SIEMENS

RDS110.R

Smart Thermostat Wireless

User Guide

Table of Contents

1 About this User guide

1.1 Revision history

Edition	Date	Changes	Section
1	September 2019	First edition. Thermostat software version 45.4.44.	All

1.2 Reference documents

Ref.	Document title	Document number
[1]	Smart Thermostat RDS110.R Mounting instructions	A6V11562441
[2]	Smart Thermostat RDS110.R Quick guide	A6V11562445
[3]	Smart Thermostat RDS110.R Datasheet	A6V11562461
[4]	Smart Thermostat Receiver RCR114.1 Mounting instructions	A6V11562443
[5]	Smart Thermostat Receiver RCR114.1 Quick guide	A6V11562447
[6]	Smart Thermostat Receiver RCR114.1 Datasheet	A6V11562464
[7]	Wireless Radiator Valve SSA911.01TH Datasheet	A6V11739247
[8]	Wireless Radiator Valve SSA911.01TH Quick start guide	A6V11742417

You can download the above documents from http://siemens.com/bt/download by searching the document numbers listed above.

1.3 Before you start

Trademarks

The table below lists the third-party trademarks used in this document and their legal owners. The use of trademarks is subject to international and domestic provisions of the law.

Trademarks	Legal owner
App Store®	Apple Inc.
Google Play™	Google Inc.
Wi-Fi®	Wi-Fi Alliance

All product names listed in the table are registered (®) or not registered (™) trademarks of the owner listed in the table. We forgo the labeling (e.g. using the symbols ® and ™) of trademarks for the purposes of legibility based on the reference in this section.

Copyright

This document may be duplicated and distributed only with the express permission of Siemens.

Quality assurance

These documents were prepared with great care.

- The content of all documents is checked at regular intervals.
- All necessary corrections are included in subsequent versions.
- Documents are automatically amended as a consequence of modifications and corrections to the products described.

Please make sure that you are aware of the latest document revision date.

If you find any lack of clarity while using this document, or if you have any criticisms or suggestions, please contact your local point of contact (POC) at the nearest branch office. Addresses for Siemens RCs are available at www.siemens.com/sbt.

Conventions for text marking

Markups

Special markups are shown in this document as follows:

▷	Specifies the requirements that must be met before performing this procedure.
1. 2.	Procedures must be performed in the specified order.
[→ X]	Reference to a page number
>	Relation sign and for identification between steps in a sequence, for example, **Menu bar > Help > Help topics**.

Symbol identifications

| ⚠ | **⚠ WARNING** |
| | This is the symbol for hazard. It warns you of **Risks of injury.** Comply with all measures designated by this symbol to prevent injury or death. |

| ! | *NOTICE* |
| | This symbol identifies an important notice that you should be aware of when you are using the product. |

| 🛈 | The 'i' symbol identifies supplementary information and tips for an easier way of working. |

Document use/ request to the reader

Before using products from Siemens Industry, Inc., it is important that you read the documents supplied with or ordered at the same time as the products (equipment, applications, tools, and so on) carefully and in full.

Before you get started, make sure you have an internet connection, a valid Email address and a smartphone in hand.

Additional information on products and applications is available:

- At your Siemens branch office www.siemens.com/sbt or at your system suppliers.
- From the support team at headquarters fieldsupport-zug.ch.sbt@siemens.com if there is no local point of contact.

Siemens assumes no liability to the extent allowed under the law for any losses resulting from a failure to comply with the aforementioned points or for the improper compliance of the same.

2 Summary

2.1 Brief description

Smart Thermostat RDS110.R is designed to control your heating system in apartments, single family homes, dormitories and other types of residences as well as light commercial spaces. It controls your heating system wirelessly by connecting to the smart receiver (RCR114.1) or smart valve actuator (SSA911.01TH).

As a smart thermostat, the RDS110.R can be controlled locally and remotely, via a mobile application on your smartphone. The mobile application offers additional features such as intuitive schedules, temperature trends. and location-based services (**geo-fencing**) to ensure that your home is comfortable and saving energy at the right times.

2.1.1 Operation overview

You can control the heating system using the thermostat or mobile application. Some control operations can be performed from both ends, whereas others are limited to either the thermostat or the mobile application:

- **Configuration** of the thermostat is possible only on the thermostat itself, such as selecting the settings of the heating applications and connecting the thermostat to the wireless accessories (smart receiver or valve actuator)
- **Daily operation** is possible both on the thermostat and with the mobile application, for example, changing the temperature setpoint, switching the thermostat on or off
- **Advanced operation** is possible with the mobile application, for example, creating the time schedule, viewing energy trends, and switching geo-fencing on or off

Operations	Thermostat	Mobile application	Sections/links
Setting up the thermostat	√		Quick guide Section 6.7.3 [→ 35]
Connecting with wireless devices (RCR114.1 or SSA911.01TH)	√		Section 5 [→ 17]
Changing application settings	√		Section 6.7.2 [→ 27]
Switching the thermostat to **Heat** or **OFF** mode	√	√	Section 6.2.1 [→ 20] Section 9.10 [→ 52]
Green leaf function	√	√	Section 7 [→ 39]
Switching the thermostat to **At home** or **AWAY** mode	√	√	Section 6.2.1 [→ 20] Section 9.9 [→ 52]
Temperature control	√	√	Section 6.1 [→ 20] Section 9.5 [→ 48]

Operations	Thermostat	Mobile application	Sections/links
Turning on/off the supply of domestic hot water	√	√	Section 6.5 [→ 25] Section 9.8 [→ 52]
Changing the preset temperature setpoints	√	√	Section 6.7.2 [→ 27] Section 9.5.1 [→ 49]
Setting time-based schedules		√	Section 9.6.1 [→ 49]
Setting location-based comfort controls		√	Section 9.6.2 [→ 50]
Turning on/off monitoring functions		√	Section 9.7 [→ 51]
Checking energy consumption		√	Section 9.4.4 [→ 48]

2.2 Inbox items

Items	Quantity
Thermostat (front and rear)	1
Metallic mounting plate	1
Set of screws and plastic insert	1
Quick guide	1
Mounting instructions	1
Activation code sticker	1
Wiring sticker	1

2.3 Equipment combinations

Receiver

Type of unit	Product number	Stock number	Datasheet*
Smart Thermostat Receiver	RCR114.1	S55772-T104	A6V11562464

Actuator

Type of unit	Product number	Stock number	Datasheet*
Radiator valve act. THREAD	SSA911.01TH	S55181-A101	A6V11739247

Remote sensors

Type of unit	Product no.	LG-Ni1000 at 0 °C	Pt1000 at 0 °C	NTC 10k at 25 °C	DC 0…10 V	Datasheet*
Room temperature sensors						
- Wall-mounted	QAA24	x				CM1N1721
	QAA2012		x			CE1N1745
	QAA2030			x		CE1N1745
	QAA2061				x	CE1N1749
	QAA2061D[2]				x	CE1N1749
- Flush-mounted[1]	AQR2531ANW	x				CE1N1408
	AQR2532NNW				x	CE1N1411
- Concealed	QAA64 (vandal-proof)	x				CM1N1722
Outdoor temperature sensors						
	QAC22	x				CE1N1811
	QAC2012		x			CE1N1811
	QAC2030			x		CE1N1811
	QAC3161				x	CE1N1814
Cable temperature sensors						
	QAP21.3	x				CE1N1832
	QAP22	x				CE1N1831
	QAP21.3/8000	x				CE1N1832
	QAP2012.150		x			CE1N1831
	QAP1030.200			x		CE1N1831
Room humidity sensors						
- Wall-mounted	QFA2000				x	CE1N1857
- Wall-mounted including temperature	QFA2020	x (T)			x (r.h.)	CE1N1857
	QFA2060				x (T+r.h.)	CE1N1857
	QFA2060D[2]				x (T+r.h.)	CE1N1857
- Flush-mounted[1] including temperature	AQR2534ANW + AQR2540Nx	x (T)			x (r.h.)	CE1N1410
	AQR2535NNW + AQR2540Nx				x (T+r.h.)	CE1N1410
Indoor air quality sensors						
- CO_2	QPA2000				x	149-910
- VOC + CO_2	QPA2002				x	149-910
	QPA2002D[1]				x	149-910
- CO_2	QPA2060				x(CO_2+T)	149-910

Type of unit	Product no.	LG-Ni1000 at 0 °C	Pt1000 at 0 °C	NTC 10k at 25 °C	DC 0…10 V	Datasheet*
including temperature	QPA2060D[1]				x(CO_2+T)	149-910
- Duct-mount CO_2	QPM2100				x	149-909
- Duct-mount VOC + CO_2	QPM2102				x	149-909
- Duct-mount CO_2 including temperature	QPM2160				x(CO_2+T)	149-909
- VOC	QPA1000				x	CE1N1961
Condensation monitors						
- Condensation monitor	QXA2100					A6V10741072
- Condensation monitor with offset sensor	QXA2101					A6V10741072

* The documents can be downloaded from http://siemens.com/bt/download by specifying the product number as shown in the above table.

1) Requires a mounting plate and/or design frames.

2) With digital display.

Accessories (Optional)

Type of unit		Product no.	Datasheet*
White decorative frame and metallic mounting plate for installation on rectangular conduit box (1 set)		ARG100.01 S55772-T102	A6V11190640

Note: Accessories are not included with the units and should be ordered separately.

* The documents can be downloaded from http://siemens.com/bt/download by specifying the product number as shown in the above table.

3 Mounting and installation

Mounting
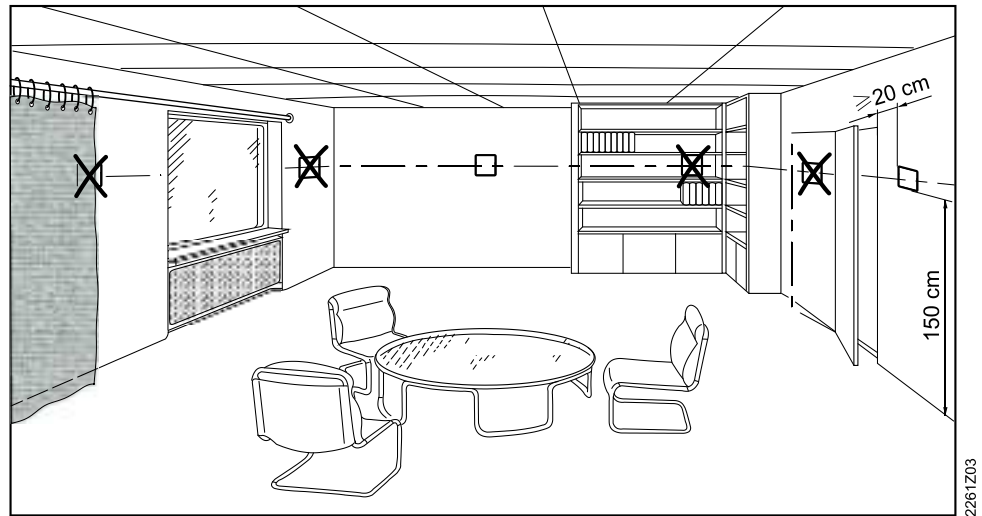
!	NOTICE
	We recommend hiring licensed installers to mount and install the thermostat.

