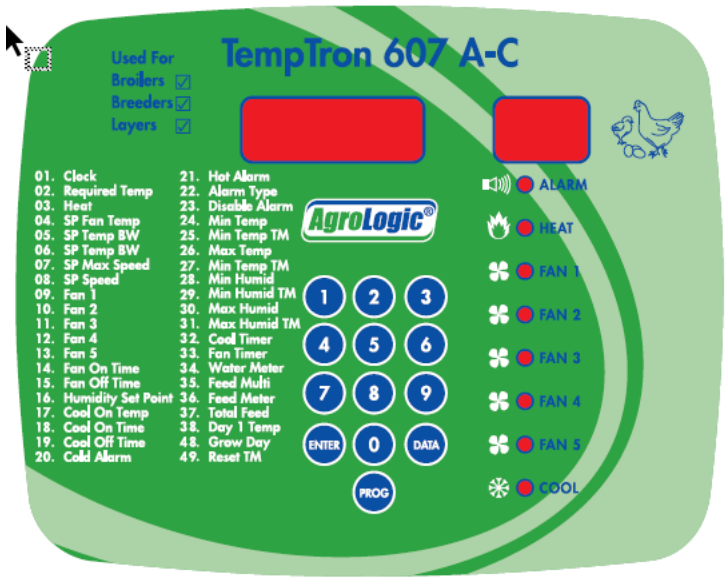
User's Manual
H243
Ver 1.0

TempTron 607AC



Program version: H243
Version 1.0

Contents

Document Information

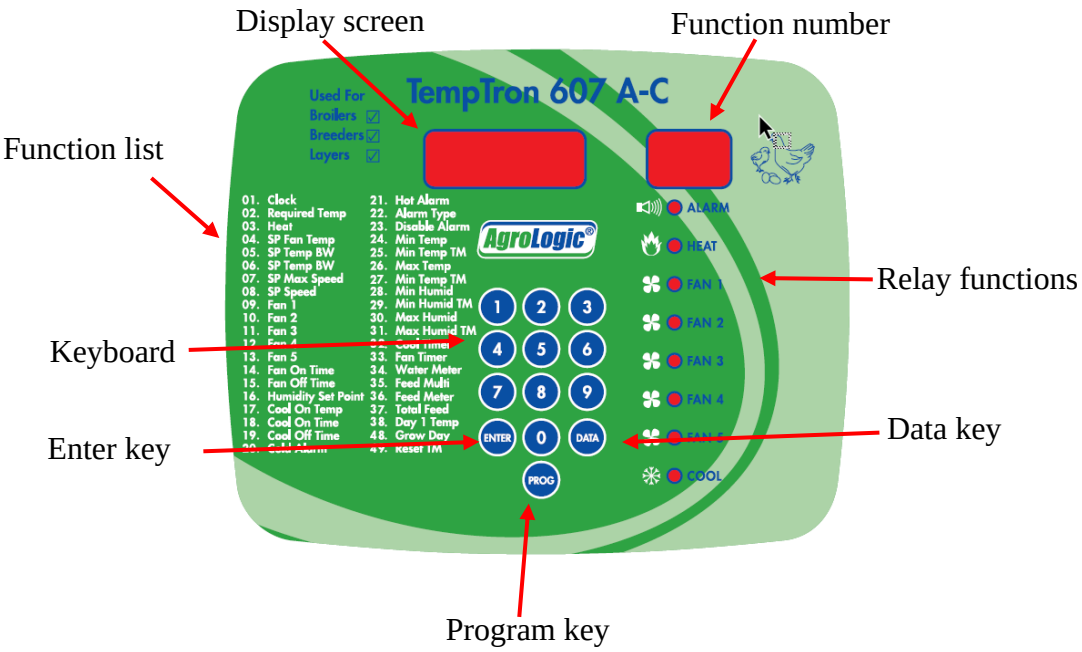
Revision History

Document version	Program version	Date	Description
Ver. 1.0	H243	January 1, 2021	First edition

Attention!!

1. This manual may contain mistakes and or printing errors. We accept no liability for technical mistakes or printing errors, or their consequences.
2. This control unit is supplied with default settings. These setting are only general settings and should not be seen as final settings. We accept no liability for any consequences that may occur because of these settings.

Front Panel



Display screen: The entered values for each function are displayed here.

Function number: The current function number is shown here.

Function list: Shown here is the list of functions for the 607 program.

Relay functions: Each relay operates a particular output. When an output is in use the corresponding led goes on.

