Operating Instructions

Room controller



Logamatic EMS

RC35 user interface

For the user

Please read carefully before use.



Overview of operation

Legend for figure:

- 1 Cover: Pull the recessed grip on the left to open
- 2 Display
- 3 Dial for changing values and temperatures or for navigating through the menus



4	Buttons for basic functions:	When the LED lights up
AUT	"AUT" (automatic)	• the program is active (automatic switchover between day and night room temperatures).
*	"Day mode" (manual)	• the heating system operates at the set day room temperature. DHW heating is switched on (factory setting).
0	"Night mode" (manual)	 the heating system operates at the set night setback room temperature. Frost protection is active. DHW heating is switched OFF (factory setting).
Þ	"DHW" (domestic hot water)	 the DHW temperature has fallen below its set value while in setback mode. The DHW can be heated up again (single change) by pressing the button (the LED will then flash).
5	Buttons for	Function:
5	Buttons for additional functions:	Function:
5 Menu OK	Buttons for additional functions: "Menu/OK"	Function: Open the user menu and confirm the current selection.Turning the dial while pressing the button will change the value.
5 <u>Мепи</u> ок	Buttons for additional functions: "Menu/OK" "Time"	Function: Open the user menu and confirm the current selection.Turning the dial while pressing the button will change the value. Set the time.
5 Menu OK	Buttons for additional functions: "Menu/OK" "Time" "Date"	Function: Open the user menu and confirm the current selection.Turning the dial while pressing the button will change the value. Set the time. Set the date.
5 Menu OK	Buttons for additional functions: "Menu/OK" "Time" "Date" "Temperature"	Function: Open the user menu and confirm the current selection.Turning the dial while pressing the button will change the value. Set the time. Set the date. Set the room temperature.
5 Menu OK	Buttons for additional functions: "Menu/OK" "Time" "Date" "Temperature" "Info"	Function: Open the user menu and confirm the current selection.Turning the dial while pressing the button will change the value. Set the time. Set the date. Set the room temperature. Open the Info menu (to view values).

In automatic mode, an additional LED lights up with the "AUT" LED to indicate which operating status is currently active ("day mode" or "night mode"). The "domestic hot water" LED can also be disabled.

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1 Explanation of symbols and safety instructions

1.1 Explanation of symbols

Warnings



Warnings in the text are indicated by a warning triangle with a gray background in a framed box.



In case of danger due to current, the exclamation point on the warning triangle is replaced with a lightning symbol.

Signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimizing damage are not taken.

- NOTE indicates that damage to property may occur.
- CAUTION indicates possible minor to medium personal injury.
- WARNING indicates possible severe personal injury.
- **DANGER** indicates that severe personal injury may occur.

Important Information

Important information that presents no risk to people or property is indicated with this symbol. They are separated by lines above and below the text.

Additional symbols

Symbol	Explanation
•	Sequence of steps
\rightarrow	Cross-reference to other points in this document or to other documents
•	Listing/list entry
-	Listing/list entry (2nd level))

Tab. 1

Display text: Words appearing on the display are shown in **bold** in the text.

Example: USER MENU



Action sequences: Sequences of steps are marked with a triangle with its point towards the text.

Example: ► Press (Menu)/OK .

If action sequences have more than two steps and the order of the steps is important, they are numbered (1., 2., ...).



1

Note on using this manual: Section 5.1 "Introduction to the User menu" explains in detail the steps needed for programming all the settings in the Service menu. In the sections which come after it, programming is only exexplained in outline.

1.2 Safety instructions

Installation and commissioning

- ► Observe all instructions to ensure satisfactory operation.
- ▶ Read and observe the safety information and codes of conduct!
- Installation and commissioning must only be carried out by qualified and trained system installers.

Use

- ► Always use this device correctly and in conjunction with the stated control systems.
- Observe all regulations, standards, and codes applicable to installation and operation of the system in your country.

Risk of death from electric shock

- The electrical supply must be connected by a qualified electrician. The terminal diagram must be followed.
- Before installation: isolate all poles of the power supply (120 V AC).
- ▶ Do not install this device in rooms with high moisture exposure (e.g. bathrooms, saunas).
- Never directly connect this device to the 120 V AC power mains.

Risk of scalding at the taps

Make sure that a thermostatic mixing valve is installed and that it is set to temperatures below 122 °F (50 °C).

Warning: frost

The heating system can freeze up in cold weather, if switched OFF or locked out.

- Leave the heating system permanently switched ON.
- Enable frost protection.
- In the event of a fault: remedy the fault immediately.

Warning: device damage

The RC35 has no field serviceable parts inside. Any attempt to open the housing will cause internal damage, render the device inoperable, and void the manufacturer's warranty.

In case of system irregularities please consult the 7 "Troubleshooting" section of this manual.

2 Getting started

Initial situation: the cover is closed.

What do I do	Operation	Display/result
if it is temporarily too cool/warm in the entire home on a particular day?	 Turn the dial . The current room temperature setting starts flashing. Use the dial to set the desired room temperature. Release the dial. The modified room temperature is saved (and stops flashing). The standard display appears again. In automatic mode, the modified room temperature remains active until the next 	SET ROOM TEMPERATURE Until next switch point, room temp. changed to: . 70'°F .
if it is permanently too cool/warm? → change room temperature and activate automatic mode	 Switchover between hight/day mode. To change the day room temperature: hold down the button and turn the dial at the same time. To change the nighttime room temperature: hold down the at the same time. To change the nighttime room temperature: hold down the at the same time. Activating the automatic mode is recommended: 	SET ROOM TEMPERATURE Room temperature setting for day mode. . 69°F ;
	Press the (aur) button. The modified room temperatures are saved. The LED next to the button (aur) lights up.	Change between: day: 69°F night: 63°F

Tab. 2	Getting started -	- room	temperatures
--------	-------------------	--------	--------------

What do I do	Operation	Display/result
for a single boost outside the usual times (outside of the program)? → manual day mode ("continuous heating"); automatic mode is switched off	 Activate manual day mode: press the button. The LED next to the button ights up. To end the temporary heating phase: Activate automatic mode again: press the automatic mode again: press the automatic number of a phase. The LED next to the button are lights up. 	You have selected day mode. The room temperature set is: 69°F
to save energy during long absences? → manual night mode ("permanently setback"); automatic mode is switched off	 Activate manual night mode: press the (C) button. The LED next to the C) button lights up.¹⁾ When you return: Activate automatic mode again: press the ^{Aur} button. The LED next to the button ^{Aur} lights up. 	You have selected night mode. The room temperature set is: 57°F

Tab. 2 Getting started – room temperatures

 If "shut-down mode" is selected as the night reduction mode, the heating system is switched off at night. A night room temperature cannot be set. The display will show a message to that effect.

In the case of large heating systems with multiple heating zones, note the following: The modifications in room temperature described above apply to all heating zones assigned to the RC35 user interface (these are the **RC35 heating zones** \rightarrow page 26). This is the normal setting.

However, if you wish to change the room temperature for other heating zones: read page 38.

Getting started - additional functions

1

Some of the following functions are accessible via the User menu. To learn how to use this menu, read the section starting on page 23.

Buderus

What do I do	Operating Instructions	Display/result
to save energy when on vacation?	 Set vacation mode in the User menu (→ page 41). 	
to change the vacation temperature?	 Requirement: vacation mode is active. Turn the dial O. The room temperature is changed for the rest of the vacation period. 	SET VACATION MODE Room temperature set for vacation mode: 57°F ;
in summer (DHW only, no central heating)?	 The control unit switches automatically between summer mode and winter mode, triggered by temperature. However, if you want to switch the system over manually: ► Turn the	Example shown here: the BC10 on the boiler
if I feel too cool or too warm in spring or fall?	 Change the setting for the summer/winter switchover threshold in the User menu (→ page 40). -or- Use manual mode. 	
when the time changes to/from daylight savings time?	Adjust the clock manually forward or backward (\rightarrow page 40).	
if my day/night rhythm changes (e.g. shift work)?	 Select a different program in the User menu (→ page 31). If necessary, adjust the program to suit your needs: change, insert or delete switch points (→ page 35). 	
to change the contrast on the display?	► To change the contrast: hold down the buttons ↓ and info and turn the dial → at the same time.	