- The thermostat is suitable for wall mounting.
- The recommended height is 1.50 m above the floor.
- Do not mount the thermostat in recesses, shelves, behind curtains or doors, or above or near heat sources.
- Avoid direct solar radiation and drafts.
- Seal the conduit box or the installation tube if any, as air currents can affect sensor readings.
- Adhere to allowed ambient conditions.

Installing your thermostat

In addition to the following instructions, a step-by-step graphical instruction showing how to assemble different components and mount the thermostat can be found in the Mounting instructions. The following part only gives textual instructions so as to assist you with safe and successful mounting.

1. Switch off power to your heating system and old thermostat by using your home's breaker box.

2. Remove the cover of your old thermostat.

3. Label the wires according to your old thermostat terminal designations, using the stickers provided together with the thermostat. It is also helpful if you take a picture of the current wire connections for reference later on.

4. Disconnect all the labeled wires and then remove your old thermostat.
   NOTICE! Do not dispose of your old thermostat as part of household waste if it contains mercury in a sealed tube. Contact a thermostat recycling organization, for example, www.thermostat-recycle.org, for safe disposal of your old thermostat.

5. Determine if you need to have more wires connected to the power unit to be installed. If so, prepare the wires and label them accordingly. We strongly recommend hiring installers to connect the wires.

6. Seal the conduit box or the installation tube to prevent entry of cold or hot air and make sure the temperature readings of the internal sensor are correct.

7. Screw the mounting plate tightly on the conduit box using a screwdriver, making sure the mounting plate is placed correctly (the part with the upward arrow placed on the top).

8. Connect the labeled wires to the terminals following the thermostat terminal designations. Use a screwdriver to tighten down the screws to secure the inserted wires.
    NOTICE! There are four pairs of L and N terminals on the power unit. However, you can combine any L with any N terminal.

9. Screw the power unit on the mounting plate tightly.

10. Attach the front module horizontally. Ensure that each side of the front module aligns with the power unit and press the corners in the order illustrated below: Top (1); bottom (2) until each corner clicks in place. Note: You must discharge static electricity from your body before mounting the front module. For example, touching the wall can help discharge static electricity.
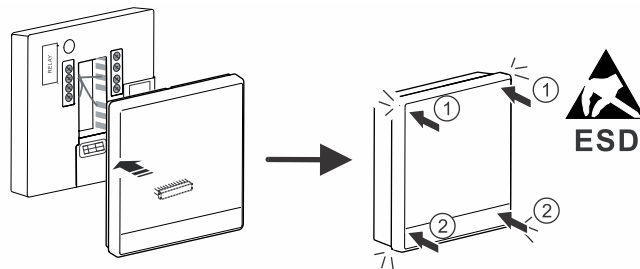
11. Switch the power back on to your heating system and thermostat by using your home's breaker box.

Wiring

See the Mounting instructions for more information.

- Comply with local regulations to wire, fuse and earth the thermostat. Connect the conduit box to earth (safety ground).
- Adapt the line diameters as per local regulations to the rated value of the installed overcurrent protection device.
- The line voltage cables and signal cables must be arranged separately.
- X1, M and X2 wires operate at SELV (Safety Extra Low Voltage) level. Do not insert cables with AC 230 V mains voltage into terminals X1, M and X2 and vice versa.
- Isolate the cables of inputs X1, M and X2 from AC 230 V mains voltage.
- The AC 230 V mains supply line must have an external circuit breaker with a rated current of no more than 10 A.
- Screw down all terminals regardless of whether cables are connected or not.
- Properly size the cables to the thermostat.
- Screw down the cables tightly and make sure no bare copper is exposed.
- Disconnect from power supply before removing the front module and the mounting plate.
- Use a cable lug to avoid touching of mains and neutral wires, if the power cable is made of RVS wires.

4 Getting started with your thermostat

4.1 Setup wizard

When your thermostat is powered up for the first time, a setup wizard displays to guide you through the following procedures:

- Setting a display language
- Setting an administrator password
- Setting up a network connection and choosing the network connection type
- Selecting an equipment type and setting up the details
- Configuring time and date
- Specifying a name to the location where the thermostat is installed

For more details, see the Quick guide.

4.2 Thermostat display overview

Normal display

1	Tap to display detailed information and additional settings.
2	Tap to display additional measurements, for example, outside air temperature. (Only if external sensor is connected)
3	Tap to display notifications (only visible if any)
4	Room temperature
5	Tap to toggle between **At home** and **AWAY**.
6	Displays whether the thermostat is following a schedule (⬚) or following your setpoint changes permanently (⬚). Following a schedule can mean the following: • If there is a network connection and you've also set your schedule, the thermostat follows your schedule. Your temporary change of the temperature setpoint only takes effect during the currently scheduled mode. • If the network is connected but no schedule set, the thermostat applies the system's default schedule. For more information on the default schedule, see Time-based schedules [→ 49]. • Without network connection or valid time, the thermostat cannot retrieve schedule information from the Cloud. It always works in the **Comfort** mode.
7	Tap or slide to change the room temperature setpoint. * 🔸 The thermostat is in heating mode – at some point, the relay will be energized, depending on the heating demand and application type. 🔸 The thermostat is not in heating mode.

NOTICE! * There is a few seconds' delay between the color change in the temperature bar and the reaction of the relays.

Idle display

The RDS110.R screen switches to **idle** mode after 2 minutes of inactivity. The **idle** screen of the RDS110.R can be displayed as a simple screen with basic room values, or as a blank, black screen. The simple screen is the default setting.

1	Relative room humidity
2	Room air quality status: good ✿, average ✿, poor ✿. (Displayed only if an external air quality sensor is connected to the thermostat)
3	Outside air temperature (displayed only if an external temperature sensor is connected to the thermostat)
4	Green leaf: Energy-optimized mode. Red leaf: Tap to restore the energy-optimized mode.
5	Room temperature

NOTE: The icons displayed in **idle** mode may differ if you've connected external sensors to your thermostat. For example, the idle screen may display room air quality status or outside air temperature if a related external sensor is connected to the thermostat. However, the relative room humidity value and green leaf indication are always displayed on the idle screen.

To set idle display

1. On the Home screen, tap ⠿, then tap ⟩ until the **Settings** page displays.
2. Tap ✿ > ▶, and then tap ⊡ or ■ to set the idle screen as pure blank or with values.

4.3   Home screen icon overview

Icon	Description
	Indicates there are notifications.
	At home mode is on.
	AWAY mode is on. You must manually tap to activate this mode.
	Displays when the system works in an energy-optimized mode. If the leaf is red, it means that some pre-defined settings have been changed. You can tap the red leaf to restore to the energy-saving mode. The leaf turns green again.
	Temperature setpoint slider. The background color of this icon changes along with major changes to the setpoints: • If you increase the setpoint by dragging the slider to the right to warm up the room, the slider color changes to orange. • If no heating occurs, the slider color changes to white.
	Relative room humidity
AUTO	The thermostat works following a schedule. If you haven't set one, the thermostat works following a default schedule. This default schedule could be set by the system, or specified by yourself if you have changed the default setpoints of some operating modes under **Advanced Settings > Optimization**. When this icon is toggled on, temperature setpoint changes can only be maintained within the current scheduled mode and will be overridden to the scheduled setpoint when the next scheduled mode starts. **NOTE:** If the thermostat has never been connected to a WLAN network, it cannot read the real time from the network and thus cannot follow a schedule. In this case, it always works under the **Comfort** mode.
	The thermostat doesn't work following a schedule. All of your temporary setpoint changes work continuously if this icon is toggled on.
	Tap to display options, such as **Operating mode**, **Settings** and **Advanced Settings**.
	Indicates that room air quality is good.
	Indicates that room air quality is okay.
	Indicates that room air quality is poor.

5 Connecting to wireless devices

Acting as a Thread router, the thermostat can connect to a maximum of six wireless relays (RCR114.1) or valve actuators (SSA911.01TH) to control your heating system remotely. If a relay or actuator fails to connect to the thermostat due to low signal strength (distance or blockades [walls, and so on.]), you can install a maximum of three wireless repeaters (RCR114.1) in between to extend the reach of the RDS110.R control signals.

Once the connection between the thermostat and the wireless devices has been established, no manual re-connection is needed, even if a power supply interruption should occur.

!	NOTICE
	• You cannot manually turn ON/OFF RCR114.1. • RCR114.1 and SSA911.01TH cannot be connected to the thermostat at the same time unless RCR114.1 is configured as a repeater. See the Quick guide of RCR114.1 for information about how to configure it as a repeater.

5.1 Overview of connected devices

1	Wireless repeater (RCR114.1 only)
2	Relay or actuator (RCR114.1 or SSA911.01TH)
3	Signal strength of the connected device
4	Tap to remove a device.
5	Communication failure
6	Low battery (SSA911.01TH only)
7	Tap to view all devices.
8	Tap to add more devices.

5.2 Connecting to Smart Thermostat receivers

The thermostat can connect to a maximum of six Smart Thermostat receivers (RCR114.1 as a relay) to control the following heating equipment:

- Gas boiler
- Radiator with pump
- Electric floor heating
- Fan with electric heating
- Floor heating with valve
- Floor heating with pump
- Electric radiator
- Electric boiler
- Generic heating device

i	See Changing system setup [→ 35] for more information about heating equipment.

To initiate the connection with RCR114.1 Smart Thermostat Receiver

1. On the Home screen, tap ▦, then tap ‹ and ⚙.

2. If prompted, enter the administrator password.

3. Tap ▶ > ☀, and then tap **Pair new devices**.

4. On RCR114.1, press the ▭ button. The LED flashes green.

5. Perform the above action on all receivers if you have more than one RCR114.1 on hand.

   ⇨ On RCR114.1, the LED flashes green during connection establishment and turns to green when it succeeds. If the connection fails, the LED is solid yellow. Try to connect again.
   ⇨ The thermostat displays information about successful pairing.

