ROBUR
coscienza ecologica

User manual

Comfort Control Panel

E³ systems control device

EDITION: 06/2008

Code: D-LBR523

SUMMARY

SECTION 1 PREFACE

This “User manual” provides information on the use and configuration of the Comfort Control device, a control device for hydronic heating systems with heat pump and modulated condensation absorption.

The consultation of this manual implies knowledge of Robur products and of the information contained in the installation, use and maintenance manuals.

This manual is specifically intended for:

- the final user, for the use and configuration of the equipment depending on their own needs.
- to installation technicians(hydraulic and electrical) to ensure correct installation and configuration of the equipment.

Summary

The manual has 6 sections:

SECTION 1 addressed tousers and hydraulic installers, provides general indications on the equipment used.

SECTION 2 provides a few general indications on the Siemens appliances and their possible applications

SECTION 3 and SECTION 4 provide details on the functions of the devices.

SECTION 5 illustrates how the final user should use the appliance and how the parameters of the appliance may be modified.

SECTION 6 provides suggestions concerning possible errors that may occur.

Glossary

ACS	sanitary (domestic) hot water
CR	Heating circuit
CR1 or C1	Heating Circuit 1 (with mixer valve)
CR2 or C2	Heating circuit 2 (with mixer valve)
CRP or CP	Heating circuit pump (without mixer valve)

References

For requirements other than those shown in this manual, please consult the manuals:


Comfort Control “Installation and application manual” (D-LBR514)
(addressed to installation technicians and service personnel);


“Comfort Control Interface [CCI]” (D-LBR526)
(addressed to installation technicians and service personnel)

The icons present in the margins of the manual have the following meaning:

	Danger warning
	WARNING
	Note
	Start operating procedure
	Reference to another part of the manual or other manual

Table 1 Descriptive icons

SECTION 2 OVERVIEW AND TECHNICAL CHARACTERISTICS

2.1 WARNINGS

This manual constitutes an integral and essential part of the product and must be delivered to the user together with the appliance.

Safety

☞ The appliance must only be used for the purposes for which it has been designed. Any other use is considered inappropriate and therefore dangerous. The manufacturer does not accept any contractual or extra-contractual liability for any damage caused by improper use of the appliance.

⚠ Failure to comply with the above indications may compromise the product's safety and may invalidate the warranty provided by Robur.

⚠ Do not start the appliance if, at the time of use, there seem to be dangerous conditions such as: problems with the power grid; parts of the appliance underwater or otherwise damaged; control and safety components bypassed or faulty.
In these instances call in professionally qualified personnel for assistance

Keep packaging items (plastic bags, polystyrene foam, insulation materials, spacers) out of the reach of children, as they represent a potential source of danger.

2.2 SPECIFICATIONS

In Figure 1 are illustrated the devices included in the Comfort Control Panel (CCP), or that interface with them, in order to manage the Robur hydronic heating systems.

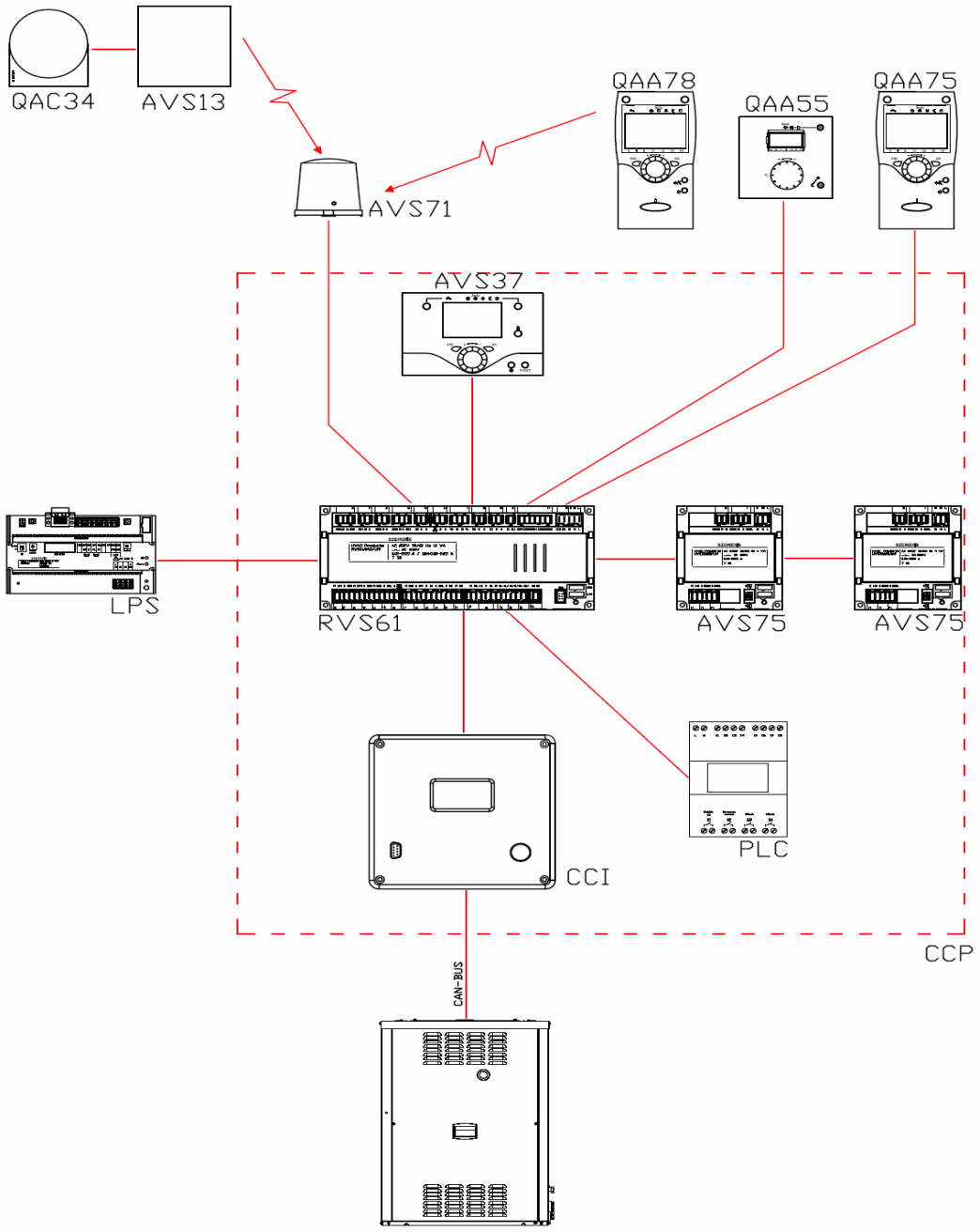


Figure 1 Initial description of the Comfort Control system

Product code (ASN)	Description
RVS61.843	Main controller
AVS75.390	Additional module
AVS37.294	Control unit
QAA75.610	Room unit, cable operated
QAA75.611	Back lit room unit, cable operated
QAA78.610	Radio operated room unit
QAA55.110	Type of room unit
AVS38.291	Cover (96 x 144 mm)
AVS71.390	Radio module
AVS14.390	Radio relay
AVS13.399	External temperature sensor with radiotransmitter module
AVS82.490	Flat band cable of the additional module
AVS82.491	Flat band cable of the control unit

Table 2 Product list

SECTION 3 OPERATING PROCEDURE: AVS37…/QAA75…/QAA78…

This section explains how the appliances should be used and their operating characteristics.

3.1 CONTROL LEGEND

AVS37.../ QAA75.../ QAA78...