Enter key: Press on the enter button to store entered values into the 608 memory.

Program key: Press on the **PROG** button to enter the programming mode for a chosen function.

Data key: Use this button to go forward in the function list.

Keyboard: A numeric keyboard for entering the set point values for each function.

When the power is turned on the program version number will appear on the front display. After approximately 20 Seconds, the average temperature will appear on the front display screen.

Reading Function Set Points

It is possible to recall and read all the programmed information on the **TempTron 607** display screen. The right display indicates the function number. The left display shows the set point values for each function.

Shortcut keys

To display temperature sensor 1 readout, press on keyboard number 1.
To display temperature sensor 2 readout, press on keyboard number 2.
To display temperature sensor 3 readout, press on keyboard number 3.
To display temperature sensor 4 readout, press on keyboard number 4.
To display temperature sensor 5 readout, press on keyboard number 5.
To display the current humidity readout, press on keyboard number 6.
To display the minimum ventilation cycle time, press on keyboard number 7.
To display current flap position, press on keyboard number 8.

Recall Function Settings

Each set point has a *Function* number (see *Function* list on the front panel). It is possible to call up and program the functions in two ways:

1. Press once on the **DATA** key, the function number display on the right side of the panel will increase by one. The programmed information for each function will appear on the data display screen on the left side of the panel.
2. Press once on the **0** key, two lines will appear on the function display and **FUNC** on the data display. Next enter the required function number using the keyboard and then press Enter.

Example:
If you would like to recall function 8 follow these steps:
Press once on the **0** key. Two lines will appear on the right display (function display).
Press on the **0** key, then on the **8** key.
The function display will display **08.** The data display will show the current programed setting for this function.

If a function number is larger than 10, press on key **0**, then the function number.
Example:
If you would like to recall function 12;
Press on the **0** key.
Press on the **1** and **2** keys.
The function display will display **12.** The data display will show the current programed setting for this function.

You can scroll through the function list by pressing on the **DATA** key. Each time you press on the function key the function number will increase by one.

Programming Function Settings

It is possible to change each set point.
1. Go into the desired code as explained above.
2. Push on “PROG” button. The code display will start to flash.
3. Use the keyboard to enter the desired data. The new data will appear on the data display.
4. Check the display to see if the information is correct. If yes, push on the “Enter” button. The code display will stop flashing to indicate that the new information has been stored into the unit’s memory.

Function List

01. Current Time

Displays the current time.

02. Required Temperature

The required temperature is the requested temperature for the house. All set points (except the cool temperature set point) are set as a differential above or below the required temperature.

03. Heat

Heat set point is the temperature differential below the requested room temperature that the heating system will turn on.
Example: **Heat** set point = 1.0
If the room temperature should drop 1.0° below the **Room temperature** (function 02) setting, the heating system will start to run.

Variable Speed Fan Control

If you are using variable speed fans in your house, Hidden function 57, 57. SP / Fan Mode on page 14 must be set to 1.

The variable speed fans (SP fans) will be used for minimum ventilation and run at the speed set in **SP Minimum Speed %** as long as the house average temperature is less than the **Required Temperature** plus **SP Fan On Temperature**.
Once the house average temperature reaches the **Required Temperature** plus **SP Fan On Temperature** setting, the SP fans will start to increase in speed. The SP fans will increase in speed from **SP Minimum** to **SP Maximum** over the temperature range set in **SP Temperature Band Width**.
Once the average house temperature reaches **Required Temperature** plus **Fan 1** offset, fan 1 will start to operate. At this point, the SP fans will run at 100%.
Fan 2, 3, 4 and 5 will come into operation as their offset temperatures are reached.
See Photo 1 on page 9.

If SP fans are not being used in your house, enter 0 (zero) in Hidden function 57, 57. SP / Fan Mode on page 14. Fan 1-5 will be used as minimum ventilation as setup in function 55, 57. SP / Fan Mode on page 14.

04. SP Fan On Temperature (SP)

Temperature differential above the *Required* temperature. At this temperature the SP fans start to increase in speed according to the set Band Width (BW) Function 05 below. Up to this temperature, the SP fans run at the set minimum speed percentage (function 06 below).

05. SP Temperature Band Width (BW)

This starts at the SP fan temperature differential ON temperature (see above). Over this set number of digress, the SP fans will increase in speed from minimum to maximum speed (see SP Minimum Speed % and SP Maximum Speed % below).