6. Tap **Done** on the thermostat. All the added devices are displayed on the **Devices** page.

5.3 Connecting to wireless valve actuators

The thermostat can connect to a maximum of six wireless valve actuators (SSA911.01TH) to control Radiator with valve.

i	See Changing system setup [→ 35] for more information about heating equipment.

To initiate the connection with a wireless valve actuator

1. On the Home screen, tap ▦, then tap ‹ and ⚙.

2. If prompted, enter the administrator password.

3. Tap ▶ > ☀, and then tap **Pair new devices**.

4. On SSA911.01TH, press and hold down ▭ for more than two seconds. The THREAD network symbol on the display of SSA911.01TH blinks.

5. Perform the above action on all valve actuators if you have more than one SSA911.01TH on hand.

   ⇨ On SSA911.01TH, the THREAD network symbol blinks during connection establishment.
   ⇨ Information about successful pairing is displayed on the thermostat.

6. Tap **Done** on the thermostat. All the added devices are displayed on the **Devices** page.

6 Operating the thermostat on the device

6.1 Temperature control

The thermostat acquires the room temperature using the built-in sensor and/or the external room temperature sensor, and maintains the setpoint by delivering control commands to heating and/or cooling equipment. On the home screen, the current room temperature is displayed and the temperature setpoint can be changed as desired. The temperature unit can be switched between °C and °F.

To adjust the temperature setpoint on the home screen

- On the Home screen, drag the temperature slider to the right to increase the temperature setpoint, or to the left to decrease the temperature setpoint.

To change the temperature unit

1. On the Home screen, tap ⠿, and then tap ⟩.
2. Tap ⚙, then tap °C to change from Celsius to Fahrenheit, or tap °F to change from Fahrenheit to Celsius.

6.2 Operating modes

The thermostat can operate in different modes:

- OFF vs. HEAT. If the space is not occupied for a long time, you can switch the thermostat to **OFF** instead of keeping the thermostat running under the **HEAT** mode. The thermostat will only ensure that the room temperature does not drop below the protection temperature setpoint.

- At home vs. AWAY. Use **AWAY** when the space is not occupied for a few days. The thermostat will always maintain the **Unoccupied** temperature setpoint.

- Auto ([AUTO]) vs. manual ([⚹]). Use [AUTO] to ensure optimal comfort with maximum energy savings by using your own time schedule.

6.2.1 Operating modes with manual switchover

Operating mode overview

You can manually switch to the following operating modes on the thermostat or in the mobile application.

Operating mode	Description
At home	You can use this mode when you stay at home or inside the room where the thermostat is located.
	When the thermostat operates under this mode, you can toggle to 🔲 to let the thermostat run automatically following a schedule, or toggle to 🔲 to let the thermostat operate at a specified setpoint permanently. See Thermostat display overview [→ 14] for more detailed information about how the thermostat works when 🔲 or 🔲 is toggled on.
AWAY	This mode helps save energy. You can use this mode when you are away from home or outside the room where the thermostat is located.
	The temperature setpoint maintained under this mode is the same with that scheduled in **Unoccupied** mode using the mobile application. Deactivation of this mode switches the thermostat to the schedule you've set (if you haven't set one, the thermostat works following a default schedule).
HEAT (〽)	Puts thermostat and the controlled heating system into **Heating only** operation.
OFF	You can use this mode to save energy when the space is not occupied for a long time, for example, when you are taking a long vacation.
	Depending on how you've set up the thermostat, this mode can mean one of the following:
	• Your heating equipment turns off completely.
	• Your thermostat only works to maintain the system's protection setpoint so that your heating equipment is not destroyed if the room air temperature is too low, or if the air is too humidified or dry. For more information about the protection setpoint, see Managing application settings [→ 27].
	Deactivation of this mode switches the thermostat to the schedule you've set (if you haven't set one, the thermostat follows a default schedule).

To switch between At home and AWAY modes

- On the Home screen, tap 🏠 to switch from **At home** to **AWAY**.

- Tap 🏠 to switch from **AWAY** to **At home**.

- If you want to do it from the mobile application, see Switching between **Away** and **At home** [→ 52].

To switch between HEAT and OFF modes

- On the Home screen, tap ⸭, and then tap **OFF** or **HEAT** (〽) on the **Operating mode** page.
- If you want to do it from the mobile application, see Switching between heating and OFF modes [→ 52].

NOTE: To awake your thermostat from the **OFF** mode, tap the thermostat screen or switch back to **Heat** in the mobile application.

To change the thermostat behavior under the OFF mode

1. On the Home screen, tap ⬛, then tap ‹ and ⚙.

2. If prompted, enter the administrator password.

3. Tap ▶ > ▮▮, and then tap **Off/protection configuration**.

4. Tap either **Off** or **Protection**.

6.2.2   Operating modes in a schedule

Operating mode overview

You can only set the following operating modes in the mobile application. You can set a maximum of 8 operating modes in a day. If more modes are added, you will be prompted with a message **Max. number of entries reached**.

Operating mode	Description
Comfort	Maintains comfortable settings in controlled space during occupancy and activities.
Economy	Using set back (set up) settings, maintains balance in comfort during night time or inactivity and reduces energy consumption.
Unoccupied	Saves energy when space is unoccupied for extended periods.

These operating modes have different temperature, humidification, dehumidification and air quality setpoints. These setpoints can be changed by choosing **Advanced Settings > Optimization**. Unlike the humidification setpoint or dehumidification setpoint, the temperature setpoint can be adjusted directly from the thermostat home screen or using the mobile application.

Time scheduling of these operating modes (Comfort, Economy and Unoccupied) can only be done on the mobile application but the schedule can be initiated on the thermostat itself. If a setpoint is overridden during a time schedule period, that change will revert to the scheduled setting during the next transition. Override information is visible on both the thermostat screen and the mobile application.

NOTE: See Scheduling options [→ 49] for more details of scheduling.

To switch the thermostat to work following a schedule

● From the Home screen, tap ⬤ if ⬛ is not displayed on the screen.

NOTE: Unlike when a schedule is running, all the changes hold indefinitely if ⬤ is toggled on.

6.3   WLAN connection

Connecting to a WLAN network allows you to connect to the cloud server and control your thermostat from a smartphone. Two network connection types are available for you to choose in the setup wizard:

● If the thermostat is installed at your own space, **Private WLAN** is recommended. Choosing it means that the thermostat is connected to your own WLAN network. You need to choose and manage your password. In the thermostat, you need to go to **Settings** for WLAN connection management.

● If the thermostat is installed in a public space, **Administrated WLAN *** is recommended. Choosing it means that the thermostat is connected to the facility WLAN network. The password is provided by the facility managers and is under their control. In the thermostat, go to **Advanced Settings** for WLAN connection management.

See the Quick guide for guidance to the setup wizard. You must perform a factory reset if you want to change the network connection type after you've set up the thermostat following the wizard. Note that a factory reset erases all user data. See Changing system setup [→ 35] for information about how to perform a factory reset.

To connect to a network

1. If the thermostat is selected for commercial use, do the following:
   - On the Home screen, tap ⠿, then tap ❮. The **Advanced Settings** page displays.
   - If required, enter your administrator password.
   - Tap ✿ > 📶, and then wait for the thermostat to discover the networks nearby.

2. If the thermostat is selected for home use, do the following:
   - On the Home screen, tap ⠿, and then tap ❯ until the **Settings** page displays.
   - Tap ✿ > ▶ > 📶, and then wait for the thermostat to discover the networks nearby.
3. Tap your desired network. If necessary, tap ▼ or ▲ to scroll through the networks to select one.
4. For secured networks, enter the relevant password, and then tap **Connect**.

Note: For more information about the administrator password, see Creating an administrator password [→ 25].

To add a network manually

1. If the thermostat is selected for commercial use:
   - On the **Advanced Settings** page, tap ✿ > 📶, and then tap ▼ to scroll down to find and tap **Add Network**.

2. If the thermostat is selected for home use:
   - On the **Settings** page, tap ✿ > ▶ > 📶, and then tap ▼ to scroll down to find and tap **Add Network**.
3. Enter the Network name (SSID) information.
4. To select a security type, tap the **Security** field.
5. Tap **Connect**.
6. If prompted, enter the relevant password, and then tap **Connect**.

To configure your current network settings

1. If the thermostat is selected for commercial use:
   - On the **Advanced Settings** page, tap ✿ > 📶. Your current network displays on the screen.

2. If the thermostat is selected for home use:
   - On the **Settings** page, tap ✿ > ▶ > 📶. Your current network displays on the screen.
3. Tap **Network Settings**. The default DHCP (Dynamic host configuration protocol) setting page displays on the screen.
   - Tap ▼ to scroll through and view other network DHCP settings like **Preferred DNS**.
   - Note: To customize the current network settings, tap **Manual**, select a field, or tap ▼ or ▲ to scroll to the desired field, and then enter a new setting.

– Tap ▼ again to enter **Advanced Bacnet setting** page. You can manually change the BACnet ID or enable/disable a foreign device. You can also modify BBMD related information if a foreign device is enabled.

Connecting to a network via push button

If you have little knowledge about wireless security, using the push button method makes it easy for you to establish a secure wireless network connection. If you want to use this method, you must have a WPS (Wi-Fi Protected Setup) compatible router.

To connect to a network using the push button

1. If the thermostat is selected for commercial use:

   – On the **Advanced Settings** page, tap ✿ > 📶, then tap ▼ until you see **Push Button Setup**.

2. If the thermostat is selected for home use:

   – On the **Settings** page, tap ✿ > ▶ > 📶, then tap ▼ until you see **Push Button Setup**.

3. Tap **Push Button Setup**, and then press the WPS button on your WPS-supported router to start the discovery of your thermostat.

4. On the thermostat, tap ▶ > **Connect**.

5. Tap **OK** once the thermostat is successfully connected to the network.

6.4 Screen lock protection

6.4.1 Locking the home screen

Whether the thermostat is selected for commercial or home use, you can set a numeric screen code to lock the home screen and prevent misuse of the thermostat.

Apart from using the screen code to unlock the screen, you can also use an administrator password (if you've set one) to unlock the screen.

To create a screen lock code

1. On the Home screen, tap ▦, then tap 〉.

2. Tap ✿ > 🔒 > **Activate**. Enter a code consisting of six numbers, and then tap **OK**.

3. Tap **OK** again to confirm.

To unlock the home screen

• On the Home screen, enter the screen lock code directly and then tap **OK**.

• If you've set an administration password, tap the question mark on the screen, and then tap **Log in as administrator**.