Tab. 3 Getting started – additional functions

3 Product description

3.1 Product description

The RC35 user interface makes it easy to operate your Buderus heating system. You can set the room temperature for your entire home using the dial.

The automatic mode with its adjustable programs ensures energy-saving operation by reducing the room temperature at certain times or shutting down heating completely (adjustable night setback). The heating system is controlled in such a way that you benefit from optimum heating comfort and minimum energy consumption.

3.2 Intended use

The RC35 control unit is intended for the operation and control of Buderus heating systems in single and multi-family houses.

The boiler must be equipped with EMS (energy management system). Keep the RC35 user interface connected to the heating system at all times (only emergency operation is possible without it).

3.3 Certifications



This product has been tested and is certified for both the US and Canadian markets, and meets all applicable US and Canadian standards.

3.4 Cleaning

▶ The user interface should only be cleaned with a damp cloth.

3.5 Disposal

- ► Dispose of packaging in an environmentally-responsible manner.
- ▶ When replacing components, dispose of the old part in an environmentally responsible manner.

4 Basic operation

4.1 Display

The display on the RC35 user interface presents the following elements during normal operation:



Fig. 1 Elements on the display

- 1 Top information row: standard display (factory setting: date and time)
- 2 Large display of room or boiler temperature
- 3 Lower status row: displays various operating modes and indicates any error messages or service messages
- 4 Solar symbol (when solar heating system is installed and active)



You can set which value is shown permanently in the first row of the default display (**standard display**) (\rightarrow Fig. 1, [1]) (\rightarrow page 29).



If the user interface is installed on the boiler, the room temperature cannot be recorded. Instead of the room temperature (\rightarrow Fig. 1, [2]) the display then shows the boiler temperature (**boiler**).

4.2 Notes on functional scope

These instructions describe all the possible functions of the RC35. Some of these functions may not be available, depending on which boiler (burner control unit) is used. For more information, refer to the relevant chapter. Contact your heating contractor for further details. To find out which version of burner control unit you have (in this case: UBA3.5) go to the Info menu under **INFO\VERSIONS** (→ page 20).

INFO\VERSIONS	
RC35	1.02
UBA3.5	1.21

4.3 Setting the operating mode

You can set the operating mode directly by pressing the button shown:

Operating mode	Button	Meaning	
automatic (recommended setting)	AUT	The program is active. The system will switch over automatically between day mode and night mode at a set time (the switch point). ¹⁾ At night the heating system will operate with a reduced room temperature (this is the factory setting; shutting down at night is also possible). Heating of domestic hot water (DHW) is ON during the day and OFF at night (factory setting). The LED for the Automatic button is lit up, along with the LED for either day or night mode, depending on which is currently active.	
continuous heating (manual day mode)	A	The factory setting is 70 °F (21 °C). The manual day mode is useful if you want to heat the home occasionally outside of the usual times. The automatic mode is disabled.	
		DHW heating is OFF (factory setting).	
permanently setback (manual night mode)		system will operate with a reduced room temperature (this is the factory setting; shutting down at night is also possible). The manual night mode is useful if you are occasionally absent for long periods. The automatic mode is disabled.	
		DHW heating is OFF (factory setting).	
		Only the night mode LED is lit up.	

Tab. 4 Description of the operating modes

1) The automatic day and night modes correspond to the manual day and night modes. The only difference lies in the automatic switchover.



The settings made using the buttons above apply to all heating zones assigned to the RC35 user interface (these are referred to as the "**RC35 heating zones**" \rightarrow page 26). To set the operating mode for other heating zones: use the **User menu\modes of operation** (\rightarrow page 29).

4 Basic operation

4.4 Changing the room temperature temporarily

Follow this procedure if you only want to change the room temperature up until the next switch point. At the switch point, the automatic mode will switch the system over between day and night modes (\rightarrow page 31). The heating system will then go back to the normal room temperature setting.

Initial situation: the cover is closed.

	Operation	Result	
1.	Turn the dial 🖰.	Fr 12/02/2009 10:20am	
	The current room temperature setting starts flashing.		
	Turn the dial of further. Turning the dial clockwise increases the room temperature, turning counter-clockwise lowers it.	71°F	
2.	When you have reached the desired room temperature: release the dial.	INFO\ROOM\HTG.ZONE 1 room temperature	
	The modified room temperature is saved (and stops flashing). The standard display reappears.	set: 68.9°F measured room temperature: 69.0°F	
In manual mode, the LED next to the Aur button is not lit up. In this case the modified room temperature will be effective until you press one of the buttons Aur 🛞 🛞 .			

Ending a temporary change in room temperature

- To return to automatic mode: press (AUT).
 The automatic program uses the temperatures normally set for day and night mode.
 -or-
- ► To return to manual mode: press either (☆) or (①). The temperatures normally set for day or night mode will be used.

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4.5 Changing the room temperature permanently

 \triangle

NOTICE: Risk of system damage due to freezing.

If room temperatures are set below 41 °F (5 °C), rooms may cool down so much that pipes in external walls (for example) may freeze in cold weather.

► Set room temperatures higher than 41 °F (5 °C).

	Operation	Result
1.	To change the daytime room temperature: hold down the 🛞 button and turn the 🕜 dial at the same time.	SET ROOM TEMPERATURE Room temperature setting for day mode. ; 69°F ;
2.	Changing the nighttime room temperature ¹⁾ : Hold down the button and turn the dial at the same time.	SET ROOM TEMPERATURE Room temperature setting for night mode. . 63°F ;
3.	We recommend activating the automatic mode. The automatic mode ensures automatic switchover between day and night mode (night setback). Press (aur).	Automatic mode selected. Change between: day: 69°F night: 63°F
The	automatic mode is now active with the modified room temperatu	res. The LED next to the

1) If "shut-down mode" is selected as the nighttime reduction mode, the heating system will be switched off at night. A night room temperature cannot be set. The display will show a message to that effect.

4.6 Setting the room temperature for particular heating zones

You can use the \downarrow button to set the room temperature for selected heating zones if your heating system is equipped with multiple heating zones (\rightarrow page 27).

No selection is possible if there is only one heating zone to choose from. All **RC35 heating zones** have the same room temperature settings.

If no selection is possible or if you select **RC35 heating zones**, you will be setting the same temperatures as described on page 15.



NOTICE: Risk of system damage due to freezing.

If room temperatures are set below 41 °F (5 °C), rooms may cool down so much that pipes in external walls (for example) may freeze in cold weather.

- ► Set room temperatures higher than 41 °F (5 °C).
- Open the cover (by pulling the recessed grip on the left).
- ▶ Press and release.
- Select the heating zone (→ page 26 28). Heating zone selection is not available if there is only one heating zone installed.
- ► To change the day room temperature: hold down the ⊥ button and turn the dial at the same time.
- ▶ Turn the dial () to switch to the nighttime room temperature.
- ► To change the nighttime room temperature: hold down the ⊥ button and turn the dial ^(*) at the same time.
- Press Several times or shut the cover to return to the default display. The modified room temperatures are now active.



If "shut-down mode" is selected as the night reduction mode, the heating system will be switched off at night. A night room temperature cannot be set. The display will show a message to that effect.

4.7 Setting the date and time

Your heating system requires the date and time to operate correctly. The clock keeps running for about 8 hours in the event of a power failure. If a power failure lasts longer than that, the display will indicate that you need to reset the date and time.

To set the date:

- 1. Open the cover (by pulling the recessed grip on the left).
- 2. Press []]. The year starts flashing.
- 3. To set the year: hold down the 🔟 button and turn the dial at the same time.
- 4. Release the button. The year is saved.
- Repeat steps 2 to 4 to set the month and day. The set date is shown briefly. The standard display then re-appears.

