User's guide
Version V1.0

TempTron 610

Program H510

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Reversion	Date	Change
Program H510 User's Guide Ver. 1.0	1/1/2017	First draft

This manual may contain mistakes and or printing errors. We accept no liability for technical mistakes, printing errors or their consequences.

This control unit is supplied with default settings. These setting are only general settings and should not be used as final settings. We accept no liability for any consequences that may occur because of these settings.

Installation

Open the four screws on the front panel.

Connect the **Temptron-610** to the wall in a dry place approximately 1 meter away from the electrical cabinet.

Temperature Sensors

The unit is supplied with 2 temperature sensors. Up to 5 in total can be connected.
Sensor 1 to analog IN1 clamp and GND
Sensor 2 to analog IN2 clamp and GND
Sensor 3 to analog IN3 clamp and GND (optional)
Sensor 4 to analog IN4 clamp and GND (optional)
Sensor 5 to analog IN5 clamp and GND (optional)

The sensors can be placed up to 100 meter from the main unit with an ordinary two-wire cable. The sensor has no polarity. See wiring diagram on page 17.
See Wiring Diagram on page 17.

Humidity Sensor (optional)

Connect the brown wire to 12V output clamp, blue wire to analog GND clamp and the yellow wire to the analog IN6 clamp. See Wiring Diagram on page 17.

Water Meter Input (optional)

Connect the wires coming from the water meter to the common and digital input clamp 2. This input is to be closed (shorted) each time the meter measures 1 liter.
See Wiring Diagram on page 17.

Relay Outputs

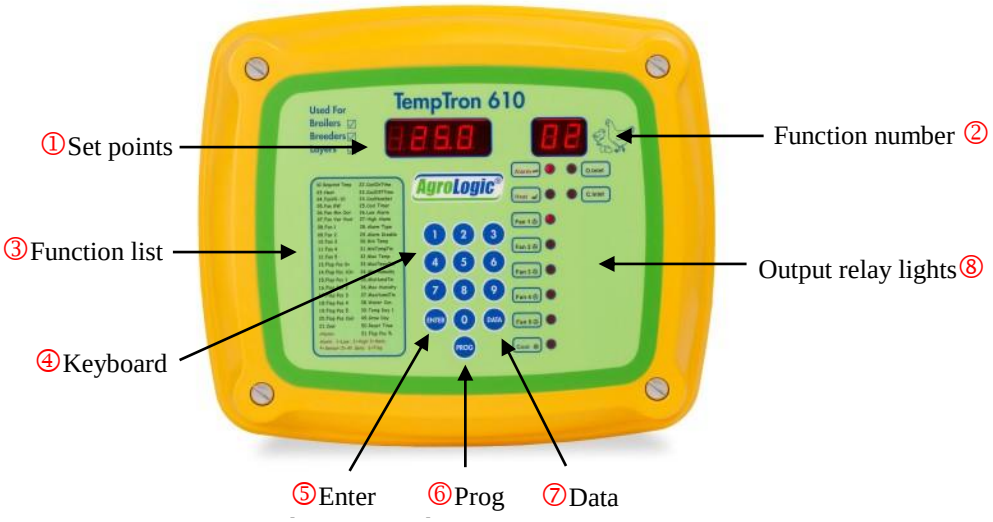
Connect the relay outputs the 8 fan groups and cooling system. All outputs are dry contacts 2 Amp/220V NO/NC.
See Wiring Diagram on page 17.

Main Power Supply

Connect a 220V cable to the unit.
See Wiring Diagram on page 17.

Close the panel with the two screws.

Front Panel



① Parameters; displays the set parameters for the current function.
② Function Number; displays the current function number.
③ Function List; this is the control units function list.
④ Keyboard; use the numerical keyboard to enter function values.
⑤ *Enter* Key; use the Enter key to store parameters into the unit's memory.
⑥ *Prog* Key; use the Program key to enter the programing mode.
⑦ *Data* Key; use the Data key to scroll through the function list.
⑧ Output Relay Lights; when a relay is in use, its corresponding light is on.

