![ROBUR logo - caring for the environment]

User manual

System controller

for modulating gas-absorption condensing heat pump + renewable aerothermal energy K18

Revision: A
Code: D-LBR850

INDEX OF CONTENTS

I   INTRODUCTION

User manual

This "User manual" is a guide to the use and configuration of the K18 System controller. The System controller consists of an electrical enclosure (CSK18), generally installed in a machine room, with an included room unit, and at most two other optional room units which can be added to improve comfort control when the heating system consists of two or three separate heating circuits, or two or three zone valves.

This manual assumes that you are familiar with the products Robur and information contained in the equipment's respective installation, user and maintenance manuals.

I.1   RECIPIENTS

This manual is specifically intended for:

► End users, for the operation of the appliance according to their own requirements.
► Installers of the water and electrical circuits, as a supplement to the K18 System controller installation manual (and the KECSK18 System controller expansion kit installation manual, if applicable).

I.2   REFERENCES

Further information can be found in the following documents:

K18 System controller installation manual.

KECSK18 System controller for K18 expansion kit installation manual.

Installation, use and maintenance manual of the specific K18 unit model used.

II   SYMBOLS AND DEFINITIONS

II.1   KEY TO SYMBOLS

DANGER

WARNING

NOTE

PROCEDURE

REFERENCE (to other document)

II.2   TERMS AND DEFINITIONS

DHW = domestic hot water.

HC = heating circuit
HC1 or C1 = Heating circuit 1 (with or without mixing valve), or zone 1.
HC2 or C2 = Heating circuit 2 (with or without mixing valve), or zone 2.
HC3 or C3 = Heating circuit 3 (without mixing valve), or zone 3.
CSK18 = System controller for K18 installed in the provided enclosure.
Siemens QAA74.611 = advanced room unit.
Siemens QAA55.110 = base room unit.
Appliance / Unit K18 = equivalent terms, both used to refer to K18 Simplygas or K18 Hybrigas unit type.
Auxiliary boiler = equipment (e.g. boiler) for the production of heat for space heating and/or DHW, able to integrate or replace the heat pump of the K18 unit. It is always found in the K18 Hybrigas type of unit and consists of an integrated boiler module, whereas it is optional in K18 Simplygas units, not necessarily supplied by Robur, and connected to the plumbing system outside the unit.
TAC = Technical Assistance Centre authorised by Robur.

III   WARNINGS

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

III.1   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 observe the above instructions can compromise the safety of the appliance and voids the Robur warranty.

Do not operate the appliance if any dangers are present: mains power problems; parts of the appliance flooded or damaged in any way; control and safety equipment tampered with or malfunctioning. In these cases, contact a professional technician for assistance.

Packaging (plastic bags, polystyrene foam, etc.) must be kept out of the reach of children, as they are potentially dangerous.

1   GENERAL INFORMATION

Figure 1.1 *p. 5* shows the equipment of the K18 System controller.

Figure 1.1 *K18 system controller components*
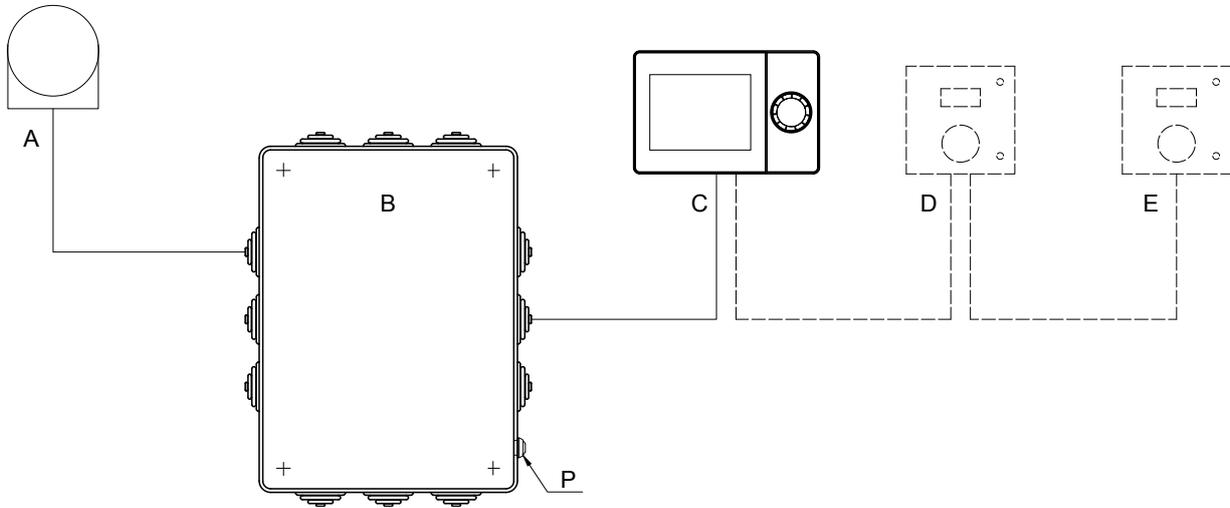
A   QAC34 ambient temperature probe
B   CSK18 enclosure
C   Room unit 1 (QAA74.611)
D   Room unit 2 (Optional - QAA55.110, shown, or QAA74.611)
E   Room unit 3 (Optional - QAA55.110, shown, or QAA74.611)
P   K18 fault reset button

2   USER INSTRUCTIONS: QAA74.611 ADVANCED ROOM UNIT

2.1   DESCRIPTION

Figure 2.1 *QAA74.611 room unit - Description of display elements and of the control knob*
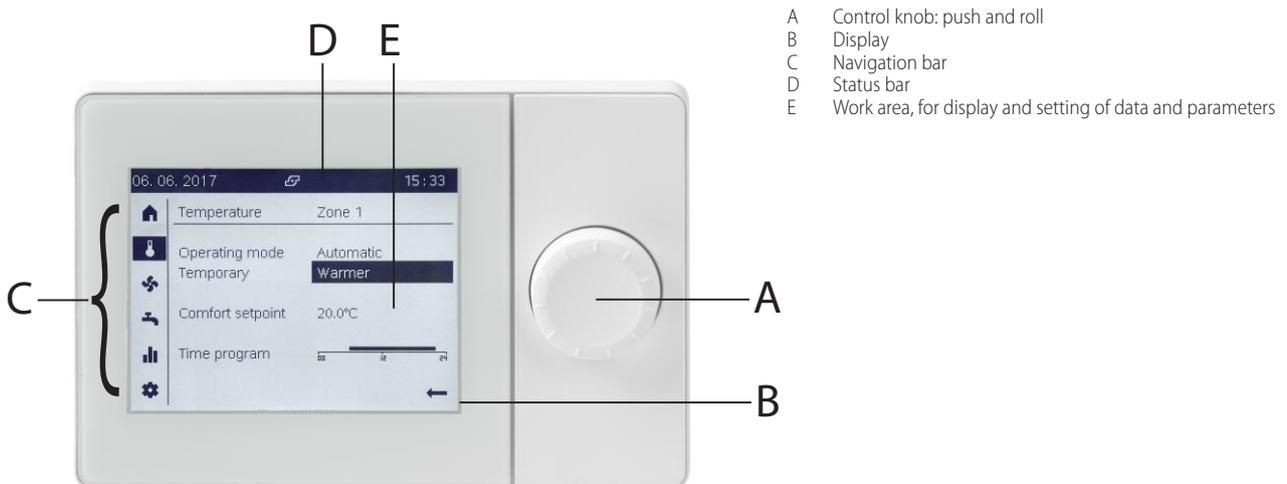
A   Control knob: push and roll
B   Display
C   Navigation bar
D   Status bar
E   Work area, for display and setting of data and parameters

2.2   DISPLAY ELEMENTS AND RELATIVE FUNCTION

The display is arranged in three distinct areas, shown in Figure 2.1 *p. 5*.

2.2.1   Navigation bar

it is a vertical strip on the left of the display and contains some symbols, each representing a group of pages, containing data and/or setting parameters.

The first page of a group can be displayed by *preselecting* one of the symbols shown in the navigation bar, *turning* the knob; the *preselected* symbol is framed, as shown in Table 2.1 *p. 6*. If

required, you can then access the pages of the group by *selecting* the symbol by *pressing* the knob; the *selected* symbol is inverted, i.e white on black background; see again Table 2.1 *p. 6*.

Access to pages is required for:

► View the following pages of the group, when it contains more than one.

► Change settings on the group page(s).