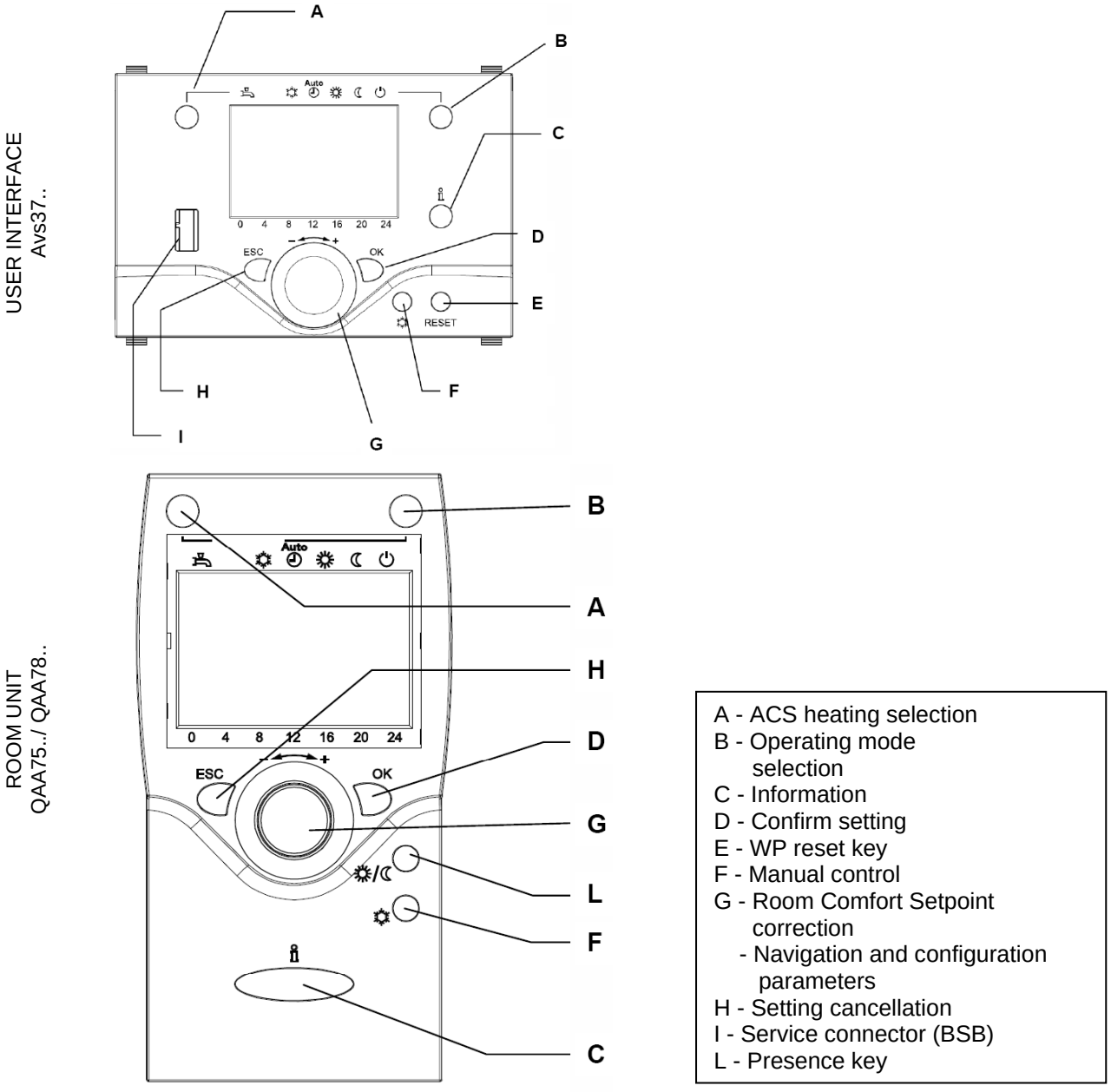


Figure 2 Description of the AVS37… user interface controls and for room units QAA75.../QAA78...

3.2 DISPLAY SYMBOLS

Heating at Comfort Setpoint

Heating at reduced Setpoint

Heating at freeze protection Setpoint

Cooling

Processing - please wait

Replace batteries

Active vacation function

Refers to the heating circuit

Special mode / Maintenance

Error message

ACS mode

Automatic operation

Protection mode

INFO Info level active

PROG Programming on

ECO Heating system temporarily Off / ECO functions on

Display

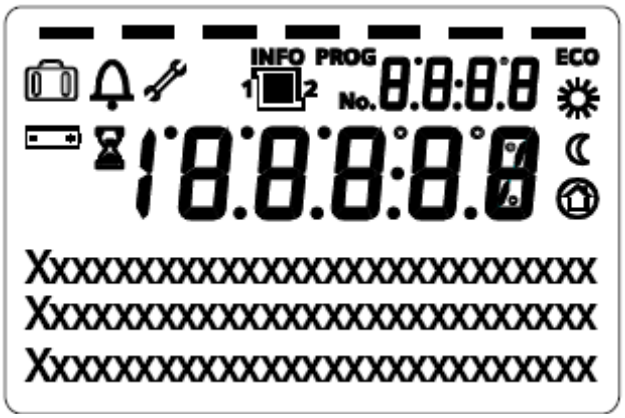
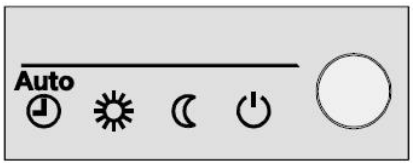


Figure 3 The Display shows all available segments

3.3 SELECTION OF HEATING MODE

Heating mode



Press the button to select the different heating modes. The selected mode is indicated by a bar beneath the relative symbol.

Automatic operation AUTO

Automatic operation checks the room temperature based on a set time sequence.

Features of the automatic operation:

- Heating mode based on a time sequence.
- Temperature setpoint dependent on the “Setpoint Comfort” ☼ or “reduced Setpoint” ☾
- Active protection systems (Antifreeze).
- Automatic switching between summer/winter operations (ECO functions and 24 hour daily heating off restriction.

Continuous operation ☼ or ☾

Continuous operation maintains the room temperature at the selected level.

- ☼ Heating at Comfort setpoint
- ☾ Heating at Reduced setpoint

Features of continuous operation:

- Heating with programmed timing off.
- Active protection systems (Antifreeze).
- Automatic switching between summer/winter operations (ECO functions and 24 hour daily heating off limitation for continuous operation with Comfort setpoint.

Protection mode ⏻

Using the Protection mode the heating is off, but the antifreeze protection is in operation(antifreeze protection temperature).

Features of the Protection mode:

- Heating OFF.
- Temperature according to antifreeze protection.
- Active protection systems (Antifreeze).
- Automatic switching between summer/winter operations (ECO functions and 24 hour daily heating off restriction.

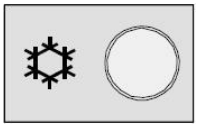
The heating mode is also selectable through the following parameters:
900 C1; 1200 C2; 1300 CP.

For more circuits configured in the same room unit, the set operating mode, is the same for all associated circuits (for example if C1 and CP are both configured on the room unit 1, by pressing the “Operating mode” button the mode is set for both the C1 and for the CP) The same is true for the devices QAA75../78.. and for devices AVS37…

If the operating mode is set on the interface AVS37… with C1 independent of C2 “Parameter44”, to change the operating mode, after pressing the “Operating mode” button, one must choose the circuit one intends to modify, and then set the operating mode for the chosen circuit.

3.4 COOLING OPERATING SELECTION

Cooling mode



Using the cooling button one selects the “cooling” function. A bar among the display symbols indicates the chosen selection.

The “cooling” function adjusts the room temperature based on an hourly schedule.

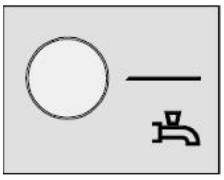
Features of the cooling function:

- Manual mode
- Cooling according to an hourly schedule.
- Temperature set according to the “Cooling to Comfort setpoint”.
- Protective function on (Antifreeze)
- Limitation of cooling dependent on external temperature.

The cooling operation can also be selected with parameters 969.

3.5 SELECTING THE ACS HEATING MODE

ACS heating mode



The button is used to enable and disable the heating of domestic tap water (ACS). The selected choice is indicated by a bar placed in conjunction with the relative symbol.

ACS mode

- ON - The domestic water is heated according to the selected program.
- OFF - Domestic water is not heated; The protection mode is active.

3.6 ROOM TEMPERATURE SETPOINT CORRECTION

Knob

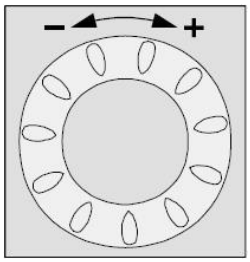


Figure 4 Setpoint correction knob

For the Comfort setpoint ☼

Rotate the knob to increase the setpoint (clockwise) or to decrease it (anti-clockwise). Confirm by pressing the OK button.

When the heating mode is active one modifies the Comfort heating setpoint, when the cooling mode is active one modifies the Comfort cooling setpoint.

For more circuits configured through the same room unit, the Comfort setpoint ☼ set is the same for all associated circuits (ex. if C1 and CP are both configured on the room unit 1, by turning knob one sets the same setpoint for both circuits). The same is true for the devices QAA75../78.. and for devices AVS37…

If the operating mode is set on the interface AVS37… with C1 independent of C2 “Parameter44”, to change the Comfort setpoint ☼ one has to turn the knob to select the circuit for which one wants to change the setpoint and then press OK; at this point one can change the Comfort setpoint ☼ of the chosen circuit.