NOTE: There is no limit of attempts to enter the numeric code. If you cannot remember the screen lock code, you can use the administrator password (if you've set one) to unlock the screen. For more information, see What should I do if I forget the screen lock code? [→ 55]

To modify screen lock password

1. On the **Settings** page, tap ✿.

2. Tap 🔒 > **Change**, specify a new numeric lock of six numbers, and then tap **OK**.

3. Tap **OK** to confirm.

To remove screen lock password

1. On the **Settings** page, tap ⚙.

2. Tap 🔒 > **Deactivate**, then tap **OK** to confirm.

6.4.2 Creating an administrator password

!	NOTICE
	If your thermostat is selected for home use, it is recommended that you don't create an administrator password because there is no way to change it to a new password if you've lost or cannot remember it. If you've created a password but lost it, contact the product supplier or the agency for support.

If your thermostat is selected for commercial use, setting an administrator password can help you prevent unauthorized access to **Advanced Settings** if it is installed in a public place. You can create the password in the setup wizard when you use your thermostat for the first time. You can also create, modify or deactivate it later under **Advanced Settings**.

Compared to a numeric screen lock, an administrator password is used to protect the following settings:

- Checking the basic information about the thermostat.
- Viewing/Using the activation code of the thermostat.
- Changing or deactivating the administrator password.
- Setting up WLAN connection.
- Changing date and time.
- Changing application settings.
- Changing basic/extended configurations and doing factory resets.

If you cannot remember the created administrator password, turn to the product supplier or agency for support.

ℹ	If your thermostat is selected for home use, options related to WLAN connection is accessible from **Settings** instead of **Advanced Settings**.

To create/activate an administrator password under Advanced Settings

1. On the Home screen, tap ⊞, then tap ‹. The **Advanced Settings** page displays.

2. Tap ⚙ > **Password** > **Activate**.

3. View the password policy on the screen, and then tap ▶.

4. Enter a strong password required by the password policy, and then tap **OK**.

5. Tap **OK**.

To manage your administrator password

1. On the **Advanced Settings** page, tap ⚙ > **Password**.

2. Modify or deactivate the administrator password.

6.5 Turning on/off the supply of domestic hot water

Use your thermostat to manage the supply of DHW (Domestic Hot Water) if corresponding external equipment is connected to your thermostat and you've also configured the thermostat output as a domestic hot water boiler. You can turn on or

off the supply of domestic hot water, or let the thermostat automatically adjust whether and when to turn it on.

To turn on/off the supply of domestic hot water

1. On the Home screen, tap ⊞, then tap ⟩ > 🚰.

2. Tap either **ON**, **OFF** or **AUTO**.

6.6   Turning on humidifier/dehumidifier

Use your thermostat to manage the supply of humidifier/dehumidifer if corresponding external equipment is connected to your thermostat and you've also configured the thermostat output as a domestic humidifier/dehumidifier. You can turn on the humidifier/dehumidifier, or let the thermostat automatically adjust whether and when to turn it on.

To turn on/off the supply of domestic hot water

1. On the Home screen, tap ⊞, then tap ⟩ > ＋💧 / －💧.

2. Tap either **ON** or **AUTO**.

6.7   Basic settings

Under basic settings, you can:
- Lock/Unlock the home screen
- Change the temperature unit
- Connect to a WLAN network if the thermostat is selected for home use
- Turn on/off the touch sound
- Change the display language
- Specify a room name

The first three options are described in separate sections. This section only describes the last three options.

6.7.1   Turning on/off the touch sound

You can adjust whether the thermostat responds to your touching actions with sounds.

To turn on/off the touch sound

1. On the Home screen, tap ⊞, then tap ⟩ until the **Settings** page displays.

2. Tap ⚙, and then tap 🔇 or 🔊 to turn on or off the touch sound.

6.7.2   Changing the display language

To change the display language

1. On the **Settings** page, tap ⚙ > 💬.

2. Tap the new language that you want to change to. If necessary, tap ▼ to scroll to the desired language.

6.7.3   Naming a room

You can give a unique name to a room where your thermostat is installed. Doing so helps you easily recognize the room when you are remotely controlling the thermostat.

To name a room

1. On the **Settings** page, tap ✿ > ☐.

2. Tap the text field, and then enter a room name as desired, or tap ▼ to select a name from the pre-set list.

3. Tap **OK** once you've entered the room name.

6.8 Advanced settings

NOTE: It is recommended that only installers or experts with detailed know-how about the thermostat change advanced settings.

Under Advanced settings, you can:

● Manage the administrator password

● Connect to a WLAN network if the thermostat is selected for commercial use

● Scan the QR code of the activation code

● Change a time zone

● Adjust different application settings

● Re-set up the thermostat

● Check the basic information about your thermostat

The first three options are described in separate sections. This section describes the remaining options.

6.8.1 Changing a time zone

When there is internet connection, the thermostat automatically detects the time zone for you. However, you can also change it manually.

To change the time zone

1. On the Home screen, tap ▦, then tap ‹ and ⚙.

2. If prompted, enter the administrator password.

3. Tap ▶ > ◷ > **Adapt**, and then select an area on the map.

4. Tap ▲ or ▼ to scroll to a desired time zone, tap to select it and then tap ▶.

5. If it is connecting to the cloud, the thermostat detects the date and time automatically for you based on your previously-selected time zone. If it is not connecting to the cloud, follow the on-screen instructions to set the year, month and date manually.

6.8.2 Managing application settings

You can manage application settings by turning on/off a specific function or change setting values. It is strongly recommended that only installers or experts with detailed know-how about the thermostat modify the application settings.

NOTE:

● Parameter availability depends on your selected application for your thermostat.

● Numbers marked in the above table are only for easy readability in this document. They don't represent the parameter numbers in the local hardware unit.

Multi-functional inputs

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
1.	Room temperature 1, 0 V value	Room temperature at 0 V of the 0-10 V input in terminal X1	0 °C	0…50 °C	A DC 0…10 V external room temperature sensor must be connected to the thermostat using terminal X1.
2.	Room temperature 1, 10 V value	Room temperature at 10 V of the 0-10 V input in terminal X1	50 °C	0…50 °C	
3.	Room temperature 2, 0 V value	Room temperature at 0 V of the 0-10 V input in terminal X2	0 °C	0…50 °C	A DC 0…10 V external room temperature sensor must be connected to the thermostat using terminal X2.
4.	Room temperature 2, 10 V value	Room temperature at 10 V of the 0-10 V input in terminal X2	50 °C	0…50 °C	
5.	Outside air temperature, 0 V value	Outside air temperature at 0 V of the 0-10 V input	-50 °C	-50…80 °C	A DC 0…10 V external outside air temperature sensor must be connected.
6.	Outside air temperature, 10 V value	Outside air temperature at 10 V of the 0-10 V input	80 °C	-50…80 °C	
7.	Floor temperature 1, 0 V value	Floor temperature at 0 V of the 0-10 V input in terminal X1	-50 °C	-50…80 °C	A DC 0…10 V external floor temperature sensor must be connected using terminal X1.
8.	Floor temperature 1, 10 V value	Floor temperature at 10 V of the 0-10 V input in terminal X1	80 °C	-50…80 °C	
9.	Floor temperature 2, 0 V value	Floor temperature at 0 V of the 0-10 V input in terminal X2	-50 °C	-50…80 °C	A DC 0…10 V external floor temperature sensor must be connected using terminal X2.
10.	Floor temperature 2, 10 V value	Floor temperature at 10 V of the 0-10 V input in terminal X2	80 °C	-50…80 °C	

Heating setpoints

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
11.	Comfort heating setpoint	The default heating setpoint for **Comfort** defined in a schedule. This setpoint must be higher than that for protection.	21 °C	0…50 °C	N/A
12.	Economy heating setpoint	The default heating setpoint for **Economy** defined in a schedule. This setpoint must be higher than that for protection.	19 °C	0…50 °C	N/A
13.	Unoccupied heating setpoint	The default heating setpoint for **Unoccupied** mode. This setpoint must be higher than that for protection.	15 °C	0…50 °C	N/A
14.	Protection heating setpoint	The default minimum heating setpoint to maintain when you switch the thermostat to **OFF** under ⠿ > **Operating mode**.	12 °C	0…50 °C	This setpoint is valid only if you keep the default Protection option for Application setting No. 35.
15.	Max. heating setpoint	The default maximum heating setpoint if the thermostat is not switched to **OFF**. If it is **OFF**, the maximum heating setpoint is then the heating protection setpoint.	35 °C	0…50 °C	The heating protection setpoint is valid only if you keep the default Protection option for Application setting No. 35.

Humidification setpoints

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
16.	Rel.room humidity setpoint for comfort	The humidification setpoint for **Comfort**. This setpoint must be higher than the humidification setpoint for protection.	40 % RH	0…100 % RH	Displays only if you've configured the output as **Humidifier (no fan)**.
17.	Rel.room humidity setpoint for economy	The humidification setpoint for **Economy**. This setpoint must be higher than the humidification setpoint for protection.	40 % RH	0…100 % RH	
18.	Rel.room humidity setpoint f.unoccupied	The humidification setpoint for **Unoccupied**. This setpoint must be higher than the humidification setpoint for protection.	30 % RH	0…100 % RH	
19.	Rel.room humidity setp.for protection	The humidification setpoint to maintain when you switch the thermostat to **OFF** under ⊞ > **Operating mode**. This setpoint must be lower than the dehumidification setpoint for protection.	30 % RH	0…100 % RH	This setting displays only if you've configured the output as **Humidifier (no fan)**. This setpoint is valid only if you keep the default Protection option for Application setting No. 35.

NOTE: Humidification control works with a PID algorithm. The algorithm continuously monitors the difference between the humidity setpoint for humidification and the measured relative air humidity in the room and switches the humidifier ON and OFF to keep the humidity above the setpoint. The humidifier cannot manually be switched on and off. Changes to the setpoint impact humidification control, thereby verifying functionality.

Dehumidification setpoints

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
20.	Rel.room dehmdf.setpoint for comfort	The dehumidification setpoint for **Comfort**. This setpoint must be lower than the dehumidification setpoint for protection.	60 % RH	0…100 % RH	Displays only if you've configured the output as **Dehumidifier (no fan)**.
21.	Rel.room dehmdf.setpoint for economy	The dehumidification setpoint for **Economy**. This setpoint must be lower than the dehumidification setpoint for protection.	60 % RH	0…100 % RH	
22.	Rel.room dehmdf.setpoint for unoccupied	The dehumidification setpoint for **Unoccupied**. This setpoint must be lower than the dehumidification setpoint for protection.	70 % RH	0…100 % RH	
23.	Rel.room dehmdf.setpoint for protection	The dehumidification setpoint to maintain when you switch the thermostat to **OFF** under ⊞ > **Operating mode**. This setpoint must be lower than the dehumidification setpoint for protection.	70 % RH	0…100 % RH	This setting displays only if you've configured the output as **Dehumidifier (no fan)**. This setpoint is valid only if you keep the default Protection option for Application setting No. 35.

