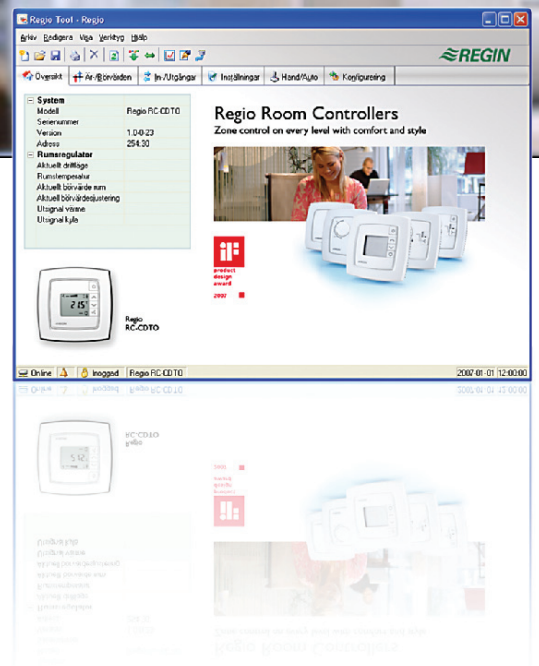
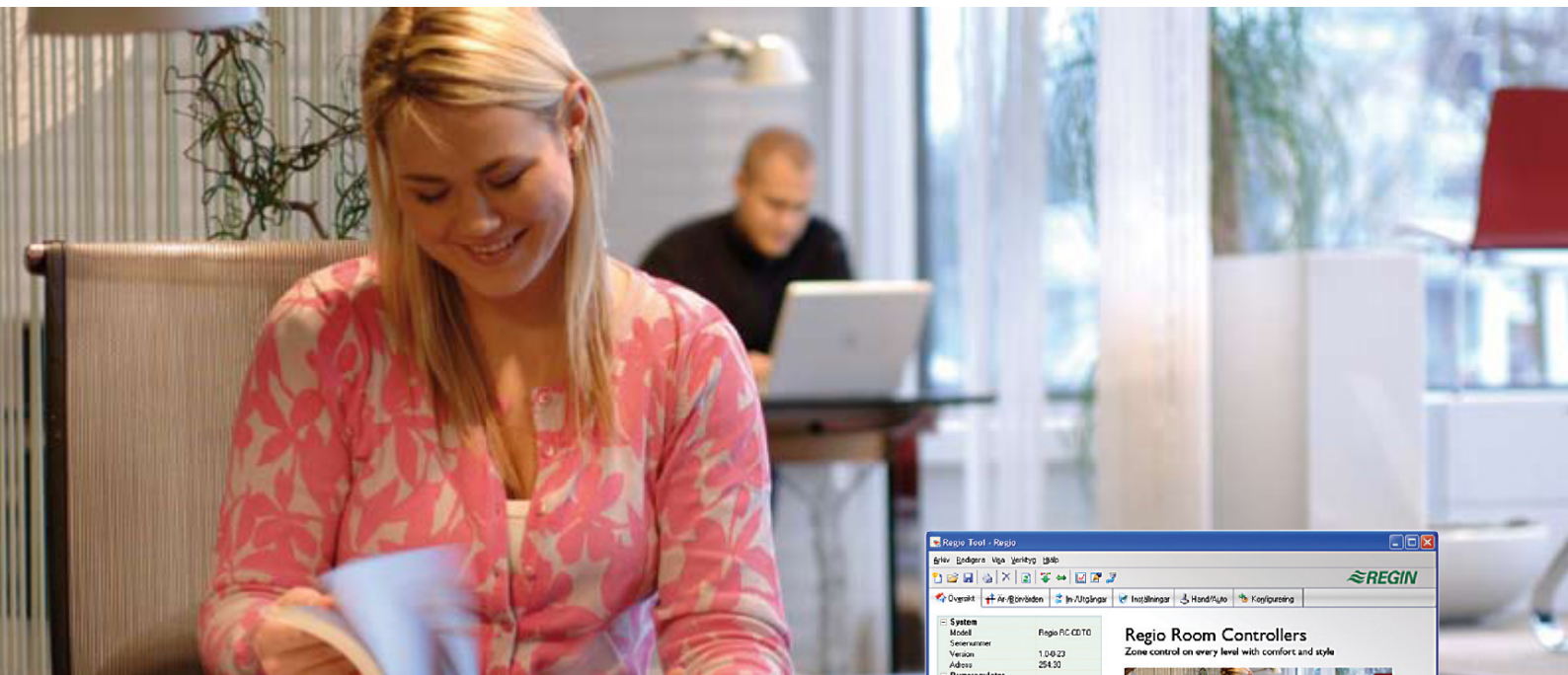




Regio tool User Manual



DISCLAIMER

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Contents

<i>Chapter 1</i>	<i>About the manual</i>	4
<i>Chapter 2</i>	<i>Introduction to Regio tool</i>	5
<i>Chapter 3</i>	<i>Installation and start-up</i>	6
<i>Chapter 4</i>	<i>Menu bar</i>	7
	4.1 File	7
	4.2 Edit	8
	4.3 View	8
	4.4 Tools	9
	4.5 Help	14
<i>Chapter 5</i>	<i>Toolbar</i>	15
<i>Chapter 6</i>	<i>Folder tab</i>	16
	6.1 Overview	17
	6.2 Actual / Setpoint	17
	6.3 Alarms/Events (Only RCP controllers)	18
	6.4 Input/Output	19
	6.5 Time control (Only RCP controllers)	19
	6.6 Settings	20
	6.7 Manual / Auto	21
	6.8 Configuration	21
<i>Chapter 7</i>	<i>Updating Regio</i>	23
<i>Chapter 8</i>	<i>Index</i>	25

Chapter 1 About the manual

This manual is designed to be an aid during installation and use of Regio tool.

More information

More information about Regio can be found in:

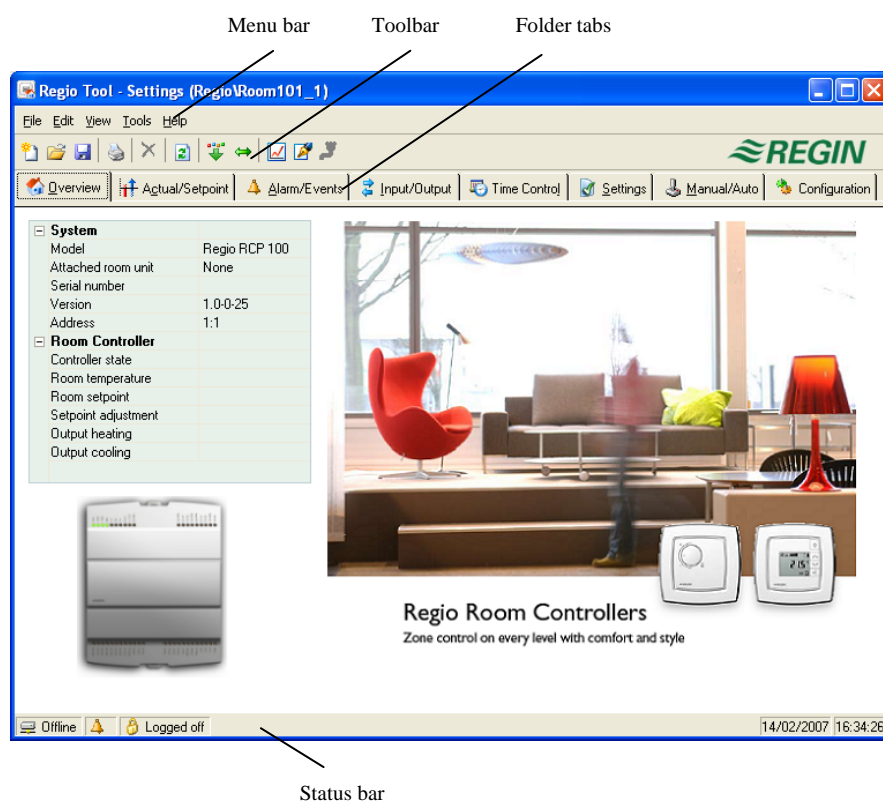
- ***Regio Midi Manual*** – Manual for the Regio Midi controllers
- ***Regio Maxi Manual*** – Manual for the Regio Maxi controllers
- ***Regio in EXO 2005 Projects*** – Information on how to use Regio in the EXO system
- ***Regio Room Controllers*** – Brochure for the Regio series

The information is available for download from Regin's homepage, www.regin.se.

Chapter 2 Introduction to Regio tool

Regio tool is a Windows-based PC-program for configuration and maintenance of the controllers in the Regio Midi and Maxi series. It has not been designed with the intention of being a full SCADA program.

The display window is divided into several parts:



Menu bar: Standard Windows type drop-down menus.

Toolbar: Gives direct access to various functions. All the functions in the Regio Toolbar are also accessible through the menu bar system.

Folder tabs: Give access to a number of folders that can be shown one at a time in the area below the tabs.

This manual will mainly describe the functions of the items in the menu bar and the toolbar. Since the contents of the folders vary depending on which of the programs you are running they will not be covered in detail in this manual. Use the appropriate Regio manual for reference.

Chapter 3 Installation and start-up

To install and run Regio tool you need a PC running Windows 2000 or Windows XP.

Regio tool is downloaded from Regin's homepage, www.regin.se. It is a self-installing program. Download the software folder, unzip the material and double-click on the setup.exe file. Then follow the instructions.

On start-up, Regio tool will automatically search for any controller connected to the computer and connect to it if it is of a type suitable to the program being loaded. If the program does not find a suitable Regio controller, it will start offline.

Regio tool always starts with a box where the user chooses which Regio model is used with the System folder displayed. Make sure that you choose the correct model or functions like control and alarm handling may be lost.

Setting the controller address

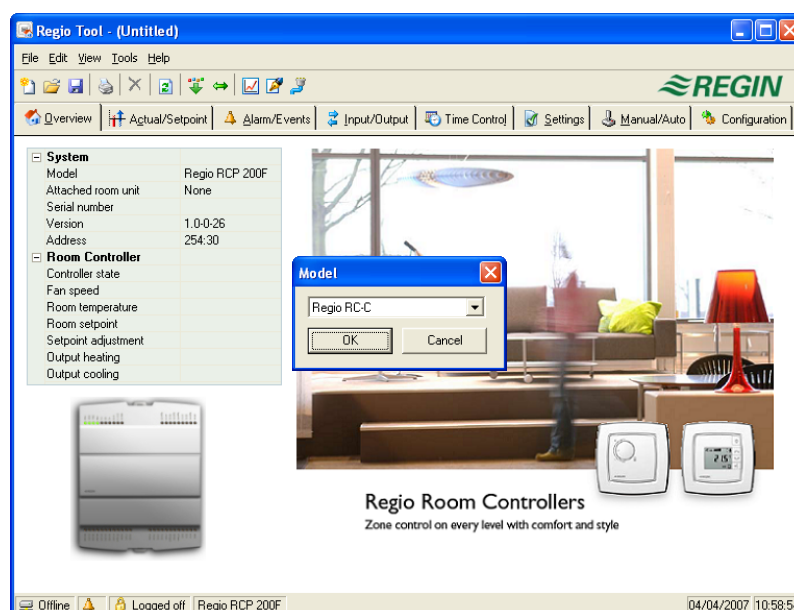
The controller address is set in the Configuration folder. Each controller has a unique PLA- and ELA-address on delivery. This address should be entered instead of the Regio tool default address (254:30).

Running Regio tool from a project in Project Builder

Regio tool can be run from an EXO project in Project Builder. The controller settings that have been made in Project Builder will then be used and certain functions will not be available in Regio tool. Regio tool is opened from the configuration file in the project.

The following functions are not available when Regio tool is run from Project Builder:

- Changing the address
- Changing the communication settings
- Opening a new configuration file
- Creating a new configuration file



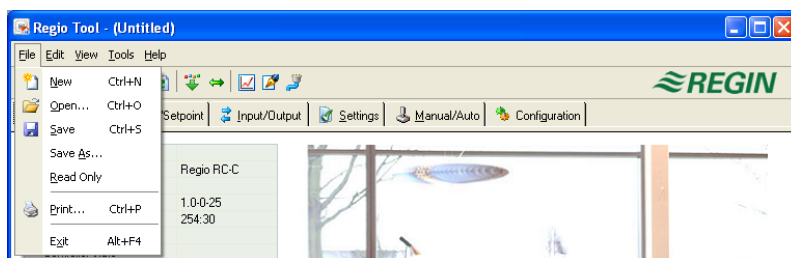
Chapter 4 Menu bar

The menu bar has five drop-down menus:

File Edit View Tools Help

4.1 File

The items in the file menu are used to handle configuration files. The data describing a configuration can be saved as a file. Any number of configurations can be saved, as long as there is enough available disk space. The file will have a .rtc extension and needs about 22 kb of disk space.



New

Opens a new unnamed file. A box appears where you can choose for which controller model you wish to create the file. Make sure that you choose the correct model.

Open

Opens a saved file.

Save

Saves the current file to disk. If the file is unnamed you will be prompted for a name.

Save as

Saves the current file to disk using a new name of your choice.

Read only

This item can normally be ignored. Should you for some reason open two instances for the same file, one of them will be marked as Read only to prevent data conflict.

Print

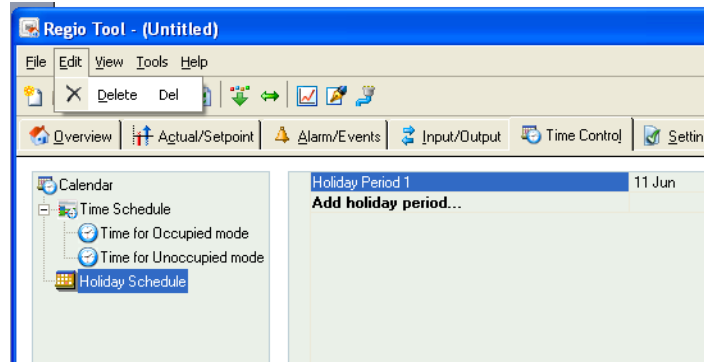
Gives a printed list showing all the configuration settings of the present file.

