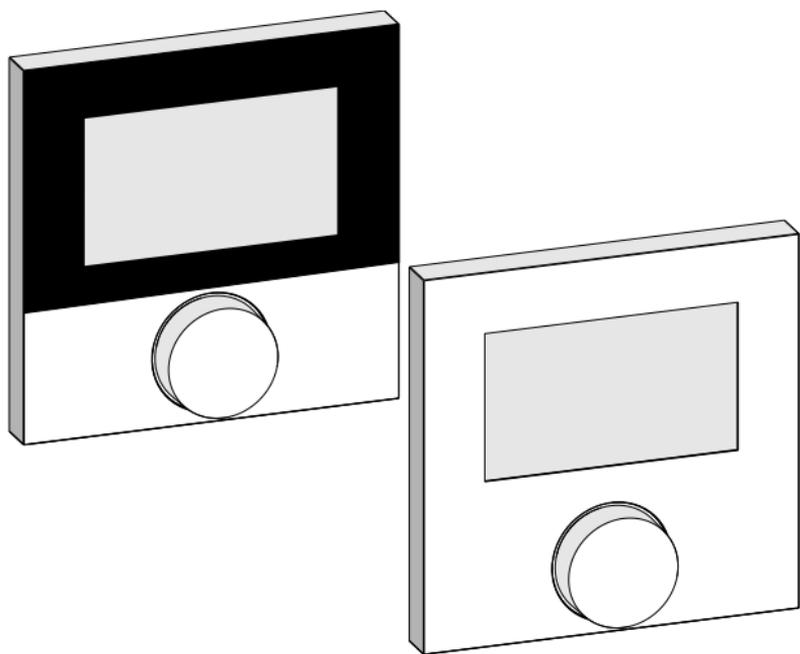


# CU-REGK



# CU-REGC



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# 1 About these instructions

## 1.1 Validity, storage and forwarding of the instructions

These instructions apply to the room thermostats of the following types:

- CU-REGK-24V
- CU-REGK-230V
- CU-REGC-24V
- CU-REGC-230V

These instructions include information necessary for the operation of the devices. The room thermostats are designated as “Standard”, “Comfort” and “Control” in order to point out differences between these types. These instructions must be read completely and thoroughly before commencing any work with the devices. These instructions must be kept and to be handed over to future users.

## 1.2 Symbols

The following symbols are used in this manual:



**Hazard symbols:** Identifies a hazard



**Information:** Identifies important or useful information

Ø User action

X Result from an action

• List without fixed order

1., 2. List with fixed order

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## 2 Safety

### 2.1 Intended use

The room thermostat controls, directly or via a connection unit, thermal actuators connected in a room-by-room temperature control system. It is suitable for 24 V or 230 V components, depending on the variant. The unit serves for

- a fixed installation,
- the registration of the actual temperature (room temperature),
- the setting of the target temperature (comfort temperature)
- the control of the actual temperature by activating actuators in heating/cooling operation (Komfort, Control) in an assigned zone,
- the connection of an external sensor (CU-REGC-24V en CUREGC-230V)

Every other use, modification and conversion is expressly forbidden and leads to dangers the manufacturer cannot be held liable for.

### 2.2 General safety notes

All safety notes in these instructions must be observed in order to avoid accidents with personal damage or property damage.

- Only an authorised electrician may open the device. It may only be opened in de-energised state.
- Always disconnect from the mains network and secure against unintended activation before opening.
- Only use the device if it is in flawless state.
- Observe the performance limits of the device and the environmental conditions.
- This device is not intended to be used by persons (including children) with restricted physical, sensory or mental skills or who

lack experience or knowledge. If necessary, these persons must be supervised by a person responsible for their safety or receive instructions from this person on how to use this unit.

- Ensure that children do not play with this device. Children must be monitored if necessary.
- In case of emergency, disconnect the complete room-by-room temperature control system.

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### 3 Device overview



Display

Rotary control with turn/press mechanism and fine ratchet

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Room thermostats					
	Symbol	Meaning	Symbol	Meaning	
Komfort Control		Lifestyle functions menu	°C	Temperature unit	
		Settings menu	88.8	Target/ actual temp.	
		Heating	MIN	Min. temperature	
		Operating lock	MAX	Max. temperature	
		Switching off	SET	Make/confirm entry	
	<b>AUTO</b>	Automatic operation	CR	Correction of actual temp. measuring	
		Day operation	BACK	Back	
		Night operation			
		Service menu	LED	Display illum.	
		Cooling	USER	Factory settings	
		Holiday function	CL	Time indications	
	8888	Time	Pro	Comfort programs	
	Mo – Su	Week day	----	Setting the min.floor temperature <sup>1</sup>	
		Time scale			

<sup>1</sup>Displayed if an external floor sensor is registered.