When accessing a group of pages, the first editable field of the page is *preselected* and turning the knob again causes *preselection* of the other editable fields in the page; the last field, present on each page and located at the bottom right, is the ← symbol. By *preselecting* and then *selecting* it by pressing the knob you exit from the page group and then go back again to the navigation bar.

Table 2.1 *Navigation bar symbols different display states*

🏠	Unselected symbol: black symbol on white background
🏠	Preselected symbol: symbol is framed
🏠	Selected symbol: symbol is inverted (white on black background)

Table 2.2 *p. 6* contains the list of symbols in the navigation bar.

Table 2.2 *Navigation bar symbols*

🏠	Start page: plant or zone status; access to plant or zone(s) switch
🌡	Temperature page(s): access to main settings for space heating function
🚰	DHW page: access to main settings for DHW handling (if any)
📊	Info page(s): messages (errors, events), plant information
⚙	Service/setting pages: other user settings and maintenance and TAC special settings

2.2.2 Work area

This is the largest display area, used to show pages containing data and parameters. These pages also provide write access to editable parameters. Below, as an example, is shown the start page.

Figure 2.2 *p. 6* shows how the device start page looks when configured as room unit, i.e. when it is installed inside a heated room and thus acquires the room temperature.

Figure 2.2 *Start page example, for a device configured as room unit*
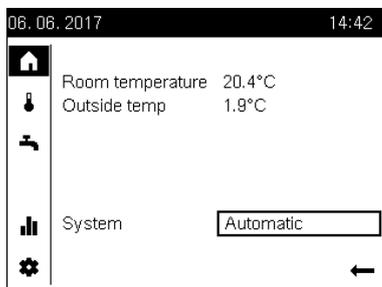
Data:
- Heated room temperature read by the room unit
- Outside temperature read by dedicated probe

Controls:
- Plant/zone switch (described in Paragraph 2.12 *p. 12*)

Figure 2.3 *p. 6* shows how the device looks like, still in room unit configuration, when in standby: only the heated room temperature is shown. The device enters this state after 8 minutes

without operation on the knob. Any action on it causes the exit from the standby state and the start page display.

Figure 2.3 *Appearance of the device, when configured as room unit, in standby*
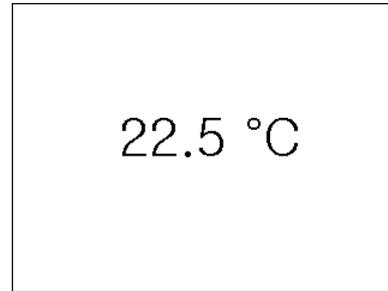

Figure 2.4 *p. 6* shows instead how the device start page looks when configured as operator unit, a setting used when the device is installed in a technical room and therefore must not read the heated room temperature; in this case the information actually reported may vary depending on the type of the system and on device settings.

When the device is configured as operator unit, there is no other standby display: even after long periods without operation, the start page is shown.

Figure 2.4 *Start page example, for a device configured as operator unit*
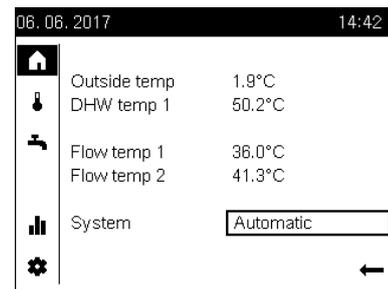
Data:
- External temperature
- DHW temperature (if any)
- Heating circuit 1 flow temperature (if mixed type)
- Heating circuit 2 flow temperature (if any and if mixed type)

Controls:
- Plant/zone switch (described in Paragraph 2.12 *p. 12*)

In Figures 2.2 *p. 6* and 2.4 *p. 6* you can see that the start page symbol in the navigation bar is *selected* (white on black background) and consequently the page has been accessed: the first editable field in the page (in this case "System") is *preselected* (its value is framed). Two actions are possible at this point:

1. Pressing the knob causes the field to be *selected*, which is then shown inverted; by turning the knob it is now possible to change its value and confirm the new setting by pressing the knob again.

     or

2. Clockwise rotation of the knob causes the next field to be *preselected*; in the example shown, the ← symbol is *preselected*; pressing again the knob causes the symbol *selection*, which in this case causes the exit to the start page with focus back to the navigation bar.

When the *selection* of a symbol in the navigation bar causes access to a group of pages, rather than a single page, the first editable field of each page in the group is intended to choose a specific page. An example is described in Paragraph 2.3 *p. 7*.

2.2.3   Status bar

It is a horizontal strip at the top, always shown inverted, i.e. white text and symbols on black background. Table 2.3 *p. 7* provides the list of symbols that can be shown on the status bar.
In the status bar are always shown also the date on the left side and the time on the right side.

Table 2.3 *Status bar symbols*

|		
🔔	Alarm	It is shown when one or more faults in the heat source subsystem (K18 heat pump and/or auxiliary boiler, if any) and/or in the system management subsystem (heating circuits, DHW production system, etc.).
🔧	Maintenance/ Special operations	This is shown when a special function is activated or when the maintenance interval expires. This symbol does not appear in normal controller settings.
📧	Event	It is shown if there is a message about an event that has occurred on the system.
✋	Manual setting	It is shown if for one or more zones managed by the device the operating mode setting has been changed (using the pages accessible from the navigation bar by selecting the 🌡 symbol) compared to the general setting available on the start page. See Paragraphs 2.3 *p. 7* and 2.12 *p. 12* for further details.
⟳	Heat source switched on	It is shown when the main heat source (K18 heat pump) and/or the auxiliary boiler is switched on.

2.3   SELECTING THE HEATING MODE

1. Turn the knob to preselect 🌡 symbol in the navigation bar; the symbol is then shown framed 🌡 and the main settings page for the heating function appears, relative to the first zone (or heating circuit) managed by the device.

2. Press the knob to select the symbol; the symbol is shown in negative 🌡 and the preselection moves to the first editable field on the page, as shown in Figure 2.5 *p. 7*, or in Figure 2.6 *p. 7*, depending on two possible situations, described below:
   - ■ If there are several heating zones or circuits (two or three), and more than one of them is configured on the same device (factory setting), the first editable field allows choosing the zone on which you want to operate. This case is shown in Figure 2.5 *p. 7*, which shows the **Zone 1** preselected field. In this case:
     – To choose the zone, press the knob to select the field, then turn it until the indicated zone is the desired one (**Zone 1**, **Zone 2**, **Zone 3**), then press it again to confirm the choice. The page shown is now the one for the selected zone.
     – Turn again the knob to preselect the **Operating mode** field; the page now appears as shown in Figure 2.6 *p. 7*.

Figure 2.5 *Heating main settings page (case of several zones configured on the device) with zone field preselected*
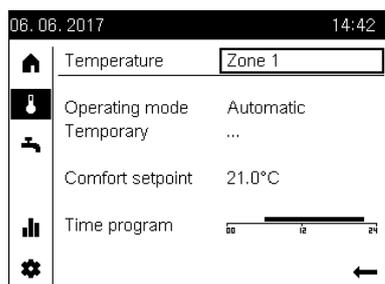
- ■ On the other hand, if the heating system has one zone only, or if only one zone is configured on the specific device, the zone field is not editable and therefore cannot be selected; in this case, the page immediately appears as shown in Figure 2.6 *p. 7*, with the **Operating mode** field already preselected.

Figure 2.6 *Heating main settings page (after zone selection and Operating mode preselection, or in the case of a single zone configured on the device)*
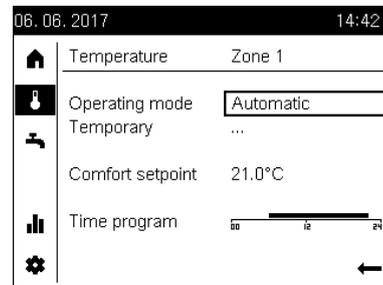
3. Press the knob to select the **Operating mode** field; the currently active mode is shown in negative.
4. Turn the knob to select the desired mode, then press it again to confirm.
5. Turn the knob to preselect another editable field on the page, or to preselect the ⟵ symbol if you do not want to edit other fields.
6. Press the knob to select the new field, or to exit the page and return to the navigation bar.

Essential information about the different operating modes is given below.

2.3.1   Automatic mode

Automatic mode maintains the room temperature at the Comfort or Reduced level, depending on the time program.
Automatic mode characteristics:
► Comfort or reduced heating mode, depending on time program.
► Anti-icing protection functions active.
► Automatic summer/winter mode switching (ECO functions) and 24 hour daily heating limit enabled.

