

RAINBOW+

Version: 02 Eng (6-12-2007)





Dear customer,

Thank you very much for your confidence and for choosing this Hotraco product!

Hotraco Industrial and our dealer guarantee you will receive the optimal efficiency from your investment.

If you have any questions or if you are in need of support, you can always depend on your Hotraco Industrial dealer.

With kind regards,

A handwritten signature in black ink, consisting of a long horizontal stroke followed by a large, looped flourish.

C.W.M. Beelen
President

About this manual

Read this manual carefully before installing and operating the system. Please be aware of the safety instructions for which you are warned when starting up the computer.

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This edition and the information within, has been put together with the best possible care. However, should any errors be detected, Hotraco Industrial would greatly appreciate being informed of them.



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1 Introduction

Using the RAINBOW+ program makes it possible for you to get a picture of the current situation of your production house right from your PC (data that can be retrieved / modified on a climate computer can also be retrieved / modified with RAINBOW+).

Furthermore, RAINBOW+ offers you the possibility of :

- Safeguarding all the data (setpoints and options) set by you on the various climate computers on your PC. If they are damaged for some reason in the climate computers, they can simply be restored from your PC.

1.1 System requirements

To install the RAINBOW+ program, you need at least :

- PC Pentium 233MHz;
- 128 MB internal memory;
- VGA monitor and video card, resolution 800 x 600;
- Windows 2000 or higher.

1.2 Customer support

We seek to achieve products of optimum quality. We are always receptive to ideas and suggestions from our customers as their reactions may be used to extend and improve our range of high quality products.

As for technical support or any questions regarding RAINBOW+, you are always free to contact your installer. We, on our part, will find a quick and satisfactory solution for your questions or problems.



2 Software installation

You install RAINBOW+ on your computer by launching the “SETUP.EXE” program. This installation program copies the requested files from the installation CD to your hard disk.

To launch the installation you proceed as follows :

- Insert the CD-ROM into the CD-ROM drive;
- If the installation program does not start automatically, you select “Execute” in the “Start” menu of Windows and then d:\setup.
- Select “Install Rainbow+”



After the installation of RAINBOW+, a short cut to its program appears on your desktop. It looks as follows :



By clicking the icon, the RAINBOW+ program is launched.