To set the time:

- 1. Press (\bigcirc) . The hours start flashing.
- 2. To set the hours: hold down the (\bigcirc) button and turn the dial at the same time.
- 3. Release the button. The hours are saved.
- 4. Repeat steps 1 to 3 to set the minutes.

The set time is shown briefly. The standard display then re-appears.

4.8 Setting functions for domestic hot water

Risk of scalding from domestic hot water temperatures over 122 °F (50 °C)!



WARNING: Risk of scalding!

The factory setting for DHW temperature is 140 °F (60 °C). There is a risk of scalding at the taps if no thermostatic mixing valve is installed.

 Make sure that a thermostatic mixing valve is installed and that it is set to temperatures below 122 °F (50 °C).



WARNING: Risk of scalding!

During the thermal disinfection process, the domestic hot water is heated to temperatures above 140 °F (60 °C).

Make sure that a thermostatic mixing valve is installed and that it is set to temperatures below 122 °F (50 °C).

What function? What is it for?	Operation
	Initial situation: the cover is closed.
Changing DHW temperature In the factory settings, hot water is available during the heating phases (day mode) of the selected program. The water in the hot water tank is heated once in the morning for 30 minutes before home heating starts.	 To change the DHW temperature: hold down the

Tab. 5 Setting functions for domestic hot water

What function? What is it for?	Operation
Heating up DHW once During day mode, domestic hot water is only reheated again automatically when its temperature has fallen by 9 °F (5 °C) below the set DHW temperature (to save energy). If you need large amounts of hot water after hours, you can heat up the hot water once again.	 If the LED²⁾ for the (→ button lights up, the DHW temperature has fallen below the set value. To heat up the hot water manually: press the (→ button. The LED on the button (→ starts flashing²⁾. The heating phase starts; it ends automatically as soon as the set temperature has been reached. If no heating is necessary (because the water is still hot), a message will appear. Only the DHW recirculation pump will start up (if installed) to transport the hot water more quickly to the taps. If you want to stop the heating process: press (→ again.
Heating up DHW regularly	If you regularly need large amounts of hot water outside the set times for day mode, you can set a separate program for domestic hot water (→ page 39).
Switching thermal disinfection on/off	 Set thermal disinfection (→ page 45).
This function heats up the domestic hot water to a temperature sufficient to kill pathogens (e.g. legionella).	

Tab. 5Setting functions for domestic hot water

1) The setting depends on the boiler used.

2) The "domestic hot water" LED may also have been deactivated by the heating contractor.

4 Basic operation

4.9 Reviewing information (Info menu)

You can use the Info menu to view set values and recorded values. The exact information available depends on the components installed in your heating system.

	Operation	Result
1.	Open the cover (by pulling the recessed grip on the left).	Fr 12/02/2009 10:20am 71[°]F
2.	Press to open the INFO menu. The display will show the message at right for five seconds. It then moves on automatically. -or- Turn the dial to move immediately to the next display.	Turn the dial to obtain system information.
3.	Turn the dial ^(*) to view additional information.	INFO\ROOM\HTG.ZONE 1 room temperature set: 68.9°F measured room temperature: 69.0°F
4.	To exit the Info menu: press the D button or close the flap. The standard display reappears.	

Tab. 6 How to use the Info menu

DHW message in the Info menu

DHW is switched off at the boiler. This message means that the dial \square on the boiler controller is set to "0".

Set the dial to "Aut"¹⁾. Set to allow water heating to be set from the RC35.

The operating mode buttons have no function in the Info menu.

¹⁾ Setting depends on the boiler used.

Chart displays in the Info menu (outdoor temperature fluctuation and solar yield)

The Info menu gives you the option of viewing graphs showing the fluctuation in outdoor temperature over the past two days and (if solar components are installed) the solar gyield. This way you have a clear overview allowing easy comparison of the relevant values.



Both graphs are updated every 15 minutes and a new graph is started at 12:00 am (00:00) (midnight). Consequently, there will be no display available for the current day between 12:00 am and 12:14 am (00:00 and 00:14). The minimum and maximum values are updated progressively.

Outdoor temperature curve (weather station)

The temperature variation over the current and previous day is shown across two screens. The minimum and maximum values since midnight on the previous day are also shown.

Solar yield ¹⁾

The solar yield display tells you how much the solar collector has contributed to domestic hot water heating. This is determined using the difference in temperature between the storage tank and the solar collector, together with the modulation of the solar pump.

The solar yield is highly dependent on the installed system and its components and therefore cannot be expressed as a value in kWh. This means that the value displayed is a variable specific to this particular system, which cannot be easily compared with other solar heating systems. However it is suitable for comparing the yield on different days.

This information is displayed as a graph for the previous and current day. The solar gain per day and also the weekly total is listed in a table:

SOLAR YIELD THIS WEEK and also for the previous week: SOLAR YIELD LAST WEEK

In both cases the current day is indicated by a flashing dot. This value is updated every 15 minutes (also in the graph for the "current day") and the total is saved at 12:00 h (midnight) as the value for the relevant day. The daily values for the current week (Mo-Su) are also added up every 15 minutes.

The days in the current week which still have not passed are marked with "---". At days where the solar yield could not be determined "**0**" is displayed.

	SOLAR	YIELD	THIS	WEEK
	Mo:	10	Fr:	
	Tu:	115	Sa:	
2	We:	53	Su:	
	Th:		Mo-Su:	178

SOLAR	YIELD	LAST	WEEK
Mo:	10	Fr:	75
Tu:	0	Sa:	102
We:	15	Su:	125
Th:	0	Mo-Su:	327

¹⁾ This function depends on the boiler in use.

4.10 Messages on the display

The controls will display a message if, for example, a particular setting is not available under current circumstances.

When the display shows "continue with any key":

▶ Press any of the buttons to confirm and close the message.

4.11 Shut-down/switching OFF

The RC35 user interface is supplied with power via the heating system and is permanently switched on. It is only switched off if the heating system is switched off, such as for maintenance purposes.

To switch the heating system on or off: set the ON / OFF switch on the boiler to position 1 (ON) or 0 (OFF).



After switching the unit OFF or in the event of a power failure, the date and time are retained for up to 8 hours. All other settings are retained permanently.



-or-

5 User menu

5.1 Introduction to the User menu

The User menu allows you to enter certain settings. The procedure for operation is always the same:

- 1. Open the cover (by pulling the recessed grip on the left).
- 2. Press $\frac{\text{Menu}}{\text{ok}}$ to open the **USER MENU**.
- 3. Turn the dial \bigcirc to change the selected item (marked with \blacktriangleright).
- 4. Press Menu to make your selection.
- 5. To change the value, hold down the dial or button (the value starts flashing) and turn the dial at the same time.

Release the button: the changed value is saved.

6. Press the Ď button to go back one step

press the D button several times or close the cover to return to the standard display.