For the Reduced setpoint ☾

- press the OK button
- Select the section “Heating circuit”
- press the OK button
- Select the section “Reduced setpoint”
- press the OK button
- Modify the “Reduced setpoint”
- Press the OK button to confirm
- Press the ESC button to return to the main screen

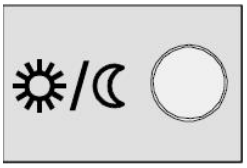
After having carried out the change wait at least 2 hours to allow the requested room temperature to be reached.

The Reduced setpoint can be selected only with the heating function on.

The reduced setpoint can also be using the following parameters:
712 CR1; 1012 CR2; 1312 CRP.

For the cooling system only the Comfort setpoint is operational.

3.7 PRESENCE KEY



When the premises are not occupied for a certain period of time, by pressing the presence key, the room temperature is reduced, allowing a saving in energy consumption.

To return to the Comfort heating mode one just has to press the key again.

When the premises are occupied once more, press the presence key once more in order to put the heating (Switching from Reduced setpoint to Comfort setpoint) or the cooling (Switching from cooling OFF to Comfort setpoint) back on.

In heating mode:

- Heating at Comfort setpoint ☼
- Heating at Reduced setpoint ☾

In cooling mode:

- Cooling to Comfort setpoint ☼
- Cooling OFF (no symbol)

The presence key can only be activated in “Automatic” mode. The setting remains active until the next heating action envisaged by the program comes on(ex. when one reaches the next programmed hourly section the setting set with the presence button is overridden and the system goes back to working according to the settings of the new hourly settings).

3.8 INFORMATION DISPLAY

Available information

The information script may be hidden and this can depend on the kind of interface used, its configuration and the level of access (user, technician, specialist...etc).
To display the information one only has to press the button.

Display:

- Possible error messages from the list of error codes.
- Possible maintenance warnings from the list of maintenance codes.
- Possible special mode messages.

Other displays:

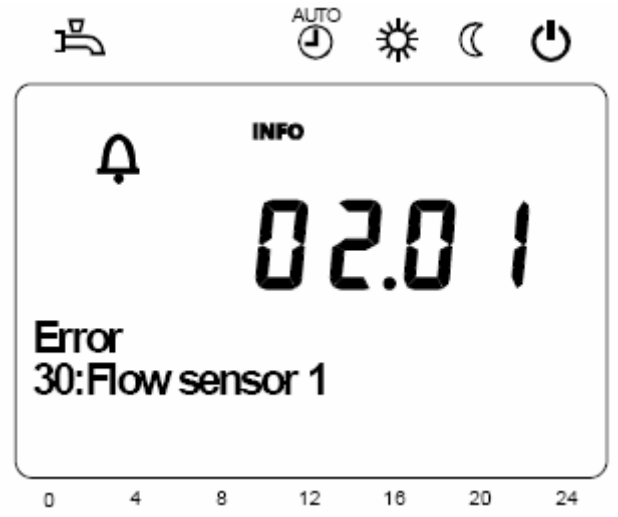
- Room temperature
- Minimum room temperature
- Maximum room temperature
- room setpoint 1
- room setpoint 2
- room setpoint P
- External temperature
- Minimum external temperature
- Maximum external temperature
- Temperature of domestic water 1
- Temperature of domestic water 2
- Water tank buffer temperature 1
- Water tank buffer temperature 2
- Buffer tank setpoint
- Initial temperature 1
- Initial setpoint 1
- Initial temperature 2
- Initial setpoint 2
- Initial setpoint P
- Manifold temperature 1
- Heat pump setpoint
- Heat pump delivery temperature
- Heat pump return temperature
- Source delivery temperature

- Source return temperature
- Residual level 1 minimum stoppage time
- Residual level 2 minimum stoppage time
- Residual level 1 minimum operating time
- Residual level 2 minimum operating time
- State of heat circulation 1
- State of heat circulation 2
- State of heat circulation P
- State of domestic water
- Heat pump state
- Buffer memory state
- Error signal
- Stand-by signal
- Earth connection
- Day hour/date
- Client assistance telephone number

Exceptional situations

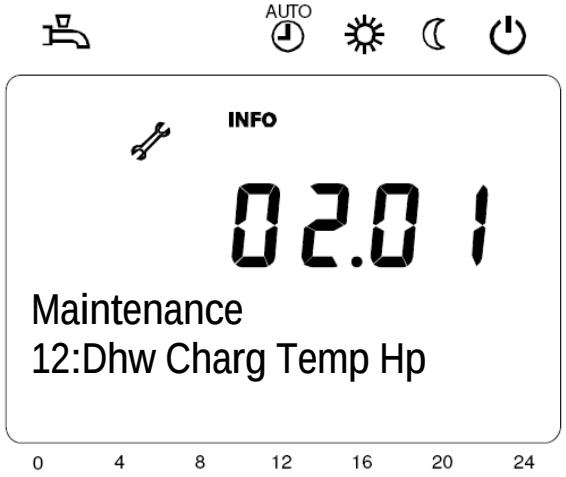
In exceptional situations the display shows one of the following symbols:

Error messages



Error message
When this symbol appears an error has occurred in the system.
In this case press the info button to obtain more information.

Figure 5 Viewing the error messages on the display



Maintenance or special mode
When this symbol appears a maintenance warning has taken place or the system has switched to special mode.
Press the info button to obtain more information.

Figure 6 Viewing the error messages on the display

At paragraph 3.8 you'll find a list of the possible messages:

3.9 MANUAL/RESET CONTROL

The Reset key activates different functions depending on how long it is pressed.

- A pressure lasting less than 3 seconds activates the Reset function.
- A pressure lasting more than 3 seconds activates the manual defrost function.

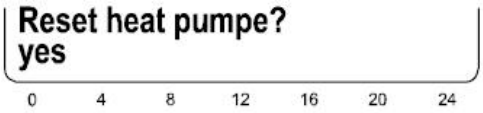
The manual defrost function is not required on Robur units seeing as it is managed directly by the unit electronics. It is advisable not to use this function.

3.10 RESET HEAT PUMP

The error messages present are canceled out with the above button (Paragraph 3.9 MANUAL/RESET CONTROL).

With this operation the expected start up delays are overridden, so that during operation/error search undesired waits are avoided.

During normal operation this function should not be employed.



Once the button is released, Reset takes place successfully in approximately 2 seconds

3.11 PROGRAMMING

Main settings

The settings that cannot be carried out directly by means of functional elements, are managed through programming.

The parameters are structured in pages and operating rows and are subdivided into groups.

☞ By pressing the ESC key one returns to the previous parameter and the modified value is not memorized.

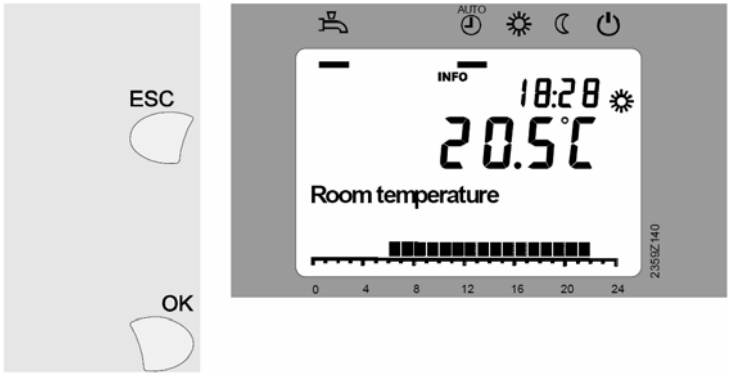
☞ If no interaction takes place for a period of 8 minutes, the device automatically returns to the previous display mode.

☞ Certain operating rows may be hidden and this may depend on the type of device used, its configuration and the user's access level (final user, first operation technician, installation technician etc.)

The illustration below shows an example of how to set the time and date.

EXAMPLE: setting the time and date

Display visualization



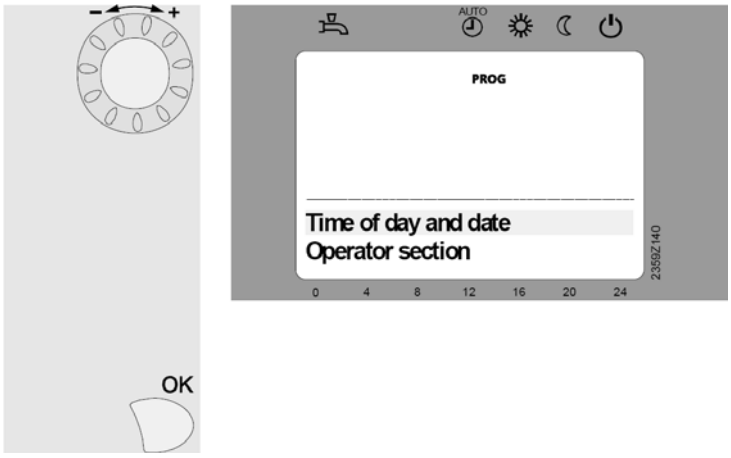
Operating page shown on the display: 'Room temperature'

If this is not the standard initial display press the ESC button.