## 4 Operation



### WARNING

#### Danger to life in case of swallowing!

The rotary control can be taken off; children might swallow it.

#### 4.1 Setting the target temperature



The target temperature is set by turning the rotary control to the left or to the right. Rotating to the left decreases the temperature, rotating to the right increases it.



#### Room thermostats Comfort and Control

Comfort temperatures for day and night operation can be stored. A manual or automatic change between the operating modes day and night operation changes to the stored temperature. The target temperature can be changed with the rotary control, independent from the active operating mode. You can find more information in section *Lifestyle functions menu*.

#### 4.2 Navigation and settings

The navigation and settings of the room thermostat are performed with the rotary control:



By pressing the rotary control, menus are opened and functions are activated, and changed settings are applied.



By rotating the rotary control, settings can be done and functions and menus can be chosen.

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A basic level and three menus are available for navigation and settings:

### Basic level

In the basic level, all room thermostats show the current actual temperature as well as active functions. The Control variant additionally is equipped with a clock function.

### Menu selection

The available menus depend on the room thermostat variant.



#### Lifestyle functions

Includes all important basic functions.



#### Settings

Includes extended functions and numerous setting possibilities.



#### Service

Includes various system parameters. An optimal tuning of the overall system can be obtained by corresponding settings.



#### Back

Leaves the menu selection and returns to the basic level.



- A selected menu resp. a selected function is displayed with a flashing symbol.
- If no operation is performed, the display returns to the basic level after approximately 5 seconds.

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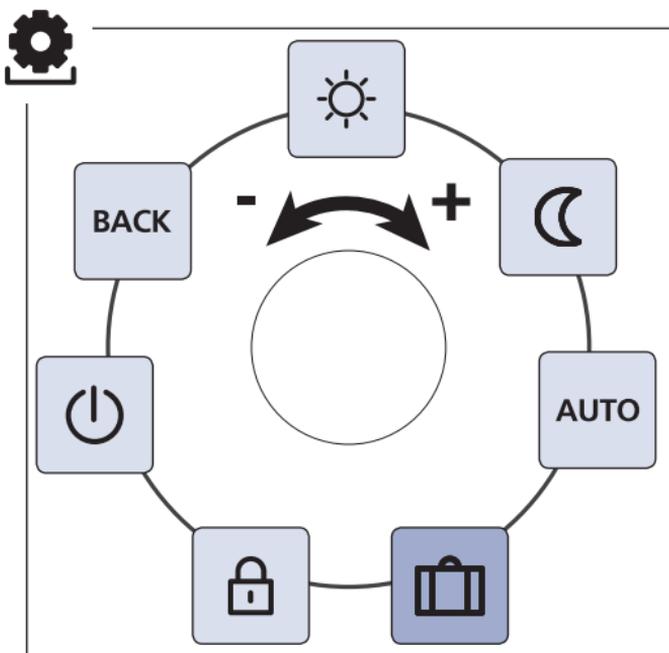


### 4.2.1 Lifestyle functions menu

This menu allows the setting of the lifestyle functions. Depending on the room thermostat variant, the settings listed in the graphic are available. The following pages contain detailed information.



- For the selection of an operating mode (day, night, automatic operation) only the inactive modes are available for selection.
- If no operation is performed, the display returns to the basic level after approximately 30 seconds.



- Komfort and Control
- Only Control

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- ò Open the menu selection by pressing.
- ò Select the menu *Lifestyle functions*.
- ò Activate the menu by pressing again.
- ò Select the desired function.

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Description	Steps
 <b>Day operation</b>  Adjustment to the set <i>comfort temperature</i> in the menu <i>Settings</i> .	ü Confirm the selection by pressing. V Day operation is activated. V The basic level is displayed.
 <b>Night operation</b>  Adjustment to the set <i>reduction temperature</i> in the <i>Settings</i> menu	ü Confirm the selection by pressing. V Night operation is selected. V The basic level is displayed.
 The symbol  flashes if the target temperature is changed. The temperature change is applied for day operation. Subsequently, the software re-calculates the reduction temperature for night operation.	



