading of the total feed consumption with in 24 hours

**210. 1 Day Ago Max Temp. In**

Display the reading of the highest house temperature yesterday

**211. 1 Day Ago Min Temp. In**

Display the reading of the lowest house temperature yesterday

**212. 1 Day Ago Max Temp. Out**

Display the reading of the highest outdoor temperature yesterday

**213. 1 Day Ago Min Temp. Out**

Display the reading of the lowest outdoor temperature yesterday

**214. 1 Day Ago Max Humidity**

Display the reading of the highest house humidity yesterday

**215. 1 Day Ago Min Humidity**

Display the reading of the lowest house humidity yesterday

**216. 1 Day Ago Water Cons.**

Display the reading of the total water consumption yesterday

**217. 1 Day Ago Feed Cons.**

Display the reading of the total feed consumption yesterday

**220. 2 Day Ago Max Temp. In**

Display the reading of the highest house temperature 2 days ago

**221. 2 Day Ago Min Temp. In**

Display the reading of the lowest house temperature 2 days ago

**222. 2 Day Ago Max Temp. Out**

Display the reading of the highest outdoor temperature 2 days ago

**223. 2 Day Ago Min Temp. Out**

Display the reading of the lowest outdoor temperature 2 days ago

**224. 2 Day Ago Max Humidity**

Display the reading of the highest house humidity 2 days ago

**225. 2 Day Ago Min Humidity**

Display the reading of the lowest house humidity 2 days ago

**226. 2 Day Ago Water Cons.**

Display the reading of the total water consumption 2 days ago

**227. 2 Day Ago Feed Cons.**

Display the reading of the total feed consumption 2 days ago