Operation

Power Up

- When the unit's power is turned on, the program version number will appear on the display. After 20 Seconds the average temperature will appear.
- To see the current temperature reading for sensor 1, press on keyboard number 1.
- To see the current temperature reading for sensor 2, press on keyboard number 2.
- To see the current humidity reading, press on keyboard number 6.

Reading Set Points

The right display indicates the current function number. The left display shows the parameters for the current function.
There are two ways to call up a function:

- By pressing on the *Data* key, the function number display on the right side of the panel will increase by one each time you press on it. The preset information will appear on the data display on the left side of the panel.
- Press once on the "0" key, two lines will appear on the function display and *FUNC* on the data display. Next enter the desired function number using the keyboard.

Example:
To call up function number "8" press once on the "0" key. Two lines will appear on the function display. Press again on the "0" key, then on the "8" key; in the function display will be "08" and in the Data display will be the functions set parameters.

To call up function number "12";
Press the "0" key. Two lines will appear in the function display. Press on the "1" key, then the "2" key. The function display will display "12", the Data display will be the function set parameters.

To go to function "13" from function "12", press once on the *DATA* button.

To return to the average temperature display, press two times on the "0" key.

After a short period, if no programing is done, the unit will return to the average temperature display.

Changing Function Parameters

- Call up the desired function as explained earlier.
- Press on the *Prog* key. The function number display will start to flash. Use the numerical keyboard to make the changes.
- Check the display to see that the parameter is correct. If the parameter is correct, press the on the *Enter* key. The function display will stop flashing to indicate that the new information has been stored into the unit's memory.

Function List

1.0 Current Time (not shown of front panel)

The current time is shown here. From here it is possible to change the time setting.

02. Required Temperature

The required temperature is the average temperature you want in the house. All set points (except the cooling system) are set as a differential above or below the required temperature. The required temperature will be reduced daily using the temperature reduction table. See functions 37-46 on page 11.

Ventilation system

The ventilation system runs in two modes; cycle ventilation and continuous ventilation.

- Cycle ventilation is used when the average house temperature is less than the required temperature plus Fan 1 differential. This mode will supply enough air for the birds but will not reduce the temperature. The cycle time frame is set in functions 11 and 12 on page 8.
  Cycle ventilation fans are setup in Hidden Function 54. Minimum Ventilation Fan Mode on page 14.
- Continuous ventilation is used when the average house rises and more air is needed for the birds. This mode is also used to help reduce the average house temperature.

See example for ventilation modes on page 8.

03. Fan 1

Fan 1 temperature differential is set as equal to or above the required temperature. When this temperature is reached fan 1 will run continuously.
Any temperature below this setting will cause fan 1 to run in cycle ventilation.

04. Fan 2

Fan 2 temperature differential is set as equal to or above the required temperature. When this temperature is reached fan 2 will run continuously.

05. Fan 3

Fan 3 temperature differential is set as equal to or above the required temperature. When this temperature is reached fan 3 will run continuously.

06. Fan 4

Fan 4 temperature differential is set as equal to or above the required temperature. When this temperature is reached fan 4 will run continuously.

07. Fan 5

Fan 5 temperature differential is set as equal to or above the required temperature. When this temperature is reached fan 5 will run continuously.

08. Fan 6

Fan 6 temperature differential is set as equal to or above the required temperature. When this temperature is reached fan 6 will run continuously.

09. Fan 7

Fan 7 temperature differential is set as equal to or above the required temperature. When this temperature is reached fan 7 will run continuously.

10. Fan 8

Fan 8 temperature differential is set as equal to or above the required temperature. When this temperature is reached fan 8 will run continuously.

11. Fan On Time mm:ss

This is the On time for the fan group used in cycle ventilation. This is time frame is set in minutes and seconds.

