GIRA System 3000 Room Temperature Controller Display Instructions

GIRA

System 3000 Room Temperature Controller Display
Instruction Manual

Room temperature controller Display
Order no.: 5393.
Room temperature controller BT
Order no.: 5394.

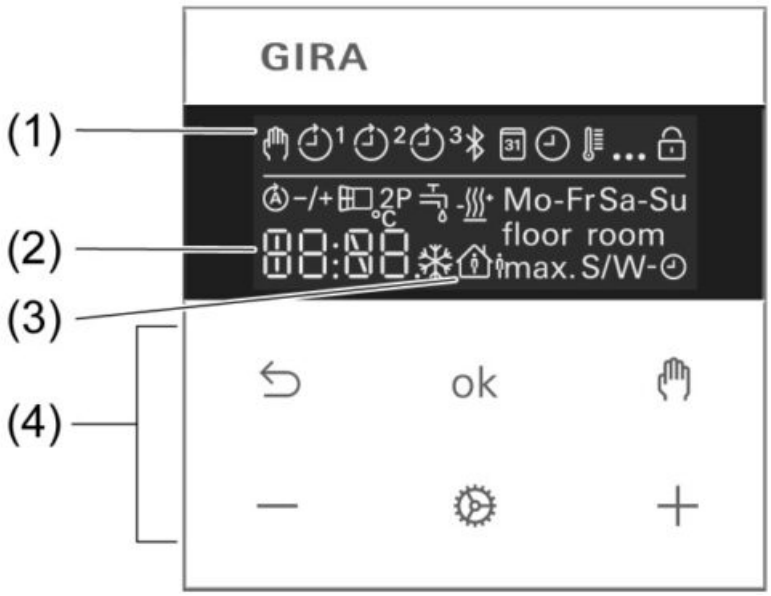
Contents

Safety instructions

Electrical devices may only be mounted and connected by electrically skilled persons.

Serious injuries, fire, or property damage are possible. Please read and follow the manual fully.
The danger of electric shock. Always disconnect before carrying out work on the device or load. In so doing, take all the circuit breakers into account, which support dangerous voltages to the device and or load.
These instructions are an integral part of the product and must remain with the end customer.

Device components



1. Programming menu icons
2. Setpoint temperature, actual temperature, or current time
3. active mode
4. Operating area

Icons in the display

Manual mode is active.

The temperature value is regulated to comfort temperature

The temperature value is regulated to reduce the temperature

The cooling icon lights up: no cooling is taking place
Cooling icon flashes: cooling is taking place

Heating icon lights up: no heating is taking place
Heating icon flashes: heating is taking place

Icons of the operating area (4)

Step back / display the current time
Confirm input / display current time

Switch between manual operation and automatic operation
With Bluetooth version: boost function (press 4 s)
– / **+** Increase or reduce the displayed temperatures or times/navigation in the menu

Call up and terminate the programming menu
With Bluetooth version: Activate coupling mode (pairing) prior to commissioning (press 4 s)

Intended use

- Manual and time-controlled regulation of the room temperature
- Operation and programming with mobile end device (smartphone or tablet) via Bluetooth with the app (Bluetooth version only)
- Operation on room temperature controller insert or switch insert from system 3000

Product characteristics

- Timer with three memory areas Comfort and reduction time for Mo-Fr and Sa-Su in each memory area
- Setting a comfort, reduction, cooling, and frost protection temperature
- The current time can be saved as switching time, quick programming
- Automatic summer time changeover can be switched off
- Illuminated segment display for easy reading
- Operating lock
- Optimized heating up (temperature is reached at the set time), can be switched off
- Adaptation to valves (de-energized open or de-energized closed)
- Cooling mode possible
- Supports internal and external temperature sensor
- Temperature drop detection (call-up of frost protection temperature when the window is opened)
- Offset adjustment (correction value for measured temperature)
- Controller output working method: pulse width modulation (PWM) or two-point
- Valve protection function (once a week opening and closing of the valve, on Saturdays at 11 a.m.)
- Interrupts the heating process after 60 minutes for 5 minutes
- Display switch-off after 2 minutes or permanent display available