Press the OK button to confirm.

Figure 7 The display shows the temperature in the room

Select the “Time and date” menu



The lower part of the display shows a number of operating pages.
Rotate the knob until the 'Time and date' operating page is displayed.

Press the OK button to confirm.

Figure 8 The display shows the menu of time and date to be modified.

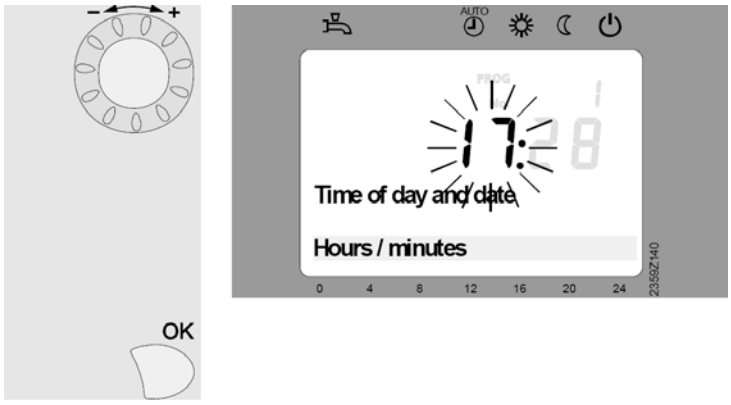
Parameter selection: “Hours/Minutes”

In the lower half of the display the first operating row of the 'Time and date' page is displayed.
Rotate the knob until the 'Hours/ minutes' operating row is displayed.

Press the OK button to confirm.

Figure 9 The display shows the hours and minutes to be changed.

Change Hour

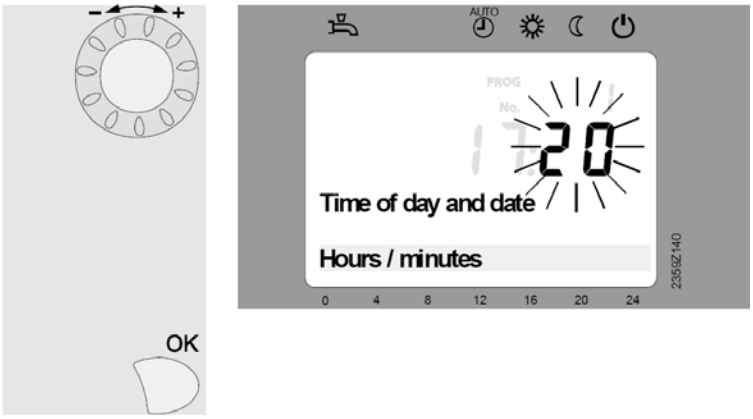


The hour display starts to flash
Rotate the knob to set the correct hour.

Press the OK button to confirm.

Figure 10 The hour displayed flashes

Changing the minutes

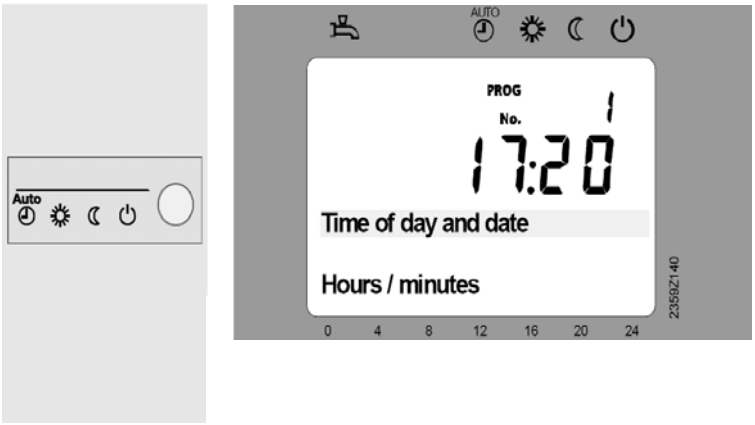


The minute display flashes
Rotate the knob to set the correct minutes.

Press the OK button to confirm.

Figure 11 The minute display flashes

Time and date are changed



The settings are saved. The display stops flashing.

It is possible to set other parameters or return to the initial display by pressing the operating mode button, otherwise, to leave the setting page, press the operating procedure button or ESC.

Figure 12 The display now shows the set time.

3.12 DISPLAYING PARAMETERS

The table below shows the parameters that may be accessed by the final user.

A few of them may be 'hidden' depending on the control unit used.

U = FInal user

BZ = Row number

Operating row	User level	Function	Factory settings	Minimum	Maximum	Unit measure
Time and date						
1	U	Hour/ minutes	-	00:00	23:59	hh:mm
2	U	Month, day	-	01.01	31.12	dd.mm
3	U	Year	-	2004	2099	yyyy
Control unit						
20	U	Language German¦ ...	German	-	-	-
Hourly program for heating circuit 1						
500	U	Preselection Mo - Su ¦ - Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦ Su	Mo - Su	-	-	-
501	U	1° period on	06:00	00:00	24:00	hh:mm
502	U	1° period off	22:00	00:00	24:00	hh:mm
503	U	2° period on	24:00	00:00	24:00	hh:mm
504	U	2° period off	24:00	00:00	24:00	hh:mm
505	U	3° period on	24:00	00:00	24:00	hh:mm
506	U	3° period off	24:00	00:00	24:00	hh:mm
516	U	Standard values No ¦ Yes	No	-	1	-
Hourly program for heating circuit 2						
520	U	Preselection Mo - Su ¦ - Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦ Su	Mo - Su	-	-	-
521	U	1° period on	06:00	00:00	24:00	hh:mm
522	U	1° period off	22:00	00:00	24:00	hh:mm
523	U	2° period on	24:00	00:00	24:00	hh:mm
524	U	2° period off	24:00	00:00	24:00	hh:mm
525	U	3° period on	24:00	00:00	24:00	hh:mm
526	U	3° period off	24:00	00:00	24:00	hh:mm
536	U	Standard values No ¦ Yes	No	-	1	-
Hourly program 3/CRP						
540	U	Preselection Mo - Su ¦ - Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦ Su	Mo - Su	-	-	-
541	U	1° period on	06:00	00:00	24:00	hh:mm
542	U	1° period off	22:00	00:00	24:00	hh:mm
543	U	2° period on	24:00	00:00	24:00	hh:mm
544	U	2° period off	24:00	00:00	24:00	hh:mm
545	U	3° period on	24:00	00:00	24:00	hh:mm

Operating row	User level	Function	Factory settings	Minimum	Maximum	Unit measure
546	U	3° period off	24:00	00:00	24:00	hh:mm
556	U	Standard values No ¦ Yes	No	-	1	-
Hourly program 4 / ACS						
560	U	Preselection Mo - Su ¦ - Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦ Su	Mo - Su	-	-	-
561	U	1° period on	00:00	00:00	24:00	hh:mm
562	U	1° period off	05:00	00:00	24:00	hh:mm
563	U	2° period on	24:00	00:00	24:00	hh:mm
564	U	2° period off	24:00	00:00	24:00	hh:mm
565	U	3° period on	24:00	00:00	24:00	hh:mm
566	U	3° period off	24:00	00:00	24:00	hh:mm
576	U	Standard valuesNo ¦ Yes	No	-	1	-
Hourly program 5 (Cooling)						
600	U	Preselection Mo - Su ¦ - Mo - Fr ¦ Sa - Su ¦ Mo ¦ Tu ¦ We ¦ Th ¦ Fr ¦ Sa ¦ Su	Mo - Su	-	-	-
601	U	1° period on	06:00	00:00	24:00	hh:mm
602	U	1° period off	22:00	00:00	24:00	hh:mm
603	U	2° period on	24:00	00:00	24:00	hh:mm
604	U	2° period off	24:00	00:00	24:00	hh:mm
605	U	3° period on	24:00	00:00	24:00	hh:mm
606	U	3° period off	24:00	00:00	24:00	hh:mm
616	U	Standard values No ¦ Yes	No	-	1	-
Holiday CR 1						
641	U	Preselection from period 1 to period 8	period 1 - period 8	-	-	-
642	U	Start	--.--	01.01	31.12	dd.mm
643	U	End	--.--	01.01	31.12	dd.mm
648	U	Common operating level Antifreeze protection ¦ Reduced	Antifreeze protection	-	-	-
Holiday CR 2						
621	U	Preselection from period 1 to period 8	period 1 - period 8	-	-	-
652	U	Start	--.--	01.01	31.12	dd.mm
653	U	End	--.--	01.01	31.12	dd.mm
658	U	Common operating level Antifreeze protection ¦ Reduced	Antifreeze protection	-	-	-
Holiday CR P						
661	U	Preselection from period 1 to period 8	period 1 - period 8	-	-	-
662	U	Start	--.--	01.01	31.12	dd.mm
663	U	End	--.--	01.01	31.12	dd.mm
668	U	Common operating level Antifreeze protection ¦ Reduced	Antifreeze protection	-	-	-
Heating circuit 1						
710	U	Comfort setpoint	20.0	BZ 712	BZ 716	°C
712	U	Reduced setpoint	19	BZ 714	BZ 710	°C