12. Fan Off Time mm:ss

This is the On time for the fan group used in cycle ventilation. This is time frame is set in minutes and seconds.

13. Fan Humidity Set

Enter here the maximum desired humidity for the house. If the house humidity rises to this level, the unit will bring the next fan group into operation. This is done to bring down the humidity.

14. Fan Timer Display

This is a countdown timer in seconds showing the remaining fan cycle time.

Example:

Function 02 - Required temperature = 30.0°
Function 03 - Fan 1 = 1.0°
Function 04 - Fan 2 = 2.0°
Function 11 - Fan On Time = 02:00
Function 12- Fan Off Time = 05:00
Function 13 - Fan Humidity Set = 70

If the average house temperature is below 31.0° fan 1 will run in cycle mode, 5 minutes off, 2 minutes on. Once the average house temperature rises to 31.0° fan 1 will run continuously. At 32.0° fan 2 will start to run (together with fan1) continuously. If the house humidity reading goes above 70%, the next fan group will come into operation.

15. Cool On Temperature

This temperature setting is an actual temperature inside the house and **not** a differential above the required temperature. At this temperature, the cooling system will start to run in the cycle mode as setup in functions 16-17.

16. Cool On Time: mm:ss

This is the ON-time, set in minutes and seconds, which the cooling system will run during the cooling cycle.

17. Cool Off Time: mm:ss

This is the OFF-time set in minutes and seconds, which the cooling system is off during the cooling cycle.

18. Cool Humidity setting

If there is a humidity sensor connected to the unit (optional), it is possible to measure the humidity in the house. Enter here the maximum allowed humidity allowed in the house. If the humidity reading goes above this set level, the unit will automatically shut down the cooling system.

If no humidity sensor is connected, enter here 100.

19. Cool timer display

A countdown display in seconds of the cool cycle timer while it is running.

20.Alarm Low

Alarm Low set point is a differential set point set below the required that will active the alarm relay. See Alarm Type, function 23 on page 10.
Example:
If 5.0° is entered in the alarm low function, when the temperature falls 5.0° below the required room temperature, the alarm relay will be activated.

21. Alarm High

Alarm High set point is a differential set point set above the required that will active the alarm relay.
Example: If 5.0° is entered in the alarm high function, when the temperature rises 5.0° above the required room temperature, the alarm relay will be activated. See Alarm Type, function 23 below.

22. Alarm Disable

When the alarm goes off, it is possible to see the alarm number in function 23 below. The number represents the alarm type as shown below in the Alarm Type function. It is possible to disable some of the alarms. Enter here the alarm number you want to disable. Once an alarm has been disabled, the unit will not be able to activate the alarm relay if the same alarm should happen again. The alarm number must be removed from the "Alarm disable" function to make it functional again.

23. Alarm Type

Shown here is the alarm type in numerical form. There are 5 alarm types built in to this unit.
Alarm 1= Low alarm (low house temperature).
Alarm 2= High alarm (high house temperature).
Alarm 3= Memory alarm (fault with the control unit's memory).
Alarm 4= All temperature sensors are faulty.
Alarm 5= One temperature sensor is faulty.

 Alarms 1-4 cannot be disabled

24. Minimum Temperature

Displays minimum temperature in the house over the last 24 hours (updated at reset time). See function 48, Reset time on page 13.

25. Minimum Temperature Time

Displays time of the minimum temperature.

26. Maximum Temperature

Displays maximum temperature in the house over the last 24 hours (updated at reset time).

27. Maximum Temperature Time

Displays time of the maximum temperature.

28. Minimum Humidity

Displays minimum humidity in the house over the last 24 hours (updated at reset time).

29. Minimum Humidity Time

Displays time of the minimum humidity in the house.

30. Maximum Humidity

Displays maximum humidity in the house over the last 24 hours (updated at reset time).

31. Maximum Humidity Time

Displays time of the maximum humidity in the house (updated at reset time).