Exit

Closes Regio tool.

4.2 Edit

The edit menu only contains one item:

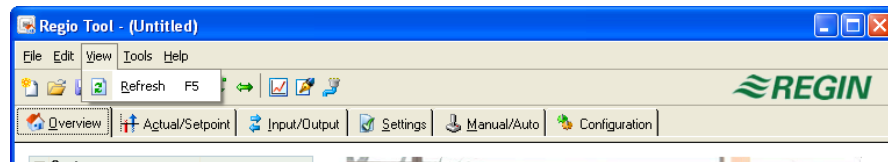


Delete

Delete is only used in conjunction with Holiday periods to remove assigned periods.

4.3 View

The view menu contains one item:



Refresh

Regio tool is not a dynamic program. If a parameter value is changed in a connected controller, the corresponding value in Regio tool will not automatically be updated. The Regio tool user must initiate reading of parameter values from the controller.

Refresh initiates a reading of all dynamic parameters from the connected controller. The display is updated with the new values.

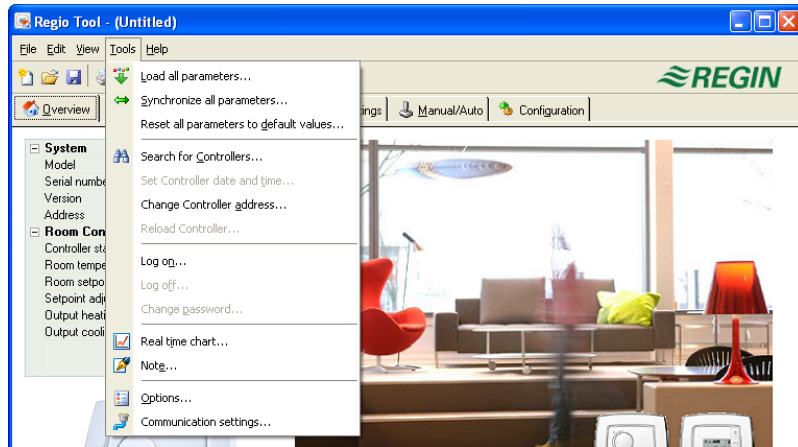
When you change between display tabs, an update will automatically be initiated.

As an alternative to the refresh button, the Update button in the Toolbar or the F5 key on the computer keyboard can be used.

You can also choose to auto refresh pictures with dynamic values, i.e. an automatic finger that presses F5 at settable intervals.

If the controller revision is older than the Regio tool revision, you are asked what you want to do to make them compatible. See the chapter *Updating Regio*.

4.4 Tools



Load all parameters

Downloads all present parameters from Regio tool to the controller.

Synchronize all parameters

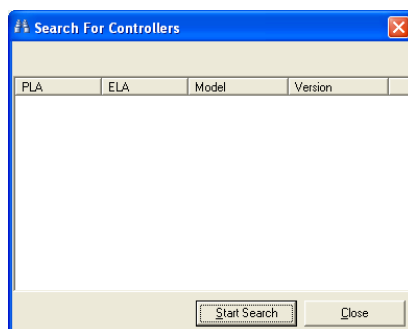
All parameter values in the Regio controller are compared with the corresponding values in Regio tool. All discrepancies will be listed. All items in the list are normally tick-marked. By removing the tick-mark from an item you can exclude it from the selection. You can then choose to update Regio tool using the controller values or update the controller using the Regio tool values.

Reset all parameters to default values

Resets all Regio tool parameter values to default values.

Search for controllers

If, on startup, Regio tool fails to establish contact with a connected controller it is usually due to an address mismatch. This function will search through all the possible addresses until a unit is detected. The displayed address values should then be written into the address fields in the folder Configuration / System.



Set controller date and time

Will synchronise the controller date and time with the computer date and time.

Change controller addresses

Each controller has a unique address on delivery. The address should be entered instead of the Regio tool default address (254:30). See the section Configuration for more information.

Reload controller

Downloads the current control program from Regio tool to the controller. Use this function to install updated program revisions. Note, though, that since the hardware differs between different controller models, the Regio tool program and the Regio model must be compatible. Otherwise, unexpected events may take place.

Log on

There are two different log-on levels, operator level (password 3333) with limited access and administrator level (password 1111) with full access.

Should you try to perform an operation which requires a higher access level than the one you have, you will be prompted to change the log-on level.

Log off

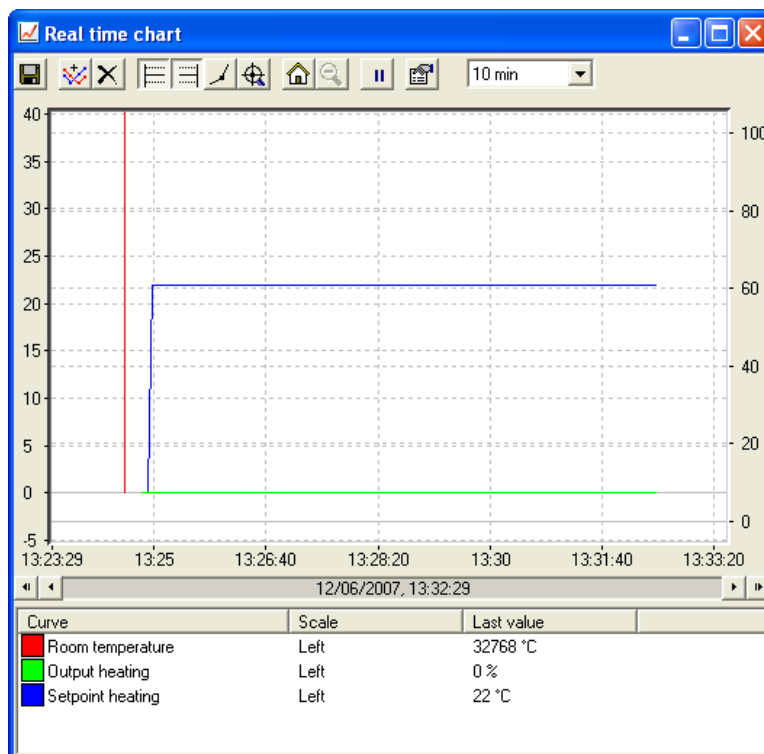
Enables log-off to the basic level.

Change password

Permits change of the password for the present log-on level.

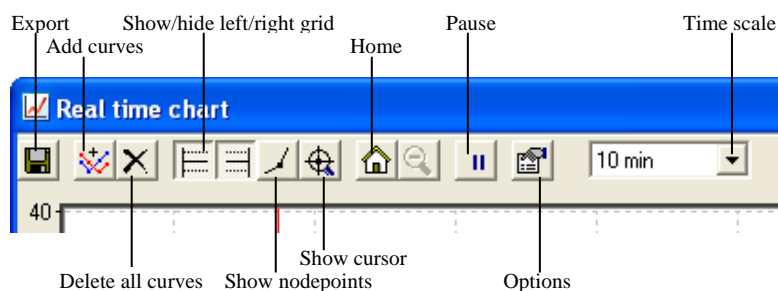
Real time chart

Creates a real time chart. Up to four parameters of your choice can be logged. The chosen parameters are listed at the bottom of the screen together with information on colour, which of the vertical scales it is referring to and the latest recorded value. The chart has left and right vertical scales with individually settable ranges. The horizontal timeline can be changed so that the chart window can show longer or shorter intervals. By using the scrollbar at the bottom of the chart, you can scroll along the timeline to show any position since the recording started. Values are recorded every 5 seconds. All recorded values can be saved to a text file for later use in, for example, a spread-sheet program.