06. SP Minimum Speed %

This is the minimum speed percentage that the SP fans will run.
Example:
Fan Min Out = 20
The minimum speed percentage that the SP fan will run at is 20%

07. SP Maximum Speed %

This is the maximum speed that the SP fans will run.
Example:
Fan Min Out = 90%
The maximum speed that the SP fan will run at is 90%

08. SP Current Speed

Displays the SP fan current speed in percentage

09. Fan 1

Fan 1 set point is the temperature differential above the required temperature at which time fan 1 will operate nonstop. Fan group 1 alone may be used as a minimum ventilation fan group or it may be used together in a rotating manner together with the other 4 fan groups (see Hidden function 55, 55. Fan Mode on page 14).

10. Fan 2

Fan 2 set point is the temperature differential above the required temperature at which time fan 2 will operate nonstop. Fan group 2 may be programmed to work as a minimum ventilation fan group (see Hidden function 55, 55. Fan Mode on page 14).

11. Fan 3

Fan 3 set point is the temperature differential above the required temperature at which time fan 3 will operate nonstop. Fan group 3 may be programmed to work as a minimum ventilation fan group (see Hidden function 55, 55. Fan Mode on page 14).

12. Fan 4

Fan 4 set point is the temperature differential above the required temperature at which time fan 4 will operate nonstop. Fan group 4 may be programmed to work as a minimum ventilation fan group (see Hidden function 55, 55. Fan Mode on page 14).

13. Fan 5

Fan 5 set point is the temperature differential above the required temperature at which time fan 3 will operate nonstop. Fan group 5 may be programmed to work as a minimum ventilation fan group (see Hidden function 55, 55. Fan Mode on page 14).

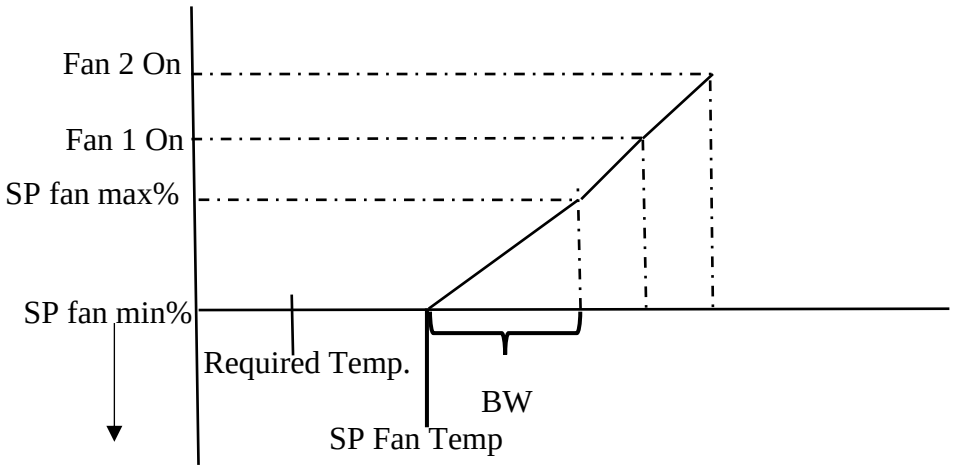
14. Fan On Time

Fan on time is set in minutes. This is the length of time the minimum ventilation fans will run during minimum ventilation cycle.