Operating row	User level	Function	Factory settings	Minimum	Maximum	Unit measure
714	U	Antifreeze protection setpoint	10.0	4	BZ 712	°C
720	U	Characteristic curve pitch	0.8	0.10	4.00	-
730	U	Summer / winter switch limit	18	- - - / 8	30	°C
Cooling circuit 1						
901	U	Operating mode off ¦ Automatic	Automatic	-	-	-
902	U	Comfort setpoint	24	15	40	°C
907	U	Release / Consent 24h a day ¦ Hourly heating circuit program¦ Hourly program 5	24h/Day	-	-	-
Heating circuit 2						
1010	U	Comfort setpoint	20.0	BZ 1012	BZ 1016	°C
1012	U	Reduced setpoint	16	BZ 1014	BZ 1010	°C
1014	U	Antifreeze protection setpoint	10.0	4	BZ 1012	°C
1020	U	Characteristic curve pitch	0.8	0.10	4.00	-
1030	U	Summer / winter switch limit	18	- - - / 8	30	°C
Heating circuit P						
1300	U	Operating modeProtection ¦ Automatic ¦ Reduced¦ Comfort	Automatic	-	-	-
1310	U	Comfort setpoint	20.0	BZ 1312	BZ 1316	°C
1312	U	Reduced setpoint	19	BZ 1314	BZ 1310	°C
1314	U	Antifreeze protection setpoint	10.0	4	BZ 1312	°C
1320	U	Heating curve pitch	0.8	0.10	4.00	-
1330	U	Summer / winter switch limit	18	- - - / 8	30	°C
Hot water for domestic use ACS						
1610	U	Nominal setpoint	50	BZ 1612	TempBwMax	°C
Maintenance / Assistance						
7120	U	Eco operating mode off ¦ on	Off	-	-	-
7141	U	Emergency operation off ¦ on	Off	-	-	-
Diagnostic parameters (Only Display)						
8410	U	Heat pump return temperature	-	0.0	140.0	°C
8411	U	Heat pump setpoint	-	0.0	140.0	°C
8412	U	Heat pump delivery temperature	-	0.0	140.0	°C
8427	U	Source entry temperature	-	-50.0	50.0	°C
8429	U	Source exit temperature	-	-50.0	50.0	°C
Client diagnostics (Only Display)						
8700	U	External temperature	-	-50.0	50.0	°C
8701	U	Minimum external temperature	-	-50.0	50.0	°C
8702	U	Maximum external temperature	-	-50.0	50.0	°C
8740	U	room temperature 1	-	0.0	50.0	°C
8741	U	room setpoint 1	20	4.0	35.0	°C
8743	U	Delivery temperature 1	-	0.0	140.0	°C
8744	U	Delivery setpoint 1	-	0.0	140.0	°C

Operating row	User level	Function	Factory settings	Minimum	Maximum	Unit measure
8756	U	Cooling delivery temperature 1	-	0	140	°C
8757	U	Cooling delivery setpoint 1	-	0	140	°C
8770	U	room temperature 2	-	0.0	50.0	°C
8771	U	room setpoint 2	20	4.0	35.0	°C
8773	U	Delivery temperature 2	-	0.0	140.0	°C
8774	U	Delivery setpoint 2	-	0.0	140.0	°C
8800	U	room temperature P	-	0.0	50.0	°C
8801	U	room setpoint P	20	4.0	35.0	°C
8803	U	Delivery setpoint P	-	0.0	140.0	°C
8830	U	ACS temperature 1	-	0.0	140.0	°C
8831	U	ACS setpoint temperature	55	8.0	80.0	°C
8980	U	Temp 1 buffer storage tank	-	140.0	140.0	°C
8982	U	Temp 2 buffer storage tank	-	140.0	140.0	°C
9031	U	Relay output QX1 Off ¦ On	Off	-	-	-
9032	U	Relay output QX2 Off ¦ On	Off	-	-	-
9033	U	Relay output QX3 Off ¦ On	Off	-	-	-
9034	U	Relay output QX4 Off ¦ On	Off	-	-	-
9035	U	Relay output QX5 Off ¦ On	Off	-	-	-
9036	U	Relay output QX6 Off ¦ On	Off	-	-	-

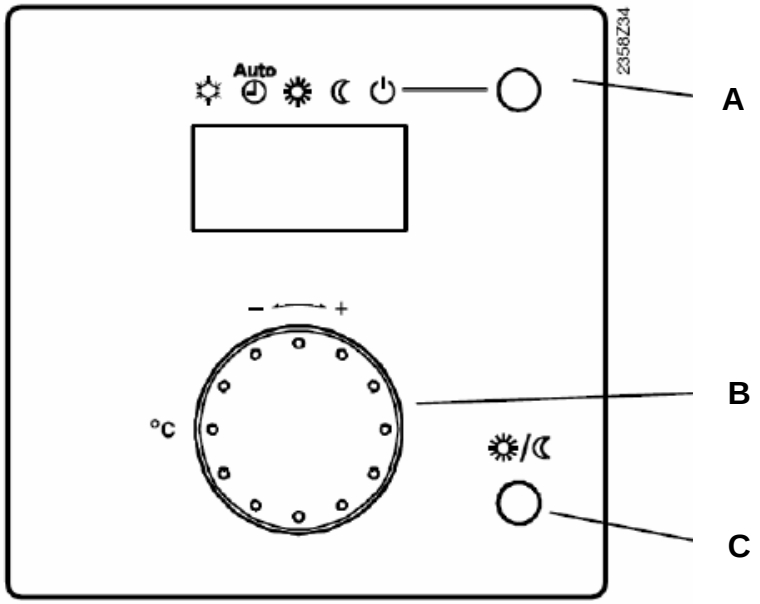
Table 3 Parameter tables

SECTION 4 OPERATING PROCEDURE QAA55…

4.1 CONTROL LEGEND

Room unit QAA55..

QAA55…



A - Heating mode
heating
B - Comfort setpoint regulation
room
- Navigation and settings
C - Presence key

Figure 13 Key description on room unit QAA55…

4.2 DISPLAY SYMBOLS

Heating at Comfort Setpoint

Heating at reduced Setpoint

Error message

Display

The display shows all available segments.

Display

Figure 14 The Display shows all available segments

Display

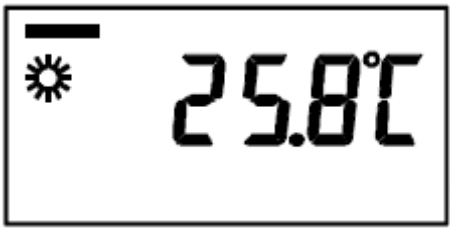
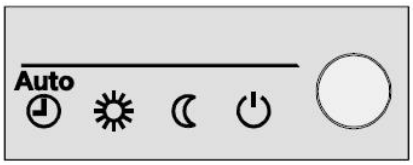


Figure 15 Starting display

4.3 SELECTION OF HEATING MODE

Heating mode



Press the button to select the different heating modes.
The selected mode is indicated by a bar beneath the relative symbol.

Automatic operation AUTO

Automatic operation checks the room temperature based on a set time sequence.

Features of the automatic operation:

- Heating mode based on a time sequence.
- Temperature setpoint dependent on the “Setpoint Comfort” ☼ or “reduced Setpoint” ☾
- Active protection systems (Antifreeze).
- Automatic Summer / winter switch (ECO functions).

Continuous operation ☼ or ☾

Continuous operation maintains the room temperature at the selected level.

- ☼ Heating at Comfort setpoint
- ☾ Heating at Reduced setpoint

Features of continuous operation:

- Heating with programmed timing off.
- Active protection systems (Antifreeze).
- Automatic Summer / winter switch (ECO functions) and 24 hour limit of non active heating, when the continuous operation is selected with the Comfort setpoint.