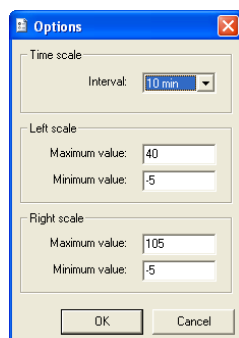


The chart cannot be saved. On exiting, all values and settings will be lost.

The real time chart has the following tools:



- **Export**: Exports all recorded values to a .txt file. The values are tab-separated for easy import to, for example, Excel. Each line of the text file contains the values from one recording together with the time for the recording.
- **Add curves**: A click on this button reveals a list of all Regio parameters that can be displayed in the chart. Choose up to 4 parameters.
- **Delete all curves**: Deletes all the selected curves.
- **Show/hide left/right grid**: Chart grids scaled to the left and right scales can be displayed or hidden.
- **Show nodepoints**: A marker can be displayed on each curve at the point of each recording.
- **Show cursor**: Displays a vertical line on the chart display. The cursor can be moved along the timeline. When the cursor is active, instead of showing the latest recorded values in the parameter list, the values at the cursor position are displayed. In this way you can check back on earlier record values.
- **Home**: Home position is the chart position where you have the "recording pens" close to the right hand edge of the chart. If you have scrolled back along the timeline you can use this button to jump back to normal position.
- **Pause**: Pauses the chart. The "paper" stops scrolling and no new curve segments are added. Data acquisition continues, however, and new readings are saved every 5 seconds. Press Pause again and all the saved readings will be added to the chart.
- **Options**: Set various options.



- **Time scale**: Sets the time width of the chart display. **Left scale / Right scale** sets the scaling for the left and right chart scales.
- **Parameter list**:

Curve	Scale	Last value
Room temperature	Left	32768 °C
Output heating	Left	0 %
Setpoint heating	Left	22 °C

The parameter list shows the parameters assigned to the chart. To remove a parameter, right-click on it and choose remove.

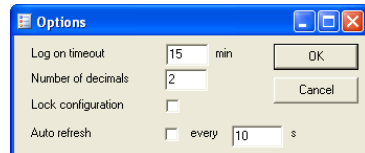
To change which of the right / left scales the parameter curve is referring to, right-click and choose properties or double-click with the left mouse button.

Notes

Gives access to a notepad area. Any text written here is saved together with the configuration file. If you make a printout of the configuration, the notepad text will be included in the printout.

Options

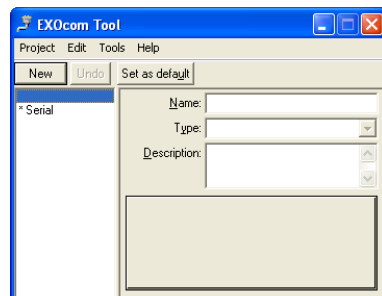
Permits the setting of certain program parameters:



- **Log-on timeout:** After inactivity for longer than the set time the log-on level will be set to 5.
- **Number of decimals:** Sets the number of decimals displayed. All calculations, however, are always done with full precision.
- **Lock configuration:** Blocks access to the configuration tab.
- **Auto refresh**

Communication settings

Setting of the communication between Regio tool and controller



We suggest serial communication with E Cable-RS485 or E Cable-USB as a standard.

TCP/IP communication

The -T-models in the Regio Maxi series (RCP100T, RCP100TF, RCP200T, RCP200TF) have a TCP/IP port, and can communicate via a TCP/IP network. Select **Use a TCP/IP port in this controller**. There are three ways to connect a controller with a TCP/IP port to a network for communication with a main computer:

1. Crossover network cable
2. Automatically by DHCP (dynamic IP address)
3. Static IP address

1. Crossover network cable

In the most basic case, a crossover network cable, E Cable-TCP/IP, is used. The user is connected directly to the controller. Connect a crossover TCP/IP-cable directly between the controller and the computer. Start Regio tool. Open the tool "Communication settings" from the menu "Tools" or via the icon in the toolbar.

Choose "Use a TCP/IP port in this controller". The program will ask if you are using a crossover network cable. Answer "Yes" to this question. The program will now search for controllers. Since no DHCP is available, a "broadcast" address will be used. Therefore, it is important that the computer is only connected directly to the current controller with a crossover Cat5-cable. If the search was successful, the controller's IP-settings will be shown: IP address, Subnet mask and Default Gateway (if there is one). If no values are shown: press "Search". A search window will be opened and hopefully the controller's TCP/IP card will be found and its serial number will be shown in the window. Select the row and press "OK".

If the program cannot find a controller:

- Control the cable and contacts.
- Control if there are more active network connections (Control panel/Network connections). Inactivate all except the "Local area connection".
- Press "Search" again.

Enter the IP address, the Subnet mask and, if any, the Gateway for the controller and press "Load TCP/IP-settings".

A message will be shown when the loading is successful. Press "OK". You may get a message that a TCP/IP-connection has been established, but a controller with the address 254:30 could not be found. Instead, a controller with another PLA:ELA address has been found. Answer "Yes" to the question whether this controller should be used instead. Regio tool can now be used for configuration/downloading/upgrading/synchronisation etc.

If the message "Cannot read index variable 255:30.QSystem.PLA. Not responding." is shown, there is no connection between the controller's TCP/IP card and the operating system EXOreal on the controller's base circuit board. This may be due to an old EXOreal-version combined with a certain version of components on the TCP/IP card. The problem can be solved by loading the latest EXOreal-version to the controller. However, to do this a connection must first be established (catch-22). By "Powering up" and "Searching" multiple times, you may be able to establish a connection. Otherwise, the controller must be sent to Regio for upgrading.

2. Automatically by DHCP (dynamic IP address)

In this case, you choose the standard setting Obtain IP settings automatically (by DHCP).

This configuration is suitable for most networks equipped with a DHCP server, and, above all, when it is required that the controllers are assigned their addresses dynamically.

The following requirements have to be fulfilled:

- The DHCP server and the DNS server must cooperate since the controller sends its DNS name to the DHCP server. The Windows 2000 Server and the Windows 2003 Server support this. The DHCP server gives the controller an IP address and registers the IP address and the DNS name in the DNS server.
- Each DNS name must be unique.
- The EXOline-TCP port, 26486, must be open from the controller to the main computer. This is especially important when the communication passes through a firewall.

When the controller and the computer running Regio tool are on the same subnet, you do not have to specify a DNS name or a Domain. When the controller and the computer are on different subnets, you have to specify the DNS name and the Domain. You get the domain name from the network administrator.

3. Static IP address

In this case, the static IP address of the controller is specified.

This configuration is most suitable for networks without a DHCP Server. You can also use it if you do not trust the network services completely, as it is the communication that has the best qualification to work when servers etc. do not. As long as routers and switches work well, this configuration alternative will work.