NOTE: Dehumidification control works with a PID algorithm. The algorithm continuously monitors the difference between the humidity setpoint for dehumidification and the measured relative air humidity in the room and switches the dehumidifier ON and OFF to keep the room humidity below the setpoint. The dehumidifier cannot manually be switched on and off. Changes to the setpoint impact dehumidification control, thereby verifying functionality.

Functions

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
24.	Kick cycle	A circle kicked in to turn on a constantly idle pump or valve for a minimum period of time to protect the pump or valve from being locked up. You can set the kick-in time interval by yourself; however, the minimum time period the pump or valve is switched ON depends on what heating controllers setting you've selected.	500 h	1…8760 h	Application setting No. 38; This function displays only if you select the equipment type as one of the following in Changing system setup [→ 35]: Radiator with valve, Radiator with pump, Floor heating with valve or Floor heating with pump.
25.	Presence detector	Allows switching to **Comfort** automatically if an unoccupied room is detected to be occupied when a scheduled **Unoccupied** mode is running.	Inactive	N/A	An external presence detector sensor must be connected to the thermostat using terminal X1or X2.

Temperature offsets

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
26.	Built-in temp. sensor adj.	Temperature offset value for the built-in room temperature sensor.	0 K	-5…5 K	Valid only if the built-in temperature sensor is used to measure the temperature.
27.	Room temp.1, measured value adj.	Temperature offset value for the room temperature sensor connected in terminal X1.	0 K	-5…5 K	Valid only if an external room temperature sensor is connected using X1.
28.	Room temp.2, measured value adj.	Temperature offset value for the room temperature sensor connected in terminal X2.	0 K	-5…5 K	Valid only if an external room temperature sensor is connected using X2.

Minimum switchover time adjustment

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
29.	Humidify (no fan) min. ON time	The minimum working time of a standalone humidifier. This minimum limitation protects the humidifier from being destroyed by frequent switchovers.	3 min	0…60 min	You've configured the thermostat output as **Humidifier (no fan)** in Changing system setup [→ 35].
30.	Humidify (no fan) min. OFF time	The minimum OFF time of a standalone humidifier. This minimum limitation protects the humidifier from being destroyed by frequent switchovers.	3 min	0…60 min	
31.	Dehum. (no fan) min. ON time	The minimum working time of a standalone dehumidifier. This minimum limitation protects the dehumidifier from being destroyed by frequent switchovers.	3 min	0…60 min	You've configured the thermostat output as **Dehumidifier (no fan)** in Changing system setup [→ 35].
32.	Dehum. (no fan) min. OFF time	The minimum OFF time of a standalone dehumidifier. This minimum limitation protects the dehumidifier from being destroyed by frequent switchovers.	3 min	0…60 min	
33.	DHW min. ON time	The minimum working time of the domestic hot water boiler. This minimum limitation protects the boiler from being destroyed by frequent switchovers.	3 min	0…60 min	You've configured the thermostat output as **Hot water** in Changing system setup [→ 35].
34.	DHW min. OFF time	The minimum OFF time of the domestic hot water boiler. This minimum limitation protects the boiler from being destroyed by frequent switchovers.	3 min	0…60 min	

Other settings

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
35.	Off/protection configuration	Configures whether the thermostat goes to the protection mode or completely turns off in **OFF** mode.	Protection	Off Protection	N/A
36.	Heating control loop	Indicates a different time for PWM (Pulse Width Modulation) pulse periods. You can select the default setting to let the system configure the most suitable heating controller settings based on your selected equipment type.	Default	Slow Medium Default Fast 2-position Self-adaptive	N/A
37.	Floor temperature limit	Floor temperature limit for electric floor heating	40 °C	35…60 °C	Valid only if you've selected the equipment type as **Electric floor heating** and enabled the floor temperature input in Changing system setup [→ 35].
38.	Optimum start control	Pre-heats the room in an optimum way so that you can get the scheduled temperature setpoint at your scheduled occupied time. You can choose **Warm-up gradient** to manually define the warm-up speed, or choose **Self-adaptive** to let the thermostat learn and decide the warm-up speed.	Warm-up gradient	Warm-up gradient Self-adaptive	Visible only if you've activated the optimum start control settings in Changing system setup [→ 35].

No.	Application settings	Descriptions	Factory settings	Range	Dependencies
39.	Warm-up gradient	The warm-up speed that you set to pre-heat the room.	30 min/K	0…120 min/K	Valid only if you've activated the optimum start control settings in Changing system setup [→ 35] and selected **Warm-up gradient** for Application setting No.38

To manage application settings

1. On the Home screen, tap ⊞, then tap 〈 and ⚙.

2. If prompted, enter the administrator password.

3. Tap ▶ > ▮▮, and then scroll to the specific setting that you want to turn on/off or change to a desired Value.

4. Tap to change the setting as desired.

6.8.3 Changing system setup

If you want to change any of your initial setup options that you've already configured during the setup wizard, you can change them later under **Advanced Settings**. You can also change some other default system setup options to suit your own needs. However, we recommend that only installers or experts with detailed know-how about your thermostat modify the setup options.

ⓘ See the Quick guide for guidance to the setup wizard.

Changing basic configurations

Changing basic configurations of the thermostat allows you to change the equipment type that your thermostat is working together with. The equipment could be one of the following:

- Gas boiler
- Radiator with valve
- Radiator with pump
- Electric floor heating
- Fan with electric heating
- Floor heating with valve
- Floor heating with pump
- Electric radiator
- Electric boiler
- Generic heating device

If the selected equipment is related to a pump or valve, you can decide whether to run the pump or valve periodically.

!	*NOTICE*
	When selecting the gas boiler application, ensure a hydronic heating is used. The RDS110.R is not calibrated for use in combination with a gas-fired ducted heating system.

To change basic configuration

1. On the Home screen, tap ▦, then tap ‹ and ⚙.

2. If prompted, enter the administrator password.

3. Tap ▶ > ⚒.

4. Tap **OK** to stop all of your thermostat's applications. Your thermostat restarts.

5. After the restart is completed, tap **Equipment > Adapt**.

6. If necessary, tap ▼ to scroll through all the listed equipment types and then choose one as desired.

7. If the equipment is a pump or valve, choose whether to run the pump or valve periodically by dragging the slider on the screen.

Changing extended configurations

By changing extended configurations, you can:

- Change input assignments. Before you configure or change to another input, it is strongly recommended that you've connected corresponding peripheral devices to terminal X1 or X2. The input can be:
  - Room temperature
  - Operating mode switch

    The thermostat switches to the **OFF** mode if you've configured the input as **Normally open**. For example, if a thermostat in a hotel is configured to **Normally open** for this input, when a hotel guest pulls out the room card, it activates **Normally open**. The thermostat switches to the **OFF** mode. Once the room card is inserted again, the thermostat restarts the previously running mode.

    If X1 or X2 were assigned as **Operating mode switch** and the input configured as **Normally open** but physically terminal X1/X2 is not connected to the related field devices, the thermostat may switch to the **OFF** mode and no longer functions normally unless changed to another input.
  - Universal contact. A notification shows up in the mobile application when the input status switches to **Normally closed** (the circuit is closed). When the status switches to **Normally open** (the circuit is open), the notification disappears.
  - Floor temperature. This input is selectable only if you've configured the equipment type as **Electric floor heating**.
  - Outside air temperature
  - Room air humidity
  - Presence detector
  - Condensation monitor. If you've configured a condensation monitor as an input, the condensation monitor detects the formulation of condensation on chilled ceilings or at critical spots of heating or ventilation systems. If there is a threat of condensation, the thermostat sends a warning signal for your control actions. The same signal is also sent to the mobile application if the Condensation monitor function is activated in the application.
- Change input signal types based on the input type you've assigned. The following signal types are supported:
  NOTICE! If you haven't configured the corresponding application, some inputs may not be selectable.

- Digital input, normally open or closed
- LG-Ni1000
- Pt1000 (EU)
- Pt1000 (NA)
- NTC 10k
- 0…10 V*

● Set the sensor evaluation mode if an external sensor is connected to either terminal X1 or X2. You can use either the built-in and external sensors, or the external sensors, for controlling and monitoring. The former is selected by default. However, if no physical external sensors are connected to any control inputs or if the input values are invalid, only the built-in sensors are used to provide values for the thermostat. If an external temperature or humidity sensor is connected and can provide valid values with the built-in sensors, the thermostat displays the average value.

● If you've configured the equipment type as **Electric floor heating**, choose to activate or deactivate the floor temperature input.

● Configure the output as a humidifier free-standing, a dehumidifier free-standing or a domestic hot water boiler.

● Activate or deactivate the optimum start settings for heating. Activating the optimum start settings allows unoccupied space (a scheduled **Unoccupied** mode is running) to be pre-heated so that you can get the scheduled temperature setpoint at your scheduled occupied time (the thermostat enters into **Comfort** mode).

*) If you've selected 0…10 V as the signal type, you must connect a DC 0..10 V active sensor with the thermostat. Otherwise, the calculated value may not be accurate.

To change extended configurations

1. On the **Advanced Settings** page, tap ⚙.

2. If prompted, enter the administrator password.

3. Tap ▶ > ⚊.

4. Tap **OK** to stop all the thermostat's applications. The thermostat restarts.

5. After the restart is completed, tap **I/O > Adapt**.

6. Change the settings as desired.

Resetting the thermostat   You can reset the thermostat to its original factory settings. However, all user data will be erased after the factory resetting.

To perform a factory reset

1. On the **Advanced Settings** page, tap ⚙.

2. If prompted, enter the administrator password.

3. Tap ▶ > ⚊.

4. Tap **OK** to stop all of your thermostat's applications. Your thermostat restarts.

5. After the restart is completed, tap **Factory Reset**.

6. Tap **Reset**. The thermostat is reset and restarted.

NOTE: After the thermostat is restarted, the setup wizard appears for easy commissioning. Refer to the Quick guide for the detailed setup information.

