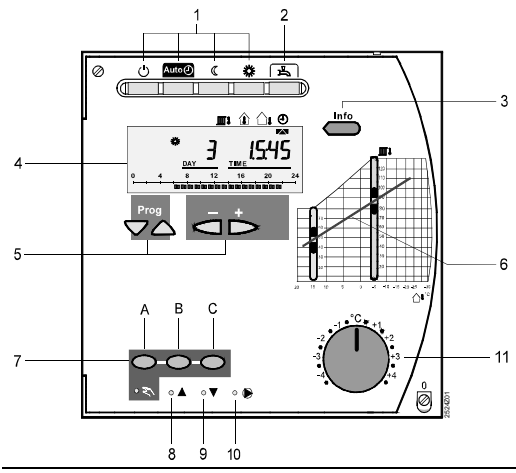








Overview, display, and symbols	2
Info button.....	5
Operating modes	6
Switching the heating ON	7
D.h.w. heating.....	8
Room temperature is not correct	9
Departing from the heating program	11
Querying and readjusting the setting values	12
Selecting the room temperature setpoints	13
Changing the heating program	14
Entering the holidays	17
Querying or readjusting the d.h.w. temperature	18
Changing switching program 2.....	19
Setting the clock	21
Savings tips	22
Faults and manual operation	24




Overview – what is where?





- 1 Operating mode buttons. The button indicating the current operating mode is lit
- 2 Button for d.h.w. heating ON / OFF
- 3 Info button
- 4 Display
- 5 Buttons for selecting and readjusting the setting values
- 6 Adjustment of heating curve
- 7 Buttons for manual operation:
 - A = manual operation ON (LED  lit)
 - B = valve OPENS
 - C = valve CLOSES or 2nd burner stage ON / OFF
- 8 LED for valve OPENS or 1st burner stage ON
- 9 LED for valve CLOSES or 2nd burner stage ON
- 10 LED for pump ON
- 11 Knob for room temperature readjustments


Meaning of symbols on the display

	NORMAL heating
	REDUCED heating
ECO	No heating required according to the prevailing outdoor temperature
	Holiday mode
	Heating OFF (frost protection ensured)
ERROR	Fault in the plant
	One of the maximum limitations is active
	One of the minimum limitations is active
BUS	Controller connected to the data bus

You want to obtain information

Press  several times to display the:


-  Time of day
-  Outdoor temperature
-  Room temperature (only if a sensor is used)
-  Flow or boiler temperature


The arrow  points to the displayed variable.


The info selected last is permanently displayed.


The different operating modes


 Heating OFF


 Automatic heating up and setback according to the heating program – heating automatically OFF during the holiday period entered – heating automatically OFF if permitted by the prevailing outdoor temperature (ECO function)

 Continuously REDUCED heating

 Continuously NORMAL heating



 Frost protection ensured in all operating modes


 Remote operation with a room unit is only possible in AUTO mode.

If the  button flashes, the room unit overrides the controller's heating program.

In AUTO mode, the controller operates fully automatically throughout the year.


You want to switch the heating ON

- Is the heating plant ready to operate? Check position of the mains isolator
- Press  button several times until the display shows the weekday and the time of day. Make corrections, if necessary
- Check the date and make corrections, if necessary
- Press  for AUTO mode

 Correction of entries: For procedure, refer to pages 12 and 21.

Practice-oriented and proven values were entered by your heating engineer when the controller was commissioned!


You want d.h.w. heating


Press  to switch d.h.w. heating ON (button lit) and OFF (button extinguished).

When the button is lit, the controller provides d.h.w. heating at the following times, depending on the settings made by your heating engineer:

- According to switching program 2
- According to the heating program
- 24 hours a day

(Mark with a cross whichever applies)

If your plant has a d.h.w. storage tank, you can charge it manually by pressing  until the button flashes (not possible in plants where d.h.w. is heated electrically).

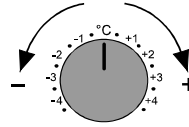
 D.h.w. heating is independent of the controller's operating mode.

During the holiday period, d.h.w. is not heated.

Room temperature is not correct

If the room temperature is never correct, neither in mild **nor** in cold weather, make a room temperature readjustment with the setting knob:

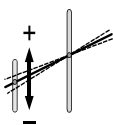
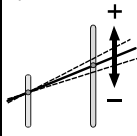
- Room temperature too low:
Turn knob toward +
- Room temperature too high:
Turn knob toward -



The setting knob's scale gives the room temperature readjustment in °C.

If the room temperature is not correct in mild weather only **or** in cold weather only, make the readjustment with the heating curve. For that purpose, there are three setting choices available, depending on the entries made by your heating engineer.



To make a readjustment, proceed as follows:


Setting choice	Room temperature not correct in mild weather	Room temperature not correct in cold weather
<input type="checkbox"/> Analog	Use slider on the left and readjust by about 5 °C 	Use slider on the right and readjust by about 5 °C 
<input type="checkbox"/> Digital	Readjust line [74] by about 5 °C	Readjust line [75] by about 5 °C
<input type="checkbox"/> Via data bus	Contact the plant operator	Contact the plant operator

↑ (☒) Mark with a cross whichever applies)

After having made a readjustment, wait two days – the room temperature requires a certain time to adapt!