Protection mode ⏻

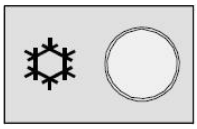
Using the Protection mode the heating is off, but the antifreeze protection is in operation(antifreeze protection temperature).

Features of the Protection mode:

- Heating OFF.
- Temperature according to antifreeze protection.
- Active protection systems (Antifreeze).
- Automatic Summer / winter switch (ECO functions) and 24 hour limit of non active heating.

4.4 COOLING MODE SELECTION (IF AVAILABLE)

Cooling mode



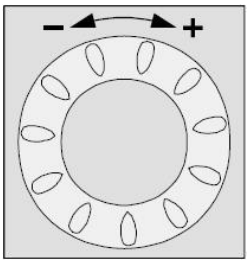
The cooling function priority is visible in the display by means of a bar between the display symbols.

The cooling function is active when this symbol appears.

Features of the cooling function:

- Cooling mode based on an hourly schedule
- Temperature setpoint based on the “cooling comfort setpoint”
- Protection feature active (Antifreeze)
- Cooling limit based on external temperature

4.5 ROOM TEMPERATURE SETPOINT CORRECTION

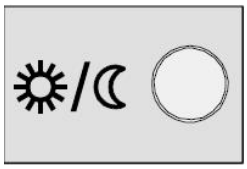


The heating setpoint, or the cooling setpoint, are inserted depending on the current operating mode (if the system is in “Heating” mode then the change will affect the heating setpoint, if the “cooling” mode is selected then it will affect the Conditioning setpoint).

Rotate the knob to increase the setpoint (clockwise) or to decrease it (anti-clockwise). Confirm by pressing the OK button.

After having carried out the change wait at least 2 hours to allow the requested room temperature to be reached.

4.6 PRESENCE KEY



When the premises are not occupied for a certain period of time, by pressing the presence key, the room temperature is reduced, allowing a saving in energy consumption.

By pressing the key once more the system returns to the heating mode.

The presence key can only be activated in Automatic mode. The setting remains active until the next scheduled heating operation is triggered.

4.7 CHANGE SETTINGS

The operations that need to be performed to change the parameters.

1. Press the OK button
2. Rotate the knob and select the string relative to the section containing the parameter that needs to be changed. Table 3 reported on page 24 (the string outlined in grey identifies the section)
3. Press the OK button
4. Rotate the knob and Select the parameter to Table 3 reported on page 24 (description of the string that appears in the display in the “Function” column)
5. Press the OK button
6. Rotate the knob to modify the parameter
7. Rotate the knob to modify the parameter

At this point one may:

8. Resume from point 4. to modify other parameters in the same section
9. Press ESC to go back to the original screen

☞ If a parameter is selected by mistake, that should not actually be changed, press ESC to void the operation. In this way the changes made are not saved.

SECTION 5 PARAMETER DETAIL

This section shows in detail, divided into individual paragraphs (just as shown on the interface), the parameter that the user can change.

Refer to paragraph 4.7 of SECTION 3 of this manual for details on how to change the parameters.

5.1 LANGUAGE

You will find below the instructions to set the language used to visualize the settings on the display.

Move into the Siemens interface: THE DISPLAY SHOWS: Figure 7

☞ If the display shows anything different, press the ESC key

1. Press the OK **button**
2. Using the selection knob (Figure 4) select the **Control Unit string.**
3. Press the OK **button**
4. The row number appears in the top right hand corner, then rotate the knob and **take position on the row corresponding to the parameter to be changed→ No. 20 (Language)**
5. Press the **OK →**button the parameter to be changed begins to flash (in the low right hand corner the possible options).
6. **Change the parameter** by rotating the knob
7. Press the **OK** key to confirm the selected language
8. Press **ESC** to return to the main screen

5.2 TIME AND DATE

The control is equipped with a year round clock with time, day of the week and date.

To ensure a correct operation of the controller, both the time and date must be set correctly.

Row number	Function
1	Hours/minutes
2	Month/day
3	Year
5	Start summer period (at present not visible to the user)
6	End of summer period (at present not visible to the user)

Table 4 Programming time and date

Compare paragraph 3.11: Example setting the time and the date

5.3 HOURLY PROGRAM

For the heating and the ACS circuits a certain number of switching programs are available.

They are activated in “Automatic” mode and control the temperature variation levels (and the relative setpoint) according to the selected switch times.

The switch times can be selected as a combination, that is to say, that they can be standard for more than just one day or have different setting for each single day.

The preselection of the days as groups, such as for example Mo... Fr and Sa.. Su, simplifies and speeds up the setting of the switching program.

Operate as follows:

1. Press **OK**
2. Select the hour program for the circuit in question(**CR1, CR2, CRP, 5**) ex. Heating circuit 1
3. Press **OK**
4. Select the **row that corresponds to the parameter in question** (Table 5) ex. 500 to select the time slot to be programmed.
5. Press **OK**
6. Rotate the knob until the **the time slot to be programmed** is displayed (the time slot options scroll along in the bottom right corner)
7. Press **OK**
8. Select the **row that corresponds to the time slot to be set** (Table 5) ex. 501 to select the first switching on time
9. Press **OK**

10. Rotate the knob until the time at which the selected CR must come on (in our example the CR1) is displayed
11. Press **OK**
12. Rotate the knob until the time at which the selected CR must go off (in our example he CR1) is displayed
13. Press **OK**
14. **Repeat from point 6. to set other time slots**(a maximum of 3 time slots may be set)
15. Press **ESC**

The number 5 identifies the cooling circuit

Row number					Operating row
CR1	CR2	3/CRP	4/ACS	5	
500	520	540	560	600	Preselection Mo – Su Mo – Fr Sa – Su Mo – Su
501	521	541	561	601	1° period on
502	522	542	562	602	1° period off
503	523	543	563	603	2° period on
504	524	544	564	604	2° period off
505	525	545	565	605	3° period on
506	526	546	566	606	3° period off

Table 5 Parameter tables

The hour programs can be returned to the original values (factory setting).

If necessary operate as follows:

1. Press **OK**
2. Select the hour program for the circuit in question (**CR1, CR2, CRP, 5**)
3. Press **OK**
4. Select the **row that corresponds to the parameter in question** (Table 6)
5. Press **OK**
6. Press **OK**
7. Rotate the knob until the flashing **YES**is displayed
8. Press **OK**
9. Press **ESC**

The number 5 identifies the cooling circuit

Row number					Operating row
CR1	CR2	3/CRP	4/ACS	5	
516	536	556	576	616	Standard values No Yes

Table 6 Parameter tables

☞ If changes are made, the earlier settings will be lost.

5.4 HOLIDAY PROGRAM

The holiday program is used to switch the heating circuit to the desired mode, according to the calendar days selected.

☞ The holiday program can only used in “Automatic” mode.

Row number			Operating row
CR1	CR2	CRP	
641	651	661	Preselection
642	652	662	Start
643	653	663	End
648	658	668	Operating level Antifreeze protection Reduced

Table 7 Parameter tables

☞ To set the Holiday program do as follows:

1. Press **OK**
2. Select the holiday hour program for the circuit in question (**Holiday CR1, Holiday CR2, Holiday CRP**)
3. Press **OK**
4. Select the **row that corresponds to the parameter in question** (Table 7) ex. 641 to select the period to be programmed
5. Rotate the knob to select the period to be set
6. Press **OK**
7. Select the **row that corresponds to the parameter in question** (Table 7) Example. 642 to select the start of the holiday period
8. Press **OK**
9. Rotate the knob to visualize **the month**the holiday is to start

10. Press **OK**
11. Rotate the knob to visualize **the day**the holiday is to start
12. Press **OK**
13. **Repeat from point 4. to set the other parameters.**
14. Press **ESC**

5.5 HEATING CIRCUIT

A number of different functions are available for the heating circuit, some of which can be selected for each individual heating circuit.

The operating rows of the second heating circuit are visible when an additional AVS75.390 module is connected to the controller.

The operating rows of the heating circuit pump are visible when a multi-function output is set as the heating circuit pump.

Setpoints

Row number			Operating row
CR1	CR2	CRP	
710	1010	1310	Comfort setpoint
712	1012	1312	Reduced setpoint
714	1014	1314	Antifreeze protection setpoint

Table 8 Parameter tables

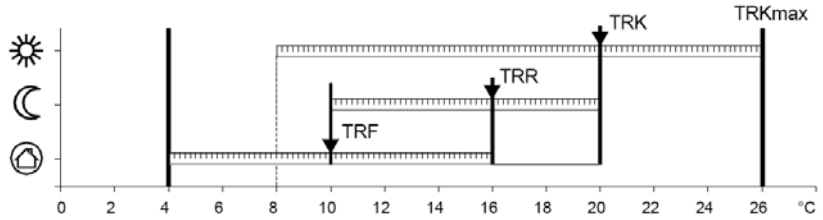
Room temperature

The room temperature can be modified for different setpoints, which come on depending on the operating mode selected (Heating or cooling).