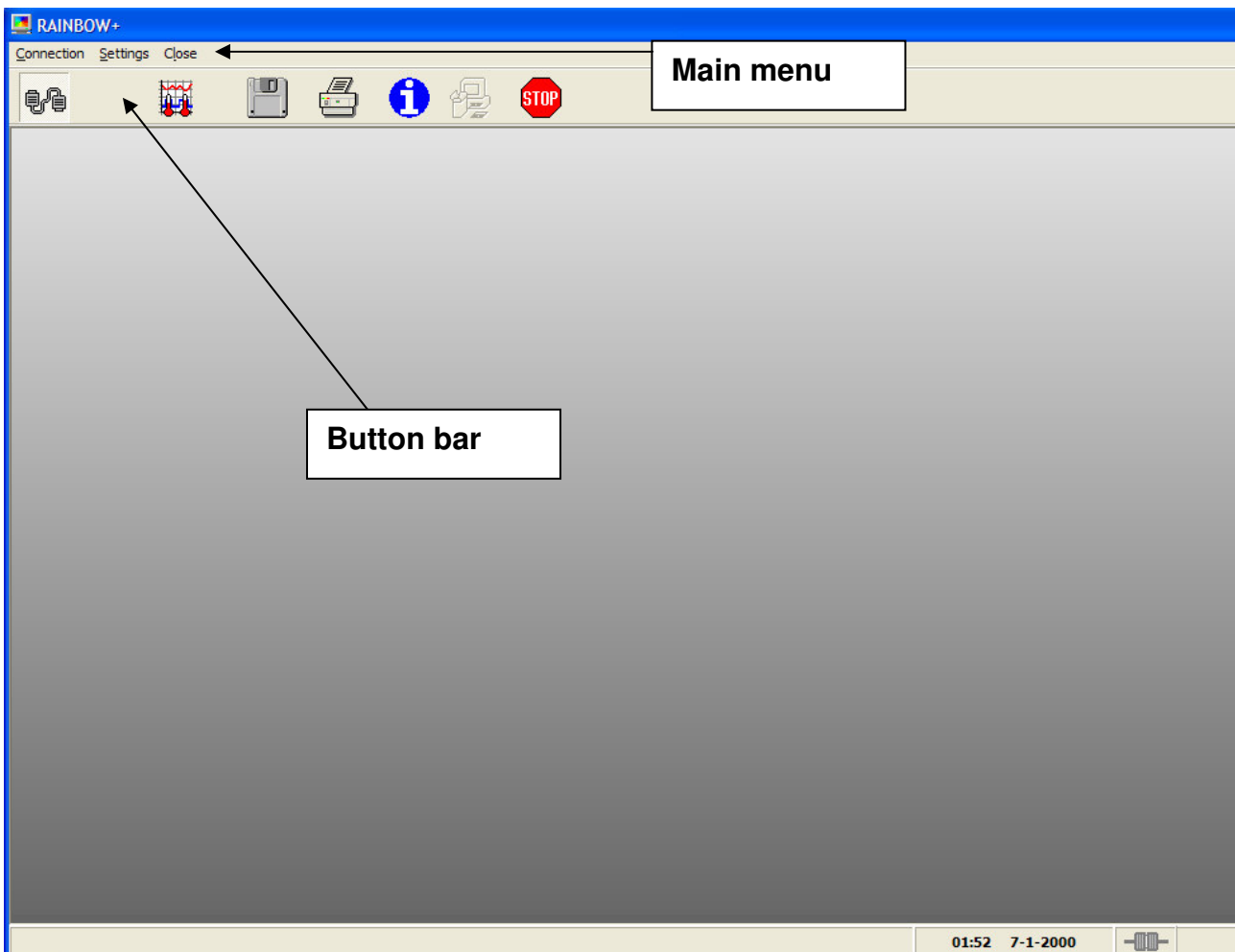


3 First startup

When you have installed RAINBOW+ with the instructions provided, you can start up RAINBOW+.

Click  on your desktop to start up RAINBOW+.

The following window will then be displayed :



In the main menu you can select the commands to be executed. The most used commands can also be selected from the toolbar.

Attention:

If Rainbow+ hasn't been registered yet, it can be used during 30 days, after that it can only be used as a DEMO program. A not registered version can be started up by pressing the OK button without inserting a code at the field "YOUR CODE".



3.1 Registrare Rainbow+

In order to register Rainbow+ communicate the *SYSTEM CODE* to your installer, he will give you *YOUR CODE* within a few days.

Register RAINBOW+

SYSTEM CODE 0002-1591719182000

YOUR CODE

Install date : 4-4-2006
Expire date : 4-5-2006
Days until expiration : 30

Use program only for demonstration purposes

OK

The registering depends on the type of computers that are connected :

- Basic registration :
 - Use this kind of registration for computers that don't process management data, like the SIRIUS-CL.

If the Rainbow+ program is used as a DEMO program you can still register the program through :

☞ Main menu : Register



4 Connecting / disconnecting climate computers

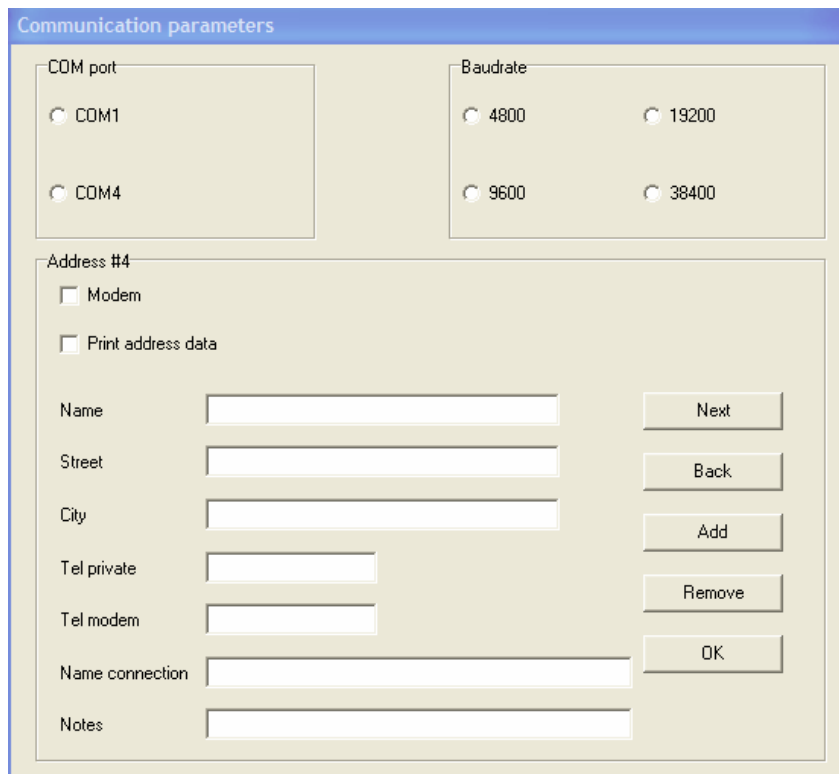
Before establishing the connection with your climate computers for the first time, you will first have to enter the right communication settings.

4.1 Communication settings

☞ Main menu : Settings, Communication or click button 

Note :

If the connection between RAINBOW+ and the climate computers has already been established, the communication settings cannot be retrieved. You first need to interrupt the connection.