You don't want to heat according to the heating program

- No setback:
Press  to select NORMAL mode
- Reduced heating:
Press  to select REDUCED mode

 Don't forget to return to the normal heating program!





The controller operates according to the standard heating program only when in AUTO mode.







How to query or readjust setting values

- Press ▼ or ▲ to access the setting level
 - The settings are assigned to 30 lines:
 - ▼ Select next line below
 - ▲ Select next line above
 - Readjustment of values:
 - ◀ Decrease
 - ▶ Increase
 - Adopt the value by selecting the next line or by leaving the setting level
 - To leave the setting level: Press button of the required operating mode, or the  button, or automatically after 30 minutes
-  For the list of lines, refer to the last page of these instructions.

If you wish to practice, reset the time of day (refer to page 21).

You want to select other room temperature setpoints

To select lines: Press  or 
To readjust values: Press  or 

- On line , change the setpoint of NORMAL heating (display ).
Standard setting: **20 °C**
- On line , change the setting of REDUCED heating (display ).
Standard setting: **14 °C**
- On line , change the setpoint of frost protection and holiday mode (display ).
Standard setting: **10 °C**

To leave the setting level: Select the required operating mode.

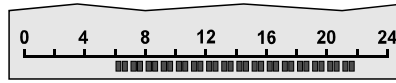
Don't forget temperature-sensitive objects like plants!

You want to change the heating program

To select lines: Press ▼ or ▲
To readjust values: Press ◀ or ▶

For the daily heating up and setback, the controller comes with the following standard heating program:

- Daily from 6:00 to 22:00: NORMAL heating
- Daily from 22:00 to 6:00: REDUCED heating



You can enter a maximum of three heating periods per day. For each heating period, the following times need to be entered:

- Start of NORMAL heating
- End of NORMAL heating

Proceed as follows:

1. On line , select the weekday whose times you want to change:
1 = Monday, 2 = Tuesday, etc.
1-7 = all weekdays

2. On line , set the time for the start of NORMAL heating.

3. On line , set the time for the end of NORMAL heating.

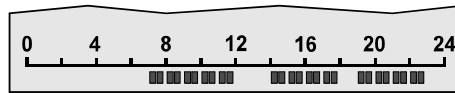
If additional daily heating periods are required:

4. On lines and , set the times required for the start and the end of the **2nd heating period**.

5. On lines and , set the times required for the start and the end of the **3rd heating period**.

To cancel a heating period, change line , or until --- appears.



Example of a 24-hour program with three heating periods:





NORMAL heating from 7:00 to 12:00, from 14:00 to 18:00, and from 19:00 to 23:00





If the settings for the weekend differ from the other weekdays, first enter the times for the entire week (1-7); then, change weekdays 6 and 7.


You want to enter your holidays

To select lines: Press  or 


To readjust values: Press  or 

The data for a maximum of eight holiday periods can be entered. To enter the data for one period, proceed as follows:

1. Line : Enter the number of the holiday period.
2. Line : Enter the date of the first day.
3. Line : Enter the date of the last day (possible only when an entry on line  has been made).





To cancel an entry, change line  until --.-- appears on the display. When a holiday period has elapsed, its data will be cancelled.

To leave the setting level: Select the required operating mode.

 No d.h.w. heating during the holiday period.

Before making any entries, prepare a holiday plan.

You want to query the d.h.w. temperature or readjust the d.h.w. setpoint

To select lines: Press  or 
To readjust values: Press  or 

- Set the NORMAL d.h.w. temperature setpoint on line **[26]**.
The standard setting is 55 °C
- Query the current d.h.w. temperature on line **[21]**
- Set the REDUCED d.h.w. temperature setpoint on line **[28]**.
This setpoint is used during the OFF periods of the selected program. The standard setting is 40 °C

To leave the setting level: Select the required operating mode

Excessive d.h.w. temperatures increase the risk of scalding and produce more scale!

You want to change switching program 2

In addition to the switching program for the heating periods, the controller has a second switching program. In your plant, your heating engineer has assigned it to





.....
The standard factory settings are as follows:

- Daily from 6:00 to 22:00: ON
- Daily from 22:00 to 6:00: OFF

Each day can accommodate a maximum of three ON periods. The following time settings are required for each ON period:

- Start of ON period
- End of ON period





If you want to make changes, proceed as follows (analogous to the switching program for the heating periods):





To select lines: Press  or 
To readjust values: Press  or 

1. On line **[31]**, select the weekday whose times you want to change:
1 = Monday, 2 = Tuesday, etc.
1-7 = all weekdays
 2. On lines **[32]** and **[33]**, set the times required for the start and the end of the 1st ON period.
 3. On lines **[34]** and **[35]**, set the times required for the start and the end of the 2nd ON period.
 4. On lines **[36]** and **[37]**, set the times required for the start and the end of the 3rd ON period.
- To cancel an ON period, change line **[32]**, **[34]** or **[36]** until --:-- appears.


