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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:

- RD 40203-10 – Standard 24 V,
- RD 20203-10 – Standard 230 V,
- RD 45203-40 – Comfort 24 V,
- RD 25203-40 – Comfort 230 V,
- RD 45203-60 – Control 24 V,
- RD 25203-60 – Control 230 V.

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 the read completely and thoroughly before commencing any work with the devices. These instructions must be kept and to be handed over to future users. You can view and download these instructions and the associated installation instructions under *www.ezr-home.de*.

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1.2   Symbols

The following symbols are used in this manual:

Hazard symbols: Identifies a hazard

Information: Identifies important or useful information

➢   User action
✓   Result from an action
•   List without fixed order
1., 2.   List with fixed order

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 operation (Standard) or heating/cooling operation (Comfort, Control) in an assigned zone,
- the connection of an external sensor (Control).

Every other use, modification and conversion is expressively 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

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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.
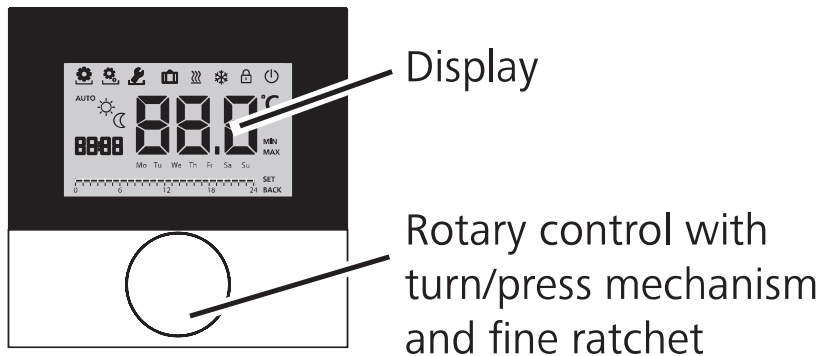- In case of emergency, disconnect the complete room-by-room temperature control system.

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3 Device overview

Display

Rotary control with
turn/press mechanism
and fine ratchet

Room thermostats

Type	Symbol	Meaning	Symbol	Meaning
Standard / Comfort / Control	⚙	Lifestyle functions menu	℃	Temperature unit
	⚙	Settings menu	88.8	Target/ actual temp.
	〰	Heating	MIN	Min. temperature
	🔒	Operating lock	MAX	Max. temperature
	⏻	Switching off	SET	Make/confirm entry
	AUTO	Automatic operation	CAL	Correction of actual temp. measuring
	☀	Day operation	BACK	Back
	☾	Night operation		
	🔧	Service menu	LEd	Display illum.
	❄	Cooling	user rES	Factory settings
	🧳	Holiday function	CLo	Time indications
	88:88	Time	Pro	Comfort programs
	Mo–Su	Week day	----	Setting the min.floor temperature[1]
	time scale	Time scale		

[1]Displayed if an external floor sensor is registered.

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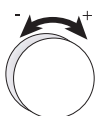ENG
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4   Operation

⚠️ **WARNING**

Danger to life in case of swallowing!

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

➢ Do not lay down the rotary control near children.

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.

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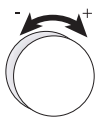
ℹ️ **Room thermostats Comfort and Control**

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.

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 (Standard, Comfort, Control)
Includes all important basic functions.

Settings (Standard, Comfort, Control)
Includes extended functions and numerous setting possibilities.

Service (Comfort, Control)
Includes various system parameters. An optimal tuning of the overall system can be obtained by corresponding settings.