Additional functions with the Bluetooth version

- The entire operation and commissioning can be performed using an app via a connected smartphone or tablet
- Weekly timer with 40 individually programmable switch points and temperatures
- Holiday mode (start, end, temperature)
- Boost function: fast heating up for max. 5 minutes
- The local operations can be disabled
- Integration of an external temperature sensor possible via Bluetooth
- Automatic date and time update when connecting with a mobile device
- Minimum and maximum temperature values can be set
- Settings and time programs can be copied to other cover units

Functional description

Heating and cooling operating mode

Modern heat pump systems often also provide the option of cooling rooms. This function is supported by the cover by means of the “Heating and cooling” operating mode. In this operating mode, the system permanently regulates the temperature to the set cooling temperature. There are no time programs in cooling mode. The only way to change the cooling temperature consists in adjusting the temperature parameters, the +/- buttons cannot be used.

In conjunction with a room temperature controller insert, the cooling mode is activated by applying mains power to input terminal “C”. With switch inserts, the cooling mode is activated by applying mains power to extension input “1”.

Frost protection / temperature drop detection

The frost protection temperature is the minimum temperature regulated by the controller in order to avoid frost damage. In case of a significant temperature drop, e.g. after opening a window, the system regulates the frost protection temperature for a maximum of 30 minutes. This requires the temperature drop detection parameter to be activated.

Optimized heating up

Heating is started at most 4 hours before the switching time so that the desired temperature has been reached at the switching time rather than starting to heat up at that time. The display icon flashes during the heat-up phase.

Note: Optimised heating up is designed for panel heating/radiators.

Offset **+/-**

If the system detects that the displayed actual temperature differs from the general room temperature, this parameter can be used to enter a correction value. The actual temperature will then be corrected by this offset value.

Controller adaptation 2P

The control principle should be adjusted depending on the heating system and the insert used.

Two-point control (2P): The output remains switched on until the selected setpoint temperature has been exceeded by 0.5 °C. The output will not be switched on again until the setpoint value is undercut by 0.5 °C. Since most heating systems respond very slowly, this type of control can entail temperature overshooting.

Pulse width modulation control (PWM): Optimised for electrothermal valve drives, e.g. 2169 00.

The output is not permanently actuated, but only for a time period (pulse width) that depends on the difference between the setpoint and actual temperature. This method brings the actual temperature gradually closer to the setpoint temperature. The cycle time is 15 minutes.

Valve adaptation

This parameter is used to adapt to the electrothermal valve drives. There are drives that are either open (de-energized open, setting NO) or closed (de-energized closed, setting NC) when no power supply is applied.

Temperature sensor **roomfloor**

The room temperature controller cover features a built-in temperature sensor, which is used to detect the room temperature. With the Bluetooth version, an app can be used to integrate a brightness/temperature sensor. In this case, the internal sensor will be deactivated.

In conjunction with a room, the temperature controller inserts a remote sensor that can be connected, either to measure the room temperature or limit the maximum floor temperature.

The following settings are possible.

room: The room temperature is measured using the internal temperature sensor or the BT brightness and temperature sensor.

floor: The room temperature is measured using the remote sensor. The internal temperature sensor is deactivated.

room and **floor**: The room temperature is measured using the internal temperature sensor and the floor temperature is measured using the remote sensor for monitoring the floor temperature. If the maximum temperature is exceeded, the floor heating will be switched off until the floor temperature is below the maximum value again. This way, an unpleasantly hot floor is avoided.

Behavior after a mains voltage failure

Voltage failure less than power reserve

- All data and settings are preserved

Voltage failure greater than power reserve

- The date and time are reset and need to be set again
- Temperature control is performed like before the power failure
- All times set in the weekly timer are retained
- All settings are retained

Default setting

Times for comfort and reduction of temperature

	Mo-Fr			**Sa-Su**	
1	6:00	8:30		7:00	22:00
2	12:00	14:00		–:–	–:–
(4)3	17:00	22:00		–:–	–:–