This produces different temperature levels in the environment.

The range of modifiable setpoints is shown in the following diagram.

Setpoints



TRKmax - Maximum Comfort setpoint
TRK - Comfort setpoint
TRR - Reduced setpoint
TRF - Antifreeze protection setpoint

Figure 16 Range of modifiable setpoints

Antifreeze protection

The **Protection** mode ensures that the room temperature never slips below a certain threshold.

This means that the antifreeze protection setpoint of the room temperature will be maintained.

☞ To carry out the settings follow the instructions at paragraph 4.7 of SECTION 3

Eco functions

The Eco function may be unlocked by parameter 7119. The unlocking can only be performed by a specialist/installation technician

Row number			Operating row
CR1	CR2	CRP	
730	1030	1330	Summer / winter switch limit

Summer / winter switch

The summer / winter switch limit is used to turn the heating on and off during the course of the year, depending on the external temperature.

In “Automatic”, mode the system comes and and goes off automatically, without any manual intervention on behalf of the user.

By modifying the parameter the time period will be reduced or extended.

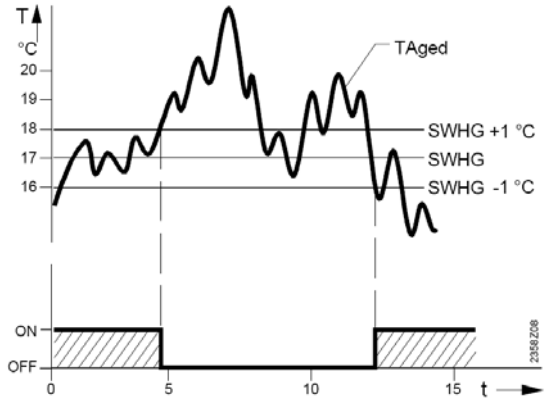
- Increase:
  - The winter function is brought forward
  - The Summer function is postponed
- Reduction:
  - The winter function is postponed
  - The Summer function is brought forward

The function is not operational in the “Continuous Comfort temperature mode ☼“.

The display posts “ECO”

To calculate the building dynamics, the reduced external temperature is taken as the point of reference.

Summer / winter switch diagram



SWHG - Summer / winter switch limit
TAged - Attenuated external temperature
T - Temperature
t - Days

Figure 17 Example of summer/winter switch

5.6 DOMESTIC HOT WATER

RVS61.. regulates the temperature of the domestic hot water (ACS) based on the set hourly program(paragraph 5.3 on page 31) or according to the desired setpoint chosen.

the priority of the domestic water load can be set based on the room temperature.

The controller has an anti-legionella function that may be set in great detail by the installation technician, which fights any legionella in the tank.

ACS

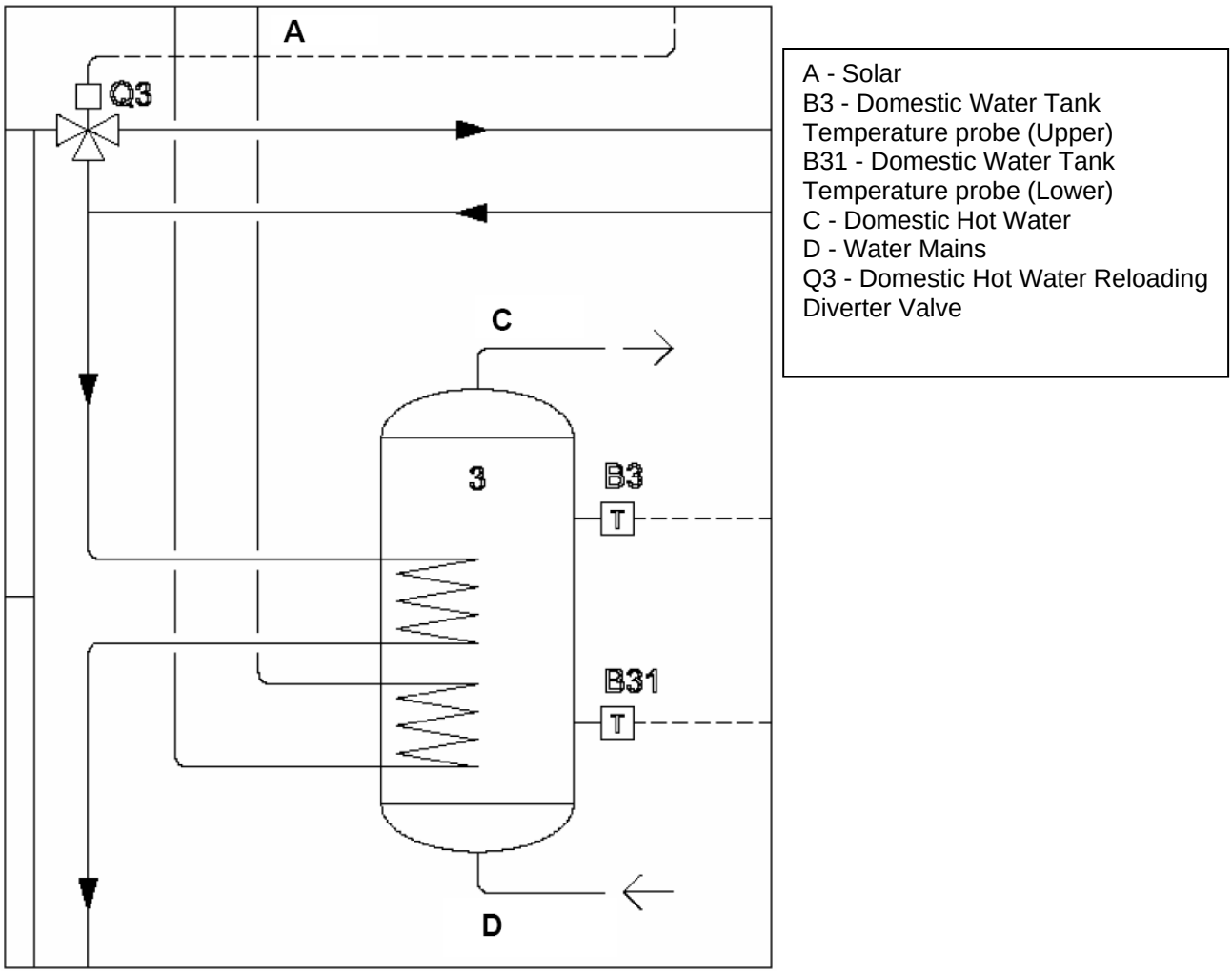


Figure 18 Example of ACS Build-up

5.7 SETPOINT

☞ If the B3 probe (seeFigure 18) is not connected to the RVS61 module.., it will not be possible to set the parameters shown in the table below.

Row number	Operating row
1610	Nominal setpoint

The domestic water can be heated to different setpoints, active or otherwise, based on the operating mode selected. This enables different temperature levels to be managed in the domestic water tank.

ACS setpoints

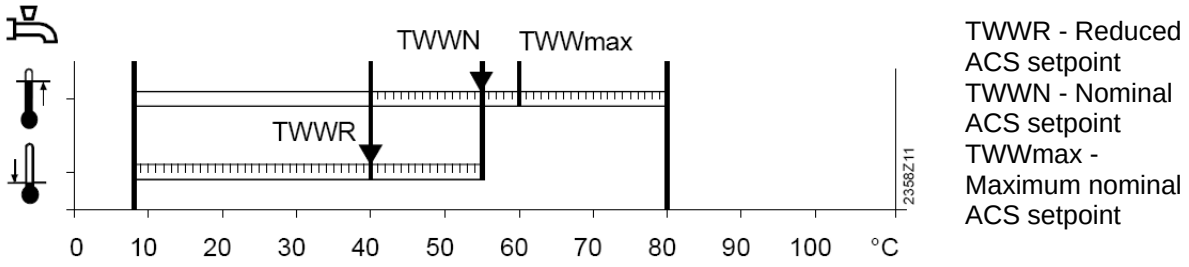


Figure 19 Range of modifiable setpoints

☞ To carry out the settings follow the instructions at paragraph 4.7.

5.8 EMERGENCY OPERATION

If the heat pump should not function correctly, the emergency operation may be started up.

This operating mode allows the system to operate with the integration boiler (if present), or by activating any potential electrical resistances (if available).

In these operating conditions the heat pump will remain off.

The emergency operation can be turned on (ON) or turned of (OFF) manually by acting on the parameter 7141, in the Maintenance/Assistance section.