In the window above you select the correct COM-port, the baudrate and you indicate if the connection should be established by way of a modem.

Note :

The COM-ports that can be selected are only those ports that are not being used.

In this window you can also define that a printout should contain a heading with your address data on each page. If so, your address data needs to be entered.



As you may have several connections, e.g. a direct link to a COM-port and another one through a modem, they can all be set individually. Use the *Add / Remove* button to define or to remove connections. Using the *Next / Back* buttons, you can run through all connections made. The connection with which RAINBOW+ communicates, can be selected by clicking the *OK* button.

TIP :

If you use several connections, it is practical when every connection has a 'logical' name. You enter this at *Name connection*. In the program, the name of the selected connection is displayed at the bottom on the right.

4.1.1 Modem

Not implemented / tested Yet.

4.2 Connect

☞ Main menu : *Connection, Connect* or click button 

After you have made the correct communication settings (both in RAINBOW+ as on the climate computers), you can link your PC to the climate computers. Which connection has been selected is indicated bottom right in the status line. In the following chapter it will be explained in detail how to retrieve / modify data at your climate computers.


4.2.1 Entry code communication

To ensure privacy connection to the climate computers, you can secure the access to the climate computers by using an access code. The value of the access code can only be altered by the climate computers. How to enter this code, is described in the manual of the climate computers.

When the connection to the climate computers is achieved, RAINBOW+ first requires the access code to the climate computers. If this is uneven to '0', an entry box appears in the window and requires an access code. After you have entered the correct code, the first data appears of the climate computers. If you have entered a wrong code, you will be disconnected immediately.