BACK **Back**
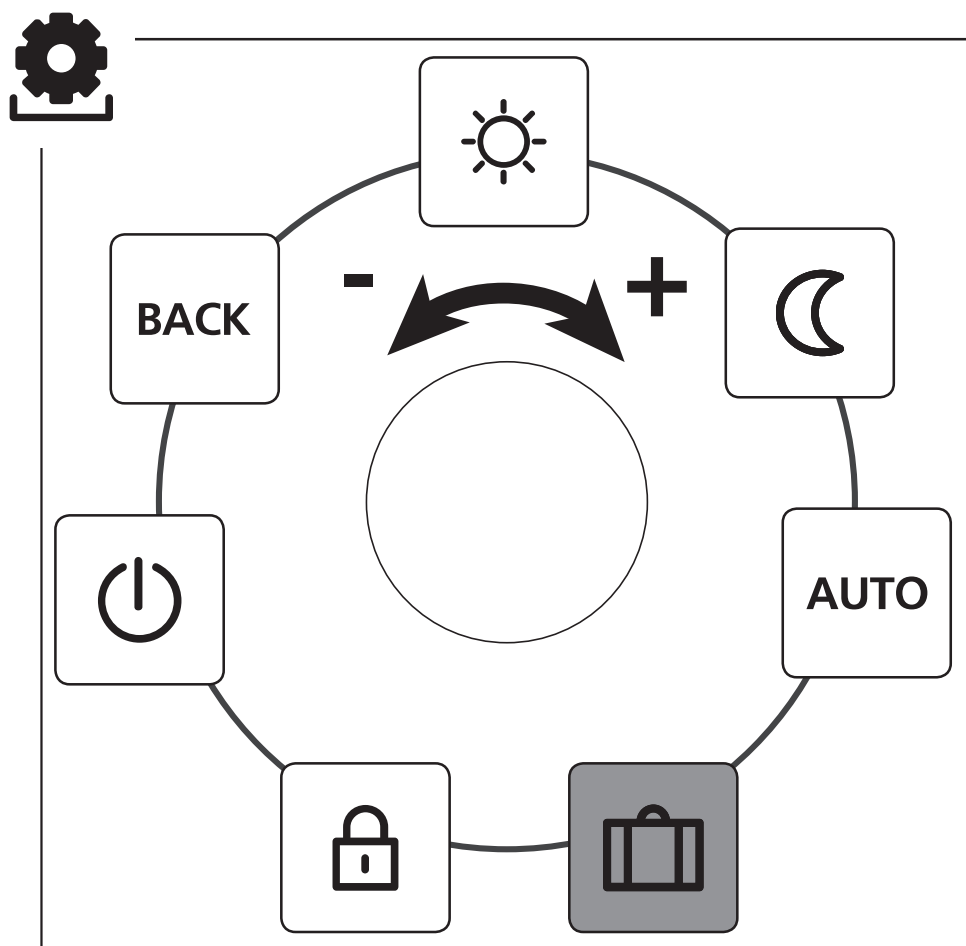Leaves the menu selection and returns to the basic level.

> • 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.

> ℹ • 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.

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☐ Standard, Comfort and Control

▣ Only Control

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

Description	Steps
Day operation **Standard** Adjustment to the set target tempera-ture. **Comfort, Control** Adjustment to the set *comfort temper-ature*in the menu *Settings*.	➢ Confirm the selection by pressing. ✓ Day operation is activated. ✓ The basic level is displayed.
Night operation **Standard** The software internally lowers the tar-get temperature set for *day operation* by 2 °C. ℹ The symbol ▓ flashes if the target temperature is changed. The temperature change is applied for day operation. Subsequently, the software re-calculates the re-duction temperature for night operation. **Comfort, Control** Adjustment to the set *reduction tem-perature*in the *Settings* menu.	➢ Confirm the selection by pressing. ✓ Night operation is selected. ✓ The basic level is displayed.

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Description	Steps
Automatic operation AUTO **Standard, Comfort** The signal of an external system clock (e. g. from a Control room thermostat) activates day or night operation. **Control** Automatic temperature control according to the *Comfort programs* in the *Settings* menu.	➢ Confirm the selection by pressing. ✓ Automatic operation is activated. ✓ The basic level is displayed. ✓ **Control:** The time scale is displayed.
Holiday function Automatic reduction to the set *holiday temperature* in the *Settings* menu.	**Activate** ➢ Confirm the selection by pressing. ➢ Set the number of holiday days by rotating. ➢ Confirm the entry. ✓ The holiday function is activated immediately. ✓ The basic level is displayed. ⓘ A subsequent change of the target temperature deactivates the holiday function. **Deactivate** ➢ Observe the operating steps under "Activation". ➢ Set the number of holiday days to 00 by rotating.

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Description	Steps
Operating lock 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 de-activated.	**Activate** ➢ Confirm the selection by pressing. ✓ The operating lock is acti-vated. ✓ The symbol 🔒 is displayed. ✓ The basic level is displayed. **Deactivate** ➢ Press the rotary control for > 5 seconds. ✓ The symbol 🔒 is deactivat-ed, operation is possible again.
Switching off 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 *Settings* menu are still applied. Queued switching signals are given out to connected thermostats via the reduction output.	➢ Confirm the selection by pressing. ✓ All functions are deactivated. ✓ The symbol ⏻ is displayed. ✓ The target temperature is displayed **Switching on** ➢ Press the rotary control for > 5 seconds. ✓ The basic level is displayed. ✓ All active functions are displayed.
Back BACK Leaves the menu.	➢ Confirm the selection by pressing. ✓ The display is in basic level.