32. Water Consumption

Displays water consumption over the last 24 hours (updated at reset time).

33.Feed Multiply

Feed multiply is the total amount for feed in kilograms that is duped from the feed auger during one minute. If a dry contact has been connected to the unit from the feed auger contactor and a Feed multiply is entered, the unit will convert the feed auger motors running time into kilogram and display this amount here.

Example:

Over a one minute time period, 25 kilogram comes out of the feed auger.

If the feed auger runs for 10 minutes, the unit will calculate 250 kilograms of feed was consumed. Since different types of feed will cause a change in the amount of feed, this is only an approximant calculation of consumed feed.

34. Daily Feed Consumption

Displays daily feed consumption (updated at reset time).

35. Total Feed Consumption

Displays total feed consumption for the entire flock (updated at reset time).

36. Average Temperature 24 hours

Displays average temperature over the last 24 hours (updated at reset time).

Temperature Reduction Table

Use the temperature reduction table to automatically reduce the required temperature by flock age.

37. Day 1 Temperature

Day 1 temperature is the starting temperature for the first day grow day. It is the temperature that will appear as required temperature (function 02) when 1 is entered as the current Grow Day (function 47 below). The required temperature will be reduced according to the following table.
Important: When Grow Day is equal to 1 it is not possible to change Required Temperature (function 02). It must be changed at function 37 (Day 1Temperature).

38-46. Temperature Reduction Graph

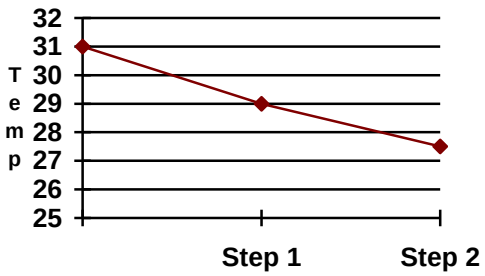
9 reduction steps can be setup. Each reduction step, up to 9 days. Each temperature reduction step, up to 9.9°C.

Example:
Day 1 temperature = 31°C (function 37).
Grow Day = 1 (function 47)
Required temperature will be 31°C.

Step 1: a reduction of 2.1° over 7 days.
Each day the room temperature will be reduced by 0.3°C. By day 7the room temperature will be 29°C.
To program this reduction, enter function 38, press on the PROG key, then the 7 key, then the 2 key, then 0. Press on Enter to store. 7 2.0 G1 will be displayed.
By grow day 7 the required temperature will be 29.°

Step 2: a reduction of 1.5° over 3 days. days reducing of 1.5°C. Each day the room temperature will be reduced by 0.5°C.
To program this reduction, enter function 39, press on the PROG key, then the 3 key, then the 1 key, then 5. Press on Enter to store. 3 1.5 G2 will be displayed.
By grow day 10 the required temperature will be 27.5°

Be sure to program all reduction steps.



47. Grow Day

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

The required temperature (02) will automatically receive the value as entered in function 37. Day 1 Temperature on page 12

48. Reset Time

The controller collects its information over a 24 hour time frame. Enter here the time this information will be stored and reset. The grow day also changes after this time is passed. All information, temperature, humidity, water count and feed consumption will reset at this time.

HIDDEN FUNCTIONS 49-56

To enter the hidden functions, you must first unlock them.
To unlock the hidden functions, follow these steps.
A. Enter the time function (01).
B. Push on "PROG"
C. Enter 3331 and press enter.
The hidden functions are now unlocked and it is possible to program them.

To relock the hidden functions manually enter function 01 and enter 3330 and enter.
If no information is entered for a period of 10 minutes the unit will automatically relock the hidden functions.

49. Lock Code

If a lock code has been set, you must first unlock to make program changes.
Go to the function you would like to change;

A. Enter the 4-digit code and press ENTER
B. Push the PROG key.
C. Reenter the function number and press enter.
D. Enter desired value and press enter.

If no lock code is desired, use 0000 as the lock code.