To leave the setting level: Select the required operating mode.

You want to set the clock

To select lines: Press  or 
To readjust values: Press  or 

1. To set the time of day:
Select line 
2. Use the same procedure for the weekday, date and year:
 - The weekday on line  (1 = Monday, 2 = Tuesday, etc.)
 - The date (day and month) on line 
 - The year on line 

To leave the setting level: Select the required operating mode.

 The change from wintertime to summertime, and vice versa, is made automatically.

Savings tips without sacrificing comfort

- During the day, make certain that room temperatures of 21 °C will not be exceeded. Every degree above that level will increase heating costs by 6 to 7 %
- Renew the air in the house quickly, with windows fully open
- Set the thermostatic radiator valves in unoccupied rooms to the frost protection position
- Radiators should not be covered by curtains, furniture, etc., as these reduce heat emissions
- Closed window shutters, blinds, etc., reduce building envelope heat losses
- Check heat energy consumption at regular intervals
- Make certain that the d.h. w. temperature setting is not unnecessarily high

Tips to follow if something seems wrong

- The heating does not work:
 - Check the display. If **ECO** (economy) is shown, no heating is currently required due to high outdoor temperatures!
- The heating always maintains the same room temperature:
 - Check the operating mode used (only AUTO mode provides setback and heats up again)
- The control has a room unit, but it cannot be operated:
 - Check controller's operating mode. To enable the controller to be operated from the room unit, it must be in AUTO mode
- The required room temperature is reached either too early or too late:
 - Change the heating program
 - If the building is well insulated, you can expect long cooling down times

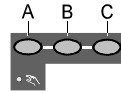
Faults and manual operation

- If you are uncertain:
 - Is the plant switched ON?
 - Are all plant fuses in order?
 - Is sufficient fuel in the tank?
 - Has the controller been readjusted by unauthorized persons? (Time of day, setpoints, etc.)
 - Check the display. If **ERROR** is shown, line **50** displays an error code:
 - 10 = fault outside sensor
 - 30 = fault flow or boiler temperature sensor
 - 40 = fault return temperature sensor (primary circuit)
 - 42 = fault return temperature sensor (secondary circuit)
 - 50 = fault storage tank temperature sensor/control thermostat 1
 - 52 = fault storage tank temperature sensor/control thermostat 2

54 = fault d.h.w. flow temperature sensor
60 = fault room temperature sensor
61 = fault room unit
81 = short-circuit on the bus
82 = same bus address assigned several times
100 = two clock masters on the bus
120 = flow alarm
140 = inadmissible bus address or plant type
These error codes are very useful for service staff.


- If the controller uses a room temperature sensor (room unit):
 - Is the sensor affected by drafts, direct solar radiation, etc.?
 - Is the sensor affected by heat gains, such as people, machines, lighting, etc.?
 - Is the sensor covered by furniture, curtains, etc.?
 - Are all thermostatic radiator valves in the "sensor's room" in the fully open position?

- The control no longer works:
If the heat source and the pumps still operate: Press button **A** to switch to **manual operation**:



- **Heating plant with a valve:**
The valve can be operated manually by pressing button **B** (OPENING) or **C** (CLOSING)
 - **Heating plant with no valve:**
The burner runs continuously. With two-stage burners, the second stage can be switched ON and OFF by pressing button **C**
 - **D.h.w. heating:**
The pumps used for d.h.w. heating run continuously. If the d.h.w. plant uses a mixing valve, you can drive it manually to the required position. With plants using a diverting valve, d.h.w. heating is not possible
- ☞ Switch manual operation OFF again: Press button **A** or select the required operating mode.

- The heat source no longer works:
 - The burner has initiated lockout. Press the reset button!
 - The heating circuit pump and / or the boiler pump do not operate. Check the fuses!
 - The coupling mechanism between actuator and valve is disengaged. Engage it!

 If you cannot correct the problem, call in your heating engineer.

Address and phone no. of your heating engineer:

- 1 Setpoint of NORMAL heating ☼
- 2 Setpoint of REDUCED heating ☾
- 3 Setpoint of holiday period / frost protection mode ☼
- 4 Weekday (1 to 7), for entering the heating program
- 5 to 10 Entry of heating phases for the heating program
- 11 Number of the holiday period (1 to 8) ■
- 12 First day of the holiday period (day.month) ■
- 13 Last day of the holiday period (day.month) ■
- 14 Heating curve, flow temperature at +15 °C
- 15 Heating curve, flow temperature at -5 °C
- 26 NORMAL d.h.w. temperature setpoint 📏
- 27 Actual value of the d.h.w. temperature 📏
- 28 REDUCED d.h.w. temperature setpoint 📏
- 31 to 37 Entries for switching program 2
- 38 to 41 Settings the yearly clock (date and time of day)
- 50 Display of faults