The following requirements have to be fulfilled: The EXOline-TCP port, 26486, must be open from the main computer to the controller. This is especially important when the communication passes through a firewall.

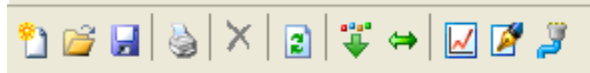
You get the static IP address, Net Mask and Default Gateway from the network administrator.

4.5 Help

Gives access to help texts and revision information.

Chapter 5 Toolbar

The toolbar provides shortcuts to some frequently used commands.

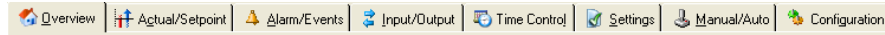


By placing the cursor over a tool icon, a tool tip will be displayed giving a short description of the tool.

All the tools have been described in the chapter *Menu bar* above.

Chapter 6 Folder tab

The folder tab consists of the following folders:



The contents of the various folders depend on for which Regio model the program has been configured. Therefore, the contents will not be described in detail here.

Items in a folder that somehow belong together are grouped. Group names are displayed in bold. The groups are normally shown expanded, that is that all the items in the group are displayed, headed by the group name. A group can be compressed to show only the group name by clicking on the box with a - (minus) to the left of the group name. For a compressed group the box will contain a +. Click on it to expand the group.

Setting values

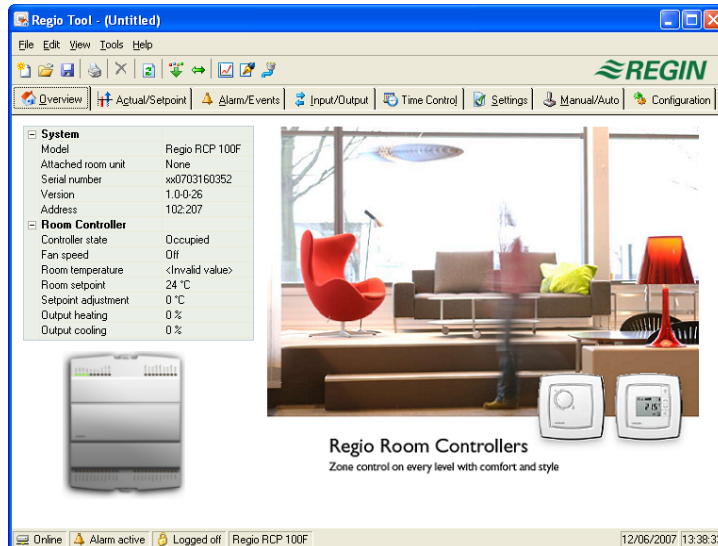
Many of the folders contain settable values. If you pass the cursor over such a value a text box (tool tip) will be displayed showing the permitted value interval.

If you have a Regio controller connected you must download a value to the controller for it to become active.

Downloading can be done in several ways:

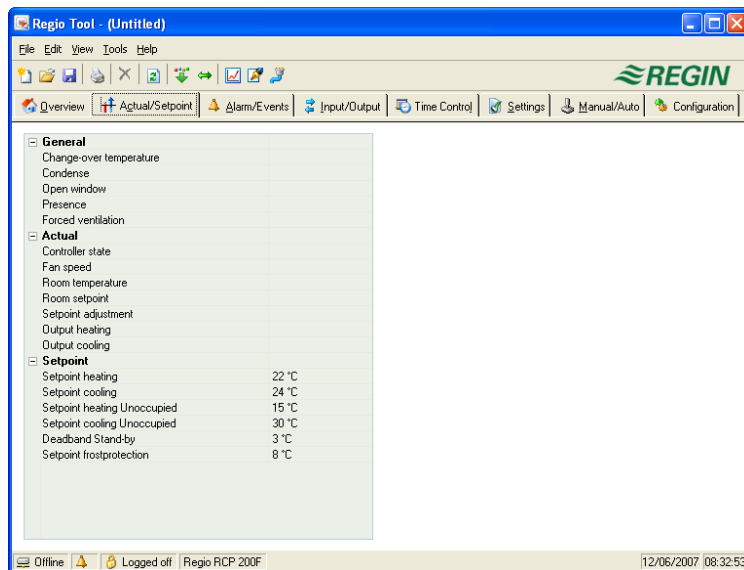
- Right-click on any single item and choose *Load parameters*. This will download only that single parameter.
- Right-click on a group name and choose *Load parameters*. This will download all parameters in the chosen group
- Click on the *Load all parameters* button on the toolbar.
- Click on *Tools* in the Menu bar and choose *Load all parameters*. These last two methods will, as the name implies, download all parameters to the controller.
- You can also synchronise parameters following the same rules as above but choose *Synchronize parameters*. A useful tool to compare the settings in the controller with the settings in Regio tool.
- It is also possible to reset parameters to default values by right-clicking and choosing *Reset parameters to default values*.

6.1 Overview



At the left-hand edge of the Overview area there is a list of the most important control parameters. To update the values, press F5 or click on the refresh button in the toolbar.

6.2 Actual / Setpoint



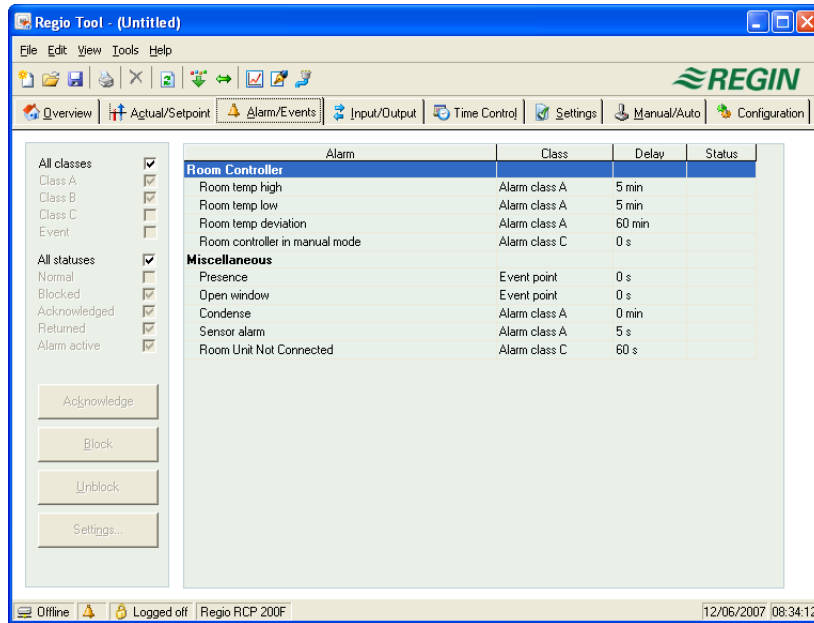
Displays actual values for inputs and outputs and relevant setpoint values.

Actual and setpoint values must be downloaded to the controller in order to take effect. To download, right-click on a value and choose *Load parameters*, or click on *Load all parameters* in the Toolbar or the Tools menu. You can also synchronise the controller values with the computer values by selecting *Synchronize all parameters* in the menu Tools.