☞ The Emergency operation is set by Robur on Automatic, in this way if all the heat pumps present in the system show an error, any available boiler or integrating resistance is automatically activated.

☞ To carry out the settings follow the instructions at paragraph 4.7ofSECTION 3 at the item Maintenance/Assistance.

SECTION 6 HANDLING OF ERRORS

When a break down takes place an error code is displayed.

By pressing the relative “information” key (fig. 4.1-H and fig. 4.2-C) the cause that has generated it is shown on the display.

6.1 ERROR HISTORY

The controller keeps a record of the last 10 errors in its memory. The next memorization wipes out the last memory.

For each error the system records the error code, the date and time in which the error took place.

Through the ACS 700-PC tool, the certified technical assistants can visualize the actual values, the setpoints and the relay outputs for each error.

6.2 ERROR RESET

The error reset can be done manually or automatically (see the next table for the error messages) depending on the type of error.

Manual reset

If the case of an error displayed at an information level in which “**Reset ? appears**”, the reset can be carried out manually.

After having pressed the “OK” button once, a flashing “Yes” sign will appear on the display.

By pressing the “OK” button a second time the “Yes” message is confirmed and the error is reset.

Automatic reset

The automatic recognition takes place at the end of a preset period of time (OEM parameter managed by Robur). Once this time has elapsed (the default setting is 6 hours) the controller attempts to carry out error reset.

The following error messages can take place:

Nr: error text	Reset	Localisation		Heat pump in operation	Priority
		Man.	Autom.		
0: No error					
10: Outside sensor	B9	No	No	Yes	6
26: Common flow sensor	B10	No	No	Yes	6
30 Flow sensor 1	B1	No	No	Yes	6
31: Flow sensor cooling 1	B16	No	No	Yes	6
32: Flow sensor 2	B12	No	No	Yes	6
33: Flow sensor HP	B21	No	No	Yes	6
35: Source inlet sensor	B91	No	No	Not in Sun	9
36: Hot-gas sensor 1	B81	No	No	Yes	6
37: Hot-gas sensor 2	B82	No	No	Yes	6

Nr: error text	Reset	Localisation		Heat pump in operation	Priority
		Man.	Autom.		
38:Flow sensor prim controller	B15	No	No	Yes	6
39: Evaporator sensor	B84	No	No	Not in Air	9
44:Return sensor HP	B71	No	No	Depends on the diagram	6
45: Source outlet sensor	B92	No	No	No in Water	9
46: Return sensor cascade	B70	No	No	Yes	6
48: Refrigerant sensor, liquid	B83	No	No	Yes	6
50: DHW sensor 1	B3	No	No	Yes	6
52: DHW sensor 2	B31	No	No	Yes	6
54: DHW flow sensor	B35	No	No	Yes	6
57: DHW circulation sensor	B39	No	No	Yes	6
60: Room sensor 1		No	No	Yes	6
65: Room sensor 2		No	No	Yes	6
68: Room sensor 3		No	No	Yes	6
70: Storage tank sensor 1	B4	No	No	Depends on the diagram	6
71: Storage tank sensor 2	B41	No	No	Depends on the diagram	6
72: Storage tank sensor 3	B42	No	No	Yes	6
73: Collector sensor 1	B6	No	No	Yes	6
74: Collector sensor 2	B61	No	No	Yes	6
76: Special sensor 1	BX	No	No	Yes	3
81: LPB short circuit/comm		No	No	Yes	6
82: LPB address collision		No	No	Yes	3
83: BSB short-circuit		No	No	Yes	8
84: BSB address collision		No	No	Yes	3
85: BSB Radio Communications		No	No	Yes	8
98: Extension module 1		No	No	Yes	8
99: Extension module 2		No	No	Yes	8
100: 2 clock time masters		No	No	Yes	3
102: Clock without backup		No	No	Yes	3
105: Maintenance message		No	No	Yes	5
106:Source temperature too low		Yes	Yes	no	6
107: Hot-gas compressor 1		Yes	Sit.imp.*	No	9
108: Hot-gas compressor 2		Yes	Sit.imp.*	No	9
117: Water pressure too high	H1	No	No	Yes	6
118: Water pressure too low	H1	No	No	No	6
121: Flow temperature HC1 too low		No	No	Yes	6
122: Flow temperature HC2 too low		No	No	Yes	6
126: DHW charging supervision		No	No	Yes	6
127:Legionella temperature		no	No	Yes	6
134: Common fault HP	“0” and “1”	Yes	Sit. Imp. *	No	9
138: Control sensor HP missing		No	Yes	No	1
146: Sensor/controlling element config		No	No	Yes	3
171: Contact alarm 1 active		No	No	Yes	6
172: Contact alarm 2 active	H2	No	No	Yes	6
174: Contact alarm 4 active	H3	No	No	Yes	6
176: Water pressure 2 too high	H2	No	No	Yes	6
177: Water pressure 2 too low	H2	No	No	No	6

Nr: error text	Reset	Localisation		Heat pump in operation	Priority
		Man.	Autom.		
178: Limit thermostat HC1		No	No	Yes	3
179: Limit thermostat HC2		no	No	Yes	3
201: Frost alarm	B21/71	Yes	E16	No	9
204: Fan overload	E16	Yes	Sit. Imp.*	No	9
222: Hi-pressure on HP op	E10	Yes	Sit. Imp.*	No	9
223: Hi-press on start HC	E10	Yes	No	No	9
224: Hi-press on start DHW	E10	Yes	No	No	9
225: Low pressure	E9	Yes	Sit. Imp.*	No	9
226: Compressor 1 overload	E11	Yes	Sit. Imp.*	No	9
227:Compressor 2 overload	E12	Yes	Sit. Imp.*	No	9
228: Flow swi heat source	E15	Yes	Sit. Imp.*	No	9
229: Press swi heat source	E15	Yes	Sit. Imp.*	No	9
230: Source pump overload	E14	Yes	Sit. Imp.*	No	9
241: Flow sensor yield	B63	No	No	Yes	6
242: Return sensor yield	B64	No	No	Yes	6
243:Swimming pool sensor	B13	No	No	Yes	6
247: Defrost fault	B36	Yes	Sit. Imp.*	No	9
320: DHW charging sensor		No	No	Yes	6
321: DHW outlet sensor	B38	No	No	Yes	6
322: Water pressure 3 too high	H3	No	No	Si	6
323: Water pressure 3 too low	H3	No	No	No	6
324: BX same sensors		No	No	Yes	3
325: BX/e' module same sens		No	No	Yes	3
327: E' module same funct		No	No	Si	3
329: E'mod/m'grp same funct		No	No	Yes	3
330: BX1 no function		No	No	Yes	3
331: BX2 no function		No	No	Yes	3
332: BX3 no function		no	No	yes	3
333: BX4 no function		No	No	Yes	3
334: BX5 no function		No	No	Yes	3
335: BX21 no function		No	No	Yes	3
336: BX22 no function		No	No	Yes	3
339: Coll pump Q5 missing		No	No	Yes	3
340: Manifold pump Q16 missing		No	No	Yes	3
341: Coll pump B6 missing		No	No	Yes	3
343: Solar buffer K8 missing		No	No	Yes	3
344: K8 solar buffer missing		No	No	Yes	3
345: Solar swimming K18 missing		No	No	Yes	3
350: Buffer address error		No	No	Yes	3
351: Prim/sys pump addr err		No	No	Yes	3
352: Pr'less header addr err Hyd		No	No	Yes	3
353: Cacade sensor B10 missing		No	No	Yes	3
354: Special sensor 2	BX	No	No	Yes	3
355: Three phase curr asymetrical	E21-23	Yes	Sit. Imp..*	No	9
356: Flow switch consumers	E24	Yes	Sit. Imp..*	No	9
357: Flow temp cooling 1		No	No	Yes	6
358: Soft starter	E25	No	No	No	9
359: Div valve cool Y21 missing		No	No	Yes	3
360: Proc rev val Y22 missing		No	No	Yes	3

Nr: error text	Reset	Localisation		Heat pump in operation	Priority
		Man.	Autom.		
361: Source sensor B91 missing		No	No	Yes	3
362: Source sensor B92 missing		No	No	Yes	3
363: Compr sensor B84 missing		No	No	Yes	3
364:Cool system HP wrong		No	No	Yes	3
365: Inst H'pump Q34 missing		No	No	yes	3

Table 9 Error table

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Robur is dedicated to dynamic progression
in research, development and promotion
of safe, environmentally-friendly, energy-efficiency products,
through the commitment and caring
of its employees and partners.

Robur Mission

ROBUR®
caring for the environment

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