- Automatic mode is active
- Automatic summer time changeover is active
- Controller output depending on insert: room temperature controller insert = pulse width modulation, switch insert = two-point control
- Valve drive output is de-energized closed (NC)
- Optimized heating up is not active
- Temperature drop detection is active
- The heating and cooling mode is not active
- Comfort temperature: 21 °C, reduction temperature: 18 °C
  Frost protection temperature: 7 °C, cooling temperature: 24 °C
- The internal temperature sensor for room temperature measurement is active
- Display switch-off after 2 minutes of inactivity (no button actuation) is active

Commissioning

Setting date, time, and other parameters

With the Bluetooth version of the device, commissioning can also be performed conveniently via the app using a mobile end device. Before proceeding, the app must be installed on the mobile end device and a connection to the room temperature controller cover must be established (see ‘Installing app on mobile end device’ and ‘Coupling mobile end device via Bluetooth’).

When the year is flashing on the display, you must set or confirm the data listed in the table.

- Briefly press the – or + button to change values or toggle between YES / No.
- A long press of the – or + button accelerates value changes.
- Press the button to go back to the menu.
- Press the **ok** button to apply the setting and call the next value. After editing the last parameter, all values will be saved and automatic mode will be invoked.

Parameters	Display icon	Setting option/Default setting
Year		2019 or later
Month		01 … 12
Day		01 … 31
Hour		00 … 12 … 23
Minute		00 … 59
Automatic summertime changeover	S /W	YES / No
Controller output 1)	**2P**	YES / No
Valve adaptation 2)		NO / NC
Optimized heating up		YES / No
Temperature drop detection		YES / No
Comfort temp.		5 … 21.0 … 30 °C
Reduction temp.		5 … 18.0 … 30 °C
Frost protection		5 … 7.0 … 30 °C
Heating/cooling		YES / No
3) Cooling temp.		5 … 24.0 … 30 °C
Temperature sensor	**room**	room, floor or both
Max. floor temp.	**floor max.**	10 … 35.0 … 45 °C
Offset	–/+	-5 … 0.0 … +5 °C

1. Pulse width modulation (PWM) = No, two-point control = YES (see functional description).
2. **NC:** Valve is closed when de-energized.
3. **NO:** Valve is open when de-energized.
4. This parameter only appears if the device is set to “Heating and cooling”.
5. This parameter only appears if the **room** and **floor** have been set for the temperature sensor.

Install the app on a mobile end device (Bluetooth version only)
The requirement for operation via the app is a mobile end device with a Bluetooth interface, running the Android operating system or iOS.

- Download and install the Gira System 3000 App from the App Store (iOS) or Google Play Store (Android).
  Coupling mobile end device via Bluetooth (Bluetooth version only)
  Prerequisite: The insert must be connected. The cover is placed on the insert and the mobile end device is close to the cover.
- In order to enter coupling mode (pairing) prior to initial commissioning, the button must be pressed for more than 4 seconds until the icon flashes in the display.
- Activate coupling mode (pairing) after initial commissioning: Press the button. 1 flash in the display.
- Use the – or + button to select the Bluetooth menu item and confirm with **ok**. Then select YES and confirm once again .
- Start Gira System 3000 App and search for a device to be coupled (paired).
  “Thermostat” is displayed in the app.
- **Perform coupling.**
  The coupling mode is automatically exited after successful coupling. When the connection between the mobile end device and the room temperature controller cover is active, the icon in the display lights up permanently.
- If no coupling takes place, the coupling mode is automatically exited after approx. 1 minute.
- A maximum of 8 mobile end devices can be coupled with a cover. When coupling the 9th device, the least used device will be deleted.
- When power is applied again, the coupling can take place without a password within 2 minutes if a password has been configured via the app.

Operation

All settings and operations are also possible via the Bluetooth app.
Increasing or reducing the room temperature

- Press the – or + button for less than 1 second.
  With every brief press of a button the setpoint temperature changes by 0.5 °C. The set value is retained in manual mode; in automatic mode, it is retained until the next switching time is reached.
  In cooling mode, the – or + buttons cannot be used to change the setpoint temperature.

If the display is switched off or has been set to indicate the actual temperature or time, the – or + button will have to be pressed a second time or even more before a change in the setpoint value takes place.

- Press the – or + button for more than 1 second.
  In heating mode, the saved setpoint temperature is retrieved: – = reduction temperature + = comfort temperature

  During a detected temperature drop, changing the setpoint temperature is not possible.