2.3.2   Comfort or reduced continuous mode

These modes provide for continuous operation at Comfort or Reduced level, respectively.
Continuous mode characteristics:
► Constant heating mode, does not follow the time program.
► Anti-icing protection functions active.
► Continuous operation in **Comfort mode**: automatic summer/winter mode switching (ECO functions) and 24 hour daily heating limit **disabled** (i.e. heating remains active, the said functions have no effect).

2.3.3   Protection (antifreeze) mode

Protection mode maintains the room temperature at the (configurable) antifreeze protection level.
Protection mode characteristics:
► Constant heating at the antifreeze protection setpoint.
► Anti-icing protection functions active.
► Automatic summer/winter mode switching (ECO functions) and 24 hour daily heating limit enabled.

2.4 CHANGE ROOM TEMPERATURE SETPOINT

Change Comfort setpoint

To access and change the Comfort setpoint setting:

1. Proceed as described in steps 1 and 2 of Paragraph 2.3 *p. 7* in order to access the heating main settings page for the desired zone (Figure 2.6 *p. 7*).
2. Turn the knob to preselect the **Comfort setpoint** field (the current value is shown framed).
3. Press the knob to select the field (the current value is shown in negative, see Figure 2.7 *p. 8*).

Figure 2.7 *Heating main settings page (after Comfort setpoint field selection)*
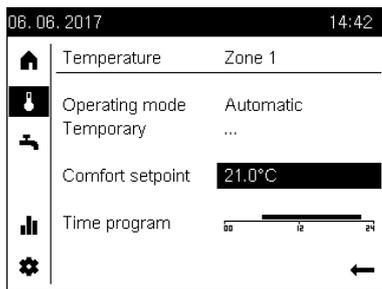
4. Turn the knob to set the value and then press it again to confirm.
5. Turn the knob to preselect another editable field on the page, or to preselect the ⬅ symbol if you do not want to edit other fields.
6. Press the knob to select the new field, or to exit the page and return to the navigation bar.

2.4.1 Change Reduced setpoint and Protection setpoint (antifreeze)

Reduced and protection room setpoints can only be modified by accessing the configuration settings pages. The procedure for setting these parameters is described in Paragraph 4.4 *p. 15*.

2.5 HEATING TIME PROGRAMS

Each heating zone (or circuit) in the system has a dedicated weekly time program.
As described in Paragraphs 2.3 *p. 7* and 3.3 *p. 14*, the time program associated with a specific heating zone is activated when the **automatic** operating mode is selected for that zone.
Each time program enables you to set up to 3 periods of operation with the comfort setpoint for each day of the week. Outside these periods, the system maintains the reduced setpoint.
The factory setting for time programs provides, for each day of the week, a period using the comfort setpoint from **6:00** to **22:00**.

2.5.1 Change heating time programs

To access and change heating time programs:

1. Proceed as described in steps 1 and 2 of Paragraph 2.3 *p. 7* in order to access the heating main settings page for the desired zone (Figure 2.6 *p. 7*).
2. Turn the knob to preselect the **Time program** field (the field is shown framed).
3. Press the knob to select the field: this opens the heating weekly time programs page, shown in Figure 2.8 *p. 8*. The Monday time program is preselected.

Figure 2.8 *Heating service weekly time programs page*
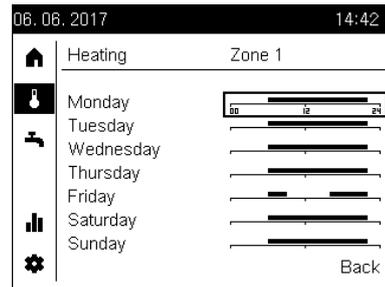
4. Turn the knob to preselect the desired day time program, then press the knob to select it and enter the time program setting page for the selected day. The page looks as shown in Figure 2.9 *p. 8*. The periods of operation at comfort setpoint are represented with horizontal segments, referring to the time axis from 00:00 to 24:00, which are editable fields: it is therefore possible to select them to change the settings. The segment that represents the first period of operation at comfort setpoint is preselected by accessing the page. In the example given in Figure 2.9 *p. 8* for Friday there are two periods, the segment that represents the first of them is preselected (framed as usual, and also start and end of the time period are shown, in this example from **06:00** to **09:00**).

Figure 2.9 *Daily time program setting page (e.g.: Friday)*
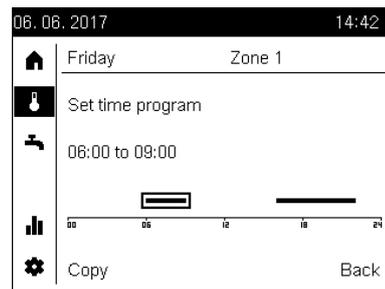
5. At this point, depending on the change required, several actions are possible, described in detail in the following paragraphs:
   - Change start and/or end time of a time period (Paragraph *p. 8*).
   - Delete time period (Paragraph *p. 9*).
   - Combine multiple time periods in a single one (Paragraph *p. 9*).
   - Add a new time period (Paragraph *p. 9*).
6. When you have finished changing the time program of the selected day, turn the knob to preselect the **Back** field, then press it to select it; this will return you back to the weekly time programs page (Figure 2.9 *p. 8*).
7. If needed, repeat steps 4-6 several times to change the time programs for other days of the week.
8. Turn the knob to preselect the **Back** field, then press it to return back to the heating main settings page (Figure 2.6 *p. 7*).
9. Turn the knob to preselect another editable field on the page, or to preselect the ⬅ symbol if you do not want to edit other fields.
10. Press the knob to select the new field, or to exit the page and return to the navigation bar.

Change start and/or end time of a time period

▶ Turn the knob to preselect the segment relative to the desired period (▭), then press it to select it; the segment

is then shown in negative with the start highlighted (▬▬); moreover, the text becomes **Start hh:mm**, in the example given in Figure **Start 06:00**.

► To change the start time of the period, turn the knob **counterclockwise** to **anticipate** it, or **clockwise** to **posticipate** it; in the graphical representation the beginning of the segment moves respectively to the left and to the right, moreover, the text is updated to show the new time period start time. The minimum value of decrease or increase of the start time is 10 minutes.

► Press the knob to confirm the time period start time setting, eventually modified, and go to the end time setting; the segment is now shown with the end highlighted (▬▬) and the text becomes **End hh:mm**, in the example in Figure **End 09:00**.

► To change the end time of the period, proceed as indicated for the change of the start time, by turning the knob clockwise or counterclockwise.

► Press the knob to confirm the time period end time setting, eventually modified, and end the change operation; the segment is shown again preselected (▬▬) and the text shows again the beginning and end time of the period.

► If needed, turn the knob to preselect a different segment and repeat the above steps to change the relevant time period.

Delete time period

It is possible to delete a time period by operating as described above and setting the same start and end time; this way, after the change, the segment representing the period disappears.

Combine multiple time periods in a single one

It is possible to merge two or three periods in a daily time program, simply by changing the end time of a previous period (or the start time of a following period) so that it overlaps, even partially, with the other period(s); this way, after the change, the overlapping periods become a single period, represented by a single segment.

Add a new time period

► Starting from the condition of **first period** preselected, turn the knob counterclockwise; this causes the appearance of the ▯ symbol next to the 00:00 of the time axis and the change of the text in **Add phase**.

► Press immediately the knob to start creating the new period; the graphic symbol becomes ▮ and the text becomes **Start 00:00**.

> 📝 If this step is not performed immediately after the previous one (within 1-2 seconds), the operation of adding the new period is aborted; in this case, pressing the knob causes the editing of the first already existing period: if this happens, to avoid unwanted changes press the knob again twice without turning it to confirm the start and end time of the existing period, then start over from the first step to add the new period.

► Turn the knob to change the start time of the new period, as in the case, described above, of changing the start time of an existing period; in this case, however, it is also possible to "bypass" other existing periods if the new one must be subsequent to them.

► Press the knob to confirm the start time setting of the new period and go to the end time setting; the symbol becomes ◀ and the text **End hh:mm** (with **hh:mm** equal to the start time just set plus 20 minutes).

► Turn the knob to change the end time, then press to confirm.

► If needed, repeat all steps to add another period.

> 📝 If the maximum number of periods (three) is already in use, the add period function is not available.