Description	Steps
<div data-bbox="70 186 150 263" style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 10px;"> <b>AUTO</b> </div> <p data-bbox="168 182 419 211"><b>Automatic operation</b></p> <p data-bbox="70 278 174 302"><b>Komfort</b></p> <p data-bbox="70 307 528 398">The signal of an external system clock (e. g. from a Control room thermostat) activates day or night operation.</p> <p data-bbox="70 416 163 441"><b>Control</b></p> <p data-bbox="70 445 512 537">Automatic temperature control according to the <i>Comfort programs</i> in the <i>Settings</i> menu.</p>	<ul style="list-style-type: none"> <li data-bbox="543 182 870 244">ü Confirm the selection by pressing.</li> <li data-bbox="543 248 885 302">V Automatic operation is activated.</li> <li data-bbox="543 307 875 336">V The basic level is displayed.</li> <li data-bbox="543 340 865 398">V <b>Control:</b> The time scale is displayed.</li> </ul>
<div data-bbox="70 560 150 637" style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 10px;">  </div> <p data-bbox="168 560 370 585"><b>Holiday function</b></p> <p data-bbox="168 589 528 681">Automatic reduction to the set <i>holiday temperature</i> in the <i>Settings</i> menu.</p>	<p data-bbox="543 560 647 585"><b>Activate</b></p> <ul style="list-style-type: none"> <li data-bbox="543 589 870 652">ü Confirm the selection by pressing.</li> <li data-bbox="543 656 885 710">ü Set the number of holiday days by rotating.</li> <li data-bbox="543 714 792 744">ü Confirm the entry.</li> <li data-bbox="543 748 916 802">V The holiday function is activated immediately.</li> <li data-bbox="543 806 875 835">V The basic level is displayed.</li> </ul> <div data-bbox="543 856 923 987" style="background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p data-bbox="543 860 923 981">  A subsequent change of the target temperature deactivates the holiday function.         </p> </div> <p data-bbox="543 1016 678 1041"><b>Deactivate</b></p> <ul style="list-style-type: none"> <li data-bbox="543 1045 911 1103">ü Observe the operating steps under “Activation”.</li> <li data-bbox="543 1108 885 1166">ü Set the number of holiday days to ∞ by rotating.</li> </ul>

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Description	Steps
 <b>Operating lock</b> Blocks the room thermostat. The actual temperature and all active functions are still displayed, the possibility to change the target temperature and the operation are deactivated.	<b>Activate</b> ü Confirm the selection by pressing. VThe operating lock is activated. VThe symbol  is displayed. VThe basic level is displayed.  <b>Deactivate</b> ü Press the rotary control for > 5 seconds. VThe symbol  is deactivated, operation is possible again.
 <b>Switching off</b> Switches the room thermostat off. Temperature control is deactivated. The protective functions (valve protection and antifreeze protection) remain active.  For the room thermostat Control, the comfort programs from the <i>Settings</i> menu are still applied. Queued switching signals are given out to connected thermostats via the reduction output.	ü Confirm the selection by pressing. VAll functions are deactivated. VThe symbol  is displayed. VThe target temperature is displayed  <b>Switching on</b> ü Press the rotary control for > 5 seconds. VThe basic level is displayed. VAll active functions are displayed.
 <b>Back</b> Leaves the menu.	ü Confirm the selection by pressing. VThe display is in basic level.