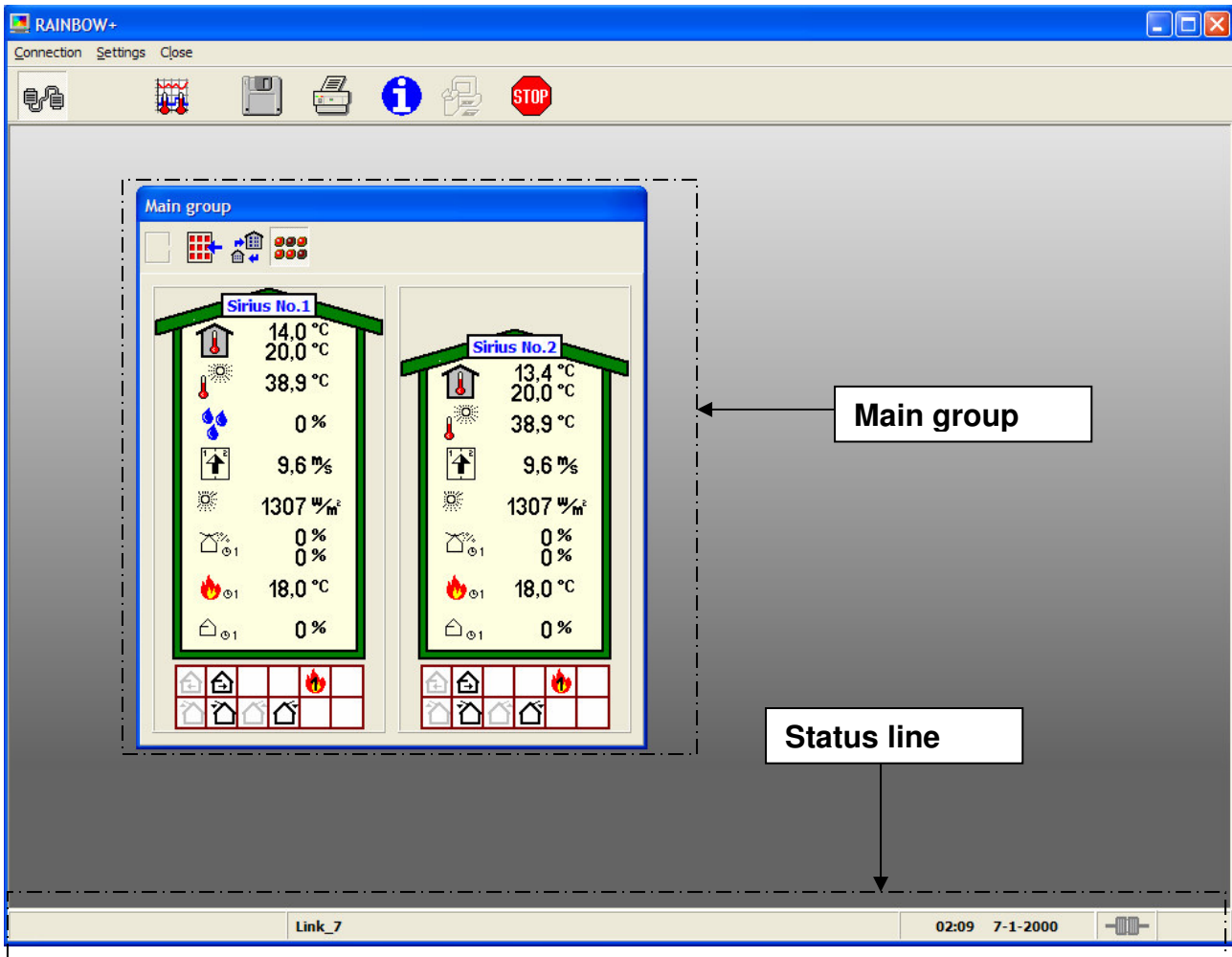
4.3 Disconnect

☞ Main menu : Connection, Disconnect or click button 

Using this function, the connection with the climate computers will be disconnected.

5 Retrieving / modifying settings climate computers

After you have made a correct connection (see chapter 4.1) a window appears, showing the main group of all connected climate computers. What kind of data appears depends on the type of climate computer and the installed controls.



In the main group the topical settings appear in all connected climate computers. All settings by climate computers can be retrieved / modified at the main group.

In chapter 5.2 all possibilities of the main group are described.



5.1 Status line

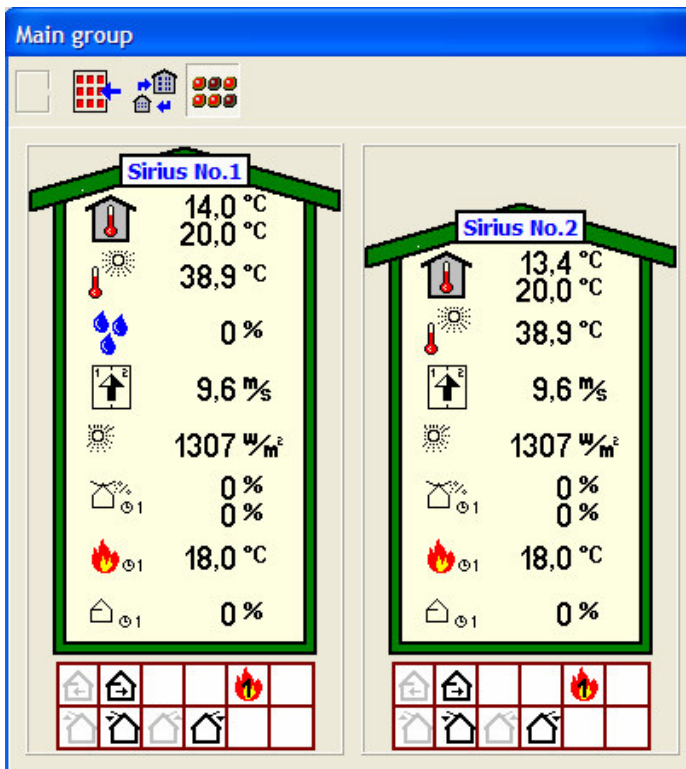
The status line at the bottom of the data window consists of four sections :

- Messages :
 - you may find various kinds of messages, such as 'what data is retrieved', 'error messages' and so on.
- Date :
 - the date and time of the connected climate computers appear. It is automatically updated if there's a connection with the computers.
- Connection :
 - by means of a symbol, the type of connection (direct or modem) is displayed and if RAINBOW+ is connected to the climate computers.
- Connection name:
 - the name of the connection appears as set at *Settings communication* (see chapter 4.1).

5.2 Main group

The main groups of the connected climate computers are visible the moment a connection is accomplished. In this window the topical situation of every computer is visible. This window is automatically renewed as soon as a changement occurs within one of the climate computers.

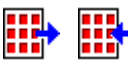
This window is important because all settings can be called in at the climate computers from this window and it shows any alarm situation at one of the climate computers.





outputs.

In this illustration, the connection consists of two climate computers. With the buttons on the toolbar you can indicate how this window should look like. The settings with which you accomplish the window are kept, therefore you don't need to adjust the settings once again.

Signification buttons :

 : when several computers are connected, you can indicate with these buttons how many computers must be displayed horizontally and vertically.

 : increase / decrease size houses.

 : hide / show status of the digital

Below the houses, the digital outputs can be visible. Outputs which are displayed in grey are disconnected and coloured outputs are connected.

5.2.1 Displaying alarms in the main group

In the main group the houses are displayed on a grey background. As soon as an alarm situation occurs at one of the climate computers, the background becomes red. The colours of the house of the climate computer where the alarm originated, is changed from yellow / green into a light / dark red. Also, on the top left at the house a symbol is shown which indicates the cause of the alarm. The symbols in use are equal to the symbols displayed on the climate computers. In chapter 7.2 all alarm symbols are viewed.