### 2.5.2 Copy a daily heating time program to other days of the week

If several days of the week need the same time program, it is possible to copy the program created for a given day; even in the case of days requiring a program similar to an already created one, it is convenient to copy the existing program first and then make the necessary changes.

To copy the time program of a selected day to other days of the week:

1. Proceed as described in steps 1-4 of Paragraph 2.5.1 *p. 8* to access the heating time program setting page for the day of the week that you intend to copy (Figure 2.9 *p. 8*; in the example, you intend to copy the Friday program).

2. Turn the knob to preselect the **Copy** field, then press to select it; the page in Figure 2.10 *p. 9* is then shown.

Figure 2.10 *Time programs copy page*
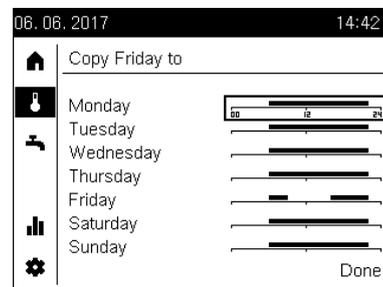
3. Turn the knob to preselect the time program field corresponding to the day of the week on which you want to copy the time program, then press the knob to copy: the time program will change according to that of the source day (in the example: ▬▬▬▬).
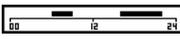
4. If needed, repeat the steps described in the previous step to copy the time program to other days of the week.

5. When copying is complete, turn the knob to preselect the **Done** field, then press it; this will directly return you to the main heating settings page (Figure 2.6 *p. 7*).

6. Turn the knob to preselect another editable field on the page, or to preselect the ⬅ symbol if you do not want to edit other fields.

7. Press the knob to select the new field, or to exit the page and return to the navigation bar.

2.6 WARMER/COOLER FUNCTION

It is possible to temporarily change the room temperature setpoint of one or more zones to suit special situations.

> 📝 This function can only be used for **automatic** operating mode zones (for futher details on operating modes see Paragraph 2.3 *p. 7*).

To access and change the **Warmer/Cooler** function setting:

1. Proceed as described in steps 1 and 2 of Paragraph 2.3 *p. 7* in order to access the heating main settings page for the desired zone (Figure 2.6 *p. 7*).

2. Turn the knob to preselect **Temporary** field (current value is shown framed).

3. Press the knob to select the field (the current value is shown in negative).

4. Turn the knob to select the desired function, then press it again to confirm.

> If the current value is **Warmer** or **Cooler**, the opposite function cannot be set directly: the only alternative value proposed is **'''**, i.e function disabled. If you want to activate the opposite function, set the **'''** value first, then press the knob again to make a second setting to the desiderd value.

5. Turn the knob to preselect another editable field on the page, or to preselect the ⬅ symbol if you do not want to edit other fields.
6. Press the knob to select the new field, or to exit the page and return to the navigation bar.

The possible settings for this function are shown below.

Once activated, the **Warmer** and **Cooler** functions are automatically deactivated at the next operating mode change of the active time program (switch from Reduced to Comfort mode or vice versa), or at midnight, but in any case **never earlier than two hours after activation**.

You can also deactivate them manually at any time by setting them to **'''**.

2.6.1 Function disabled

This setting, shown by the **'''** symbol, disables the function. The system uses Comfort or Reduced room setpoint according to the time program settings, without any alteration.

2.6.2 Warmer function

If the **Warmer** value is set, the function behaviour depends on the operating mode, Comfort or Reduced, in which the system is operating at the time of setting (according to the active time program):

► If the system is in Comfort mode at the time of setting, the setpoint is set to the highest of the following values:
  ■ Comfort setpoint, increased by one degree.
  ■ Room temperature, increased by one degree.
► If the system is in Reduced mode at the time of setting, the setpoint is set to the highest of the following values:
  ■ Comfort setpoint.
  ■ Room temperature, increased by one degree.

2.6.3 Cooler function

If the **Cooler** value is set, the setpoint is set to the lowest of the following values:

► Actual setpoint (Comfort or Reduced), decreased by one degree.
► Room temperature, decreased by one degree.

2.7 SELECTING THE DHW MODE

If the DHW function is present, you can set its activation, in two different modes, or its deactivation.

To access and change the setting:

1. Turn the knob to preselect the 🚿 symbol in the navigation bar; the symbol is then shown framed ⬛ and the main settings page for the DHW function appears.
2. Press the knob to select the symbol; the symbol is shown in negative ⬛ and the preselection moves to the first editable field on the page, **Operating mode**, as shown in Figure 2.11 *p. 10*.

Figure 2.11 *Main settings page for DHW function*
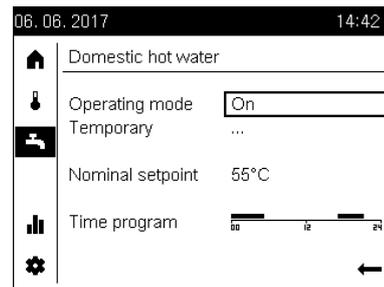
3. Press again the knob to select the **Operating mode** field; the currently active mode is shown in negative.
4. Turn the knob to select the desired mode, then press it again to confirm.
5. Turn the knob to preselect another editable field on the page, or to preselect the ⬅ symbol if you do not want to edit other fields.
6. Press the knob to select the new field, or to exit the page and return to the navigation bar.

DHW operating modes are described below.

2.7.1 Operating mode On

The system produces DHW at the DHW nominal setpoint, over the 24 hours or during the periods set in the DHW time program, if activated; in the latter case, in the remaining periods, the DHW is kept at the DHW reduced setpoint.

2.7.2 Operating mode Eco

The system produces DHW at the DHW reduced setpoint over the 24 hours.

2.7.3 Operating mode Off

The system does not produce DHW; however, the storage tank antifreeze protection is active.

2.8 CHANGE DHW SETPOINT

2.8.1 Change DHW nominal setpoint

To access and change the DHW nominal setpoint setting:

1. Proceed as described in steps 1 and 2 of Paragraph 2.7 *p. 10* in order to access the DHW main settings page (Figure 2.11 *p. 10*).
2. Turn the knob to preselect the **Nominal setpoint** field (the current value is shown framed).
3. Press the knob to select the field (the current value is shown in negative).
4. Turn the knob to set the value and then press it again to confirm.
5. Turn the knob to preselect another editable field on the page, or to preselect the ⬅ symbol if you do not want to edit other fields.
6. Press the knob to select the new field, or to exit the page and return to the navigation bar.

> The factory setting of 55 °C is suited to the vast majority of household installations.
>
> If the DHW buffer tank is oversized, reducing this value to 50 °C will yield cost savings.
> If, on the other hand, the tank is relatively small (not an advisable situation), the value can be increased.
> It is advisable, however, not to exceed a value around

57-58 °C, in order not to impact negatively on the K18 heat pump efficiency; this argument does not apply to the case of a system equipped with a K18 combined with an auxiliary boiler, or to a K18 Hybrigas unit, if configured to produce DHW exclusively with the auxiliary boiler.

2.8.2 Change DHW reduced setpoint

DHW reduced setpoint can only be modified by a TAC. The factory setting is 45 °C.

2.9 DHW TIME PROGRAM

DHW control system has a dedicated weekly time program, whose functions are substantially identical to those of the heating time programs; it allows to define up to three periods of operation with the DHW nominal setpoint for each day of the week; outside these periods, the system maintains the DHW reduced setpoint.

However, this time program is deactivated by factory setting (the nominal setpoint is maintained all 24 hours). The activation, in case, must be carried out by a TAC.

The factory setting of the DHW time program, if activated by the TAC, provides for two periods every day of the week with nominal setpoint, one from **00:00** to **05:00** and the second one from **17:00** to **22:00**.

2.9.1 Change DHW time program

To access and change DHW time program:
1. Proceed as described in steps 1 and 2 of Paragraph 2.7 *p. 10* in order to access the DHW main settings page (Figure 2.11 *p. 10*).
2. Turn the knob to preselect the **Time program** field (the field is shown framed).

> If the field cannot be preselected, then the time program has not been activated. Contact the TAC for activation.

3. Press the knob to select the field: this opens the DHW weekly time programs page, shown in Figure 2.12 *p. 11*. The Monday time program is preselected.