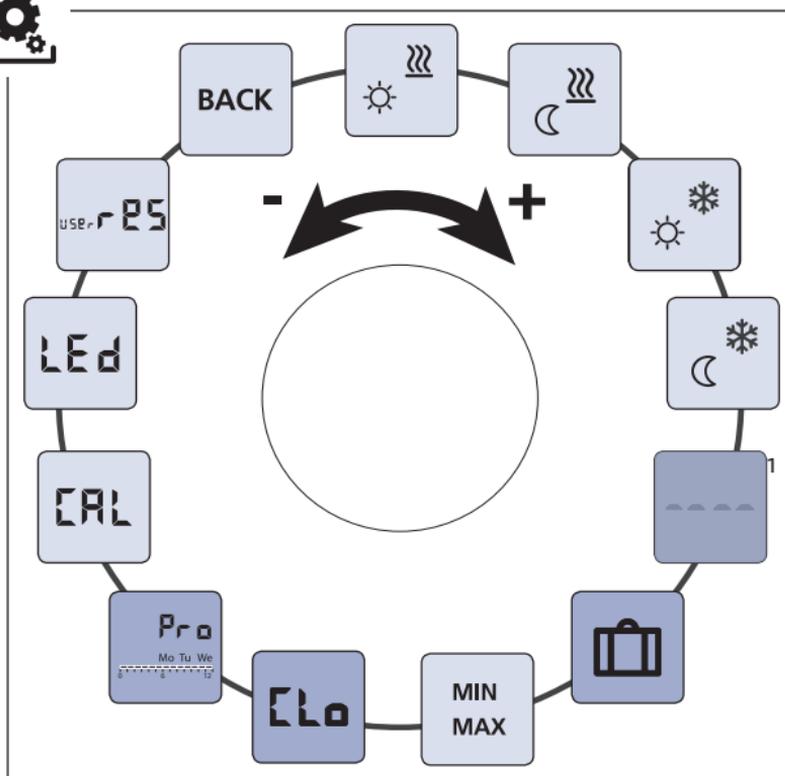


## 4.2.2 Settings menu

Extended settings can be made in this menu. Depending on the room thermostat type, the settings listed in the graphic are available. The following pages contain detailed information.



If no operation is performed, the display returns to the basic level after approximately 30 seconds.



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Only Control

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- ò Open the menu selection by pressing.
- ò Select the *settings* menu.
- ò Activate the menu by pressing again.
- ò Select the desired setting.

Description	Steps
 <b>Comfort temperature Heating</b> Setting the target temperature for day operation.	ü Confirm the selection by pressing. ü Set the target temperature. ü Confirm the entry by pressing. V This is displayed in the <i>Settings</i> menu.
 <b>Reduction temperature Heating</b> Setting the target temperature for night operation.	ü Confirm the selection by pressing. ü Set the target temperature. ü Confirm the entry. V This is displayed in the <i>Settings</i> menu.
 <b>Comfort temperature Cooling</b> Setting the target temperature for day operation.	ü Confirm the selection by pressing. ü Set the target temperature. ü Confirm the entry. V This is displayed in the <i>Settings</i> menu.
 <b>Reduction temperature Cooling</b> Setting the target temperature for night operation.	ü Confirm the selection by pressing. ü Set the target temperature. ü Confirm the entry. V This is displayed in the <i>Settings</i> menu.

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Description	Steps
 <p><b>External floor sensor</b> Setting the minimum floor temperature.</p> <p> This function is displayed if the connection of an external floor sensor is defined in the <i>Service</i> menu under Parameter 040.</p>	<ul style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> <li>ü Make the setting.</li> <li>ü Confirm the entry.</li> </ul> <p>V The display flashes in the <i>Settings</i> menu.</p>
 <p><b>Holiday temperature</b> Setting the target temperature for the <i>holiday function</i> in the <i>Lifestyle functions</i> menu.</p>	<ul style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> <li>ü Set the target temperature.</li> <li>ü Confirm the entry.</li> </ul> <p>V This is displayed in the <i>Settings</i> menu.</p>
 <p><b>Target temperature limitation</b> Setting of the maximum and minimum settable target temperature.</p>	<ul style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> <li>ü Set the minimum temperature.</li> <li>ü Confirm the entry.</li> <li>ü Set the maximum temperature.</li> <li>ü Confirm the entry.</li> </ul> <p>V This is displayed in the <i>Settings</i> menu.</p>
 <p><b>Time indications</b> Setting of time and weekday.</p>	<ul style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> <li>ü Set the time (hh:mm) and the weekday by rotating and apply by pressing.</li> </ul> <p>V This is displayed in the <i>Settings</i> menu.</p>

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Description	Steps
<div data-bbox="122 186 203 263" style="border: 1px solid black; padding: 5px; width: fit-content;">    <small>Mo Tu We</small> </div> <p data-bbox="218 186 443 211"><b>Comfort programs</b></p> <p data-bbox="218 215 570 302">In automatic operation there is a control with the switching times of the comfort programs:</p> <ul data-bbox="122 321 570 477" style="list-style-type: none"> <li>• Week (Mon–Sun)</li> <li>• Weekdays (Mon–Fri)</li> <li>• Weekend (Sat–Sun)</li> <li>• Day (Mon, Tue, Wed, Thu, Fri, Sat, Sun)</li> </ul> <p data-bbox="122 496 570 739">Every weekday can include four switching times (P<sub>1</sub> - P<sub>4</sub>). After reaching the starting time, the comfort temperature is adjusted. Outside the switching times control is performed according to the reduction temperature. The pre-defined switching times can be adapted individually:</p> <p data-bbox="122 758 570 845">           Mon–Fri:            5.00 am - 8.00 am                                          3.00 pm - 10.00 pm            Sat - Son:            6.00 am - 11.00 pm         </p> <div data-bbox="122 870 174 928" style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin-top: 10px;">  </div> <ul data-bbox="194 870 570 1241" style="list-style-type: none"> <li>• Automatic operation must be activated.</li> <li>• The comfort and reduction temperatures must be set in the <i>Settings</i> menu.</li> <li>• The current time indications must be set.</li> <li>• If connected room thermostats are in automatic operation, the Comfort programs allow a change between day and night operation.</li> </ul>	<ul data-bbox="598 186 970 710" style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> <li>V The display switches to the comfort program overview; the display indicates “day”.</li> <li>ü Select and activate a comfort program.</li> <li>ü Select a switching time P<sub>1</sub> to P<sub>4</sub>.</li> <li>ü Set the start time and the end time by rotating and apply by pressing.</li> <li>ü Return to the comfort program overview with “BACK”.</li> <li>ü Set further switching times or change to the <i>Settings</i> menu with “BACK”.</li> </ul>