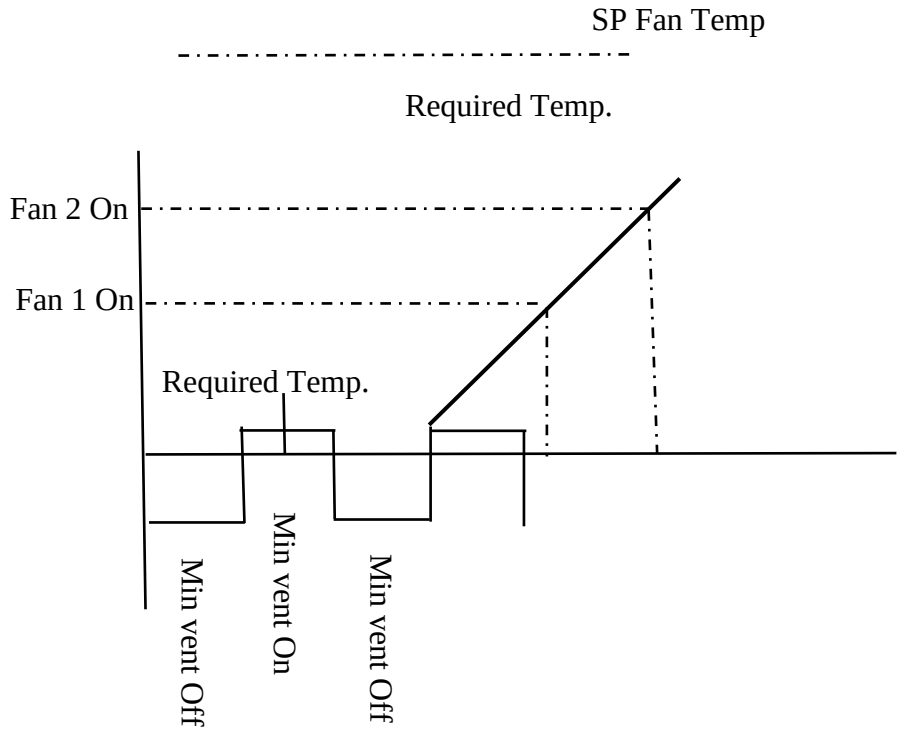
15. Fan Off Time

Fan off time is set in minutes. This is the length of time the minimum ventilation fans will be off during minimum ventilation cycle.

Photo 1: SP fan with 5 regular On Off fans



Regular On Off Fans1



16. Humidity Set Point

Humidity set is set in percentage. If the humidity reading in the house rises to this level, the unit will automatically bring into operation the next fan group.

If the **Humidity Set Point** is reached and the SP fans are running at a speed that is less than the speed set in **SP Fan Humidity Set Point %** (on page 14) the SP fans will increase to the speed as set in SP Fan Humidity Set Point %

This setting is also used for the cooling system. If the cooling system is running and the humidity reading in the house rises to this level, the cooling system will not be allowed to operate.

17. Cool Temperature

Enter here the average house temperature that when reached will turn on the cooling system. Once on, the system will run in its cycle mode according to the **Cool On** and **Cool Off** times.

18.Cool On Time: mm:ss

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

19.Cool Off Time: mm:ss

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

Example:

Function:	Value:
12. Cool Temperature	27.0°
13. Cool On Time mm:ss	02:00
14. Cool Off Time mm:ss	05:00

If the average house temperature reaches 27°, the cooling system will start to operate.
The cooling system will run for 2 minutes, and be off for 5 minutes

Humidity Set Point (function 16) is also used for the cooling system. If the cooling system is running and the humidity reading in the house reaches the humidity set point, the cooling system will turn off.

20. Low alarm

Low alarm set point is the temperature differential below the requested room temperature. This alarm is represented by the number 1 in function 22, Alarm type (on page 11).
Example: If 5.0° is entered in the alarm low function, if the average house temperature
falls 5.0° below the required room temperature (function 01), the alarm relay will be activated.

21. High alarm

High alarm set point is the temperature differential above the requested room temperature. This alarm is represented by the number 2 in function 22, Alarm type (below).
Example: If 5.0° is entered in the alarm high function, if the average house temperature raises 5.0° above the required room temperature (function 02), the alarm relay will be activated.

22. Alarm Type

Shown here is the current alarm in digital form.
The unit has 6 alarms:

1. Low – average temperature has dropped below Low alarm setting.
2. High – average temperature has risen above the High alarm setting.
3. Memory- represents a problem with the unit's memory.
4. Sensors- all temperature malfunctioning.
5. Sensor- one sensor is malfunctioning.

23. Alarm Disable

It is possible to disable only alarms 5&6.
To disable an alarm, enter the corresponding number.
Example: In order to disable alarm number 5 (bad sensor) enter the value 5.

24. Minimum temperature

Shown here is the minimum inside temperature reading over the last 24 hours.

25. Minimum temperature time

Shown here is the time that the minimum temperature reading occurred.

26. Maximum temperature

Shown here is the maximum inside temperature reading over the last 24 hours.

27. Maximum temperature time

Shown here is the time that the maximum temperature reading occurred.

28. Minimum Humidity

Shown here is the minimum house humidity reading over the last 24 hours.

29. Minimum humidity time

Shown here is the time that the minimum humidity reading occurred.

30. Maximum Humidity

Shown here is the maximum house humidity reading over the last 24 hours.

31. Maximum humidity time

Shown here is the time that the maximum humidity reading occurred

31. Maximum humidity time

Shown here is the time that the maximum humidity reading occurred.