Figure 2.12 *DHW service weekly time programs page*
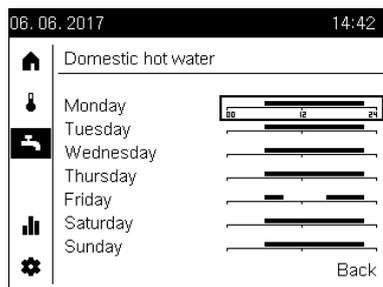
4. Turn the knob to preselect the desired day time program, then press the knob to select it and enter the time program setting page for the selected day. The page looks like the one shown in Figure 2.9 *p. 8*, concerning the heating time programs, except that the ⬛ appears in the navigation bar.
5. At this point, the daily time programs editing procedure is identical to that described for the heating time programs; therefore, proceed as described starting from step 5 of Paragraph 2.5.1 *p. 8* and in the relevant subparagraphs.

> Performing step 8 of Paragraph 2.5.1 *p. 8*, in this case, will return you to the DHW main settings page (Figure 2.11 *p. 10*).

2.9.2 Copy a daily DHW time program to other days of the week

Also for DHW time program, it is possible to copy the program for a given day of the week to other days.
To copy:
1. Proceed as described in steps 1-4 of Paragraph 2.9.1 *p. 11* to access the DHW time program setting page for the day of the week that you intend to copy (Figure 2.9 *p. 8*; in the example, you intend to copy the Friday program).
2. At this point, the copying procedure is identical to that described for the heating time programs; proceed as described starting from step 2 of Paragraph 2.5.2 *p. 9*.

> Performing step 5, in this case, will return you to the DHW main settings page (Figure 2.11 *p. 10*).

2.10 DHW FORCED CHARGING FUNCTION

This function forces a single charging cycle to prepare DHW at the DHW nominal setpoint.
The function can be activated independently from the DHW operating mode setting.
To activate the function:
1. Proceed as described in steps 1 and 2 of Paragraph 2.7 *p. 10* in order to access the DHW main settings page (Figure 2.11 *p. 10*).
2. Turn the knob to preselect **Temporary** field (current value is shown framed).
3. Press the knob to select the field (the current value is shown in negative).
4. Turn the knob to set the value **Recharging**, then press it again to confirm.
5. Turn the knob to preselect another editable field on the page, or to preselect the ⬅ symbol if you do not want to edit other fields.
6. Press the knob to select the new field, or to exit the page and return to the navigation bar.
The possible settings for this function are shown below.

2.10.1 Forced charging inactive

This setting, represented by the **'''** symbol, is the normal setting to which the system automatically returns at the end of a forced DHW charging cycle. You can also manually set this value at any time to stop a previously started forced DHW charge cycle.

2.10.2 Recharging function

This setting forces the start of the DHW charge cycle at the DHW nominal setpoint.

> The setting has no effect, and the system automatically resets to **'''** value, if it is performed when the DHW buffer tank is already charged to a temperature equal or higher than the DHW nominal setpoint.

> Activating this function does not modify the DHW mode setting; when the single charging cycle terminates, the current DHW mode resumes.

2.11 LEGIONELLA PROTECTION

The DHW system includes an optional function which regularly runs a thermal cycle to prevent and eliminate legionella bacteria. The cycle consists in periodically raising the DHW temperature

to a value which kills off the bacteria.

The function is disabled by factory setting and must be enabled by a TAC.

Once enabled, the legionella cycle factory settings are shown in Table 2.4 *p. 12*; if needed, they can be modified by the TAC.

Table 2.4 *Legionella disinfection cycle factory settings*

Disinfection cycle characteristics	Value
Function periodically	Weekly
Function weekday	Thursday
Start time	02:00
Setpoint	60 ℃
Function duration	45 min

⚠️ **Burn hazard**

Be aware that, when the legionella cycle is activated, the DHW temperature in the buffer tank will be greater than normal for a few hours after the thermal disinfection cycle executes. Risk of scalding!

2.12 PLANT/ZONE SWITCH

The plant/zone switch, located on the start page (Figure 2.2 *p. 6* and 2.4 *p. 6*), allows you to change the heating operation mode of all zones (or circuits) assigned to the device simultaneously. For further details on heating operating modes, see Paragraph 2.3 *p. 7*.

In the case of a device configured as room unit 1, or operator unit 1, with all the zones assigned to it, the switch becomes the general plant switch and the text on the start page is **System**; if instead only some zones are assigned to the device, the text is **Zones**.

The plant/zone switch also acts partially on DHW operating mode.

To operate the switch:

1. Turn the knob to preselect the 🏠 symbol in the navigation bar; the symbol is then shown framed 🏠 and the start page appears.
2. Press the knob to select the symbol; the symbol is shown in negative 🏠 and the preselection moves to the only editable field on the page, **Zones** (or **System**).
3. Press again the knob to select the **Zones** (or **System**) field; the currently active mode is shown in negative.
4. Turn the knob to select the desired mode, then press it again to confirm.
5. Turn the knob to preselect ← symbol and press it again to exit the page and return back to the navigation bar.

Essential information about the switch function is given below.

Possible operating mode settings are:

► **Automatic**: by setting this value, all heating zones assigned to the device are set to **Automatic** operating mode.
   In addition, if the DHW system is set to **Off** or **Eco** operating mode, the **On** operating mode is activated.
► **Off**: by setting this value, all heating zones assigned to the device are set to **Protection** operating mode.

📝 If any other heating operating mode is set for one or more zones (from the respective main settings page, see Paragraph 2.3 *p. 7*), the 🖐 symbol will appear in the status bar and the 🖐 symbol will appear next to the plant/zone switch. This means that at least one zone is not set to the operating mode indicated by the plant/zone switch.

The same happens if, with the plant/zone switch set to **Automatic**, operating mode **Off** or **Eco** is set for DHW; however, with the plant/zone switch set to **Off**, the symbol is *not* shown even if the DHW system is set to **Eco** or **On** operating mode.
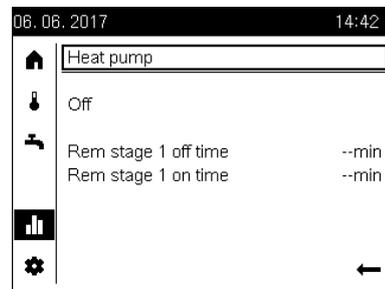
2.13 INFORMATION DISPLAY

You can view some information about the status and operational data of the system by accessing the information pages.

To access these pages:

1. Turn the knob to preselect the 📊 symbol in the navigation bar; the symbol is then shown framed 📊 and the first information page appears.
2. Press the knob to select the symbol; the symbol is shown in negative 📊 and the preselection moves to the page header, which is the only editable field on the page. As an example, Figure 2.13 *p. 12* shows a possible look of the information page regarding the heat pump status.

Figure 2.13 *Heat pump status information page, with preselected header field*


```
06. 06. 2017                    14:42
🏠   | Heat pump                    |
🌡   Off
🚰
     Rem stage 1 off time       --min
     Rem stage 1 on time        --min
📊
⚙                                 ←
```

3. To view other available information pages, press the knob to select the page header field and then turn the knob to scroll through the pages of interest.
4. When finished, press the knob, then turn it to preselect ← symbol and press it again to exit the information page and return back to the navigation bar.

Below is a list of available pages and the information shown in each of them.

2.13.1 Error

If the system has a fault, as indicated by the 🔔 symbol on the status bar, this is the first page shown; it contains the description text and the numeric code of the fault. If there are no faults this page isn't shown.

📝 If a fault is present, see Section 5 *p. 17*.

2.13.2 Heat pump

It shows:

► Operating status of the heat pump (and of the auxiliary boiler, if any):
   ■ **Off**: heat producers are switched off.
   ■ **Heating mode**: at least one of the heat producers is switched on:
      – K18 Simplygas unit: K18 heat pump and/or auxiliary boiler (if any).
      – K18 Hybrigas unit: K18 heat pump and/or integrated auxiliary boiler module.

📝 The page also shows other information about unused functions.

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2.13.3 Heating zone 1, Heating zone 2, Heating zone 3

Each of these pages is shown on the device, as long as the corresponding zone is assigned to it.

Each page shows the following information:

► Operating status:
  ■ **Off**: zone heating inactive.
  ■ **Comfort heating mode**: zone heating active with comfort room setpoint.
  ■ **Reduced heating mode**: zone heating active with reduced room setpoint.
  ■ **Frost protection active**: zone heating active with protection room setpoint.
  ■ **Forced draw**: transient state, lasting about 7 minutes. When heating of the last active zone is switched off, the water circulation is forced to allow the residual energy produced by the heat source to be dissipated.
► Room temperature (only if the device is configured as room unit for the corresponding zone; see Paragraph 2.2 *p. 5* for further information).
► Actual room setpoint.
► Flow temperature (only for mixed circuit).
► Flow temperature setpoint (value replaced by dashes if the

zone heating is inactive).