Activating the boost function (Bluetooth version only)
With the boost function, the output is switched on for a maximum of 5 minutes without temperature control action in order to obtain a temporary increase in temperature.

- The boost function can only be activated while in heating mode and no temperature drop has been detected.
- Press the button for longer than 4 seconds.
- The boost function is active. The display counts down from 300 seconds and then switches back to normal mode.
  Press the button once again for more than 4 seconds to terminate the boost function prematurely.

Activating the holiday mode (Bluetooth version only)
The holiday mode can only be set and activated via the app.
When the holiday mode is active, the display indicates the setpoint temperature for the holiday period and switches between the and icons.
Briefly actuating the – or + button interrupts the holiday mode and the temperature set at that moment is maintained by the controller.
Briefly actuating the button restarts the holiday mode.

Activate functions

Automatic operation/manual operation

Pressing the button toggles between automatic mode and manual mode.

If all timer blocks are deactivated, the cover will automatically switch to manual mode.
Automatic mode cannot be activated.

Figure 2: Setpoint temperature display in automatic mode

The setpoint temperature is shown in the display. Active heating is indicated by the flashing heating icon. If heating is not active, the icon lights up permanently. The icon indicates that the system is being regulated to the saved comfort temperature.

Figure 3: Setpoint temperature display in manual mode

In manual mode, the icon appears in addition to the normal display.

Programming menu overview

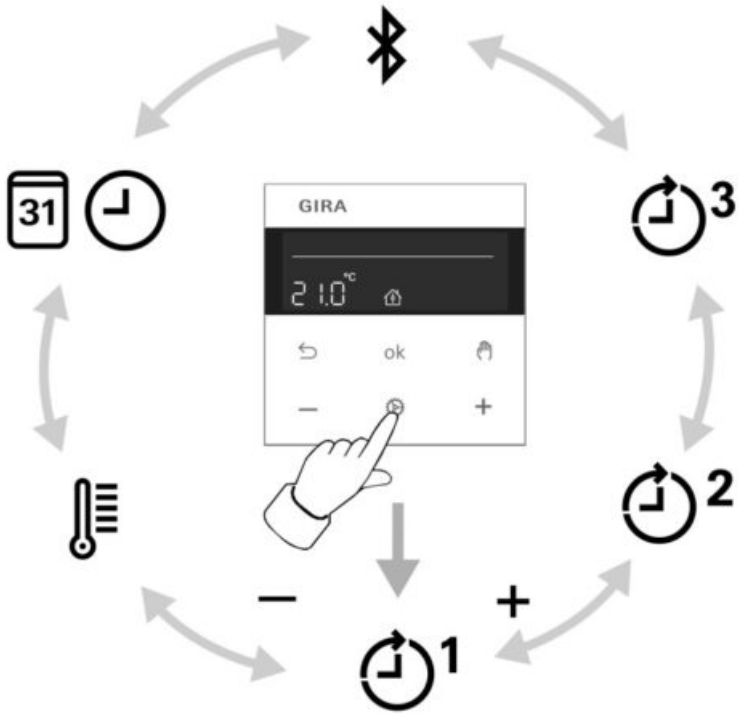


Figure 4: Programming menu

Three memory areas for comfort and reduction temperature for the two weekday blocks Mo – Fr and Sa – Su

Activate coupling mode (see Commissioning section)

Setting date, time, and automatic summer time changeover

Setting the comfort temperature, reduction temperature, and cooling temperature, activating optimized heating up, temperature drop detection, and setting an offset value

Press the button to call up or exit the programming menu.
Navigate through the menu with the – or + button and confirm the selection with the **ok** button.

Bluetooth version only: If the extended operating mode has been activated via the app, the three memory areas are hidden in the menu. Changes to the switching times can only
be made via the app then.

Setting switching times

- Press button.
- Select memory area 1, 2 or 3
- Confirm with the **ok** button.
  YES or No flashes in the display.
- **No is used to deactivate all times in the selected memory area.**

  The switching times of the memory areas (ƙ, Ʀ, Ʊ) must not overlap or be set to an identical time. Otherwise, temperature control cannot be reliably performed.