Example: Setting operating mode continuous heating for heating zone 1

	Operating Instructions	Result
1.	Open the cover (by pulling the recessed grip on the left).	Fr 12/02/2009 10:20am 71[°]F
2.	Press (Menu) to open the USER MENU .	USER MENU ▶standard display modes of operation program WWSD temperature
3.	Turn the dial [*] to the left until modes of operation is selected (marked with).	USER MENU standard display ▶modes of operation program WWSD temperature

Tab. 7 How to use the User menu (example)

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	Operating Instructions	Result
4.	Press $\frac{\text{Were}}{\text{OK}}$ to confirm the selection. The USER\OPERATING MODE menu is opened. The appearance of the display depends on the number of heating zones. If there is only one heating zone installed with no DHW and no DHW recirculation pump, this screen will not appear at all (\rightarrow page 26).	USER\OPERATING MODE ▶heating zone 1 heating zone 2 heating zone 3 domestic hot water
5.	Continue to the next step. Press to select heating zone 1.	
		OPERATING MODE\HZ 1 Which operation mode should be used? automatic
6.	To change the value, hold down the $\frac{\text{Menu}}{\text{OK}}$ button (the value starts flashing) and turn the dial 6 at the same time.	OPERATING MODE\HZ 1 Which operation mode should be used? automatic;
7.	Release the Menu or button. The value stops flashing. The modified value is saved.	OPERATING MODE\HZ 1 Which operation mode should be used? continuous heating
8.	If you have carried out this example as practice only, make sure that the original setting is retained. To do so, repeat steps 6 and 7 if necessary.	OPERATING MODE\HZ 1 Which operation mode should be used? automatic
9. Yo i	Press > to go back one step. -or- To finish entering the settings: press > several times or shut the cover. The standard display appears again. I can enter all settings in the USER MENU using this proc	edure.
	. can enter an eetange in the open mente asing this plot	

Tab. 7 How to use the User menu (example)

5.2 Overview of the User menu

The User menu is divided into the following menu items:

Menu item	Purpose of the menu item	Page
standard display	Selecting the standard display	29
modes of	Setting the operating mode for all installed heating zones (automatic,	29
operation	continuous heating, permanently setback); also possible for the "DHW" and	
	"DHW circulation" heating zones	
program	Switching between day mode and night mode at defined times and on defined	31
	days of the week (only active in automatic mode); separate programs possible	
	for DHW and DHW circulation	
WWSD	Switching automatically between summer mode and heating mode (triggered	40
temperature	by temperature)	
DHW temperature	Set the DHW temperature.	40
vacation	Interrupting the set program when on vacation (to save energy if away or to	41
	ensure comfort if at home)	
party program	Temporary extension of day mode for a certain amount of time	44
pause function	Temporary interruption of day mode for a certain amount of time (when absent)	44
therm.	Heating up domestic hot water to kill potential pathogens	45
disinfection ¹⁾		
corrected room	Calibrate displayed room temperature with the help of a thermometer.	45
tmp.		

Tab. 8 User menu

1) This function depends on the boiler in use.

5.3 Heating zone selection

If your heating system is equipped with more than one heating zone: before entering some settings, you will need to select the heating zone(s) to which the settings apply. Only the heating zones actually installed will be displayed:

Heating zone selection	Meaning
Heating zone 1	Heating zone without mixing valve
From heating zone 2 ¹⁾	Heating zones with mixing valve, i. e. with reducible flow temperature
RC35 heating zones	All heating zones assigned to the RC35, i.e. those that do not have their own remote control unit (\rightarrow Fig. 2, [1]). Displayed only if more than one heating zone is assigned to the RC35.
DHW	Hot water supply that is controlled by the RC35
Hot water recirculation ¹⁾	DHW recirculation pump that is controlled by the RC35
Solar ¹⁾	Solar heating system, if installed
Complete system	All heating zones, DHW, DHW recirculation pump, and solar

Tab. 9 Heating zones that could be installed in your heating system

1) This function depends on the boiler in use.



Recommended: if more than one heating zone is installed, it is usually recommended to select **RC35 heating zones**.



If there is only one heating zone installed with no DHW, no DHW recirculation pump and no solar heating system, heating zone selection is not available. Heating zone selection is not available with some boilers.

What is a heating zone?

A heating zone describes the route taken by the heating water from the boiler to the radiators and back to the boiler. Multiple heating zones can be connected to one boiler; for example, one heating zone for panel radiators or baseboard and another heating zone for radiant floor heating. In this case, the radiators are supplied at a higher supply temperature than the radiat floor heating system. The supply temperature is the heating water temperature, generated by the boiler, as it is supplied to the heating zone.

With the RC35 user interface, you can operate and control multiple heating zones (\rightarrow Fig. 2).



Fig. 2 Options for a heating system with two heating zones

Names of the heating zones in the example in Fig. 2

When you enter settings for a particular heating zone, you first need to select it from the list. You will then be asked to choose from a list of names as shown in Tab. 10.

Different temperatures for the heating zones (\rightarrow Tab. 10, b) can also be entered using the RC35 user interface without a remote control unit, if your heating contractor has set it accordingly. In that case, the room temperatures for the separate heating zone can be set via the User menu (\rightarrow page 38).

	For heating zone 1+2:	Names of the heating zones on the display	Set the room temperature
а	Factory setting	HZ1+HZ2 = RC35 heating zones $^{1)}$	page 14 – 16
b	Different room temperatures are possible ²⁾	HZ1 = RC35 heating zones HZ2 = heating zone 2	HZ1: page 14 – 16 HZ2: page 16 or 38

Tab. 10 Names of the heating zones in the example in Fig. 2

1) Heating zone selection is not possible if there are no other heating zones available, such as DHW for example.

2) Here: setting by heating contractor HZ1 = RC35, HZ2 = none

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5.4 Adjusting the standard display

This menu item can be used to select the information to be displayed as the default in the upper row of the display screen (the "standard display").

- 1. Open the User menu.
- 2. Select standard display. You can choose from the following standard displays:
 - date + time (factory setting)
 - outdoor temperature (recorded outdoor temperature)
 - boiler temperature (recorded boiler temperature, supply temperature)
 - DHW temperature (in hot water storage tank)
 - collector temperature (with solar heating systems only)

5.5 Selecting the operating mode

5.5.1 Operating modes for RC35 heating zones

For the **RC35 heating zones**, the operating mode can be set directly by pressing the corresponding button (e.g. (aur)). For other heating zones, use this menu item.

- 1. Open the User menu.
- 2. Select modes of operation.
- 3. If your heating system is equipped with more than one heating zone (→ page 26): select the desired heating zone and confirm.
- 4. Set the operating mode for the selected heating zone:
 - automatic (program)
 - continuous heating (manual day mode)
 - permanently setback (manual night mode)



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5.5.2 Modes of operation for DHW

You can set one of the following operating modes for your hot water supply:

- **automatic** (program) This can be either the program for central heating or a specific DHW program (→ page 39).
- permanent ON (manual continuous mode). The hot water is permanently maintained at the set temperature.

5.5.3 Operating modes for DHW circulation¹⁾

The DHW recirculation pump ensures quick supply of hot water to the taps (if installed). This is achieved by circulating the hot water once or more per hour through the DHW recirculation pump via a separate recirculation pipeline. The recirculation interval (the number of times per hour) can be adjusted by your heating contractor in the Service menu.

You can set one of the following operating modes for DHW circulation:

- **automatic**: 30 minutes before the first heating zone is switched on, the DHW recirculation pump starts to run at the set interval, and stops when the last heating zone is switched off (factory setting). Alternatively, you can set a separate circulation program (→ page 39).
- permanent ON: The DHW recirculation pump runs constantly at the set interval, regardless of the heating zones.
- **permanent OFF**: The DHW recirculation pump is not run at a set interval. You can use the (F) button to heat up the DHW and start DHW circulation when needed.

5.5.4 Operating modes for solar

- automatic (default setting)
- permanent OFF (manually switched off)
- **permanent ON** (manual constant operation). The solar heating system will be in constant operation for 30 minutes at maximum pump output. After 30 minutes the solar heating system automatically switches back to automatic mode.

The solar pump is controlled manually in "constant operation" operating mode; however, the solar heating system will cut out if either the collector array or the solar tank exceed their maximum permissible temperature (collector protection function).



For explanations of the settings, see the documentation for the solar module.

¹⁾ Menu is always displayed, the function depends on the boiler in use.

5.6 Setting the program

The automatic mode ensures automatic switchover between day and night mode at defined times of day. In the factory setting, 70 °F (21 °C) is set for day mode, and 63 °F (17 °C) for night mode.