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4.2.2 Settings menu

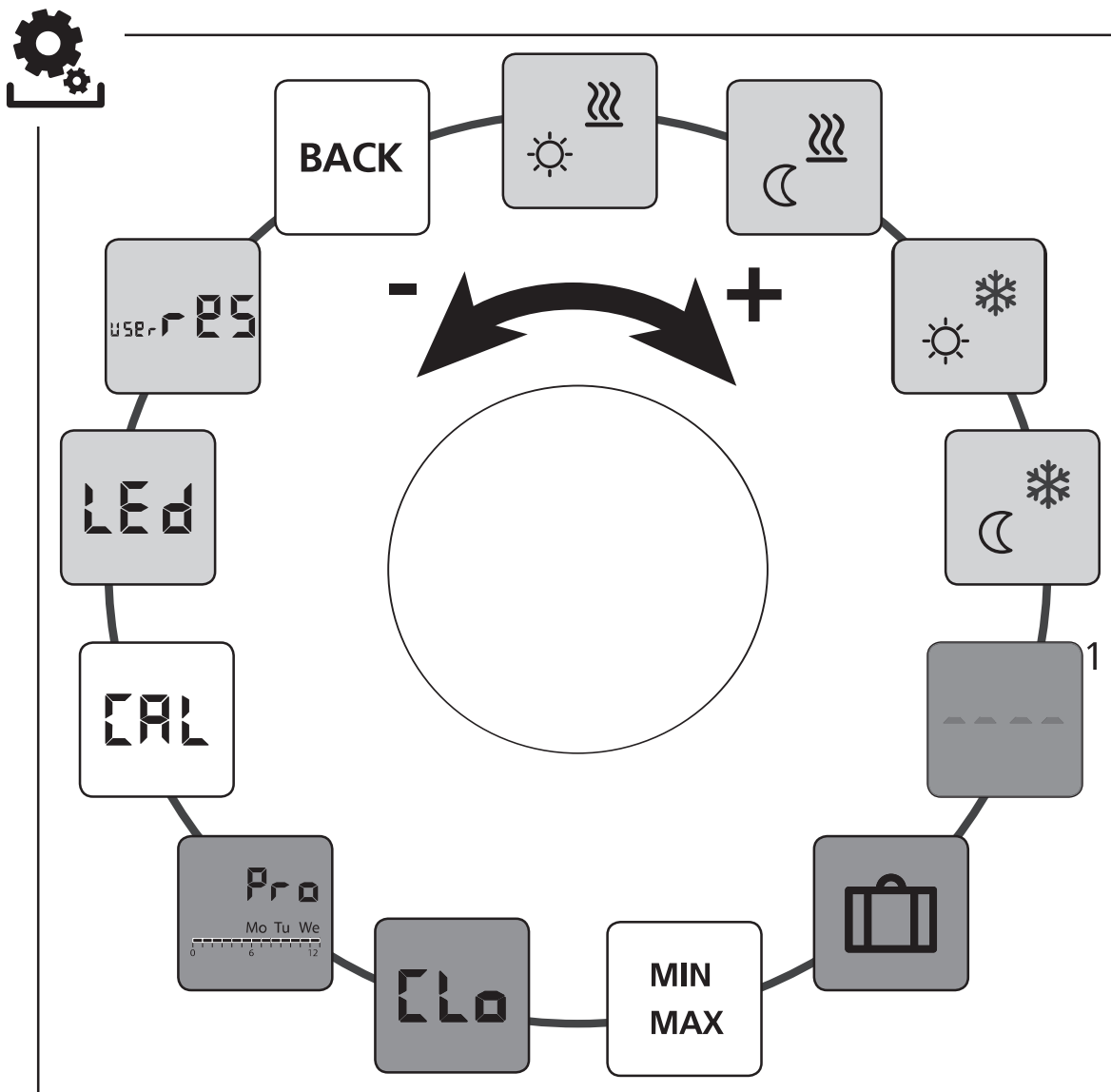Extended settings can be made in this menu. Depending on the room thermostat type, the settings listed in the graphic are available. The following pages contain detailed information.