  The available memory areas are described in the table in the Default setting section.
- Change selection with the – or + button and confirm with the **ok** button.
  The first switching time for the comfort temperature appears on the display.
- The flashing switching time can be changed with the – or + button and saved with the ƨ button. The times for comfort and reduction temperature can be saved consecutively for the weekday blocks Mo-Fr and Sa-Su each. The menu is exited upon saving the last time setting.
  Set the clock – -:- – to deactivate individual switching times.

  After one minute without any operation, the menu is exited automatically without saving.
- **Set date and time**
- Press button.
- Setting the
- Confirm with the **ok** button.
  The year flashes on the display.
- Date, time, and automatic summer time changeover can be edited as described in the Commissioning section.
- **Changing temperature parameters**
- Press button.
- Setting the
- Confirm with the **ok** button.
  The setpoint value for the comfort temperature flashes in the display.
- Change the setpoint value with the – or + button and confirm with the **ok** button.
- Use the same procedure to set the values for the reduction temperature and, if parameterized, the cooling temperature as well.
- Activate/deactivate optimized heating up and temperature drop detection .
  Set the offset value -/+.

After value changes, the device will start with the saved setpoint values.

- **Activating/deactivating the operating lock**

  An activated operating lock prevents users from directly operating the system on the cover.

- Press and hold the – and buttons simultaneously for more than one second.

  appears in addition to the normal display. The operating lock is active.

  Also, press and hold the – and buttons simultaneously for more than one second to deactivate the operating lock.

- **Changing control parameters**

  Various settings are made during initial commissioning in order to adapt the temperature control to local conditions. This menu item can be used to change the settings.

  Press and buttons simultaneously for longer than 10 seconds.

  While actuating the buttons, a countdown from 9 to 0 is displayed.

  The **2P** and **YES** icons o**r No** appear in the display.

  The parameters can be confirmed **(Ok** button) or changed (– or + button) as described in the Commissioning section.

  After value changes, the device will start with the saved setpoint values.

Saving current time as switching time, quick programming

Switching times can also be saved without calling up the programming menu. The current time is saved as the switching time for Mo-Fr and Sa-So.

Quick programming overwrites the existing reduction or comfort temperature in the first memory area . The switching times from memory areas 2 and 3 are deactivated.

- Press and hold the **ok** button and additionally press the + button for the comfort temperature for more than 1 second. or
- Press and hold the **ok** button and additionally press the – button for the reduction of temperature for more than 1 second.

  SAVE appears in the display. The current time is saved as the new switching time for the comfort or reduction of temperature .

  Bluetooth version only: If the extended operating mode has been activated via the app, the quick saving option is not available.

Display: setpoint temperature, actual temperature, or current time

After commissioning, the device indicates the setpoint temperature and switches off the display after 2 minutes without any operation. Alternatively, the actual temperature or current time can be displayed.
The display can also remain switched on continuously.

- Press the **ok** and buttons simultaneously for longer than 10 seconds.

  A countdown runs on the display. When “0” is reached, the actual temperature is shown in the display.

The active temperature sensor is shown in the display when the actual temperature indication is selected. **room** or **floor** and **floor**: The measured value is provided by the internal sensor or the Bluetooth sensor.
floor: The measured value is provided by the remote sensor connected to the insert.

- Press the ƨ and Ƙ buttons simultaneously again for more than 10 seconds. A countdown runs in the display. When “0” is reached, the current time is displayed.

  Use the same operating step to switch back to the setpoint temperature display.
- Press the ƨ and Ƨ buttons simultaneously for longer than 10 seconds. A countdown runs on the display. When “0” is reached, the display is switched on continuously.

  Use the same operating step to switch the display off again after 2 minutes. The display briefly turns dark to indicate confirmation.

In setpoint or actual temperature display mode, the **ok** or button can be pressed for more than 1 second to display the current time as long as the button is actuated.

Resetting the cover to the default setting

- Press the and buttons simultaneously for 10 seconds.
  A countdown runs on the display. The reset is performed with “0”.
  The default setting is restored. The year flashes in the display and the device must be recommissioned (see Commissioning section).