6.8.4   Checking the basic information about your thermostat

You can check the following information about your thermostat:

- Model name
- Activation code and serial number of the thermostat
- Software and hardware version
- MAC and IP address
- Application used in the thermostat

To check the basic information about your thermostat

1. On the Home screen, tap ⊞, then tap ❮ and ⚙.

2. If prompted, enter the administrator password.

3. Tap ⚙ > ⓘ. Detailed information about your thermostat displays.

6.9 Software updates

The thermostat receives updates to get the latest functionality, enhancements and bug fixes so that it has optimal performance. Normally, the updates occur automatically through WLAN connection. It works in the background and doesn't affect your normal usage on the thermostat.

NOTE: During software updates, the system reboot(s) occurs automatically, however, no previous settings are changed.

7 Green leaf indication

The Green leaf indication 🍃 informs you that the system has an energy-optimized operation. When the heating output is energized, if the thermostat detects that the room air temperature is 2 K higher than the default heating setpoint for **Comfort** or **Economy**, the leaf icon turns to red 🍂. Touch the red leaf on either the thermostat's home screen or the temperature control widget of the mobile application to switch the setting back to an energy-optimized operation:

● Control the temperature according to Green Leaf default setpoints for heating.
● Operate an actuator, boiler or compressor automatically based on a schedule.
● Switch to follow a schedule with a pre-set setpoint that you've defined under **Advanced Settings > Optimization** in the thermostat.

8   Air quality display

By connecting to an external VOC (Volatile Organic Compounds) sensor or CO_2 sensor, your thermostat shows the room air quality via three status symbols on the local idle screen. In the mobile app, the status is indicated by text instead.

Symbol on the local idle screen	Text in the mobile app	Description	VOC level [% of the output range]
✿	Good	The room air quality is good	<50%
✿	Okay	The room air quality is okay	50% ~ 80%
✿	Poor	The room air quality is poor	>80%

i   In order to ensure that the room air quality is measured accurately when the room is closed for a long time, it is recommended to force air circulation such as opening a window.

9 Operating the thermostat with the mobile application

Once the thermostat is associated with a created account in the mobile application, you can control it from your phone and remotely make changes in temperature and scheduling settings. The mobile application also allows you to switch on geo-fencing to further enhance your room comfort and energy savings. This is especially helpful if you have an irregular schedule.

Apart from remote control, the mobile application also allows you to check temperature and humidity trends as well as energy consumption.

9.1 Downloading the application

You can download the **Siemens Smart Thermostat RDS** application from Google Play or App Store.

9.2 Exploring the app using demo mode

Before controlling the thermostat using the downloaded mobile application, you can check the demo mode of the mobile application to see how it looks and works. You can change whatever you want in the demo mode, but none of your changes will be reflected in the local thermostats. The application restores every value after you exit the demo mode.
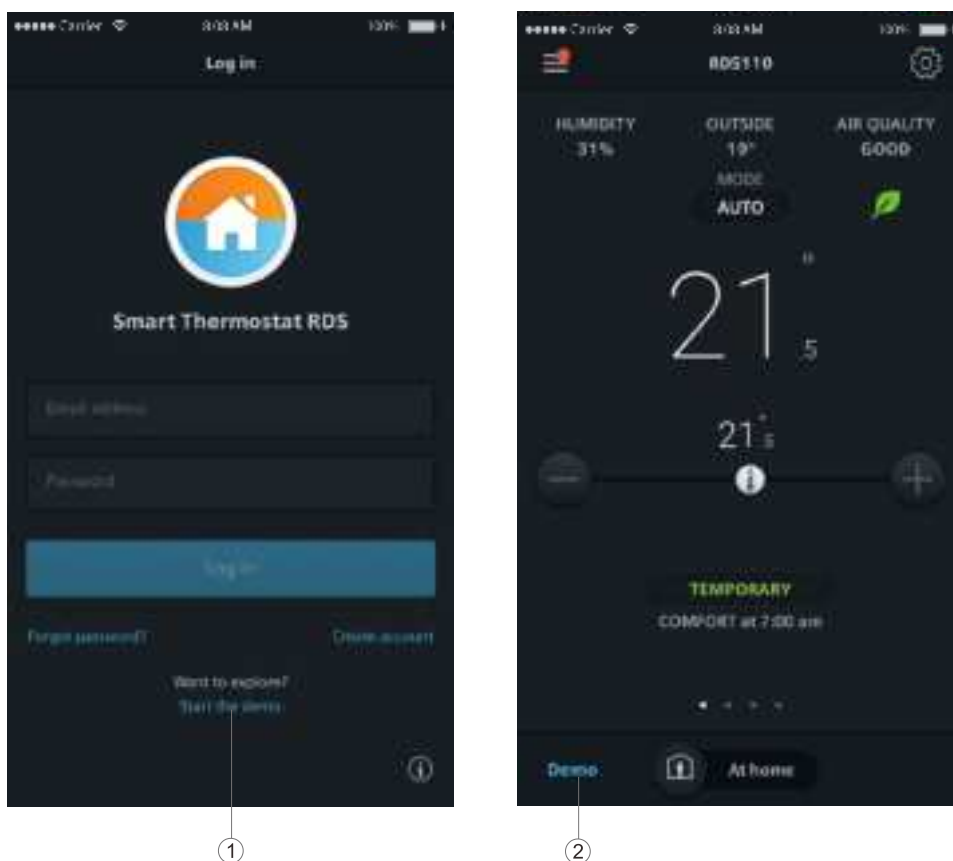
| 1 | Tap to go to the demo mode. You are redirected to the screen on the right |
| 2 | Tap to expand the menu options under the demo mode. You can decide to exit from the demo mode by tapping **'Stop demo** in the expanded menu. |

9.3 Account creation and association

Create an account and associate it with thermostat(s) to control the thermostat(s) wirelessly.
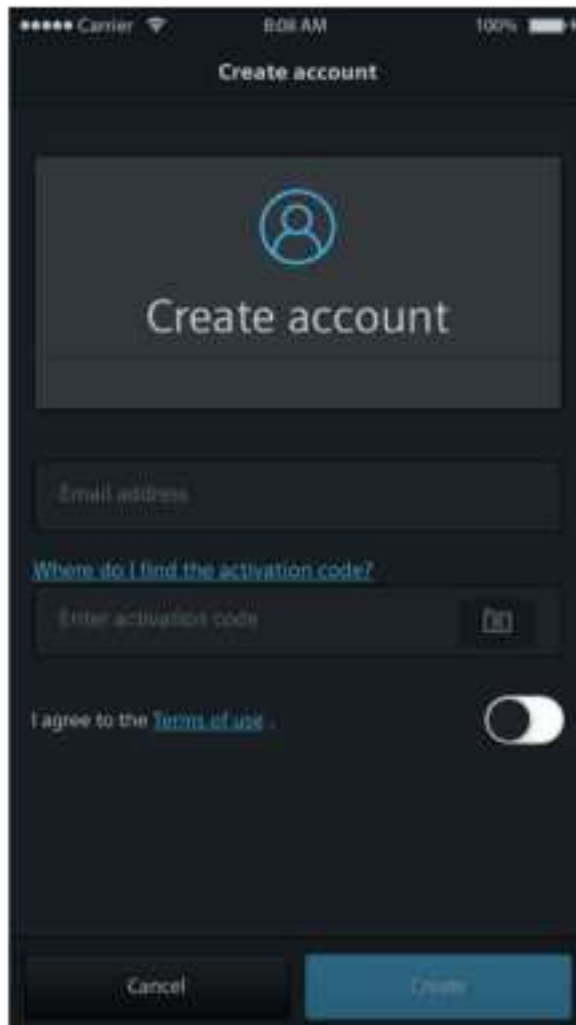
To create an account and associate it with the thermostat(s)

▷ The thermostat is connected to a network.

1. Open the application in your smartphone.

2. Enter a valid email address.

3. On the **home screen** of the thermostat, tap ⊞ and ⟨, and then tap ✿ and ⊗. The activation code and the QR code display.

4. In the application, scan the QR code using the built-in scanner or enter the activation code manually.

5. Agree to the terms of use, and then tap **Create**. You will receive a confirmation email.

6. Enter the code enclosed in the confirmation email, set a password for the account, then tap **Activate**.

7. To associate additional thermostats with the account, tap ☰ > **Devices** > **Add device** and then add devices by scanning the corresponding QR codes.

ℹ️ If you've reconfigured the thermostat, you must log out and then log into the application again to to initiate new changes.

To manage account information in the application

1. In the application, tap ☰ > **Account**.

2. Manage your account information. For example, change the user name, modify the password, or choose another display language.

9.4 Widget overview

The mobile application has four widgets: Temperature Control widget, Domestic Hot Water widget (if applicable), Trend widget and Heating Demand. Swipe to the left or right to switch over among widgets.

If the thermostat output is not configured as domestic hot water boiler, the domestic hot water widget is not displayed in the application.

The Heating Demand widget displays the heating consumption during a specific period of time. It displays only if **Heat** is enabled. See Operation overview [→ 7] for information on how to switch to the **Heat** mode.

To access widgets

1. Open the application, and then select an associated device if you've added several to your account. If your account is associated with only one thermostat, the system automatically brings you to the temperature control widget.

2. If necessary, swipe to the right or left to view all the widgets.

9.4.1   Temperature Control widget overview

1	Entry to the Options menu.
2	Displays the room name that you've selected to view and control the thermostat settings.
3	Displays more detailed settings.
4	Displays the room humidity, outside air temperature and air quality.
5	Informs you that the system has an energy-optimized operation. If the thermostat is not running in an energy-saving mode, the leaf icon turns red. Touch the red leaf to switch the setting back to an energy-optimized operation.
6	Displays whether the thermostat is operating following a schedule or not. ![AUTO] means the schedule is running, while ![icon] means the schedule is not activated. Tap on the icon area to toggle between the two modes. These two modes are also available on the Home screen of the local hardware unit.
7	Displays the current room temperature.
8	Temperature setpoint slider. Dragging it over the temperature setpoint line can change the temperature setpoint. The temperature setpoint value shown above the line changes accordingly.

9	Tap to decrease or increase the temperature setpoint.
10	Displays the current scheduled operating mode. Only displays when the icon ▨ displays on the same screen. If you've changed the temperature setpoint, information about temporary override displays in this area.
11	Displays the next scheduled operating mode and when it starts.
12	Toggle to switch between **At home** and **Away**. These two modes are also available on the Home screen of the local hardware unit. For more information about the two modes, see Operating modes with manual switchover [→ 20].