2.13.4 DHW

This page is shown on the device if there is a DHW system.
Information show is:

► Operating status:
  ■ **Off**: DHW system off (**Off** operating mode, see Paragraph 2.7 *p. 10*).
  ■ **Charging active**: DHW charging in progress.
  ■ **Overrun active**: DHW charging inactive; DHW is inside the required temperature range.

> This status is shown independently of the current operating mode setting, i.e. even in **Off** operating mode.

  ■ **Overrun active**: transient state, similar to the **Forced draw** state of the heating function.
► DHW temperature inside the buffer tank, measured by the specific probe.

2.13.5 External temperature

Outside temperature read by the specific probe.

3   USER INSTRUCTIONS: QAA55.110 BASIC ROOM UNIT

3.1   LEGEND OF COMMANDS

Figure 3.1 *QAA55.110 room unit - Description of QAA55.110 room unit keys*
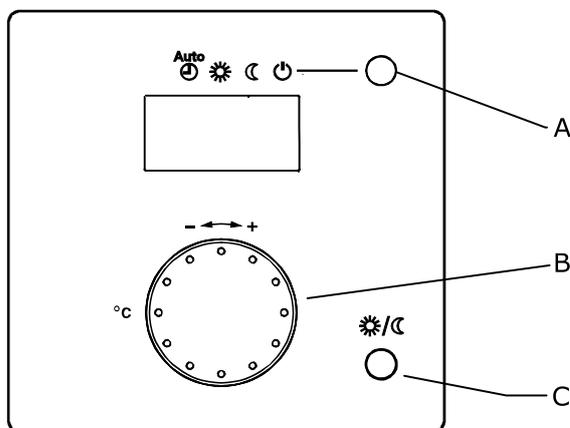
A   Heating mode selection / Confirm settings
B   Modify room comfort setpoint
C   Occupancy button

3.2   DISPLAY SYMBOLS

Table 3.1 *Display symbols*

☀	Current heating mode: comfort setpoint
☾	Current heating mode: reduced setpoint
🔔	Error message

Figure 3.2 *QAA55.110 Display*

When it powers on, the display shows all segments for a few seconds.

3.3 SELECTING THE HEATING MODE

Figure 3.3 *Heating mode selection*

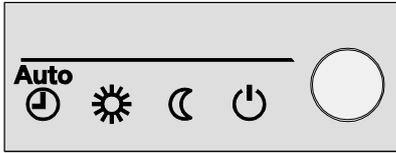Press, multiple times if necessary, key A (fig. 3.1 *p. 13*) to select the heating mode. The selected mode displays with a hyphen under the respective symbol.

> In contrast with the QAA74.611 room unit, the QAA55.110 unit is always associated with a single heating circuit and hence its settings apply only to that circuit. In the System controller for K18, this type of room unit is optionally used to control the second and third heating circuit (if present).

However, you can also change all settings for the second and third heating circuits with the included QAA74.611 room unit.

3.3.1 Automatic mode

Automatic mode AUTO⏱ maintains the room temperature at the comfort or reduced level, depending on the time program. Characteristics of automatic mode:
► Comfort or reduced heating mode, depending on time program.
► Anti-icing protection functions active.
► Automatic summer/winter mode switching (ECO functions) and 24 hour daily heating limit enabled.
► ☀ Current heating mode (depending on time program): comfort.
► ☾ Current heating mode (depending on time program): reduced.

3.3.2 Comfort or reduced continuous mode

Continuous mode always maintains the comfort or reduced room temperature.
► ☀ comfort mode heating.
► ☾ reduced mode heating.
Characteristics of continuous mode:
► Constant heating mode, does not follow the time program.
► Anti-icing protection functions active.
Continuous operation in **comfort mode**: automatic summer/winter mode switching (ECO functions) and 24 hour daily heating limit **disabled** (i.e. heating remains active, the said functions have no effect).

3.3.3 Antifreeze protection mode

Protection mode ⏻ maintains the room temperature at the (configurable) Antifreeze protection level.
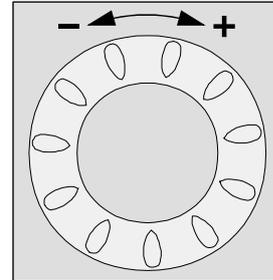Characteristics of protection mode:
► Constant heating mode at the antifreeze protection setpoint.
► Anti-icing protection functions active.
► Automatic summer/winter mode switching (ECO functions)

and 24 hour daily heating limit enabled.

3.4 CHANGE ROOM TEMPERATURE SETPOINT

Knob B (fig. 3.1 *p. 13*)

Figure 3.4 *Knob*

3.4.1 Change comfort setpoint

To change the comfort setpoint ☀ turn the knob to increase the setpoint (clockwise) or reduce it (counterclockwise).
Confirm by pressing A (Heating mode selection / Confirm settings) (3.1 *p. 13*).

3.4.2 Change reduced and protection setpoint

The reduced ☾ and protection (antifreeze) setpoint can only be modified on a QAA74.611 room unit, as described in Paragraph 4.4 *p. 15*.

3.5 OCCUPANCY BUTTON

Figure 3.5 *Occupancy button*
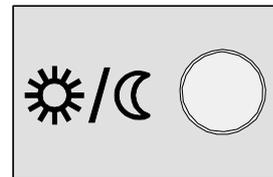
If, during heating in comfort mode, the rooms are unoccupied for a period of time, you can press the occupancy key C (Figure 3.1 *p. 13*) to switch to reduced mode and save energy.
When the rooms are occupied again, simply press the key once more to restore normal comfort heating mode.
In the same way, press the key once when in reduced mode to switch to comfort mode and press it again to restore reduced mode.

> The occupancy key is only active in **automatic mode**. The setting applied by pressing the occupancy key remains active until the next change in heating mode set in the time program. For example, if you press the occupancy key while the system is in comfort mode, thus switching to reduced mode, the system will automatically return to comfort mode the next time the time program switches from reduced to comfort mode.

4 OTHER SETTINGS

This section describes some System controller configuration

settings that cannot be made by accessing the main settings

pages for heating and DHW services, described in Section 2 *p. 5*.

To make all the settings described in this section, go to the device setting page following the steps below:

1. Turn the knob to preselect the ⚙ symbol in the navigation bar; the symbol is then shown framed ⚙ and the device settings page appears.
2. Press the knob to select the symbol; the symbol is shown in negative ⚙ and the preselection moves to the first editable field on the page, as shown in Figure 4.1 *p. 15*.

Figure 4.1 *Device setting page*
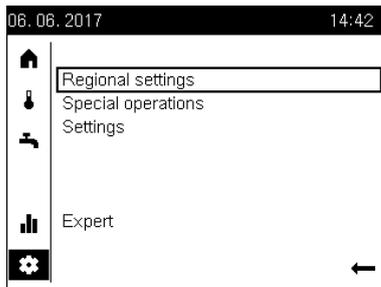
4.1 DATE AND TIME

The controller has an annual clock with the following main characteristics:

► Automatic leap year adjustment.
► Automatic switching between summer and winter time.
► Backup charge to handle temporary power faults.

> To use the time programs and holiday programs, the date and time must be set correctly.

To set the date and time, go to the settings page as described above, then proceed as follows:

1. Turn the knob to preselect the **Regional settings** field, then press the knob to select it; this causes the access to the first page of the group, identified by the **Regional settings (1/3)** header.
2. Turn again the knob to preselect the **Time** field, then press the knob to select it; the time value is shown with hour value selected: 14:42.
3. Turn the knob to set hour value and press it to confirm; the time value is then shown with minute value selected: 14:42.
4. Turn the knob to set the minute value and press it to confirm.
5. Turn the knob to preselect the **Date** field, then press the knob to select it; the date value is shown with the day of the month selected.
6. Proceed as indicated for the time setting: turn the knob to set the day of the month and press to confirm, then turn it to set the month and press to confirm, finally turn it to set the year and press to confirm.
7. Turn the knob to preselect the **Back** field, then press it to return back to the settings page (Figure 4.1 *p. 15*).
8. If no other settings are to be made, turn the knob to preselect the ← field and press the knob to return back to the navigation bar.