  With the Bluetooth cover version, resetting to default settings can only be performed during the first 2 minutes after switching on mains voltage.

  After resetting to the default settings, the Bluetooth device has to be removed from the app. On iOS equipment, the device also has to be removed from the list of paired Bluetooth devices (Settings/Bluetooth). Otherwise, re-pairing will not be possible.

Information for electrically skilled persons

This device includes an integrated battery. At the end of its useful life, dispose of the device together with the battery in accordance with the environmental regulations. Do not throw devices into household waste. Consult your local authorities about environmentally friendly disposal. According to statutory provisions, the end consumer is obligated to return the device.

DANGER!
Mortal danger of electric shock
Disconnect the device. Cover up live parts.

Fitting the device
Switch or room temperature controller inserts are mounted and connected properly (see instructions of the relevant inserts).

- Fit the cover with the frame on the insert.
- Switch on mains voltage.

All display icons are briefly actuated and the software version is displayed for approx. 3 seconds. Subsequently, the year flashes in the display and the device must be commissioned (Commissioning).

If Err appears in the display, the cover was previously connected to another insert. To enable operation again, either place the cover onto the correct insert or press the + and – buttons for more than 4 seconds.
After changing the insert, the year flashes in the display and all settings must be confirmed (see Commissioning section).

Overview of button combinations

Button combination	Length of button press	Display Reading	What happens
— and	Longer than one second	is shown or hidden	Button lockout is activated or deactivated
and	Longer than 10 seconds	Countdown from 9 to 0	Parameters for control can be changed
ok and – or +	Longer than one second	SAVE	The current time is saved as the switching time.
ok and	Longer than 10 seconds	Countdown from 9 to 0	Display: toggling between setpoint temperature, actual temperature, and current time
ok and	Longer than 10 seconds	Countdown from 9 to 0	Display: toggling between display permanently on and switch-off after 2 minutes
and	Longer than 10 seconds	Countdown from 9 to 0	The default selling for the device is restored
+ and —	Longer than 4 seconds	Err	Canceling of lockout when changing cover or insert

Technical data

Ambient temperature	-5 … +45 °C
Storage/transport temperature	-20 … +70 °C
Accuracy per month	± 10 s
Power reserve	> 4 h
Additional specifications for the Bluetooth version	
Radiofrequency	2.400 … 2.483 GHz
Transmission capacity	max. 2.5 mW, Class 2

The parameter list (Bluetooth version only)

Adjustable parameters via app
Device parameters

Parameters	Setting options Default setting	Explanations
Setting the operating mode	Comfort and standby, ex- tended mode Default setting: comfort and standby	Comfort and standby: Timer with three memory areas; comfort and reduction time for Mo-Fr and Sa-Su in each memory area Extended mode: Weekly timer with 40 individually programmable switch points and temperatures Note: In extended mode, the switching points can only be displayed and changed via the app. Note: When switching from extended mode to comfort and standby, the switching times defined in the device will be lost.
Cooling	On, Off Default setting: Off	When the parameter is switched on, the cooling input on the insert can be used to activate the cooling mode . Note: If the cooling mode cannot be activated via the insert, a jumper can be installed on the insert between L and the cooling input. This will enable the cooling mode to be activated or deactivated via this parameter.
Setting temperatures	Comfort, standby, frost protection, and cooling	The setpoint values for the temperatures can be set and changed.
Maximum and minimum temperature values	5 °C … 30 °C	This parameter is used to limit the range in which temperature setpoint values can be set. The limits apply to the comfort temperature, reduction temperature, and holiday temperature. Regardless of the set minimum temperature, the frost protection temperature is the lowest temperature the controller can adjust.
Teaching in a temperature sensor	The input of the MAC address	After the MAC address of the BT brightness/ temperature sensor has been entered, the transmitted temperature is used for measuring the room temperature. The internal temperature sensor in the cover is inactive. Note: When selecting the temperature sensor, the internal sensor must be an active, room icon.
Temperature sensor operating mode	Room, floor, room, and floor Default setting: room	Room: The room temperature is measured using the internal temperature sensor or the brightness/ temperature sensor if taught.