9.4.2 Domestic Hot Water widget overview

1	Toggle to decide whether to turn on or off the domestic hot water following a schedule. [AUTO] means the schedule is running, while [ ] means you must manually turn it on or off.
2	Displays whether the domestic hot water is turned on or not. You can toggle the icon to switch from [AUTO] to [ ] and then turn on or off the domestic hot water under the manual mode.
3	Displays whether the domestic hot water is currently turned on or off. You can see from the adjacent text when the status will be switched if you've set a schedule for the supply of the domestic hot water.

NOTE: If you haven't configured the thermostat output as a domestic hot water boiler, the domestic hot water widget doesn't appear in the app.

9.4.3   Trend widget overview

You can swipe to the Trend widget to view the trends of room temperature setpoints, room temperatures and humidity of the current day, week or month. The widget can be viewed vertically (in portrait mode) and horizontally (in landscape mode). When viewed horizontally, the widget also allows you to scroll among available pages.

Figure 1: Portrait view mode

Figure 2: Landscape view mode

1	Legend: the orange color in the chart represents **room temperature setpoints**. Tap the rectangle or the label to the right to switch on or off the data curve in the chart. The curve is hidden by default.
2	Legend: the blue color in the chart represents **relative room humidity values**. Tap the rectangle or the label to the right to switch on or off the data curve in the chart. The curve is visible by default.
3	Legend: the green color in the chart represents **room temperature values**. Tap the rectangle or the label to the right to switch on or off the data curve in the chart. The curve is visible by default.
4	Tap to switch to a different view mode. The default mode is the day view. It shows the data of room temperatures, room temperature setpoints and relative room humidity of the current day in a line chart. Switching to the week or month view allows you to present in the chart the data within a week or month.
5	Measurement unit of relative room humidity values.
6	Measurement unit of room temperatures and room temperature setpoints.
7	Tap anywhere in the chart to pop up all visible data for a specific time or day.
8	Rotation icon. Indicates that the Trend widget can display horizontally if you rotate the phone from vertical to horizontal. Note that the screen doesn't re-orient if you've disabled the auto-rotation function of your phone.
9	Tap to scroll one page forward.
10	Indicates the currently selected time period. Tap anywhere in the framed area to view the corresponding data in the chart.
11	Tap to scroll one page backward.

!	**NOTICE**
	If lines are not continuous but have gaps in the chart, it means that the thermostat is not connecting to the cloud server. Check if the thermostat is powered on and has a functional network connection.

9.4.4 Heating Demand widget overview

1	Seven-day view by default, showing the heating hours of each week day counting down from the current day.
2	Tap to switch to the four-week view.
3	Tap to switch to the 12-month view.
4	Indication of heating running hours
5	The current day/month
6	The current month/year

Note: All recorded heating hours will be erased if you remove and re-add a device to your account.

9.5 Temperature control

You can change the temperature setpoint whenever you want. If a schedule is running, your change is only effective within the current scheduled mode. When the next scheduled mode starts, the scheduled setpoint overrides your change. If no schedule is running, your change is always effective unless you make changes again.

The temperature value can be in °C or °F. You can change the temperature unit under **Account**.

NOTE: For more information about schedules, see Scheduling options [→ 49].

To adjust the temperature setpoint

Do one of the following:

- On the temperature control widget, drag the temperature knob over the temperature line as desired.
- Tap the minus or plus icon on the widget.

To change the temperature unit

1. In the app, tap ☰ and then tap **Account**.

2. Expand the **Unit** field, and then change the temperature unit.

9.5.1 Changing the preset temperature setpoints

The thermostat comes with some preset temperature setpoints for different working modes as described in Managing application settings [→ 27]. You can easily change them in the mobile application to meet your needs.

To change the preset setpoints for different operating modes

1. On the temperature control widget screen, tap ⚙.

2. Tap any of the working modes, for example, **Unoccupied**, to expand the preset setpoints.

3. Drag the temperature slider to the setpoint as desired. If you've adjusted to a new heating setpoint that is higher than the current room temperature, the system turns on heating.

9.6 Scheduling options

9.6.1 Time-based schedules

If you've set the thermostat to operate automatically following a schedule, the schedule can be following (default), or one you set for your daily schedule.

Days	Time periods when Comfort mode is on	Time periods when Unoccupied mode is on	Time periods when Economy mode is on
Monday through Friday	6:00 – 8:00 17:00 – 22:00	8:00 – 17:00	22:00 – 6:00
Saturday and Sunday	7:00 – 22:00		22:00 – 7:00

When setting your own schedule, increase or decrease time length for **Comfort**, **Economy** and **Unoccupied** based on time of day or day of the week. If the thermostat is configured to control the domestic hot water, you can also decide when to turn the domestic hot water on or off. After you've finished setting your schedule for one day, you can easily copy it to other days.

> ⓘ See Operating modes in a schedule [→ 22] for more information about operating modes.

To switch the thermostat to work following a schedule

- From the Home screen of either the local hardware unit or the mobile application, tap ⬤ if 🔲 is not displayed on the screen.

To set time length for different operating modes

1. On the temperature control widget screen, tap ⚙ > **Thermostat schedule**.

2. Select which day of the week you want to set schedules for. By default, the system uses the current day.

3. On the vertical timeline, tap a specific time point to set a switching point. A switching point marker displays beside the time point. If you want to fine tune the switching point, drag the switching point marker to the desired time.

4. Tap the switching point marker, and then select **Comfort**, **Economy** or **Unoccupied** from the drop-down list.

5. Repeat Steps 3 and 4 to set other switching points.

NOTE: You can set a maximum of five switching points per day. If you want to delete one, tap 🗑 on the switching point marker.

To set time length for the supply of domestic hot water

1. Verify that you have set the function to control the supply of domestic hot water.

2. On the domestic hot water widget screen, tap ⚙ > **Hot water schedule**.

3. Select which day of the week you want to set schedules for. By default, the system uses the current day.

4. On the vertical timeline, tap a specific time point to set a switching point. A switching point marker displays beside the time point. If you want to fine tune the switching point, drag the switching point marker to the desired time.

5. Tap the switching point marker, and then select **On** or **Off** from the drop-down list.

6. Repeat Steps 3 and 4 to set other switching points.

NOTE: You can set a maximum of five switching points per day. If you want to delete one, tap 🗑 on the switching point marker.

To copy one day's schedule to other days

1. On the temperature control or domestic hot water widget screen (if you've set the function to control the domestic hot water supply), tap ⚙.

2. Tap **Thermostat schedule** or **Hot water schedule** as desired.

3. Specify which day's schedule you want to copy from.

4. Tap **Copy**, and then select which days you want to copy the schedule to.

5. Tap **Paste**. The schedule is pasted.

9.6.2 Location-based control

Using the Geofencing technology, Siemens Smart Thermostat RDS knows if you are within your set Geofence area and then informs the thermostat of different reactions via Cloud. Geo-fencing works only when the thermostat is in **AUTO** mode.

- If you enter the Geofence area,
  - The thermostat switches to **Comfort** until the next scheduled mode starts if a scheduled **Unoccupied** mode is running.
  - No change will be made, if a scheduled **Economy** mode is running, to avoid heating when someone else is asleep at home.
  - If more than one smartphone connects to the thermostat, the thermostat reacts when the first smartphone appears in the Geofence area.
- If you leave the Geofence area,
  - The thermostat switches to **Unoccupied** until the next scheduled mode starts if a scheduled **Comfort** or **Economy** mode is running.
  - If more than one smartphone connects to the thermostat, the thermostat reacts when the last smartphone disappears from the Geofence area.

9.7 Notifications

The mobile application notifies you of condensation risks and universal contact status changes. If there are notifications, a red indicator appears on the upper right corner of the menu icon, ☰. Expanding ☰ displays the exact number of notifications.

By default, the mobile application can receive condensation and universal contact notifications. You can turn the notifications off as needed.

To view notifications

- Tap ☰ > **Notifications**.

9.7.1 Turning on/off the condensation monitoring function

If you've configured a condensation monitor as an input in the local thermostat, the condensation monitor detects the formation of condensation on chilled ceilings or at critical spots of heating or ventilation systems. If there is a risk of condensation, the thermostat sends a warning signal for your control actions. The same signal can also be sent to the mobile application if the related function is activated.

For more information about how to configure a condensation monitor input, see Changing system setup [→ 35].

To turn on/off the condensation monitoring function

1. Tap ☰ > **Devices**.

2. Select the device that you want to turn on or off the condensation monitoring function for.

3. Drag the slider to the right or left to turn it on or off. The function is on by default.

9.7.2 Turning on/off the universal contact monitoring function

If you've configured a universal contact as an input in the local thermostat, you can use the mobile application to see if it is switched on or off if the universal contact monitoring function is turned on.

For more information about how to configure a universal contact input, see Changing system setup [→ 35].

To turn on/off the universal contact monitoring function

1. Tap ≡ > **Devices**.

2. Select the device that you want to turn on or off the universal contact monitoring function for.

3. Drag the slider to the right or left to turn it on or off. The function is on by default.

9.8 Turning on/off the supply of domestic hot water

To turn on/off the domestic hot water manually

1. On the domestic hot water widget, tap 🔘 to switch to 🔴, if 🔴 is not displayed on the screen.

2. If you want the domestic hot water to be always on, ensure that **On** displays on the screen. If you want to turn off the domestic hot water, tap the domestic hot water tap icon.

To turn on/off the domestic hot water following a scheduled time

- On the domestic hot water widget, tap 🔴 to switch to 🔘, if 🔘 is not displayed on the screen. The thermostat then controls the domestic hot water following your schedule.

NOTE: For more information about schedules, see Scheduling options [→ 49].

9.9 Switching between Away and At home

You can set your thermostat to the **Away** mode to avoid energy waste, or the **At home** mode for a comfortable room temperature.

To switch between Away and At home

- Tap **At home** or **Away** at the bottom of any widget.

9.10 Switching between heating and OFF modes

To switch between Heat and Off

1. On any widget screen, tap ⚙, and then expand the drop-down list beside **Thermostat mode**.

2. Select **Heat** or **Off**.

9.11 Changing background color

You can change the mobile application's background color from dark to light or vice versa.

To change the theme color

1. In the app, tap ≡ > **Account**.

2. Expand the **Theme** field and select any background color.

9.12 Managing the information about your thermostat remotely

Once a thermostat is added to the mobile application, you can view its detailed information such as its current connection status (online, offline or upgrading). You

can also modify the controlled room name or disconnect the thermostat from the mobile application.

The device's connection status

Online	The thermostat is connecting to the cloud server.
Offline	The thermostat is not connecting to the cloud server. Several reasons may lead to such disconnection: • The thermostat is powered off. • The thermostat is not connected to the internet. When a device is offline, you can only perform the following operations: • Sign up, sign in or sign out. • Change and recover a password. • Change user account settings. • Delete device.
Upgrading	The thermostat is upgrading to a new software version.