Before you select a program (i.e. a heating program), consider the following:

- At what time in the morning should your home be warm? Does this time vary depending on the day of the week?
- · Are there days when you do not need your home to be heated during the day?
- From what time in the evening does your home no longer need to be heated? This too may vary
 depending on the day of the week.
- 1. Open the **User menu**.
- 2. Select program.
- If your heating system is equipped with more than one heating zone (→ page 26): select the desired heating zone and confirm. A separate program can be set for each heating zone. You will then see the following options to choose from:
 - select program (→ page 32)
 - show current prog. (\rightarrow page 35)
 - change switch point (→ page 35)
 - enter switch point (\rightarrow page 36)
 - delete switch point (→ page 37)
 - room temperatures (→ page 38, not possible for DHW, DHW circulation and solar heating zones)
- 4. Recommended: Use the **select program** option to select the program which best corresponds to your lifestyle.
- 5. If the standard program needs to be adjusted: change, insert or delete individual switch points. -or-
- 6. If you want to create a completely new program: **select program** and set a **new program**. The **enter switch point** menu item (→ page 36) opens automatically for you to create your program.



In the factory setting, the program also determines the times for DHW heating and the operation of the DHW i.e. circulation pump. However, you can also set separate programs for both functions (\rightarrow sections 5.7 and 5.8).

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5.6.1 Select program

Here you can select and activate a program. This can be one of the pre-set standard programs (\rightarrow Tab. 11, page 33) or one created or modified by you.

You can save and later select two new or modified programs as custom 1 or custom 2.

Selecting a pre-set program:

- 1. Hold down the $\frac{Menu}{OK}$ button and turn the dial to select and activate a program.
- 2. Press (>) to return to the list of options.
- 3. To view the selected program as a graph, select **show current prog.** (\rightarrow page 35).

-or-

4. Press > several times or shut the cover to return to the default display.

Creating a new program:

Select new program. The enter switch point menu item (→ page 36) opens automatically for you to create your program.

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Switch-on and switch-off points in the standard programs

Program	Day	ON	OFF	ON	OFF	ON	OFF
family	Mo-Th	5:30 am	10:00 pm				
(factory setting)		(05:30)	(22:00)				
	Fr	5:30 am	11:00 pm				
		(05:30)	(23:00)				
	Sa	6:30 am	11:30 pm				
		(06:30)	(23:30)				
	Su	7:00 am	10:00 pm				
		(07:00)	(22:00)				
early morning	Mo-Th	4:30 am	10:00 pm				
(early shift work)		(04:30)	(22:00)				
	Fr	4:30 am	11:00 pm				
		(04:30)	(23:00)				
	Sa	6:30 am	11:30 pm				
		(06:30)	(23:30)				
	Su	7:00 am	10:00 pm				
		(07:00)	(22:00)				
evening	Mo-Fr	4:30 am	11:00 pm				
(late shift work)		(04:30)	(23:00)				
	Sa	6:30 am	11:30 pm				
		(06:30)	(23:30)				
	Su	7:00 am	11:00 pm				
		(07:00)	(23:00)				
morning	Mo-Th	5:30 am	8:30 am	12:00 am	10:00 pm		
(part-time work,		(05:30)	(08:30)	(12:00)	(22:00)		
mornings only)	Fr	5:30 am	8:30 am	12:00 pm	11:00 pm		
		(05:30)	(08:30)	(12:00)	(23:00)		
	Sa	6:30 am	11:30 pm				
		(06:30)	(23:30)				
	Su	7:00 am	10:00 pm				
		(07:00)	(22:00)				
afternoon	Mo-Th	6:00 am	10:00 pm	4:00 pm	10:00 pm		
(part-time work,		(06:00)	(22:00)	(16:00)	(22:00)		
afternoons only)	Fr	6:00 am		3:00 pm	11:00 pm		
		(06:00)		(15:00)	(23:00)		
	Sa	6:00 am					
		(06:00)					
	Su	7:00 am					
		(07:00)					

Tab. 11 Standard programs (ON = day mode, OFF = night mode)

Program	Day	ON	OFF	ON	OFF	ON	OFF
midday	Mo-Th	6:00 am	8:00 am	11:30 am	1:00 pm	5:00 pm	10:00 pm
(at home at		(06:00)	(08:00)	(11:30)	(13:00)	(17:00)	(22:00)
midday)	Fr	6:00 am	8:00 am	11:30 am	11:00 pm		
		(06:00)	(08:30)	(11:30)	(23:00)		
	Sa	6:00 am	11:00 pm				
		(06:00)	(23:00)				
	Su	7:00 am	10:00 pm				
		(07:00)	(22:00)				
single person	Mo-Th	6:00 am	10:00 pm	4:00 pm	10:00 pm		
		(06:00)	(22:00)	(16:00)	(22:00)		
	Fr	6:00 am		3:00 pm	11:00 pm		
		(06:00)		(15:00)	(23:00)		
	Sa	7:00 am					
		(07:00)					
	Su	8:00 am					
		(08:00)					
senior	Mo – Su	5:30 am	10:00 pm				
citizens		(05:30)	(22:00)				
new program	If you select	new program,	you can use the	enter switch p	oint option to c	reate a new pro	ogram.
	Valu oon oou	o and later calor		dified are grouped	as suctors 1 a	v ouctor 0	
custom 1	Mo_Th			unieu programs	as custom 1 0	custom 2.	
custom							
	- 11 - So						
	Sa						
custom 2	Ju Mo_Th						
custom z	- MIO - 111 Er						
	50 11						
	Su						

Tab. 11 Standard programs (ON = day mode, OFF = night mode)

5.6.2 Viewing the current program

You can use **show current prog.** to view the currently set program in the form of a graph (\rightarrow Fig. 3).

- The graph always shows the program for one day or block of days.
- The current switch point will flash (circle and cross alternately). Below the graph, you can see the time for that switch point and the temperature that applies from that time onwards.
- · Other switch points are marked with a cross.



Fig. 3 Example from the "morning" program

- 1 Day temperature and night temperature
- 2 Orientation row
- **3** Switch-on points (switchover to day mode)
- 4 Switch-off points (switchover to night mode)
- 5 Row showing status and settings for the selected switch point
- 1. Turn the dial ⁽⁾. The next switch point is displayed.
- 2. Turn the dial () further to display the other days.
- 3. Press $(rac{1}{2})$ to return to the list of options.

5.6.3 Changing a switch point

You can use **change switch point** to change the times in a program at which the system switches over to a different temperature level.

1. Turn the dial to select a different switch point. Turn it further to go to a different day of the week.

The selected switch point starts flashing.

2. Hold down the (b) button and turn the dial to change the time for that switch point.

5 User menu

- 3. If desired: hold down the 🚺 button and turn the dial to change this switch point from a switch-off point to a switch-on point or vice versa.
- 4. Repeat steps 1 to 3 to change other switch points.
- 5. Press (>) when you have finished making entries.



If you have changed the program and then do not press any button for 5 minutes, the system assumes you have finished making entries and goes on to the next step.

Hold down the button (Menu or the dial to save the modified program as custom 1 or custom 2 or select not saved to cancel.

The selected program, custom 1 or custom 2, is used from now on for that heating zone.



If you want to set switch points for a block of days (Mo-Th, Mo-Fr, Mo-Su, Sa-Su), select select program\new program.

5.6.4 Entering a switch point

You can use **enter switch point** to add additional switch points for a heating phase or energysaving phase (day/night mode, respectively) or create a new program. You can enter switch points separately for each day. The minimum time between switch points is 10 min (period for which the zone is switched ON or OFF).

For each switch-on point ([1], day mode), you also need to enter a switch-off point ([2], night mode) so that the heating will switch back to night mode again.

The maximum number of switch points is 42 per heating zone.

- 1. Turn the dial to select the day of the week.
- 2. Hold down the 🕑 button and turn the dial to change the time for that switch point. The switch point will flash on the graph until it has been entered completely.
- 3. Hold down the 🔳 button and turn the dial to specify whether the point is a switch-off point or a switch-on point.

Once the switch point has been entered completely, all the values flash for three seconds. The switch point can still be changed during this time. Press when you have finished making entries. After that the switch point is saved.

- 4. Repeat steps 1 to 3 to enter other switch points.
- 5. Turn the dial () to go to other days.
- 6. Press (**>**) when you have finished making entries.