Description	Steps										
 <b>Temperature correction</b> Corrects a deviating measurement of the actual temperature of the internal sensor by $\pm 2$ °C in 0.1 °C increments.	<ul style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> <li>ü Set the correction value.</li> <li>ü Confirm the entry.</li> </ul> VThis is displayed in the <i>Settings</i> menu.										
 <b>Display illumination</b> Sets the brightness of the display illumination in five levels: <table data-bbox="70 496 280 649" style="margin-left: 20px; border: none;"> <tr><td>0</td><td>Off</td></tr> <tr><td>25</td><td>Level 1</td></tr> <tr><td>50</td><td>Level 2</td></tr> <tr><td>75</td><td>Level 3</td></tr> <tr><td>100</td><td>Level 4</td></tr> </table>  The display of the setting is signalled by the time scale.	0	Off	25	Level 1	50	Level 2	75	Level 3	100	Level 4	<ul style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> <li>ü Set the brightness of the display illumination.</li> <li>ü Confirm the entry.</li> </ul> VThe <i>Settings</i> menu is displayed.
0	Off										
25	Level 1										
50	Level 2										
75	Level 3										
100	Level 4										
 <b>Factory settings</b> Restores the factory settings. All previously made settings will be reset.	<ul style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> <li>ü Select the entry “Yes” for resetting.</li> <li>ü Press the rotary control for 5 seconds.</li> </ul> VA restart is performed. The basic level is displayed subsequently.   The entry “No” cancels the process.										
 <b>Back</b> Leaves the menu.	<ul style="list-style-type: none"> <li>ü Confirm the selection by pressing.</li> </ul> VThe basic level is displayed.										

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### 4.2.3 Service menu

#### CAUTION

##### **Damage to the installation!**

Faulty configuration can lead to errors and installation damage.

Ò Only authorised specialists may perform settings.

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##### **Room thermostats Komfort and Control!**

An optimal tuning of the overall system can be reached by corresponding settings of the system parameters. In order to avoid a faulty configuration, this menu is protected by a 4-digit PIN (standard: 1234).

- Ò Open the menu selection by pressing.
- Ò Select the *Parameter* menu.
- Ò Activate the menu by pressing again.
- Ò Select the menu entry "Code".
- Ò Activate the PIN entry by pressing.
- Ò Enter the 4-digit PIN (standard: 1234). Select the individual ciphers by rotating and confirm by pressing.
- Ò Start the entry by activating the function "PAR".
- Ò Select the individual ciphers of the parameter number by rotating and confirm by pressing.
- Ò Activate the entry by selecting "SET" and by pressing.
- Ò Perform the setting according to the subsequent parameter list.
- Ò Return to the basic level by selecting "BACK" 2 times.



If no operation is performed, the display returns to the basic level after approximately 30 seconds.