34. Water Meter

If a water meter is attached to the unit, it is possible to see here the amount of water consumed in liters.

35. Feed Multiply

The feed multiply is the total feed in Kg. that is brought into the house over one minute when the auger motor is on. This is needed in order to calculate the amount of feed being used. Example: Enter 25. The unit will assume that 25 kilos of feed pass through the auger each minute. After 10 minutes the feed consumption will be 250 kilos.

36. Daily Feed Consumption

A display of the current total feed consumption over the last 24 hours (from reset time to reset time).

37. Total Feed Consumption

A display of the total feed consumption since the start of the flock.

38. Temperature Day 1.

Temperature day 1 is the required room temperature (code 02) for the first day of the flock. It is the temperature that will appear as the required room temperature (code 02) when Grow Day (Function 48 on page 13) is equal to 1. The room temperature will be reduced according to the temperature table as explained below.

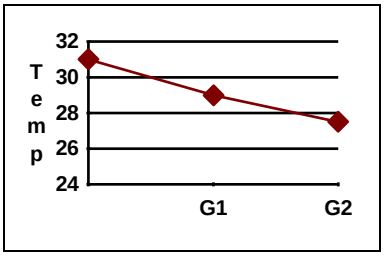
39 – 47 automatic reduction table

It is possible to set a temperature table to reduce automatically the room temperature each day during the raising period. It is possible to set up to 9 Groups. Length of each group can be up to 9 days. Each Group can be reduced up to 9.9°C.

Example: Day 1 temperature = 31°C. (code 21)
Grow day = 1 (code 31)
Required house temperature = 31°C. (code 02)
Group 1- 7 days reducing of 2°C.

Each day the room temperature will be reduced by 0.3°C. At day 7 - the room temp. will be 29°C.
Group 2-3 days reducing of 1.5°C. Each day the room temperature will be reduced by 0.5°C. At day 10 the room temperature will be 27.5°C. This will continue for the 9 possible settings.

Example:
To Enter temperature reduction of 2°C over 7 days, enter function 39, press on the program button, press on 7, then 2, then 0, then on Enter. On the display will appear:
7 2.0 G1
Push on data key, next group will appear.
To enter temperature reduction of 1.5°C in 3 days, push on 3, then on 1, then on 5, then on Enter.
On the display will appear: **3 1.5 G2**.



It is **important** to enter data in all 9 groups. If a group is not in use than put one day and 0°C. as a reduction temp.

48. Grow Day

This is the current grow day of the flock. At the beginning of the flock enter here 1. The room temperature (code 02) will automatically receive the value as entered in Grow day1 temp. (function 38 on page 12).

49. Reset Time

The **Temptron T-607** collects all its information on a 24-hour basis. It is possible to set the reset time. 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 Set up functions

Functions 50-59 are hidden functions and cannot be accessed unless the hidden function code is entered:
A. Go to the time function (function 01)
B. Push on “PROG”
C. Enter “3331”, then press "Enter".
Now the hidden functions may be accessed.

50. Lock Code

It is possible to enter a 4-digit function, which will lock the **Temptron T-607.**
Enter a 4-digit function and press enter. This will be the code necessary in order to enter information into the Temptron T-607.
Once the code has been entered, after a ten-minute period, if no information has been entered the unit will lock. It is possible to see all the information in the unit, but not possible to make any changes.
In order to unlock the unit, first enter the 4-digit code, then continue in the usual manner to enter information.
Example:

A. Enter 4-digit function
B. Push the Prog.
C. Enter function number and press enter.
D. Enter desired value and press enter.

<u>If no lock code is desired enter in 0000 as the lock code.</u>

51. Sensor Average

It is necessary to define the number of temperature sensors that will be used for the average temperature reading.
Enter the number of sensors. If two sensors are used enter the value 2.
It is possible to enter up to 4 sensors for the average temperature

52. Net Name

It is possible to connect the **Temptron-607** to a PC computer with the help of the "WebChick" software package (optional).
Each unit needs a net name.
Set the net name 1 for house one, 2 for house 2 and so on.

53. Digital Input Readout

This is a display of the current digital inputs being used in a bin format

54. Feed Mode

The unit can measure feed consumption in two ways. One is as explained in function 18, by converting time into kilos.
The second way is for the unit to receive a dry contact pulse from a weighing machine. Each pulse represents a preset amount of feed.
Enter 0(zero) to measure by time.
Enter 1(one) to measure by pulse.