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If you have changed the program and then do not press any button for 5 minutes, the system assumes you have finished making entries and goes on to the next step.

Hold down the Mann OK button and turn the dial to save the modified program as custom 1 or custom 2 or select not saved to cancel.

The selected program, custom 1 or custom 2, is used from now on for that heating zone.

5.6.5 Deleting set point

Turn the dial to select a different switch point.You can use **delete switch point** to delete switchover phases that you do not need.

Make sure that you always delete two switch points for every switchover phase (the switch-ON point and the switch-OFF point) to ensure that the heating switches back to night mode again.

- Turn the dial Ot to select a different switch point. The selected switch point starts flashing.
- Press Merry When you have finished making entries. Hold down the button and turn the dial of yes.

The switch point is deleted.

- 3. Turn the dial () to go to other days.
- 4. Press (>) when you have finished making entries.



If you have changed the program and then do not press any button for 5 minutes, the system assumes you have finished making entries and goes on to the next step.

Hold down the button and turn the dial to save the modified or new program as custom 1 or custom 2 or select not saved to cancel.

The selected program, custom 1 or custom 2, is used from now on for that heating zone.

5.6.6 Setting room temperatures

The **room temperatures** menu item is only available for heating zones without a remote control unit (the first case below). In the other two cases, the **room temperatures** menu item is not displayed.

Possible case scenarios:

- Heating zones without remote control (→ page 54, setting "none"): different room temperatures are possible for each zone, in contrast to the RC35 heating zones. The room temperature is set as described below.
- RC35 heating zones: the room temperatures are the same for all heating zones assigned to the RC35. For the RC35 heating zones, you need to set the room temperature using the ↓ button, not in the User menu (→ page 16).



If "shut-down mode" is selected as the night setback mode, the heating system will be switched OFF at night. A night room temperature cannot be set. The display will show a message to that effect.

Setting room temperatures with User menu\program

Here you can set the room temperature for the heating zone previously selected in the program.

- 1. Open the User menu.
- 2. Select program.
- 3. Select the heating zone (\rightarrow page 26 28).
- 4. Select room temperatures.



CAUTION: Risk of system damage due to freezing.

If room temperatures are set below 41 °F (5 °C), rooms may cool down so much that pipes in external walls (for example) may freeze in cold weather.

- Set room temperatures higher than 10 °C.
- 5. Set the desired room temperature.
- 6. Turn the dial () to switch between the temperatures for day and night mode.

5.7 Setting a DHW program

In the setting **by heating zone** (factory setting), the switch-ON and switch-OFF times for hot water heating follow those of the selected program. This ensures that hot water is available during the heating phases (i.e. when in day mode).

If you want to enter a separate hot water program, Buderus recommends:

- · Heating the hot water tank only once in the morning before home heating starts.
- Possibly also programming another heating phase in the evening if more hot water is regularly needed at that time.

This would allow you to significantly reduce your energy consumption even further.

To set a hot water program that is independent of the heating phases:

- 1. Open the User menu.
- 2. Select program.
- 3. Select the **domestic hot water** heating zone.
- 4. Adjust the program with change switch point, enter switch point or delete switch point (→ page 35) or enter a new program.
- 5. Save the program as custom 1 or select not saved to cancel.
- Check that automatic is set for operating mode\DHW to make sure that the program you have set is also active (→ page 30).



If you occasionally need more hot water outside the set time, you can activate hot water heating for a short time ("**Heating up DHW once**", \rightarrow page 19).

5.8 Setting the DHW circulation program¹⁾

You can use a DHW circulation program to enter the switch-ON and switch-OFF times for the DHW recirculation pump independently of the program for the heating system. Follow the same procedure as for entering a DHW program (\rightarrow section 5.7).

¹⁾ This function depends on the boiler in use.

5.9 Setting the warm weather shutdown (WWSD) temperature

Requirements: An outdoor temperature sensor must be installed. The heating system is controlled by the **outdoor temperature** (with or without influence from room temperature: \rightarrow page 47). In the case of room temperature control, the **WWSD temperature** menu is not displayed.

When the outdoor temperature falls below this adjustable threshold, the heating system automatically switches over to winter mode (heating on).

Make sure that the automatic mode is active.

- 1. Open the User menu.
- 2. Select WWSD temperature.
- 3. If your heating system is equipped with more than one heating zone (→ page 26): select the desired heating zone and confirm.
- 4. To save energy in spring and autumn: lower the switchover threshold (factory setting: 63 °F (17 °C)).
- 5. To heat your home more comfortably in spring and autumn: increase the switchover threshold.

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If you occasionally feel too warm or too cold, you can also make use of the manual mode (\rightarrow page 14).



The heat storage capability of the building is also taken into consideration and utilized during the switchover. Since the temperature in your home falls gradually, you may find that the heating system does not switch over to winter mode until some time after the outdoor temperature has dropped below the switchover threshold.

5.10 Setting the daylight savings time changeover

There is no automatic summer/winter time change. Adjust the time as shown on page 17.

5.11 Set the DHW temperature

The domestic hot water (DHW) temperature is the target water temperature in the hot water storage tank.



WARNING: Risk of scalding!

The factory setting for DHW temperature is 140 °F (60 °C). There is a risk of scalding at the taps if no thermostatic mixing valve is installed.

 Make sure that a thermostatic mixing valve is installed and that it is set to temperatures below 122 °F (50 °C).

- 1. Open the **User menu**.
- 2. Select DHW temperature.
- 3. Set the desired hot water temperature (factory setting: 140 °F (60 °C)).



You can also enter the same setting without going through the User menu: ► Hold down the (五) button and turn the dial (at the same time.



If you get a message saying that the setting is not possible: set the dial real on the BC10 boiler control unit to "Aut".

5.12 Setting vacation mode

Use the vacation mode to run the heating system differently from the normal program when on vacation.

You can only set one vacation period at a time.

- 1. Open the User menu.
- 2. Select vacation.
- 3. Select the heating zone to be switched over to vacation mode:
 - complete system: heating zones, water heating and DHW circulation.
 - RC35 heating zones: this option is only displayed if one or more heating zones are assigned to the RC35; DHW and the other heating zones remain active.
 - Individual heating zones: only heating zones that are not assigned to the RC35 will be displayed; in other words, those that have their own remote control unit or that have no remote control unit.
- 4. Setting at home or away from home (absent):
 - absent: Heating is operated at a reduced, adjustable vacation temperature (setback mode).
 If complete system was selected in the previous step, DHW heating and DHW circulation will be shut down. If only some heating zones are in vacation mode, DHW heating and circulation remain active (→ Tab. 12, page 43).
 - at home: Heating and hot water are available every day as on a normal Saturday.
- 5. Set the year, month and day for the first day of the vacation period, one after the other. Vacation mode starts at 12:00 am on the first day.
- 6. Press $\frac{\text{Menu}}{\text{OK}}$. The year starts flashing.
- 7. To set the year: hold down the $\frac{Menu}{OK}$ button and turn the dial at the same time.
- 8. Release the button. The year is saved.
- Repeat steps 6 to 8 twice to set the month and day. The start date of the vacation period has now been set.

10.Turn the dial ⁽⁽⁾) to the right to set the end date of the vacation period.

11.Set the end date of the vacation period by following steps 6 to 9.



With **absent**, set the first day for normal operation (i.e. the day you return home) as the end date, so that your home is warm again when you return.

With **at home**, set the last day of your vacation as the end date.

12.For **absent** only: turn the dial Clockwise to set the temperature for the vacation period (factory setting 63 °F (17 °C)).

Vacation mode has now been completely set.

13.Close the cover to conclude the setting procedure.

During the vacation period, the end date is displayed when the cover is opened.



During **absent** vacation mode, you can change the temperature simply by turning the dial. The cover must be closed when you do so.

If you want to exit the vacation mode early:

- ▶ Open User menu\vacation again.
- ► Answer the question Continue cancelling the vacation mode? with yes.