Real time chart

When right-clicking on some of the groups you are given the option of creating a real time chart. This chart will be created containing the four first recordable parameters in the group.

6.3 Alarms/Events (Only RCP controllers)



Permits handling of all enabled alarms.

The alarm settings can be changed by either double-clicking on the alarm you wish to change or by marking the alarm and then clicking on the button *Settings*.

Alarm settings can also be changed in the folder *Settings/Alarm Settings*.

Changes made to alarm settings must be downloaded to become active.

- **Non-activated alarms** are shown with a green status box
- **Active alarms** have a yellow, red-bordered box with an exclamation mark.
- **Reset, not acknowledged alarms** have a white, red-bordered box.
- **Active, acknowledged alarms** have a blue box with a white tick-mark.
- **Blocked alarms** have a gray box with a black X.

Any changes made to alarm status in Regio tool are instantly transmitted to the controller without the need to use *Load parameters*. However, changes in alarm status in the controller are not displayed in Regio tool until you make a refresh.

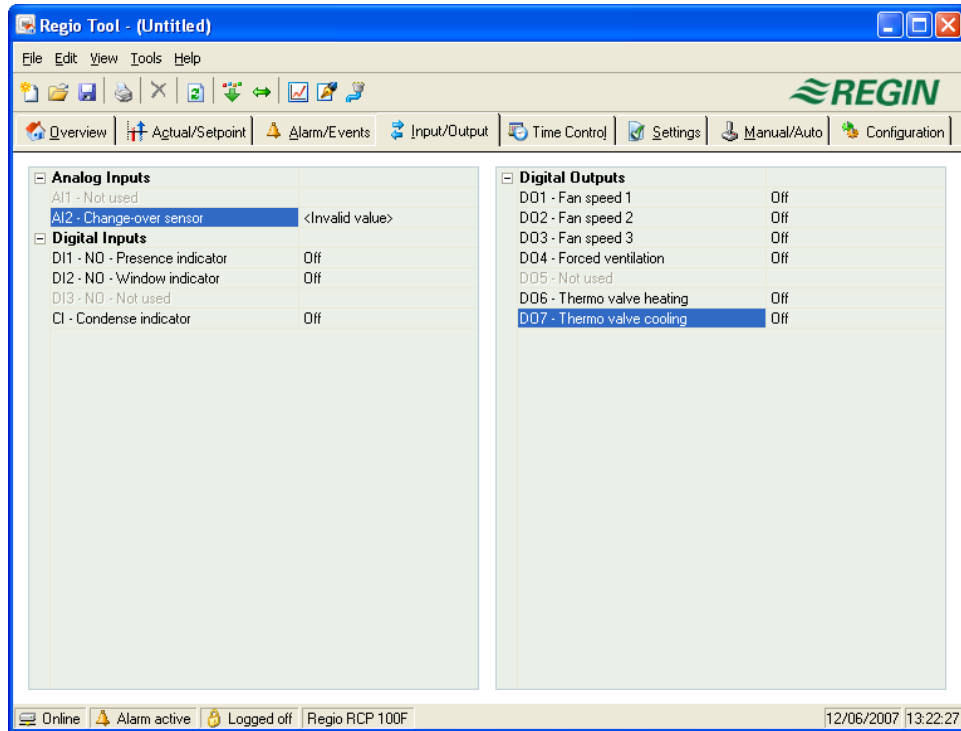
To keep track of changes in alarm status when looking at other folders, look at the alarm box in the status bar at the bottom of the window.

A and B alarms will activate the digital outputs A-alarm and B-alarm respectively if configured. Both will activate the Sum alarm output if configured.

C alarms are internal only. C alarms need not be acknowledged. Once they reset, they automatically return to normal status.

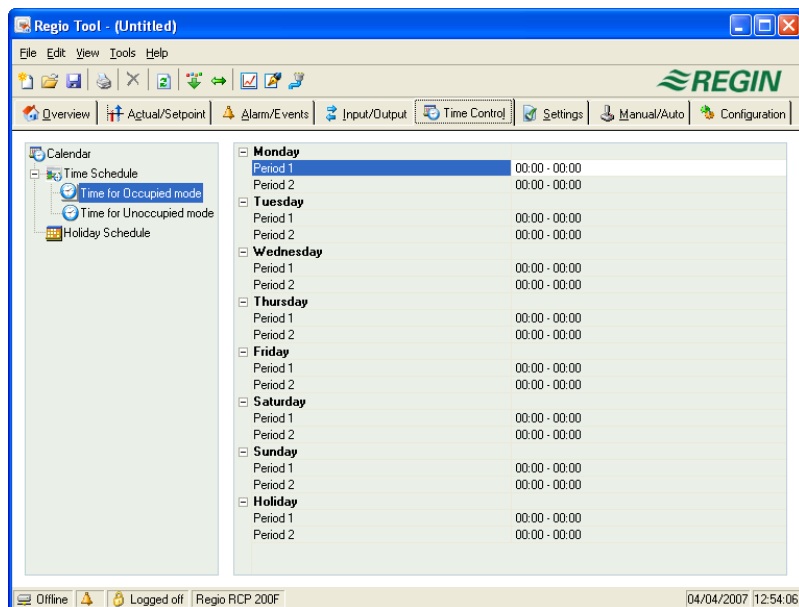
Alarms can be shown according to class: A, B, C, All classes or Event. They can also be shown according to status: Normal, Blocked, Acknowledged, Returned, Alarm active and All statuses.

6.4 Input/Output



Shows actual values for all inputs and outputs. This is a read-only folder. No settings can be made here. Unconfigured inputs and outputs are grayed.

6.5 Time control (Only RCP controllers)



Here you set the daily comfort periods.

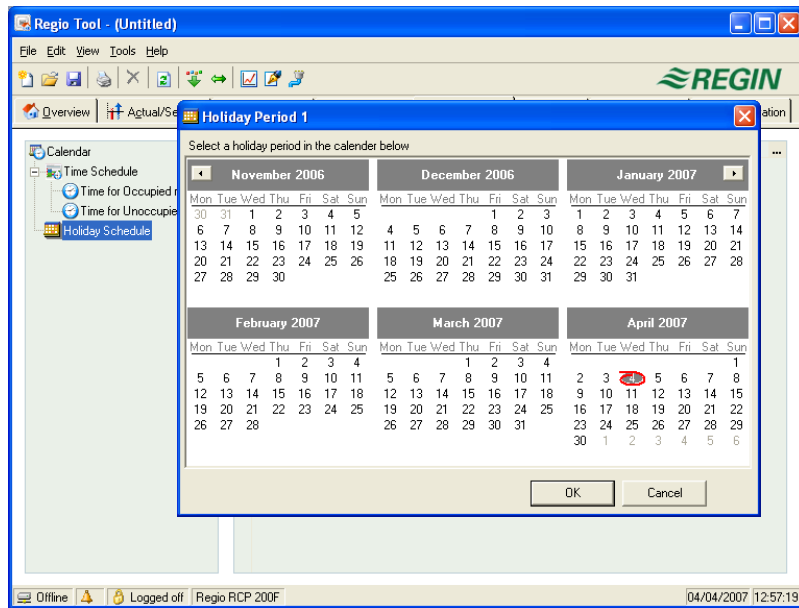
Each control function has its own set of daily schedules

For each day there are two periods.