4.2 START AND END OF DAYLIGHT SAVING TIME

By factory setting, the switch from winter to summertime happens at 02:00 of the last Sunday of March (at 02:00 the timer is automatically set to 03:00); the switch from summer to winter

time happens at 03:00 of the last Sunday of October (at 03:00 the timer is set back to 02:00).

If the device is used in a Country that has different rules for switching from winter time to summertime and vice versa, it is possible to change the dates (day and month) when daylight saving time starts and ends. The switch from winter to summertime will happen at 02:00 **of the first Sunday** following the start date; likewise, the switch from summer to winter time will happen at 03:00 **of the first Sunday** following the end date; when a set date falls on Sunday the corresponding change will happen exactly on that date.

To change the dates, go to the settings page as described in Paragraph 4 *p. 14*, then proceed as follows:

1. Turn the knob to preselect the **Regional settings** field, then press the knob to select it; this causes the access to the first page of the group, identified by the **Regional settings (1/3)** header.
2. Press the knob, then turn it to show the second page of the group, identified by the **Regional settings (2/3)** header, and then press the knob again to access this page.
3. Turn the knob to preselect **Start of summertime**, or **End of summertime**, depending on the setting you want to change, then press the knob to select it; the date value is shown with the day of the month selected.
4. Turn the knob to set the day value and press it to confirm; the date value is then shown with month value selected.
5. Turn the knob to set the month value and press it to confirm.
6. If needed, repeat steps 1-5 to change the other field (start or end of summertime).
7. Turn the knob to preselect the **Back** field, then press it to return back to the settings page (Figure 4.1 *p. 15*).
8. If no other settings are to be made, turn the knob to preselect the ← field and press the knob to return back to the navigation bar.

4.3 LANGUAGE

To change the device language settings, go to the configuration settings page as described in Paragraph 4 *p. 14*, then proceed as follows:

1. Turn the knob to preselect the **Regional settings** field, then press the knob to select it; this causes the access to the first page of the group, identified by the **Regional settings (1/3)** header.
2. Press the knob, then turn it to show the third page of the group, identified by the **Regional settings (3/3)** header, and then press the knob again to access this page.
3. Turn the knob to preselect the **Language** field, then press the knob to select it; the current language is shown in negative.
4. Turn the knob to set the language value and press it to confirm.
5. Turn the knob to preselect the **Back** field, then press it to return back to the settings page (Figure 4.1 *p. 15*).
6. If no other settings are to be made, turn the knob to preselect the ← field and press the knob to return back to the navigation bar.

4.4 HEATING ZONE SETTINGS

For each heating zone (or circuit) configured on the device, two dedicated pages are available.

### 4.4.1 First page: comfort, reduced and protection (antifreeze) setpoint

These parameters are detailed in Paragraph 2.3 *p. 7* and 3.3 *p. 14*. Moreover, the comfort room setpoint for each

zone is also directly and more conveniently settable by accessing the main heating settings page, as described in Paragraph 2.4 *p. 8* or 3.4 *p. 14*.

To change these settings, go to the configuration settings page as described in Paragraph 4 *p. 14*, then proceed as follows:

1. Turn the knob to preselect the **Setting** field, then press the knob to select it; this causes the access to the first settings page of the first zone configured on the device, identified by the **Heating zone i (1/2)**, where **i** is 1, 2 or 3 and corresponds to the first zone configured on the device.
2. if you need to change the settings for a different zone, press the knob, then turn it until the **first** page of the desired zone is displayed; if, i.e., you want to change the settings for zone 3, then press and turn the knob unit the page identified by the **Heating zone 3 (1/2)** header is displayed, then press the knob to access that page.
3. Turn the knob to preselect the desired field, i.e. **Comfort setpoint**, **Reduced setpoint**, or **Protection setpoint**, then press the knob to select it; the current value of the field is shown in negative; Figure 4.2 *p. 16* shows as an example the page relating to heating zone 3 with **Reduced setpoint** field selected.
4. Turn the knob to set the value and then press it to confirm.
5. Turn the knob to preselect another field you want to change, or the **Back** field, if no other changes are required on this page.
6. Press the knob to change the new field, or to return back to the configuration settings page (Figure 4.1 *p. 15*).
7. If no other settings are to be made, turn the knob to preselect the ⬅ field and press the knob to return back to the navigation bar.

Figure 4.2 *First page of a heating zone settings (in the example zone 3) with the Reduced setpoint field selected*
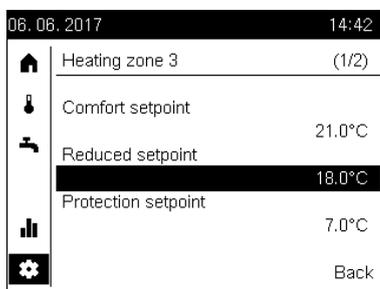
4.4.2 Second page: heating curve slope, summer/winter heating limit

Access to this page and the change of the parameters contained therein by the end user is required only to change some particular settings; in case of doubt, contact the TAC.

To change these settings, go to the configuration settings page as described in Paragraph 4 *p. 14*, then proceed as follows:

1. Turn the knob to preselect the **Setting** field, then press the knob to select it; this causes the access to the first settings page of the first zone configured on the device, identified by the **Heating zone i (1/2)**, where **i** is 1, 2 or 3 and corresponds to the first zone configured on the device.
2. Press the knob, then turn it until the **second** page of the desired zone is displayed; if, i.e., you want to change the settings for zone 2, then press and turn the knob unit the page identified by the **Heating zone 2 (2/2)** header is displayed, then press the knob to access that page.
3. Turn the knob to preselect the desired field, i.e. **Heating curve slope** or **Summer/winter heating limit**, then press the knob to select it; the current value of the field is shown in

negative; Figure 4.3 *p. 16* shows as an example the page relating to heating zone 2 with **Heating curve slope** field selected.

4. Turn the knob to set the value and then press it to confirm.
5. Turn the knob to preselect another field you want to change, or the **Back** field, if no other changes are required on this page.
6. Press the knob to change the new field, or to return back to the configuration settings page (Figure 4.1 *p. 15*).
7. If no other settings are to be made, turn the knob to preselect the ⬅ field and press the knob to return back to the navigation bar.

Figure 4.3 *Second page of a heating zone settings (in the example zone 2) with the Heating curve slope field selected*
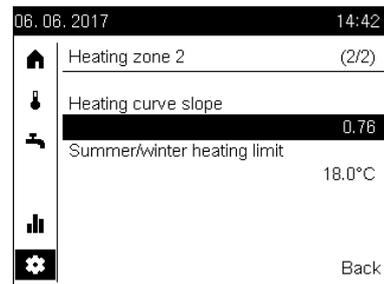
Below is a description of the two parameters that can be set on this page.

Heating curve slope

Each heating circuit (or zone) has its own heating curve. The heating curve enables the system to modify the outlet temperature as a function of outdoor temperature, adapting the heat output delivered to the terminals (radiators, fan coil units, floor radiators, etc.) to the building's actual heating requirements.

It follows that the outlet temperature will be higher for lower external temperatures, while it will be lower for higher external temperatures.

This technique has considerable advantages compared to constant outlet temperature solutions:

► Room comfort is greatly improved thanks to a delivery of thermal power which is commensurate to need, and hence more constant; this avoids alternating periods of excessive heating with periods of no heating at all, which results in oscillating room temperature.
► The system is more efficient thanks to the higher efficiency of the K18 heat pump and lower thermal dispersion, both due to the lower water temperature delivered during the greater part of the cold season; the result is considerable cost savings.

Depending on the type of terminal and their size, one must set the correct heating curve as a function of the slope parameter. When first starting up the system, the installer set this parameter to a value suited to the type and size of terminals for each zone. However, after a a first period of operation in variable climate conditions, you may remark that the room temperature is not constant with variations in the external temperature; in particular, two cases may arise:

1. The room temperature is **lower** when outdoor temperature is **lower**.
2. The room temperature is **higher** when outdoor temperature is **lower**.

📝 In order to avoid wrong conclusions, this assessment should be based on several observations, each of which should be carried out as follows:

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- Outdoor temperature stable for at least two days (i.e., do not make observations while the weather is changing strong and quickly).
- At the same time of day, in heating mode with the comfort setpoint active for at least the last several hours.
- With the same comfort setpoint value.
- Without using, at least in the 24 hours previous to the observation, other adjusting equipment, such as manual or thermostatic valves on radiators, or zone thermostats with or without timers: the valves must be kept completely open and the zone thermostat settings must be at least a few degrees higher than the comfort setpoint.