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	Domestic hot	water (DHW)	DHW recirculation pump (CP) ¹⁾		o (CP) ¹⁾
Vacation set as	DHW program as per heating zones (factory setting)	Separate DHW program (page 39)	DHW program as per heating zones and no custom CP program ²⁾ (factory setting)	Separate DHW program (page 39) and no separate CP program ²⁾	Separate CP program (page 39)
absent: complete system	Vacation mode (DHW off)		Vacation mode (0	CP off)	
absent: individual heating zones (HZ)	If all HZ set to vacation: vacation mode (DHW off) If at least one HZ not set to vacation: no vacation mode ³⁾	No vacation mode	If all HZ set to vacation: vacation mode (CP off) If at least one HZ not set to vacation: no vacation mode ³⁾	No vacation mode	No vacation mode
absent: complete system	Same as program for Saturdays	Same as DHW program for Saturday ³⁾	Same as program for Saturdays	Same as DHW program for Saturdays ³⁾	Same as CP program for Saturdays
at home: individual heating zones (HZ)	If all HZ set to vacation mode: same as program for Saturdays ³⁾ If at least one HZ not set to vacation: no vacation mode ³⁾	No vacation mode	If all HZ set to vacation mode: same as program for Saturdays ³⁾ If at least one HZ not set to vacation: no vacation mode ³⁾	No vacation mode	No vacation mode

Tab. 12 Functioning of DHW heating (DHW) and recirculation pump (CP) in vacation mode

1) This function depends on the boiler in use.

2) No separate program was created for the recirculation pump, that is, the switching times of the recirculation pump and of the DHW program are the same.

3) The earliest switch-on point and latest switch-off point out of all heating zones on this day will apply.

5.13 Setting the party mode

You can use the **party program** (extension of period of use) to postpone the time when your heating system normally switches to night mode (as defined in the program) to a later time. This means your home will be heated for longer in day mode (**continuous heating**) if you want to stay up later than usual in the evening.

- 1. Open the User menu.
- 2. Select party program.
- 3. If your heating system is equipped with more than one heating zone (→ page 26): select the desired heating zone and confirm.
- 4. Hold down the Menu or button and turn the dial at the same time to set the number of hours (0 to 99) for your home to be heated in day mode. The party mode is now active. The remaining duration is shown on the display. When the time

The party mode is now active. The remaining duration is shown on the display. When the time has expired, it will return to the automatic mode.

Ending the party mode early:

Open USER MENU\party program again and select end.



- Press and hold down the (*) button.
- Open flap.
- ▶ Turn the dial ⁽⁽⁾) at the same time to set the number of hours (0 to 99).

5.14 Setting the pause function

You can use the **pause function** (heating pause) to switch your heating to night mode (**permanently setback**) for a certain period, regardless of the current program, when you are away from home, for example. Once this period has elapsed, normal operation is automatically resumed as defined in the program.

- 1. Open the User menu.
- 2. Select pause function.
- 3. If your heating system is equipped with more than one heating zone (→ page 26): select the desired heating zone and confirm.
- Hold down the button Menu oκ and turn the dial at the same time to set the number of hours (0 to 99) for heating to be reduced.

The pause function is now active. When the time has expired, it will return to the automatic mode.

Ending the pause function early:

► Open USER MENU\pause function again and select end.

Instead of making the setting via the User menu, you can use the following short cut:

- ▶ Press and hold down the (①) button.
- Open flap.
- ▶ Turn the dial the same time to set the number of hours (0 to 99).

5.15 Setting thermal disinfection

If this function¹⁾ is activated, the DHW is heated once a week or once a day to a temperature sufficient to kill pathogens (e.g. legionella).



WARNING: Risk of scalding from hot water at the taps.

During the thermal disinfection process the DHW can be heated to a temperature above 140 °F (60 °C).

- ► After thermal disinfection, mix in cold water with an open hot water tap.
- 1. Open the **User menu**.
- 2. Select therm. disinfection.
- 3. Set **yes** or **no**. If thermal disinfection is switched on:
- 4. Set the temperature to which the hot water should be heated during disinfection (factory setting:158 °F (70 °C)).
- 5. Set the day of the week (factory setting: Tuesday).
- 6. Set the time (factory setting: 1:00 am (01:00); can only be started on the hour).

5.16 Calibrating the room temperature display

If there is a separate thermometer near the RC35 when installed in the living space, it may show a different room temperature to that shown on the unit. If you wish to adjust the RC35 to match the thermometer (i.e. "calibrate" the RC35), you can use the **corrected room tmp.** function. Before calibrating the room temperature, consider the following:

- Is the thermometer more accurate than the RC35?
- Is the thermometer located close to the RC35 so that they are both subject to the same heat influences (e.g. sunlight, fireplace)?

¹⁾ The function depends on the boiler in use.



A thermometer may indicate temperature fluctuations more slowly or rapidly than the RC35.

- so never calibrate the RC35 when your heating system is in the process of cooling down or heating up.
- 1. Open the **User menu**.
- 2. Select corrected room tmp.
- 3. Select Calibrating the room temperature: The factory setting is 0 °F (0 °C). Example: if the thermometer is showing a temperature 1.8 °F (1.0 °C) higher than the user interface, enter "+1.8 °F (+1.0 °C)" as the calibration value. The result will be displayed immediately as the corrected room temperature.

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6 Information for setting the RC35

6.1 Control modes for the heating system

The heating system has three different control modes. Your heating contractor will select one according to your requirements and will set it up for you:

- Outdoor temperature control (weather-dependent control): the outdoor temperature is recorded by means of a temperature sensor. The level of the supply temperature is calculated solely on the basis of the outdoor temperature in accordance with the characteristic heating curve. You can set the room temperature for the entire home on the controls (which will push the heating characteristic curve up or down). If you have the thermostatic radiator valves installed, adjust them in every room so that the desired temperature is reached in each room.
- Room temperature control: in this case, the RC35 must be mounted in a room that is
 representative of your home. The RC35 records the room temperature in this "reference room".
 Control of the supply temperature is determined by the set room temperature and the recorded
 room temperature. This means that external temperature influences in the reference room (e.g. an
 open window, sunlight or heat from a fireplace) can have an effect on the entire home.
 Set the room temperature for the home/reference room on the RC35. You can produce higher or
 lower temperatures in the other rooms by adjusting the thermostatic radiator valves (if installed)
 or flow balancing valves.
- Outdoor temperature control influenced by room temperature: With this control mode the supply temperature is primarily determined by the outdoor temperature, but it is also partly determined by the room temperature, to an extent set by your heating contractor.



For **room temperature control** and for outdoor temperature control **influenced by room temperature**:

If installed, the thermostatic radiator valves in the "reference room" (the room where the RC35 is mounted) must be **completely open**. Control of the supply temperature is determined by the room temperature recorded there. It must never be limited by closed thermostatic values.

6.2 Tips for energy efficiency

- You can save around 6 % on your heating costs by reducing the daytime room temperature by 2 °F (1 °C).
- Only heat if you need warmth. Use the program for automatic night setback.
- Ventilate your home wisely: Leave the windows wide open for a few minutes rather than leaving them slightly open all the time.
- While ventilating rooms, set the RC35 to night mode. Do this by pressing the night button.
- Have drafty windows and doors sealed or replaced.
- Never position large objects such as a sofa immediately in front of radiators or baseboard (maintain a clearance of at least 20" (50 cm)). Otherwise, the heated air cannot circulate and heat the room adequately.
- You can also increase the energy efficiency of your hot water supply: compare the times when you want your rooms to be warm with the times when you need hot water. It may be practical to use a separate program for DHW heating.
- Arrange with your local heating contractor to have your heating system serviced annually. A clean and properly adjusted boiler uses fuel most efficiently and promotes a longer service life.



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7 Troubleshooting

This chapter contains frequently asked questions about your heating system and their answers. This will in many cases enable you to troubleshoot perceived faults. At the end of the chapter there is a table listing faults and corresponding remedies.