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

	Standard, Comfort and Control		Only Control
	Comfort, Control		

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

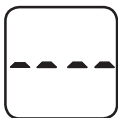| Description	Steps
Comfort temperature Heating Setting the target temperature for day operation.	➢ Confirm the selection by pressing. ➢ Set the target temperature. ➢ Confirm the entry by pressing. ✓ This is displayed in the *Settings* menu.
Reduction temperature Heating Setting the target temperature for night operation.	➢ Confirm the selection by pressing. ➢ Set the target temperature. ➢ Confirm the entry. ✓ This is displayed in the *Settings* menu.
Comfort temperature Cooling Setting the target temperature for day operation.	➢ Confirm the selection by pressing. ➢ Set the target temperature. ➢ Confirm the entry. ✓ This is displayed in the *Settings* menu.
Reduction temperature Cooling Setting the target temperature for night operation.	➢ Confirm the selection by pressing. ➢ Set the target temperature. ➢ Confirm the entry. ✓ This is displayed in the *Settings* menu.

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Operation

Description	Steps
External floor sensor Setting the minimum floor temperature. ℹ This function is displayed if the connection of an external floor sensor is defined in the *Service* menu under Parameter 040.	➢ Confirm the selection by pressing. ➢ Make the setting. ➢ Confirm the entry. ✓ The display flashes in the *Settings* menu.
Holiday temperature Setting the target temperature for the *holiday function* in the *Lifestyle functions* menu.	➢ Confirm the selection by pressing. ➢ Set the target temperature. ➢ Confirm the entry. ✓ This is displayed in the *Settings* menu.
MIN MAX **Target temperature limitation** Setting of the maximum and minimum settable target temperature.	➢ Confirm the selection by pressing. ➢ Set the minimum temperature. ➢ Confirm the entry. ➢ Set the maximum temperature. ➢ Confirm the entry. ✓ This is displayed in the *Settings* menu.
Time indications Setting of time and weekday.	➢ Confirm the selection by pressing. ➢ Set the time (hh:mm) and the weekday by rotating and apply by pressing. ✓ This is displayed in the *Settings* menu.

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Description	Steps
Comfort programs In automatic operation there is a control with the switching times of the comfort programs: • Week (Mon–Sun) • Weekdays (Mon-Fri) • Weekend (Sat–Sun) • Day (Mon, Tue, Wed, Thu, Fri, Sat, Sun) Every weekday can include four switching times (P1 - P4). After reaching the starting time, the comfort temperature is adjusted. Outside the switching times control is performed according to the reduction temperature. The predefined switching times can be adapted individually: Mon–Fri: 5.00 am - 8.00 am 3.00 pm - 10.00 pm Sat - Son: 6.00 am - 11.00 pm • Automatic operation must be activated. • The comfort and reduction temperatures must be set in the *Settings* menu. • The current time indications must be set. • If connected room thermostats are in automatic operation, the Comfort programs allow a change between day and night operation.	➢ Confirm the selection by pressing. ✓ The display switches to the comfort program overview; the display indicates "day". ➢ Select and activate a comfort program. ➢ Select a switching time P1 to P4. ➢ Set the start time and the end time by rotating and apply by pressing. ➢ Return to the comfort program overview with "BACK". ➢ Set further switching times or change to the *Settings* menu with "BACK".

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Operation

Description	Steps
Temperature correction `CAL` Corrects a deviating measurement of the actual temperature of the internal sensor by ±2 °C in 0.1 °C increments. ℹ Do not perform any temperature correction until 2 hours after commissioning.	➢ Confirm the selection by pressing. ➢ Set the correction value. ➢ Confirm the entry. ✓ This is displayed in the *Settings* menu.
Display illumination `LEd` Sets the brightness of the display illumination in five levels: 0　　　Off 25　　Level 1 50　　Level 2 75　　Level 3 100　Level 4 ℹ The display of the setting is signalled by the time scale.	➢ Confirm the selection by pressing. ➢ Set the brightness of the display illumination. ➢ Confirm the entry. ✓ The *Settings* menu is displayed.
Factory settings `user-reS` Restores the factory settings. All previously made settings will be reset.	➢ Confirm the selection by pressing. ➢ Select the entry "Yes" for resetting. ➢ Press the rotary control for 5 seconds. ✓ A restart is performed. The basic level is displayed subsequently. ℹ The entry "No" cancels the process.
Back `BACK` Leaves the menu.	➢ Confirm the selection by pressing. ✓ The 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.
➢ Only authorised specialists may perform settings.