Should the running periods for Occupied and Unoccupied mode overlap, Occupied will take precedence.

The 8th day, *Holiday*, governs the activity on all days marked as holidays in the holiday calendar, see below.

Holiday schedule



Up to 24 separate holiday periods can be configured. A holiday period can be anything from one day up to 365 consecutive days.

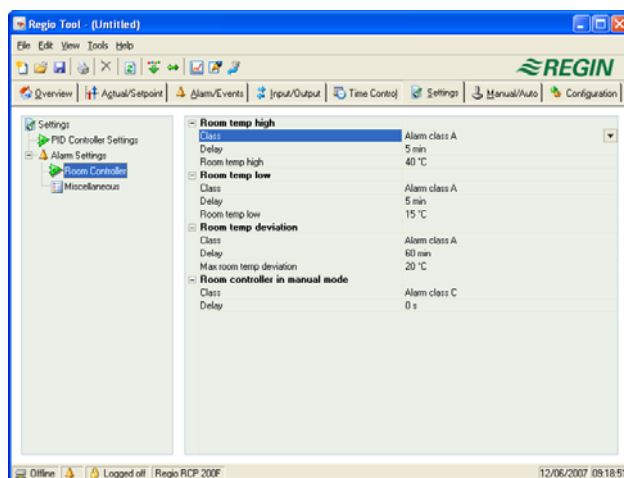
To create a holiday period, click on the button at the right hand end of the line *Add holiday period*. To pick a single date, click on it, a marker will indicate your choice, then click on OK. To pick a period, click and hold on the first date, drag the cursor to the last date and release the button. The period will be marked. Click OK. Alternatively, click on the first date, depress and hold the shift-key on your keyboard and click on the last date of the period. The full period should be marked. Click OK.

Although the calendar seems to extend far into the distant future, holiday periods can only extend up to one year from the present date. Should you choose a date further ahead than one year, the date will be replaced by the same date within one year from the present.

To remove unwanted holiday periods, use the delete button in the toolbar.

Holidays/holiday periods that have been set will be valid every year, until they are removed. This means that for example Christmas and New Year will only have to be set once and are then valid for all future.

6.6 Settings



PID Controller Settings

Setting of the parameters P-band and I-time.

Parameter setting-interval endpoint values and default values are displayed if you place the cursor over a parameter value.

Changes must be downloaded to the controller in order to take effect. To download, right-click on a parameter name or a parameter group name and choose *Load parameters*, or click on *Load all parameters* in the Toolbar or the Tools menu.

Alarm Settings / Room Controller / Miscellaneous

Setting of alarm parameters.

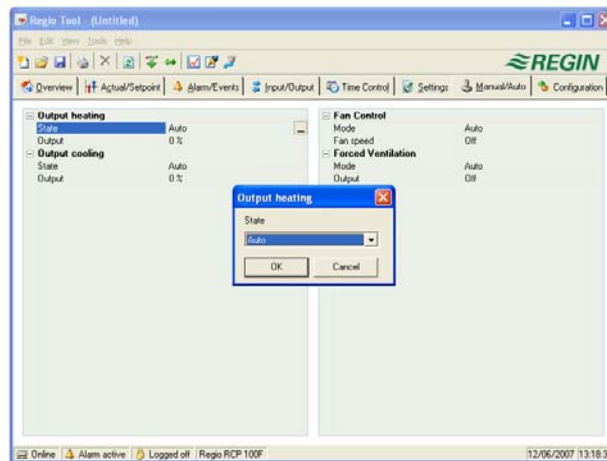
These settings can also be made in the Alarm status folder. See the section on Alarm status above.

Disabled alarms will be removed from the alarm list in the Alarm status folder.

A and B alarms will activate the digital outputs A-alarm and B-alarm respectively if configured. Both will activate the Sum alarm output if configured.

C alarms are internal only.

6.7 Manual / Auto



In this menu you can take manual command of most controller functions. It is very useful for testing purposes.

Setting functions to manual command will generate alarms to ensure that control is returned to Auto.

In this menu all changes are instantly downloaded to any attached controller, it is not necessary to run *Load parameters* for the changes to take effect.

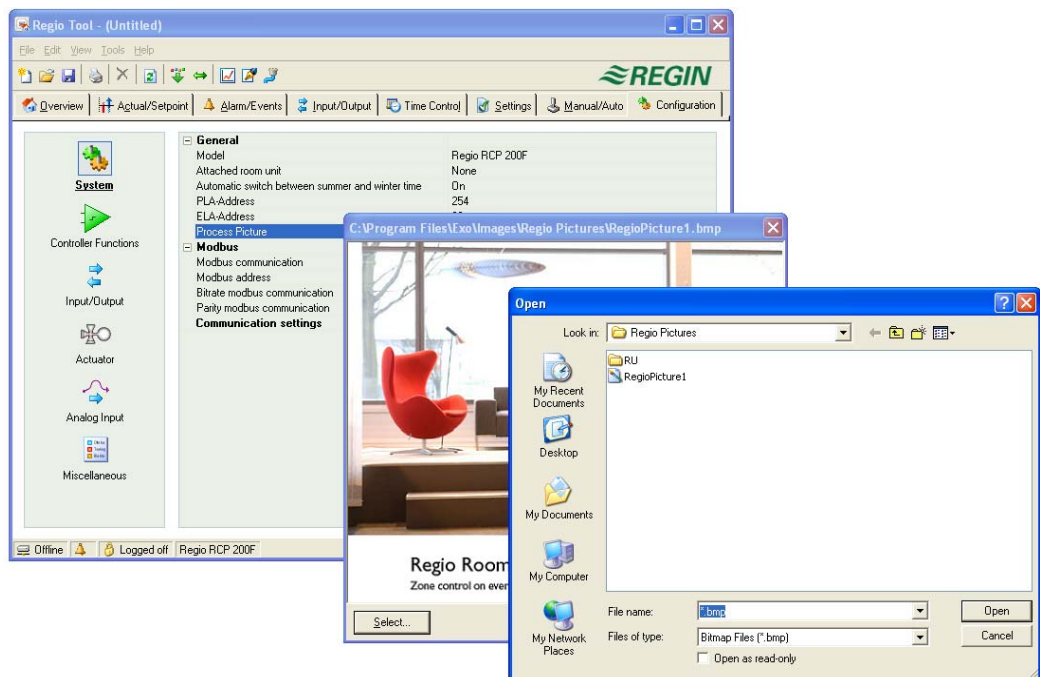
6.8 Configuration

This folder contains all the configuration parameters for the Regio controller. Since the contents are very diverse, the folder has been divided into sub-folders. These are accessed by clicking on the buttons in the left-hand button-list.

Only relevant configuration alternatives are shown. Which alternatives are relevant depends on what has been configured in the Input/Output folder and under Controller Functions in the Configuration folder.

No controller has the Regio tool.default address (PLA=254, ELA=30). Instead, each controller has a unique address on delivery. This address should be entered instead of the Regio tool default address.