5.2.2 Displaying computers ON/OFF in the main group

Climate computers which are switched off (see manual climate computer) are coloured in light / dark grey, instead of yellow / green.

5.3 Retrieving settings from the main group

There are two ways on which data can be retrieved from the main group.

The first way is by indicating with the mouse on the climate computer, at the item of which you wish to retrieve the settings. The moment a shaded square appears around the item, you press the left mouse button. Items which contain no settings, no square appears (see figure 1).

The second way, you point to the climate computer of which you wish to know the settings and press the right mouse button. A menu will appear in which all windows are enumerated of which you can make a choice. Select the desired window just by clicking on it with the mouse (see figure 2).

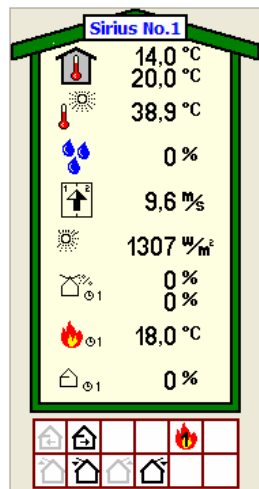


Fig. 1

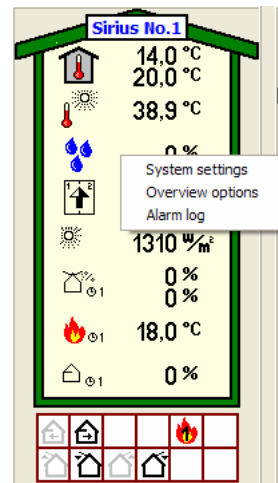
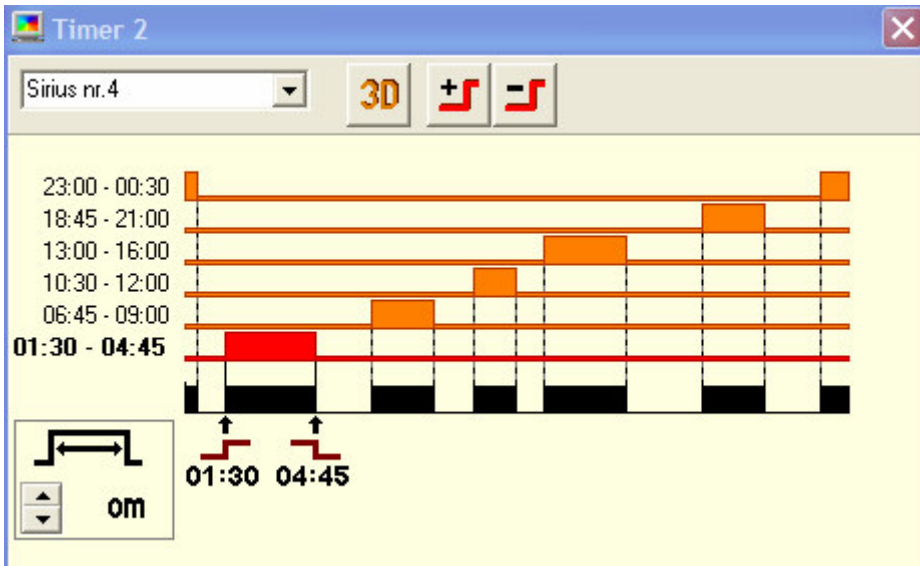


Fig. 2

In the following chapters the various kinds of windows are described.

5.3.1 Timer diagrams





In the clock timer above there are six ON-OFF times which are set. Below the six lines you find a line on which is indicated when the timer will switch on (00:00 till 24:00). With the button '3D' at the top of the screen, the times can be displayed three-dimensional.

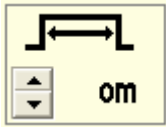
Changing ON-OFF times :

First you need to select the ON-OFF time you wish to change. You can do this by indicating the time with the mouse and pressing the left mouse button or with the ↑, ↓-keys. A selected ON-OFF time is characterized by red colours and at the bottom of the diagram the time will appear. Move the mouse to the time you wish to alter, press the left mouse button and drag it to the desired value. A second way is to change the time by moving the mouse to the time, pressing left mouse button and then changing the value by using these keys: ←, →.

Adding / removing ON-OFF times :

For adding an ON-OFF time, please use the button: . For the removal of an ON-OFF time, please first select the ON-OFF time you wish to remove and next press the button . You can also add / remove ON-OFF times with the 'INS' and 'DEL' button on your keyboard.

At the left bottom of the screen you can set the running time of the timers. This is used when the contact of each starting time must always switch on the same number of minutes. Look also into the manual of the climate computers for more information.