Room thermostats Comfort 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).

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

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

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Operation

No.	Description	Setting
010	**Heating system** Sets the existing heating system: • Floor heating, standard (FBH St.) • Floor heating, low energy (FBH NE) • Radiator (RAD) • Convector, passive (KON pas) • Convector, active (KON akt)	0 = FBH St. 1 = FBH NE 2 = RAD 3 = KON pas 4 = KON akt *Standard: 0*
020	**Blocking of cooling** Deactivates the cooling function.	0 = activated 1 = deactivated *Standard: 0*
030	**Operating lock** Protects the deactivation of the operating lock with a PIN.	0 = deactivated 1 = activated *Standard: 0*
031	**PIN operating lock** Sets the PIN for parameter 30. ℹ️ If PIN is unknown: ➢ Disconnect the device from the mains network. ➢ Hold down the rotary control and apply voltage again until the software version is shown on the display and goes out again. ➢ Press the rotary control again until the symbol 🔒 disappears.	0 ... 9999 *Standard: 0000*
032	**Restricted operation** Switch-over of the room control unit operating lock between "Standard" and "Restricted operation".	0 = deactivated 1 = activated *Standard: 0*
040	**External sensor (only Control)** 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 *Settings* menu in the function "External floor sensor".	0 = no external sensor 1 = room sensor 2 = floor sensor *Standard: 0*

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No.	Description	Setting
041	**Correction of actual temperature of external sensor (only Control)** Corrects a deviating measurement of the actual temperature.	-2 ... +2 °C *Standard: 0 °C*
050	**Duration of the display illumination** Sets the duration of further illumination of the display after use.	0 ... 30 sec. in 5 second increments *Standard: 15 sec.*
090	**Signalling of switching output** Signalises the control of switching outputs by a flashing heating resp. cooling symbol.	0 = deactivated 1 = activated *Standard: 1*
110	**Control direction switching output** Sets the control direction of connected actuators: • Normally closed (NC) • Normally open (NO)	0 = NC 1 = NO *Standard: 0*
161	**Antifreeze temperature** Activates the antifreeze protection function when the temperature falls below the set temperature.	5 ... 10 °C *Standard: 5*
170	**Smart Start/Smart Stop function (only Control)** Teaches the temperature behaviour of the room.	0 = deactivated 1 = activated *Standard 1*
190	**Valve protection function** Cyclic opening of the valve in order to avoid clogging.	0 ... 28 days *Standard: 14*
191	**Valve activation duration** Time for triggering actuators for performing the valve protection function.	0 ... 10 minutes *Standard: 5 min*

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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.

5.1.3 Restricted Mode

The limited mode only allows the target temperature to be changed.
Activate mode

> **i** For the Standard type thermostats, the limited mode can only be activated ex works.

For the Comfort and Control thermostats, activation is as follows:
➢ Activate parameter 032 in the Service menu (value: 1).

> **i** The operating mode before the restart is accepted for restricted operation.

➢ De-energise the device.
✓ Apply voltage again.
✓ The restricted mode is activated.

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Deactivate mode (Comfort, Control)
➢ De-energise the device.
➢ Hold down the rotary control and apply voltage again until the software version is shown on the display and goes out again.
➢ In the Service menu, deactivate parameter 032 (value: 0).
✓ The device is permanently in standard operation.

Temporarily deactivate mode (Standard, Comfort, Control)

The restricted mode can be temporarily deactivated to use or activate disabled functions of the device during this time. After a voltage interruption of the device, the restricted mode is reactivated.
➢ De-energise the device.
➢ Hold down the rotary control and apply voltage again until the software version is shown on the display and goes out again.
✓ The device is temporarily in standard operation until the next power interruption occurs.

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	**Internal sensor/room sensor** • Remove external heat sources in the direct environment and wait until the sensor has cooled down again. • Reposition the room sensor if necessary. • Have the room thermostat/room sensor checked and replaced if necessary. **Floor sensor** • Have the floor sensor checked and replaced if necessary.
0004	Malfunction in external sensor (room/floor sensor)	• No external sensor connected. • Reset to the factory settings. • Deactivate the external sensor in the *Service* menu under parameter 040. • Have the external checked and replaced if necessary.
0010	Malfunction in internal sensor	• Reset to the factory settings. • Have the room thermostat checked and replaced if necessary.

6.2   Cleaning

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

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