In the Configuration folder, it is possible to change the picture shown in the Overview area. Under System/Process Picture, you can choose a picture in the bmp format as process picture.



Chapter 7 Updating Regio

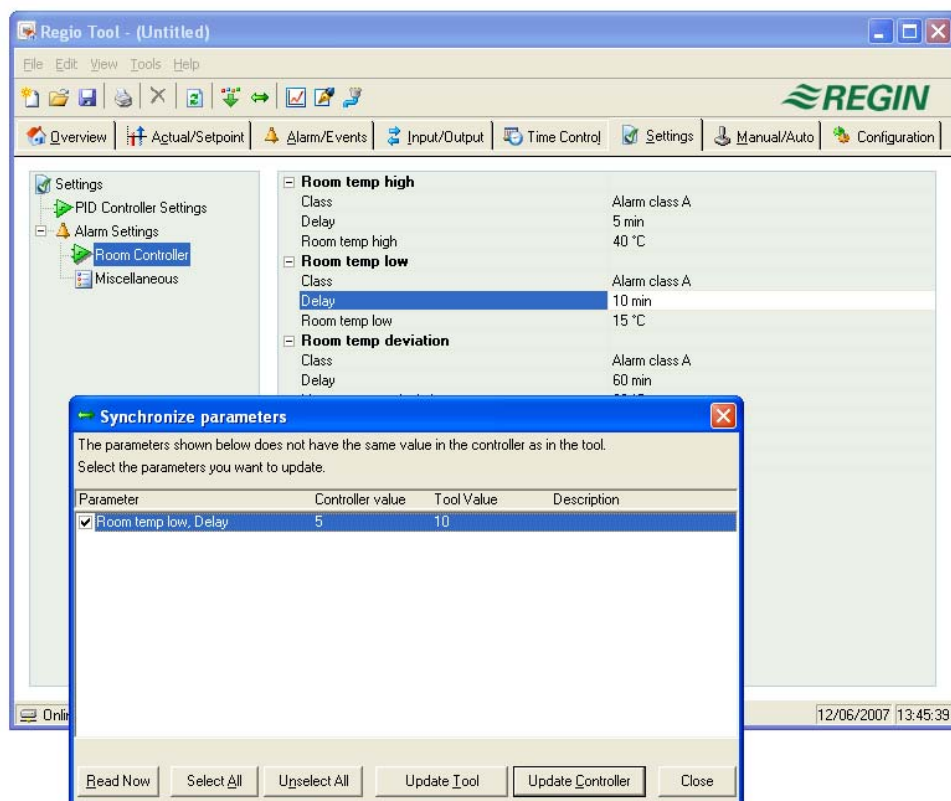
Regio tool should always be updated with the latest program revision. If you are using the latest revision of Regio tool and connect it to a Regio controller with an older program revision, Regio tool will give a warning and offer two alternatives.

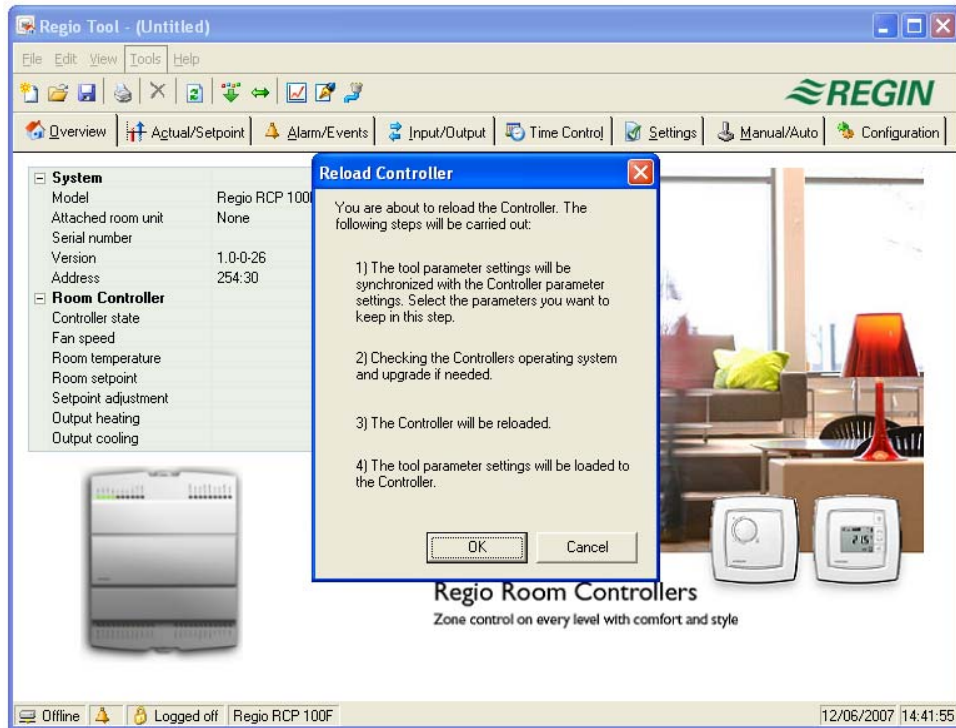
One alternative is to temporarily downgrade Regio tool to a revision corresponding to the revision in the controller. All the settings in the controller will remain intact and the controller will keep its revision.

The other alternative is to upgrade the controller to the same revision as Regio tool. This will cause the Regio-unit to temporarily stop working. Any previous settings will be permanently lost.

Take the following actions to avoid having to configure again:

1. Start Regio tool and connect it to the controller. When asked, choose to downgrade Regio tool to the controller's revision. The controller's parameter settings will then be transferred to the tool Regio tool.
2. Select *Synchronize all parameters* in the menu Tools. Then select *Update Tools*. Regio tool should now contain an exact copy of the configuration in the controller. Select Save as in the menu File and save the configuration under a suitable name.
3. Close Regio tool. Then open it again and choose to reload the controller with a new revision.
4. After reloading, open the saved configuration file, synchronize all parameters and then select *Update the controller*. The controller should now have the latest revision and be configured as it was before the upgrade. Make sure that the settings of the parameters that were not available in the old revision have suitable values.





Chapter 8 Index

A

- About the manual
 - More information, 4
- Actual/Setpoint, 17
- Alarm Settings/Room Controller/Miscellaneous, 21
- Alarms/Events, 18

C

- Change controller addresses, 9
- Change password, 10
- Communication settings, 12
- Configuration, 21

D

- Delete, 8

E

- Edit, 8
- Exit, 7

F

- File, 7

H

- Holiday schedule, 20

I

- Input/Output, 19

L

- Load all parameters, 9
- Log off, 10
- Log on, 10

M

- Manual/Auto, 21
- More information, 4

N

- New, 7
- Notes, 12

O

- Open, 7
- Options, 12
- Overview, 17

P

- PID Controller settings, 21
- Print, 7

R

- Read only, 7
- Real time chart, 10, 17
- Refresh, 8
- Reload controller, 10
- Reset all parameters to default values, 9

S

- Save, 7
- Save as, 7
- Search for controllers, 9
- Set controller date and time, 9
- Setting values, 16
- Settings, 20
- Synchronize all parameters, 9

T

- Time control, 19
- Tools, 9

V,W

View, 8



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