Managing thermostat details

To view device connection status

- Tap ☰ > **Devices**. The connection status displays for each connected thermostat.

To change a room name

1. Tap ☰ > **Devices**.

2. Select the device that you want to change the room name for.

3. Tap the **Room** field, and then enter the new room name.

To disconnect a thermostat from the mobile app

1. Tap ☰ > **Devices**.

2. Select the thermostat that you want to delete.

3. Tap **Remove device** > **Yes**.

10 Disassembly and disposal

Your thermostat is designed for maintenance-free operations. Disassembling should only be done after the power supply is off and is only limited to the licensed installers only for disposal purpose. Siemens doesn't guarantee the user's safety if the disassembly process is managed by any unlicensed installers.

Disassembly

- Turn off the power supply and then use a screw driver to pry the front module off from the hole at the top of the thermostat.

L = 4 mm
W= 1.4 mm
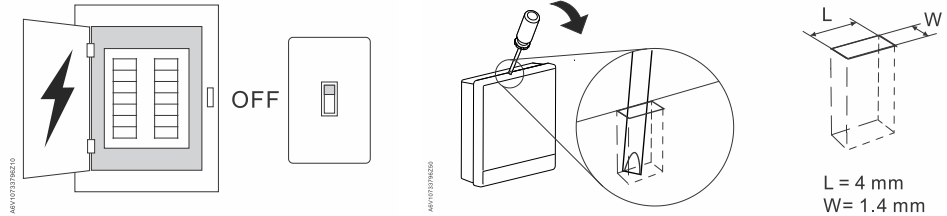
- If needed, disconnect the cables or detach the rear module by unscrewing the screws anticlockwise. Or, if there is decoration frame, detach it as well by unscrewing the screws.

Disposal

	The device is considered an electronic device for disposal in accordance with the European Guidelines and may not be disposed of as domestic garbage. • Dispose of the device through channels provided for this purpose. • Comply with all local and currently applicable laws and regulations.

11 Appendices

11.1 Frequently asked questions

11.1.1 What should I do if I forget the screen lock code?

Try using the administrator password to unlock the screen.

To unlock the screen using the administrator password

1. On the hardware unit screen indicating that the screen lock code is incorrect, tap the question mark > **Log in**.

2. Input the administrator password, and then tap **OK**.

11.1.2 What if two users change the same setting at the same time?

The last command received by the server takes effect.

11.1.3 Will the thermostat work if the connection to the cloud is lost?

Yes, the thermostat (hardware unit) works with or without the network connection:

- If there is network connection to the cloud and you've also set your schedule, the thermostat works following your schedule. Your temporary change of the temperature setpoint only takes effect during the current scheduled mode.
- If there is network connection but you haven't set a schedule, the thermostat works following the default schedule set by the system). For more information about the default schedule, see Time-based schedules [→ 49].
- If there is no network connection or valid time, the thermostat cannot get schedule information from the Cloud. It always works under the **Comfort** mode.

11.1.4 What is the difference between Administrated WLAN and Private WLAN?

Administrated WLAN * is supposed to connect to an infrastructure network managed by facility managers; **Private WLAN** fits for owner cases and is supposed to connect to a home network. Selecting the WLAN connection type differently only affects the entry to WLAN management:

- If you've selected **Administrated WLAN ***, you can only manage WLAN under **Advanced Settings**.
- If you've selected **Private WLAN**, you can manage WLAN under either **Settings** or **Advanced Settings**.

NOTE: In order to differentiate institutional use from home use, this document recommends only **Settings** for home users to manage the WLAN connection.

11.1.5 What if the WLAN network is down during software updates?

Reconnecting to the network resumes the updating process. However, if the network can't be reconnected within a short time and you want the thermostat to work normally during the disconnection period, tap and hold down the warning icon ⚠ displayed on the screen for at least ten seconds. You are then directed to the **Setup** page where you can check the previous settings, perform factory resetting or do nothing but return to the normal home screen.

11.1.6 Can I change the Green leaf settings?

No, you can't. The Green leaf settings are defined by the system and are not changeable from user side.

For more information about Green leaf, see Green leaf indication.

11.1.7 Where can I check the current time on the thermostat?

You can check the time under **Advanced Settings > Time**.

- If the thermostat has WLAN connection now and hasn't been powered off for more than three minutes, the time is displayed validly and correctly.
- If the thermostat has WLAN connection now but has been powered off for more than three minutes, the time may be displayed invalidly temporarily but will be synchronized with the server within 24 hours. Once the synchronization is done, the time will be displayed correctly again.
- If the thermostat doesn't have WLAN connection now, see more information in this section: Can the thermostat display the time correctly if there is no WLAN connection? [→ 56]

NOTE: To display the time correctly, it is important to set the time zone correctly. See Changing a time zone [→ 27] for more information.

11.1.8 Can the thermostat display the time correctly if there is no WLAN connection?

If there is no WLAN connection, the thermostat displays the time correctly only when:

- The thermostat connected to a WLAN network once and could display time correctly.
- The thermostat hasn't been powered off for more than three minutes.

Lacking either of the above conditions may result in incorrect time display.

11.1.9 Can I set the time manually?

No, you can't. The thermostat gets the time automatically after you've added the thermostat to a WLAN network and set a correct time zone.

11.1.10 Why is the time displayed incorrectly even though the thermostat is added to a WLAN network?

Maybe it is because the synchronization with the server hasn't started yet, or because the time zone is not selected correctly. Normally the server synchronizes the time at a fixed time of each day.

11.1.11 What does the Kick cycle function mean?

It means whether to run a constantly idle pump or valve periodically to protect it from seizure. If one of the following equipment is selected as the heating system, **Kick cycle** is available and you can decide whether to activate the function or not.

- Radiator with valve
- Radiator with pump
- Floor heating with valve
- Floor heating with pump

For more information about equipment selection and activation of the **Kick cycle** function, see Changing system setup [→ 35]. For more information about the interval of running the pump or valve forcibly, see Parameter 24 in Managing application settings [→ 27].

11.1.12 I've registered an account but cannot log in.

Check your email and ensure that you received an activation email. Follow the instructions to activate your account and then log in to the mobile app.

11.1.13 I've signed up but have not received a confirmation email.

Check for the email in your Junk or Deleted folder. If there is no email in the Junk or Deleted folder, request the confirmation email again.

11.1.14 Can I create more than one user account in the mobile app?

Yes, you can, but you cannot log into different accounts at the same time. Besides, it is normally unnecessary to do so if you want to manage more than one thermostat using the app, because one user account can associate with a maximum of 12 thermostats. However, one thermostat can only be associated with one user account. If your family members or colleagues want to manage the thermostats, you can share the account info with them.

See Account creation and association [→ 42] for more information about account creation.

11.1.15 What should I do if I forget my account's password?

You must reset the password following the on-screen instructions in the app.

11.1.16 Can I change the air quality measurement standard?

No, you can't. The thermostat decides the air quality status using the VOC levels that are defined by the system and not changeable from user side.

For more information about air quality, see Air quality display [→ 40].

11.1.17 How long are date and time valid, if power fails and the thermostat has no connection to the cloud?

If the power fails and thermostat powers up within five minutes, date and time are correct. Following power failure and thermostat restarts after five or more minutes, time is displayed only after synchronization is completed. The date is displayed as normal.

The date and time will be synchronized automatically once power is resumed and internet is connected.

11.1.18 How does Optimum start control work?

With **Optimum start control**, the thermostat determines when to preheat the room as per room temperature and scheduled temperature setpoint.

Optimum start control can be influenced by entering **Warm-up gradient** to define warm-up speed. For example, the factory setting of **Warm-up gradient** is 30 min/K. When the room temperature is 1 °C lower than the setpoint, thermostat will start pre-heating the room 30 minutes earlier.

See Managing application settings [→ 27] for more information about **Optimum start control** and **Warm-up gradient**.

11.1.19 How does Adaptive gain control work?

With adaptive gain control, the thermostat automatically adjusts the gain to a better PID algorithm control value based on room temperature and temperature setpoint.

The gain cannot be manually changed.

11.1.20 How long are settings saved in the thermostat if power fails?

User settings on the thermostat are not affected by power failure and remain until users change the original settings.

11.1.21 How does self-heating compensation work?

Self-heating compensation includes two parts: self-heating compensation for relay and device self-heating compensation. Compensation works from the time the device is powered on.

Self-heating compensation for relay can be affected by changes to the load current of the relay. But the device self-heating compensation cannot be directly influenced by user.

11.1.22 How does the thermostat adapt start optimization of outside temperature?

The outside temperature is not involved with logical operation.

11.1.23 How does the temperature switching differential work?

The temperature switching differential can be controlled by PID algorithm and **2-position**. You can check the option under **Advanced Settings> Optimization> Heating control loop**.

The differential is controlled by PID algorithm based on heating request.

The differential is controlled by **2-position**. The hysteresis value is 0.5 °C. When the room temperature is 0.5 °C above the setpoint, the thermostat stops heating. When the room temperature is 0.5 °C below the setpoint, the thermostat starts heating.

The temperature switching differential work cannot be directly influenced by the user.

11.2 Technical specifications

Please refer to the datasheet of this product for technical specification details.

11.3 Cyber security disclaimer

Siemens provides a portfolio of products, solutions, systems and services that includes security functions that support the secure operation of plants, systems, machines and networks. In the field of Building Technologies, this includes building automation and control, fire safety, security management as well as physical security systems.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art security concept. Siemens' portfolio only forms one element of such a concept.

You are responsible for preventing unauthorized access to your plants, systems, machines and networks which should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. Additionally, Siemens' guidance on appropriate security measures should be taken into account. For additional information, please contact your Siemens sales representative or visit https://www.siemens.com/global/en/home/company/topic-areas/future-of-manufacturing/industrial-security.html.

Siemens' portfolio undergoes continuous development to make it more secure. Siemens strongly recommends that updates are applied as soon as they are available and that the latest versions are used. Use of versions that are no longer supported, and failure to apply the latest updates may increase your exposure to

cyber threats. Siemens strongly recommends to comply with security advisories on the latest security threats, patches and other related measures, published, among others, under https://www.siemens.com/cert/en/cert-security-advisories.htm.

11.4   Limited warranty

The software included in this product is licensed for use subject to the Siemens end-user license agreement (EULA) posted at www.siemens.com/smart-thermostat or this software identified by product model or part number on the website. The open source software (OSS) information about the software can also be found from the same website.