7.1 Frequently asked questions

Why do I need to set a room temperature even though it is not recorded?

When you set a room temperature – even if room temperature is not recorded, as is the case when heating is controlled by outdoor temperature – you are changing the characteristic heating curve. That changes the room temperature, because the temperature of the boiler water changes and with it the temperature of the radiators, baseboard or radiant floor heating.

Why does a separate thermometer not match the room temperature set in the RC35?

Various different factors influence the room temperature. If the RC35 is installed on a cold wall, it will be influenced by the cold temperature of that wall. Conversely, it will be influenced by the heat from a fireplace or chimney, if it is installed in a warm part of the room.

If you would like to compare the recorded room temperature with the measurement values of another thermometer, the following is important:

- The separate thermometer and the user interface must be physically close to each other.
- The thermometer must be accurate.
- When comparing, do not measure the room temperature when the heating system is in the process of heating up, as the two devices may react at different speeds to the change in room temperature.

If you have followed these instructions and you can still detect a discrepancy, you can now calibrate the room temperature display (\rightarrow page 45).

Why do the radiators get (too) hot although the outdoor temperature is relatively high?

If you have a heating system with a heating zone and no mixing valve (heating zone 1), this is normal. The pump only starts up when the boiler reaches a predefined supply temperature. If the supply temperature is higher than required based on the outdoor temperature, the radiators may get hotter for a short time. The heating control detects this and responds accordingly after a short time. Do not adjust the thermostatic valves if installed on the radiators or the room temperature on the RC35, and wait until the set room temperature is reached.

Even in summer mode, the radiators may be heated for a short time under specific circumstances: namely when the pump is started up automatically at a predefined interval, to prevent it from "seizing up" (jamming). If the pump happens to be started up immediately after DHW heating, the unusable residual heat is dissipated via the heating zone and the radiators.

Why does the pump run at night, even though the home is not being heated at all or only very little?

This depends on the setting chosen by your heating contractor for night setback.

- **setback mode**: even when the home is only being heated a little, the pump runs in order to achieve the set room temperature, even if low.
- **shut-down mode**: the heating system (and therefore also the pump) is automatically shut down in night mode. If the outdoor temperature drops below the frost protection temperature, the pump is automatically switched on by the "Frost protection" function.
- **Outdoor setback mode** and **Room setback mode**: The heating system is switched on automatically when the recorded temperature falls below the set value. The heating pump runs:

The recorded room temperature is higher than the set room temperature. Why is the boiler running anyway?

The boiler may be heating the domestic hot water.

The heating system has three different control modes (\rightarrow page 47):

- Room temperature control: the boiler shuts down when the set room temperature has been reached.
- Outdoor temperature control: the heating system runs on the basis of the outdoor temperature.
- Outdoor temperature control influenced by room temperature: the heating system uses the advantages of both of the above control modes.

In the last two cases the boiler may run even if the recorded room temperature is higher than the set room temperature.

7.2 Error messages and service messages

The RC35 makes a distinction between three types of messages:

- Faults (in boiler operation)
- · System errors (incorrect settings on the RC35, or component malfunctions)
- · Service messages (indicating that servicing is due)

Faults

The display shows the following message: Your system has a fault present. Please open the cover of the user interface.



NOTICE: Risk of system damage due to freezing.

The heating system can freeze up in cold weather if it has been disabled due to a fault shutdown.

- ► Try to reset the fault.
- ► If that is not possible, notify your heating contractor immediately.
- Open the cover (by pulling the recessed grip on the left). The display may show the name and telephone number of your heating contractor if set to do so.
- 2. Turn the dial () (several times if necessary, if there are multiple messages) to display the message and the code (in the last row on the display).
- 3. Check whether you can eliminate the fault yourself with a reset (\rightarrow page 53).
- 4. Otherwise notify your heating contractor immediately (be sure to mention the message and code).

Press (**>**) or shut the cover to return to the default display.



The faults depend on the specific type of boiler in use. Information about the faults can be found in the boiler documentation.

System errors and service messages

The display shows **please open cover** at the bottom of the display. The heating system will attempt to operate as much as possible; in other words, heating of the home can continue.

- 1. Open the cover (by pulling the recessed grip on the left).
- 2. Turn the dial

The display indicates whether there is a **fault message** (= system error) or a **service message**. The display may also show the name and telephone number of your heating contractor if set to do so.

- 3. Turn the dial () (several times if necessary, if there are multiple messages) to display the message and the code (in the last row on the display).
- 4. Check whether you can deal with the message yourself with the aid of Tab. 13. Press or shut the cover to return to the default display.
- 5. Otherwise notify your heating contractor (be sure to mention the message and code).
 Press > or shut the cover to return to the default display.

Code	Display	Cause	Remedy
	Display is blank.	Your heating system is switched off.	 Switch on the heating system.
		The power supply to the heating system has been cut off.	 Check that the RC35 is correctly seated in its wall bracket.
			 Check that the cables are connected on the RC35 wall bracket.
	RC35 version: connect to: connecting	After start-up, data is transferred between EMS/UBA and the RC35 (no fault).	 Wait a few seconds.
A01/ 816	No communication with UBA/MC10 or DBA.	Communication to EMS/UBA is faulty, possibly due to a loose contact or electromagnetic	 Check that the RC35 is correctly seated in its wall bracket.
		interference, for example.	 Check that the cables are connected on the RC35 wall bracket.
A11/ 802	Time not set.	Time and/or date settings are missing. This may have been	 Enter the time and/or date so that the program and other
A11/ 803	Date not set.	caused by a lengthy power outage, for example.	functions can work correctly.

Tab. 13 Table with plant errors and service messages

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Code	Display	Cause	Remedy
Hxx	please open cover	Servicing is required. The heating system remains active as long as possible.	 Notify your heating contractor to arrange for servicing.
Η 7	Water pressure too low.	The water pressure in the heating system has fallen to a low level. This value is only displayed if your heating system is equipped with a digital pressure sensor.	 This is the only service message that you can remedy yourself. Top up the heating water as described in the boiler operating instructions.

Tab. 13 Table with plant errors and service messages

"Code" column in Tab. 13

The messages are marked with codes. These codes help to inform your heating contractor about the cause.

The codes are shown at the bottom of the display, on the left and right.



Service messages are not displayed for some boilers.

7.3 Resetting faults (reset)

Some faults can be rectified by resetting the system. This applies to locking faults, for example. Locking faults are those which cause the display on the boiler control panel to flash. Carry out the reset function on the boiler control panel to reset the fault.

For instructions on carrying out the reset function on the boiler control panel, see the technical documentation for the boiler.

▶ If the fault cannot be reset (the display continues to flash), notify your heating contractor.

8 Setup log

The setup log is to be filled out by your heating contractor during commissioning and is for your information.

Heating zone assignment:

	Part of the house	Remote control unit (RC35, none ¹⁾)
Heating zone 1		
Heating zone 2 ²⁾		
Heating zone 3 ²⁾		
Heating zone 4 ²⁾		

Tab. 14 Heating zone assignment

1) With the setting "none", the heating zone can be controlled from the RC35, but is not included in the "RC35 heating zones" (room temperatures can therefore be set separately).

2) Not installed with several boilers.

Important settings for your heating system:

	Setting options	Setting
Reduction mode (night)	Outdoor setback mode, Room setback mode, shut-down mode, setback mode	
Control function (→ page 47)	Outdoor temperature controlled (with/without room influence), room temp. controlled	
Characteristic heating curve	Design day temperature: Minimum outdoor temperature: Offset:	
Type of building	light, medium, heavy	
Operating time of DHW recirculation pump ¹⁾	Permanent; 2 x, 3 x, 4 x, 5 x, 6 x per hour for three minutes each time	
DHW priority	yes, no	
Program (times → page 31)	Standard program name: custom program	

Tab. 15 Settings made during commissioning

1) This function depends on the boiler in use.

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