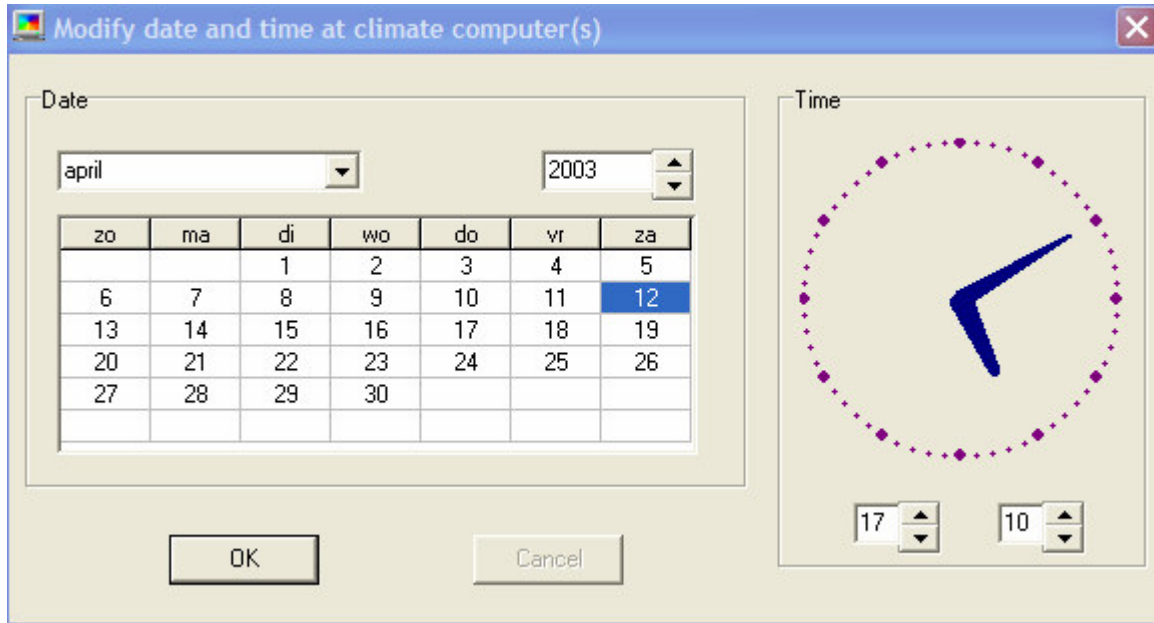
Use ▲ or ▼ to change the running time. The value can also be changed by moving the mouse to the value and pressing the right button. A screen will appear in which you can enter the desired value.

Remark :

if the symbol of the running time covers a part of the screen, you can drag this with the mouse.


5.4 Modify date and time of climate computers

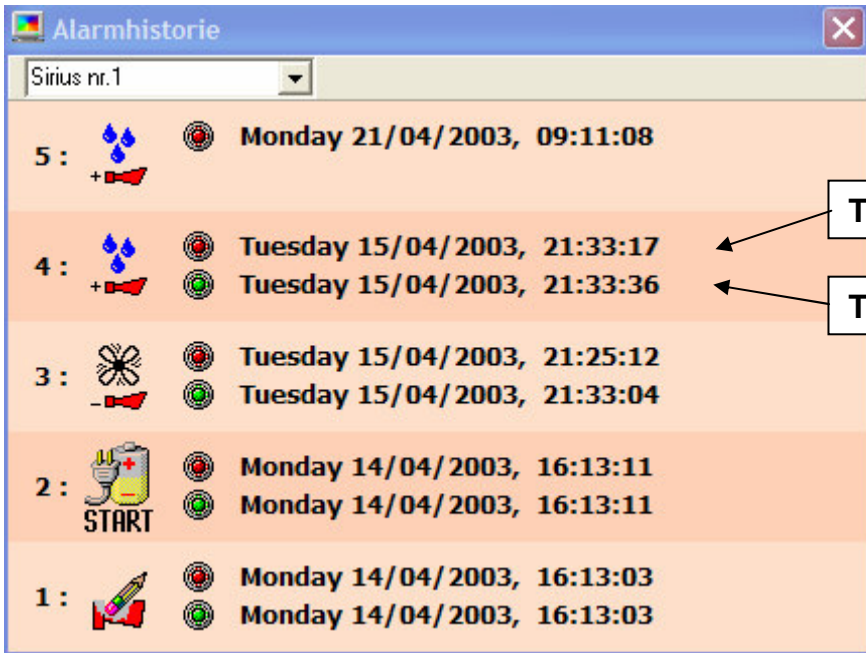
All connecting climate computers have the same time and date. You can see this in the status line at the bottom of the screen. By moving the mouse to the time or date and then pressing the left mouse button, the following screen will appear.



Enter the required time and date in this screen and press the 'OK'-button. After the confirmation, all connected climate computers will take over the new date and time.