50. Number of sensors for average

Use this function to define which temperature sensors make up the average house temperature .
Example; if sensors 1&2 are used for the average house temperature, enter here 2.
If sensors 1,2&3 are to be used enter here 3.

51. Net Name
It is possible to connect the **Temptron-610** to a PC computer with the help of the "WebChick" software package (Optional).
Enter here a number that represents the communication number of the unit.
Example:
House 1 = 1
House 2 = 2

52. Digital inputs.

Shown here is the current digital input that is in use. For AgroLogic personnel.

53. Feed Mode

The feed consumption can be calculated by auger run time or by a pulse received from some type of external feed weighing unit.
Enter "0" if the feed consumption is calculated by auger run time (see function 33, Feed Multiply on page 11.
Enter "1" if the feed is calculated by pulses received from an external feed weighing unit.

54. Minimum Ventilation Fan Mode

There are two modes for Minimum Ventilation.
Using the same fan group for each minimum ventilation cycle.
Use a different fan group for each minimum ventilation cycle.

Example:

Value entered in function 54	Fan Group running in Cycle 1	Fan Group running in Cycle 2	Fan Group running in Cycle 3	Fan Group running in Cycle 4	Fan Group running in Cycle 5	Fan Group running in Cycle 6
1	Fan 1	Fan 1	Fan 1	Fan 1	Fan 1	Fan 1
2	Fan 1	Fan 2	Fan 1	Fan 2	Fan 1	Fan 2
3	Fan 1	Fan 2	Fan 3	Fan 1	Fan 2	Fan 3
4	Fan 1	Fan 2	Fan 3	Fan 4	Fan 1	Fan 2
5	Fan 1	Fan 2	Fan 3	Fan 4	Fan 5	Fan 1

55. Communication Protocol

Enter 0 for text 2400 bps
Enter 1 for text 9600 bps
Enter 2 for binary 2400 bps
Enter 3 for binary 96000 bps
Factory default is "0"

56. Version Number

This is the version number of the unit.