No.	Description	Setting
010	<b>Heating system</b> Sets the existing heating system: <ul style="list-style-type: none"> <li>• Floor heating, standard (FBH St.)</li> <li>• Floor heating, low energy (FBH NE)</li> <li>• Radiator (RAD)</li> <li>• Convector, passive (KON pas)</li> <li>• Convector, active (KON akt)</li> </ul>	0 = FBH St. 1 = FBH NE 2 = RAD 3 = KON pas 4 = KON akt  <i>Standard: 0</i>
020	<b>Blocking of cooling</b> Deactivates the cooling function.	0 = activated 1 = deactivated  <i>Standard: 0</i>
030	<b>Operating lock</b> Protects the deactivation of the operating lock with a PIN.	0 = deactivated 1 = activated  <i>Standard: 0</i>
031	<b>PIN operating lock</b> Sets the PIN for parameter 30.	0 ... 9999  <i>Standard: 0000</i>
040	<b>External sensor (CU-REGC-24V / CU-REGC-230V)</b> Registration of an external room sensor or floor sensor. The registration of a room sensor deactivates the internal sensor. If a floor sensor is used, the minimum floor temperature can be set via the <i>Settings</i> menu in the function "External floor sensor".	0 = no external sensor 1 = room sensor 2 = floor sensor  <i>Standard: 0</i>
041	<b>Correction of actual temperature of external sensor (CU-REGC-24V / CU-REGC-230V)</b> Corrects a deviating measurement of the actual temperature.	-2 ... +2 °C  <i>Standard: 0 °C</i>
050	<b>Duration of the display illumination</b> Sets the duration of further illumination of the display after use.	0 ... 30 sec. in 5 second increments  <i>Standard: 15 sec.</i>

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No.	Description	Setting
090	<b>Signalling of switching output</b> Signals the control of switching outputs by a flashing heating resp. cooling symbol.	0 = deactivated 1 = activated <i>Standard: 1</i>
110	<b>Control direction switching output</b> Sets the control direction of connected actuators: <ul style="list-style-type: none"><li>• Normally closed (NC)</li><li>• Normally open (NO)</li></ul>	0 = NC 1 = NO <i>Standard: 0</i>
161	<b>Antifreeze temperature</b> Activates the antifreeze protection function when the temperature falls below the set temperature.	5 ... 10 °C <i>Standard: 5</i>
170	<b>Smart Start/Smart Stop function CU-REGC-24V / CU-REGC-230V)</b> Teaches the temperature behaviour of the room.	0 = deactivated 1 = activated <i>Standard: 1</i>
190	<b>Valve protection function</b> Cyclic opening of the valve in order to avoid clogging.	0 ... 28 days <i>Standard: 14</i>
191	<b>Valve activation duration</b> Time for triggering actuators for performing the valve protection function.	0 ... 10 minutes <i>Standard: 5 min</i>

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## 5 Comfort and protection functions

### 5.1 Comfort functions

In order to increase the user comfort, the room thermostat includes functions for controlling the comfort temperature.

#### 5.1.1 Smart Start/Smart Stop function

##### **Only room thermostat Control:**

The Smart Start/Smart Stop function (parameter 170) automatically calculates the required line-up times, so that the set comfort temperature is present at the start and end times of the comfort programs.

#### 5.1.2 Heating/cooling change-over

##### **Room thermostats Comfort and Control**

The change-over function switches the entire installation between heating and cooling using an external signal.

### 5.2 Protection functions

The room thermostat is equipped with protection functions for avoiding damage to the overall installation.

#### 5.2.1 Valve protection function

In periods without valve activation (e. g. outside the heating period), all valves are opened cyclically. This avoids a clogging of the valves (parameters 190 and 191).

#### 5.2.2 Antifreeze protection

Independent from the operating mode, the room thermostat is equipped with an antifreeze function (parameter 161). When the temperature falls below the antifreeze protection temperature, all connected actuators are activated and the valves are opened.

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## 6 Maintenance

### 6.1 Troubleshooting

Display	Meaning	Possible elimination
● ● ●	Measuring temperature of internal/external sensor exceeded	<b>Internal sensor/room sensor</b> <ul style="list-style-type: none"><li>• Remove external heat sources in the direct environment and wait until the sensor has cooled down again.</li><li>• Reposition the room sensor if necessary.</li><li>• Have the room thermostat/room sensor checked and replaced if necessary.</li></ul> <b>Floor sensor</b> <ul style="list-style-type: none"><li>• Have the floor sensor checked and replaced if necessary.</li></ul>
0004	Malfunction in external sensor (room/floor sensor)	<ul style="list-style-type: none"><li>• No external sensor connected.</li><li>• Reset to the factory settings.</li><li>• Deactivate the external sensor in the <i>Service</i> menu under parameter 040.</li><li>• Have the external checked and replaced if necessary.</li></ul>
0010	Malfunction in internal sensor	<ul style="list-style-type: none"><li>• Reset to the factory settings.</li><li>• Have the room thermostat checked and replaced if necessary.</li></ul>

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## 6.2 Cleaning

Only use a dry and solvent-free, soft cloth for cleaning.

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