55. Fan Mode

Set the required fan order for minimum ventilation as explained below.
It is possible to program which group or groups will run in the minimum ventilation mode. It is possible to choose fan group 1 only or fan group 1 alternating with other fan groups. Example: If you enter here the value 1 then only fan group 1 will run in the minimum ventilation cycle. If you enter 2 then in the first minimum ventilation cycle fan group 1 will run. In the second cycle fan group 2 will run. The two fans groups will run alternately during the minimum ventilation cycle.
If you enter 3 then fan groups 1, 2 and 3 will run alternately during the minimum ventilation cycle.
If you enter 4 then fan groups 1, 2, 3 and 4 will run alternately during the minimum ventilation cycle.
If you enter 5 then fan groups 1, 2, 3, 4 and 5 will run alternately during the minimum ventilation cycle.

56. SP Fan Humidity Set Speed %

Enter here the SP fan speed that will be used if the humidity is higher than that set in function 16, Humidity Set Point on page 10. If the SP fan is already running at a speed higher than that set here, there will be no change in speed.

57. SP / Fan Mode

Enter here 0 (zero) if there are no SP fans. The minimum ventilation will be done with fan groups 1-5 as explained earlier.

Enter 1 if you are using SP fans. The minimum ventilation will be don't with the SP fans as explained earlier.

58. 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”

59. 0_10V or 10V_0 Mode

It is possible to reverse the output for the analog 0-10V outputs
Enter 0 (zero) if the 0-10V outputs are using 0 volt for 0% and 10V for 100%
Enter here 1 (one) if the 0-10V outputs are using 0 volt for 100% and 10V for 0%

Sensor Calibration

It is possible to calibrate the five temperature sensors and one humidity sensor.

You can increase/reduce the temperature sensor reading by a max of 3.0
You can increase/reduce the humidity sensor reading by a max of 30%

The default the reading for these parameters is 0_0.0
The first value is use to represent an increase in temperature difference.
The next two values are the temperature offset.

Example:
How to increase temperature reading.
Current reading for temperature 1 is 22.0°.
You would like to increase the temperature reading by 0.5°.
Enter in parameter 60 0 then 05.
The temperature reading will now be 22.5°

How to reduce the temperature reading.
Current reading for temperature 1 is 22.0.
You would like to reduce the temperature reading by 0.5°.
Enter in parameter 60 1 then 05.
The temperature reading will now be 21.5°

60-64. Temperature Sensors 1-5 Calibration

65. Humidity Sensor Calibration

66. Version

The number shown is the program version number for your 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 both 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 settings

Function #	Description	Default setting
01	Time	
02	Required temperature	25.0
03	Heat	2.0
04	SP fan Temperature	0
05	SP temperature BW	3.0
06	SP minimum speed	3.0
07	SP maximum speed	100
08	SP speed	---
09	Fan 1	3.0
10	Fan 2	4.0
11	Fan 3	6.0
12	Fan 4	7.0
13	Fan 5	8.0
14	Fan On time	01:00
15	Fan off time	10:00
16	Humidity Set point	80
17	Cool on temperature	32.0
18	Cool on time	01:00
19	Cool off time	05:00
20	Cold alarm	10.0
21	Hot alarm	10.0
22	Alarm Type	0
23	Disable alarm	0
24	Minimum temperature	---
25	Minimum temperature time	---
26	Maximum temperature	---
27	Maximum temperature time	---
28	Minimum humidity	---
29	Minimum humidity time	---
30	Maximum humidity	---

Function #	Description	Default setting
31	Maximum humidity time	---
32	Cool timer	---
33	Fan timer	---
34	Water meter	---
35	Feed multiply	15.0
36	Feed meter	---
37	Total feed	---
38	Day 1 temperature	32.0
39	Temperature reduction 1	7.2.0
40	Temperature reduction 2	7.2.0
41	Temperature reduction 3	7.2.0
42	Temperature reduction 4	7.2.0
43	Temperature reduction 5	7.2.0
44	Temperature reduction 6	0
45	Temperature reduction 7	0
46	Temperature reduction 8	0
47	Temperature reduction 9	0
48	Grow day	2
49	Reset time	0
50	Lock code	0
51	Sensor average	2
52	Net name	1
53	Digital input readout	---
54	Feed mode	0
55	Fan mode	0
56	SP fan humidity set speed %	80
57	SP/ Fan mode	0
58	Communication protocol	0
59	Version number	H240

Wiring Diagram