Parameters	Setting options Default setting	Explanations

		Floor: The room temperature is measured using the remote sensor. The internal temperature sensor is deactivated. Room and floor: The room temperature is measured using the internal t emperature sensor or the brightness/ temperature sen sor if taught in. The floor temperature is measured usi ng the remote sensor in order to allow for monitoring o f the maximum floor temperature.
Temperature sensor offset	Offset setting: – 5 °C … +5 °C	If the system detects that the displayed actual temperature differs from the general room temperature, this parameter can be used to enter a co rrection value. The actual temperature will then be cor rected by this offset value.
Valve control, contro l method	PWM control, two-point control Default setting depending on in sert: PWM control for room tem perature controller insert, two-p oint control for switch insert	Pulse width modulated control (PWM): The output is not permanently actuated, but only for a time period (pulse width) that depends on the differen ce between the setpoint and actual temperature. This method brings the actual temperature gradually closer to the setpoint temperature. The cycle time is 15 minut es. Two-point control: The output remains switched on until the selected setpoint temperature has been exceeded by 0.5 °C. T he output will not be switched on again until the setpoi nt value is undercut by 0.5 °C.
Valve control, valve t ype	Active closing (NC), active opening (NO) Default setting: Active closing (NC)	This parameter is used to adapt to the electrothermal valve drives. Active closing (NC): The available drive is closed when de-energized. Active opening (NO): The available drive is open when de-energized.
Temperature drop d etection	On, Off Default setting: On	In case of a significant temperature drop, e.g. after op ening a window, the system regulates the frost protecti on temperature for a maximum of 30 minutes.
Optimized heating u p	On, Off Default setting: Off	Heating is started at most 4 hours before the switching time so that the desired temperature has been reache d at the switching time. Optimized heating up is optimi zed for panel heating/radiators.

Local display	Setpoint temperature, ac- tual t emperature, time Default setting: setpoint temper ature	Setpoint temperature: The cover displays the setpoint temperature. Actual temperature: The cover displays the actual temperature. When pres sing the — or + button, the display briefly switches to t he setpoint temperature.

Parameters	Setting options Default settin g	Explanations
		The room or floor sensor icon is shown in the display when the actual temperature indication is selected. **Time:** The device displays the current time of day. When pre ssing the — or + button, the display briefly switches to the setpoint temperature.
Display	Automatic, permanently ac- tiva ted Default setting: automatic	**Automatic:** The display remains switched on for 2 minutes after th e last operation and then switches off. Permanently activated The display remains permanently switched on.
Operation	No lock, operating lock, device l ock Default setting: no lock	Operating lock: An activated operating lock prevents users from directl y operating the system on the cover. Operation via the app remains possible. 8 appears on the cover in additi on to the normal display. The operating lock can also be deactivated on the cover. **Device lock:** An activated device lock prevents users from directly o perating the system on the cover. Operation via the ap p remains possible. 8 appears on the cover in addition to the normal display. The device lock cannot be deact ivated on the cover.

Conformity

- Gira Giersiepen GmbH & Co. KG hereby declares that the radio system type art. no. 5394 .. meets the directive 2014/53/EU. You can find the full article number on the device. The complete text of the EU Declaration of Conformity is available under the Internet address: **www.gira.de/konformitaet**
- Warranty

- The warranty is provided in accordance with statutory requirements via the specialist trade.
  Please submit or send faulty devices postage paid together with an error description to your responsible salesperson (specialist trade/installation company/electrical specialist trade). They will forward the devices to the Gira Service Center.

Gira
Giersiepen GmbH & Co. KG
Elektro-InstallationsSysteme
Industriegebiet Mermbach
Dahlienstraße
42477 Radevormwald
Postfach 12 20
42461 Radevormwald
Deutschland
Tel +49(0)21 95 – 602-0
Fax +49(0)21 95 – 602-191
www.gira.de
info@gira.de

Documents / Resources

	GIRA System 3000 Room Temperature Controller Display [pdf] Instructions System 3000, Room Temperature Controller Display
	GIRA System 3000 Room Temperature Controller [pdf] Instruction Manual System 3000, Room Temperature Controller

References

- Gira System 3000 Drehzahlstellereinsatz
- Suche
- Suche
- Schalter, Steckdosen & smarte Technik | Gira