5.5 Retrieving alarm history

The climate computers keep track of the history of all alarms that occur. This view can be retrieved in RAINBOW+ per climate computer. Use the button  on the toolbar. Or right click the mouse.



The screenshot shows a window titled "Alarmhistorie" for "Sirius nr.1". It displays a list of five alarm events, each with a number, an icon, and a timestamp. Two callout boxes point to the second event (number 4): "Time moment alarm ON" points to the first timestamp (21:33:17) and "Time moment alarm OFF" points to the second timestamp (21:33:36).

Alarm ID	Icon	Timestamp 1	Timestamp 2
5	Water droplets + alarm bell	Monday 21/04/2003, 09:11:08	
4	Water droplets + alarm bell	Tuesday 15/04/2003, 21:33:17	Tuesday 15/04/2003, 21:33:36
3	Windmill - alarm bell	Tuesday 15/04/2003, 21:25:12	Tuesday 15/04/2003, 21:33:04
2	Hand with first aid kit and "START" text	Monday 14/04/2003, 16:13:11	Monday 14/04/2003, 16:13:11
1	Alarm bell	Monday 14/04/2003, 16:13:03	Monday 14/04/2003, 16:13:03

Above is an example of the alarm view. Per alarm that has occurred, you see what kind of alarm has taken place and the times on which the alarm has taken place and was switched off. If only one point of time is mentioned, this indicates that the alarm is still active. (See chapter 7.2 for a view of all alarm symbols in use).

Erase alarm history :

The alarm history on a climate computer can be erased by moving the mouse to the top of the screen and then pressing the mouse button on the right or by pressing the 'DEL' button on the keyboard.

On the screen you will be asked if you wish the alarm history to be deleted.



5.6 Logging data

Not implemented / tested yet.



6 Various functions

6.1 Safeguarding options and setpoints

RAINBOW+ makes it possible to safeguard all settings (options + setpoints) you made on the various climate computers on your PC. If they are damaged for some reason in the climate computers, they can simply be restored from your PC.

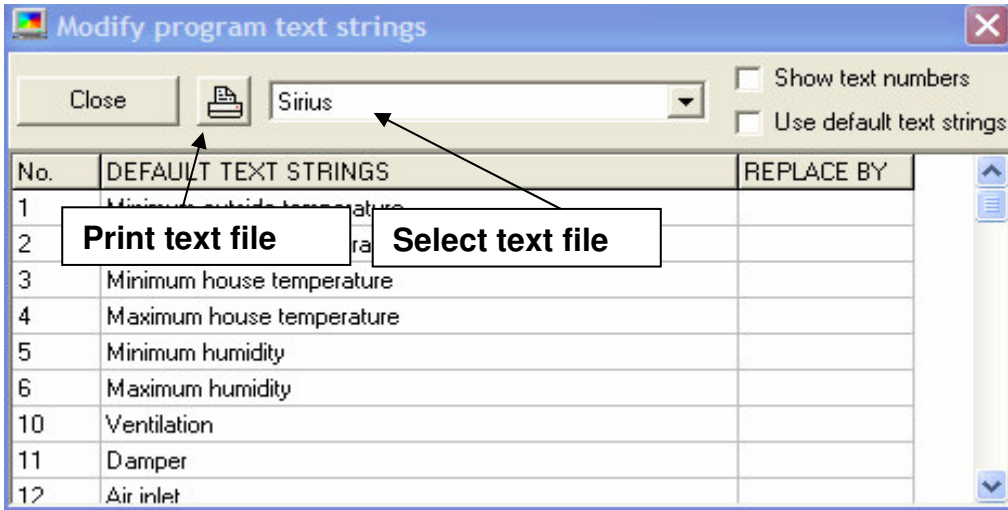
You can only safeguard and restore the settings when there is a connection with the climate computers.

☞ Main menu : Settings, Safeguarding options + setpoints

After this instruction, a window appears in which you make a choice whether you wish to save settings or correct. Make your choice by clicking on it with the mouse. Next, you select the climate computers.

6.2 Modify program text strings

☞ Main menu : Settings, Modify program text strings



With 'Modify program text strings' you can change the complete RAINBOW+ program text. In the column 'REPLACE BY' you enter the new text to be used. Positions that you leave open will be filled by the original text. So you are not obliged to change the entire text.

The program distinguishes between two kinds of text, i.e. 'program text' and text concerning climate computer data.

In the menu bar at 'select text file' you have the choice which text blocks you would like to modify. Here you will find the different climate computer types plus the 'RAINBOW+ text'.

To change some text you can mark the box 'Show text numbers', after which the text strings in the program will be preceded by a number. The number corresponds with the



number as it is displayed in the column 'text number', which makes it easier to trace a particular text.