TROUBLE-SHOOTING

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

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

3. If all sensors are disconnected, the unit will show open as average and activate the alarm.

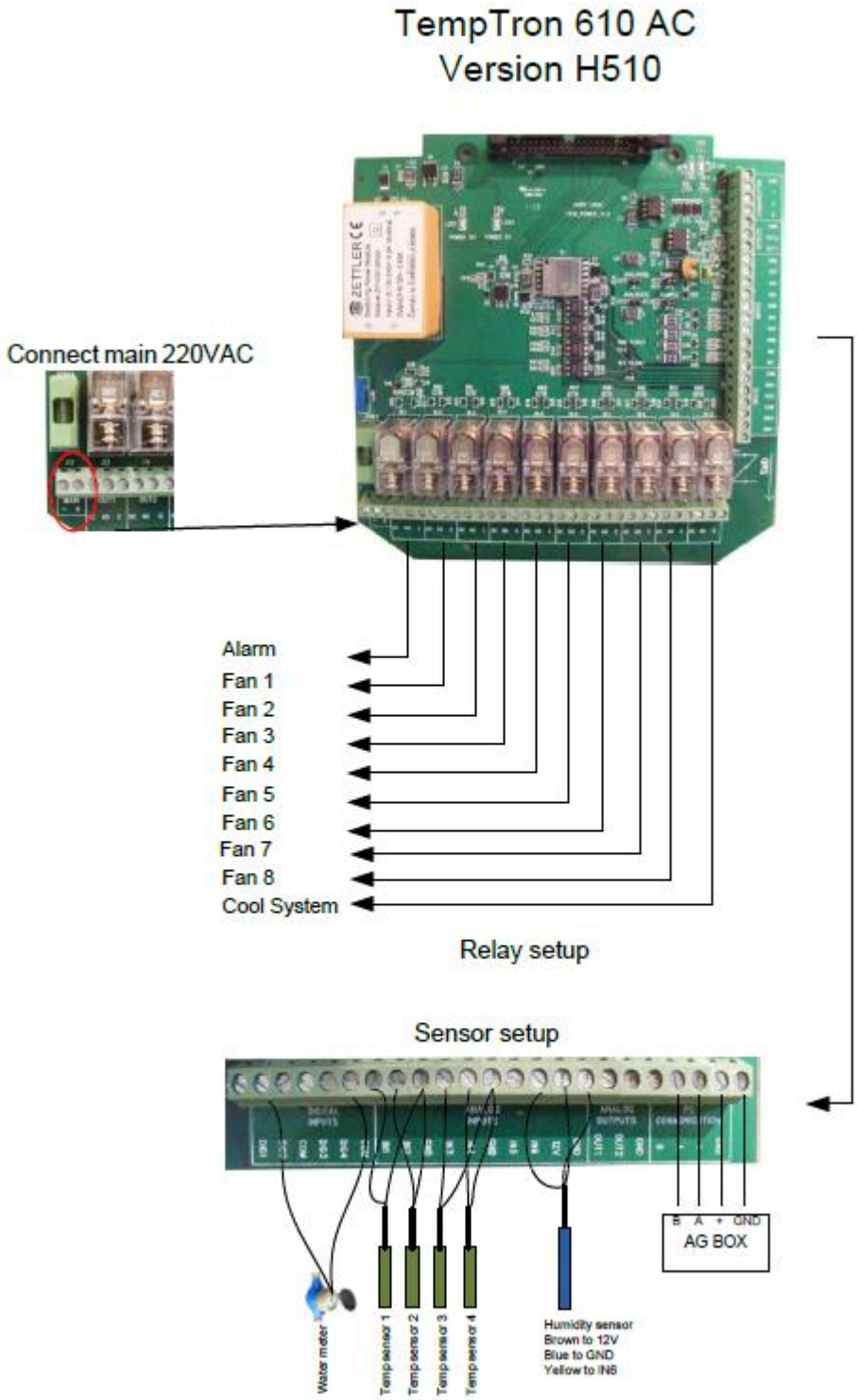
If one sensor is disconnected, the system will automatically work on the remaining sensor.

Default factory settings

The controller is factory supplied with the default settings.
To reset the default setting enter the time function, press on the **PROG** key, enter **4343**, then **ENTER**.

Function number	Default factory settings.
02. Required Temperature	26.0°
03. Fan 1	1.0°
04. Fan 2	1.5°
05. Fan 3	2.0°
06. Fan 4	2.5°
07. Fan 5	3.0°
08. Fan 6	3.5°
09. Fan 7	4.0°
10. Fan 8	5.0°
11. Fan On Time	00:20
12. Fan Off Time	02:00
13. Fan Humidity Set	80%
14. Fan Timer	NA
15. Cool On Temperature	32.0
16. Cool On Time	01:00
17. Cool Off Time	05:00
18. Cool Humidity Set	80%
20. Alarm Low	10.0°
21. Alarm High	10.0°
22. Alarm Disable	0
23. Alarm Type	0
32. Water Consumption	0
33. Feed Multiply	60kg
34. Feed Consumption	0
35. Feed Total	0
37. Temperature Day 1	32.0°
38-42 temperature Reduction Steps 1-5	7 2.0° (2.0° over 7 days)
43. Temperature reduction step 6	3 1.0° (1.0° over 3 days)
44. Temperature reduction step 7	3 2.0° (2.0° over 3 days)
45. Temperature reduction step 8	3 3.0° (3.0° over 3 days)
46. Temperature reduction step 9	3 3.4° (4.0° over 3 days)
47. Grow Day	2
48. Reset Time	00:00
49. Lock code	0000
50. Number of sensors for average.	4
51. Net Name	1
53. Feed Mode	0
54. Minimum Ventilation Fan Mode	0
55. Communication Protocol	0

Wiring Diagram



Relay Setup