If the assessment confirms that the situation corresponds to case **1**, you must **increase** the slope of the heating curve, so as to increase heat output delivery when the outdoor temperature is low.

If, on the other hand, the situation corresponds to case **2**, you must **decrease** the heating curve slope, to reduce heat output delivery when the outdoor temperature is low.

We recommend making gradual adjustments, so as to avoid major changes to the setting; for example, when using a moderate slope heating curve (1.26), to obtain a variation of 1 °C in the room temperature, the slope must be varied by:

- 0,08 at an outdoor temperature of -5 °C
- 0,06 at an outdoor temperature of -10 °C

- 0,04 at an outdoor temperature of -20 °C
  For example, if you find that at -10 °C the room temperature is 1 °C lower than that obtained in mild climatic conditions, you should increase the slope by 0,06.
  If, on the other hand, you find that at -5 °C the room temperature is 2 °C higher than that obtained in mild climatic conditions, decrease the slope by 0,16.
  Furthermore, after each change in the setting, let the system stabilise for 1-2 days to assess its effect.

Summer/winter heating limit

For each heating circuit (or zone), this parameter is available to define the outdoor temperature above which the heating system is automatically deactivated and below which it is activated.

An **increase** in the value results in:

► Brings forward activation of the heating system
► Delays deactivation of the heating system

A **decrease** in the value results in:

► Delays deactivation of the heating system
► Brings forward deactivation of the heating system

The external temperature in question is not that measured at a given time, but rather a value filtered to account for the building's thermal inertia.

Heating is not deactivated when the limit value is exceeded if the heating circuit is set to operate in continuous comfort mode.

5   ERRORS

5.1   ERROR LIST

Errors are shown on the QAA74.611 room unit's display with the 🔔 symbol, which is shown in the status bar. In this case, following the instructions in Paragraph 2.13 *p. 12*, it is possible to access the error information page; it displays the code and description of the highest priority error. An example of such a page is shown in Figure 5.1 *p. 17*. No other errors will be displayed until this error is resolved.
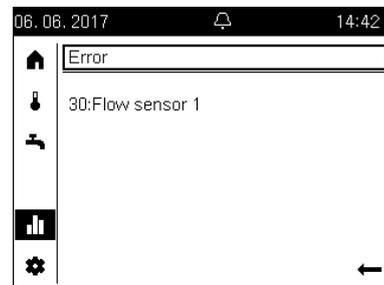
Figure 5.1 *Error information page*

Table 5.1 *p. 18* lists the error codes, with descriptions and priorities, which can be generated by the K18 System controller. The last column of the table lists measures for resolving the problem.

Table 5.1 *List of system controller errors for K18*

Code	Description	Priority	See:
10	Outside sensor B9	6	Par. 5.2 *p. 18*
30	Flow sensor 1 (1)	6	Par. 5.2 *p. 18*
32	Flow sensor 2 (6)	6	Par. 5.2 *p. 18*
50	DHW sensor 1 (2)	6	Par. 5.2 *p. 18*
60	Room sensor 1 (3)	6	Par. 5.2 *p. 18*
65	Room sensor 2 (4)	6	Par. 5.2 *p. 18*
68	Room sensor 3 (7)	6	Par. 5.2 *p. 18*
83	BSB, short-circuit (5)	8	Par. 5.2 *p. 18*
84	BSB, address collision	3	Par. 5.2 *p. 18*
103	Communication failure	3	Par. 5.2 *p. 18*
127	Legionella temp	6	Par. 5.2 *p. 18*
324	BX same sensors	3	Par. 5.2 *p. 18*
330	BX1 no function	3	Par. 5.2 *p. 18*
331	BX2 no function	3	Par. 5.2 *p. 18*
332	BX3 no function	3	Par. 5.2 *p. 18*
333	BX4 no function	3	Par. 5.2 *p. 18*
441	BX31 no function	3	Par. 5.2 *p. 18*
442	BX32 no function	3	Par. 5.2 *p. 18*
443	BX33 no function	3	Par. 5.2 *p. 18*
444	BX34 no function	3	Par. 5.2 *p. 18*
173	Active alarm 3 contact	6	Par. 5.3 *p. 18*

(1) Probe B1 (heating circuit 1 outlet sensor)
(2) Probe B3 (DHW production tank probe)
(3) Room unit 1
(4) Room unit 2
(5) Shown in this form in the error log, accessible to TAC. The information screen displays the text "**No connection**" without error code.
(6) Probe B12 (heating circuit 2 outlet sensor)
(7) Room unit 3

5.2 SYSTEM CONTROLLER ERROR HANDLING

Errors normally reset themselves automatically when their cause is eliminated; only in some cases need they be reset manually, as indicated below.

In the presence of error code **173** (**Active alarm 3 contact**), proceed as described in Paragraph 5.3 *p. 18*.

The presence of other error codes usually indicates fault of a sensor or system cable, or problems due to incorrect configuration of the system controller (e.g. due to an inexpert attempt to modify the configuration).

> Modifications to the settings described in this manual do NOT cause errors.

In any case, proceed as follows:

1. If the error information page, accessed as described in Paragraph 5.1 *p. 17*, contains the **Reset** selectable field at the bottom left, turn the knob to preselect it, then press the knob to select it and attempt a reset. If the reset is successful, the page is automatically closed.
2. If the operation described in step 1 is not applicable (the error information page does not prompt for a reset) or does not resolve the problem, power cycle the System controller.
3. If the operation described in point 2 does not resolve the problem, note down the room unit error code and contact the TAC.

5.3 K18 ERROR HANDLING

In the presence of error code **173** (**Active alarm 3 contact**), which identifies a possible fault in the K18 unit:

1. Wait up to 20-30 minutes. In most cases, a K18 error is reported in response to transitory events which are automatically resolved by the unit's on-board controller.
2. If the error persists:

   ■ Check that the K18 unit is powered on (the display, visible via the transparent window, is on); if not, restore power.
   ■ Check that the gas supply is present; for example, check whether the gas valve is closed.
3. If the problem is not resolved by correcting the possible absence of power or gas, press either the reset button on the right side of the K18 unit (near the transparent window that allows you to observe the 4-digit display, one green and three red, of the controller on the heat pump), or the button on the System controller enclosure, shown in Figure 1.1 *p. 5*.
4. In the case of the **K18 Hybrigas** unit, actuate also the reset button on the left side of the unit for 1-3 seconds (near the transparent window which allows you to observe the display of the integrated boiler module).

> ⚠ Do not press the button for longer as this activates test functions intended for the Technical Assistance Centre.

5. In the case of the **K18 Simplygas** unit and in the presence of the auxiliary boiler (e.g. a boiler) controlled by the K18 unit, verify whether any alarm message appears on the relative display or control panel. If so, consult the documentation provided by the manufacturer of the auxiliary boiler for the instructions on how to solve the problem.
6. If the error persists or recurs within a few minutes:

   ■ Take note of the error code or codes shown on the 4-digit display, one green and three red, on the right side of the K18 unit (see the note below for a description of the display mode of the codes).
   ■ If only code **E495** is present and the unit is of **K18 Simplygas** type, the only fault present concerns the auxiliary boiler it manages, whereas the K18 unit runs normally. Contact the Technical Assistance Centre **of the manufacturer of the auxiliary boiler**.
   ■ In all other cases, contact the Robur Technical Assistance

Centre (TAC); in the presence of code **E495** and the **K18 Hybrigas** unit, if possible, first also take note of the fault code shown on the display of the integrated boiler module on the left side of the unit.

The error code(s) display on the 4-digits K18 unit display is alternated with other information:

- Outlet water temperature, preceded by a green ⌐ symbol.
- Inlet water temperature, preceded by a green ⌐ symbol.
- Difference between the two temperatures, preceded by a green ⌐ symbol.

In the presence of at least one error code, the green symbols ⌐ , ⌐ and ⌐ flash and alternate with the error code, which also flashes.

If the display is showing this information, you may therefore have to wait a few seconds before the error codes are displayed. The error codes will flash like **u xxx** or **E xxx**; the letter **u** or **E** is green and **xxx** is a red three digit numerical code.

If multiple fault codes are present, they will be displayed in sequence: note down all the codes.

Report the fault codes displayed by the unit to the TAC for the latter to be able to provide possible instructions to try to autonomously resolve the problem; furthermore, if an intervention is required, the TAC can prepare this as best as possible and maximise its effectiveness.

For further information, refer to *Installation, use and maintenance manual* supplied with the specific K18 unit used.

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