Notes :

- It may be that some text will not be accompanied by a text number after you have marked 'Show text numbers'. If so, you will have to close the window containing these text strings and open them a second time. Not every window will be updated after marking the function 'Show text numbers'.
- A text number between [] (square brackets) indicates that its text makes part of the text file 'RAINBOW+ text' (to be selected at 'select text file'). A text number between < > indicates that the text comes from the text file of the currently selected climate computer. Such text files can also be selected at 'select text file'.

If you do not want to display your modified text, but instead you want the original text to be displayed, you simply 'Use default text strings' in the menu bar.

6.3 Modify names of climate computers

☞ Main menu : Settings, Modify names of climate computers

With this function you can assign your own names to the various climate computers. First you go to 'Name connection' and select the connection of the name which you prefer to change. In the column 'DEFAULT NAMES' the names of all connected climate computers are listed as they are used by RAINBOW+. The names can be changed in the column 'REPLACE BY', after which you click the OK-button. Next you are asked to confirm the entry, after which the new names will be memorized.

Attention :

A connection cannot have the same name twice. Entering it a second time, RAINBOW+ will draw your attention to this.

6.4 Background picture

You can give RAINBOW+ a personal tinge by placing a self chosen picture on the background.

☞ Main menu : Settings, Picture in background

When you select this option, a screen will appear in which you can select a file including a picture. In future, this picture will appear on the background of the screen.

6.5 Terminal

☞ Main menu : Connection, Terminal

If any problem should occur with the communication, you can make a screen visible with this option in which is shows what characters are transmitted between the PC and climate computers.


7 Short survey of RAINBOW+

7.1 Commands main menu

Below, you see a survey of all commands that can be given in the main menu. Some commands can be managed from the main menu as well as with the button bar. Where commands are described in detail further in the manual, they are accompanied by a reference to a particular chapter.



Connection :

1. Connect  : see chapter 4.2
2. Disconnect  : see chapter 4.3
3. Terminal : see chapter 6.5

Settings :



1. Communication  : see chapter 4.1
2. Printer
3. Language
4. Safeguarding options + setpoints : see chapter 6.1
5. Modify program text strings : see chapter 6.2
6. Modify names climate computers : see chapter 6.3
7. Data logging ON : see chapter 5.6
8. ASCII conversion ON
9. Picture in the background : see chapter 6.4

Image :

1. Close all windows
2. Tool bar

 = Log graphs

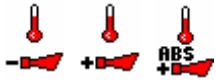
 = Print screen

 = Info

Close :

7.2 Alarm symbols

Alarms caused by climate / sensors in the house :



: minimum, maximum and abs maximum temp alarm



: outside sensor, temperature sensor 1, sensor 2 defect

System alarms :



: options, setpoints damaged



: minimum / maximum, alarm history damaged



: ADC error



: DAC error



: I²C error



: EEP error



: digital outputs error



: RTC error



: HTRAP error



: communication error

Various alarms :



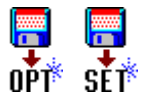
: error restoring options / setpoints



: alarmhistory deleted



: climate computer switched ON / OFF



: options / setpoints restored at climate computer



: start up climate computer

8 Screen examples

8.1 Example settings ventilation

Window settings

Sirius No.1

Window position Weather station

		Period 1	Period 2	Period 3	
11	Starting times ventilation periods	00:00	23:59	23:59	
13	Set temperature ventilation	20,0	20,0	20,0	°C
14	Delay adjustment set temperature ventilation	0,5	0,5	0,5	min/°C
21	Minimum window position at lee side	0	0	0	%
22	Maximum window position at lee side	0	0	0	%
23	Maximum window position at lee side when it's raining	0	0	0	%
24	Minimum window position at wind side	0	0	0	%
25	Maximum window position at wind side	0	0	0	%
26	Maximum window position at wind side when it's raining	0	0	0	%
31	Outside temperature start adjustment window position at lee side	0,0	0,0	0,0	°C
32	Outside temperature end adjustment window position at lee side	0,0	0,0	0,0	°C
34	Adjustment window position at lee side by outside temperature	0	0	0	%
35	Outside temperature start adjustment window position at wind side	0,0	0,0	0,0	°C
36	Outside temperature end adjustment window position at wind side	0,0	0,0	0,0	°C
38	Adjustment window position at wind side by outside temperature	0	0	0	%

8.2 Example settings heating

Settings heating

Sirius No.1

		Period 1	Period 2	Period 3	
11	Starting times heating periods	00:00	23:59	23:59	
13	Set temperature heating	18,0	18,0	18,0	°C
14	Delay adjustment set temperature heating	0,5	0,5	0,5	min/°C
21	Light intensity start adjustment	0	0	0	W/m2
22	Light intensity end adjustment	0	0	0	W/m2
24	Adjustment set temperature heating by light intensity	0,0	0,0	0,0	°C