SMART HEATING SOLUTION

eCozy Operation Manual (EN)

Table of Contents:

1. General Manual Information

Read this manual carefully before starting to use the device. Keep the manual so you can refer to it at a later if you need to. If you hand over the device to other individuals for use, please hand over the operating manual as well.

Symbols used:

Attention! This alert indicates a hazard threat / risk.

Note. This section contains important additional information.

2. General Safety Instructions

Devices of the eCozy System (Radiator Thermostat, Central Unit (CU), Temperature Sensor) are not intended for kids and must not be used as toys in any way!

Packaging materials must be utilized in accordance with local regulations and the whole packaging must be kept out of the reach of children to prevent injuries. Do not attempt to disassemble devices (disassembling of the devices is forbidden / no attempts of the devices disassembly must be made), as they contain no user-serviceable parts. A defective device is to be returned to the distributor.

3. General Information on eCozy Smart Heating Solution (eCozy System)

eCozy System (“Smart Heating Solution”) allows the user to maintain a desired temperature in the room(s); set daily and weekly temperature scenarios/schedules for heating; optimize the heating pattern and therefore - save on heating costs. The eCozy System consists of ZigBee-powered Radiator Thermostat(s), ZigBee/WLAN-powered Central Unit and ZigBee-powered Temperature Sensor(s) (optional).

The eCozy Radiator Thermostat is an electronic radiator thermostat for residential and office buildings. It is controlled by the eCozy Central Unit, which can also control other ZigBee-powered eCozy Devices.

The eCozy Temperature Sensor (external sensor) is used to improve the accuracy of maintaining the desired temperature by the user. The eCozy Kits (Starter Kit (1RT+1CU and Comfort Kit 3RT+1CU) do not contain the eCozy Temperature Sensor by default, however, it can be purchased separately via the eCozy website (webshop). Although, the eCozy System will work completely fine without an external eCozy Temperature Sensor, the accuracy of the whole system can be enhanced by using an additional sensor.

The general working scheme of the eCozy System is shown here.

The smallest possible operating set of devices for the eCozy System is the following: one eCozy Central Unit and one eCozy Radiator Thermostat - the so called “eCozy Starter Kit” (1RT+1CU).

Control of the eCozy System is carried out in several modes:

- Remotely via smartphone (iOS, Android): This is a system remote mode which is used with an Internet connection from your WLAN Router.
- Locally via smartphone (iOS, Android): This is a system local (on-site) mode which is used when there is no Internet connection available. Control via smartphone (iOS, Android) is possible in the range of the WLAN created by CU.

In both local and remote modes, control of the thermostat is possible directly from the touch panel of the device, which is located on the front part of the thermostat.

For all modes the user needs to install an app on the smartphone (iOS, Android) first.

- iOS
- Android

More detailed and technical information about the eCozy System is available on the website page of the company “eCozy”.

Basic technical data of devices, included in the eCozy System is given in the Table’s “Technical Data About eCozy Devices”.

4. Terms and Abbreviations

- RT - eCozy Water Heating Radiator Thermostat
- TS - eCozy Wireless Temperature Sensor
- CU - eCozy Central Unit
- SRM - system in “remote mode”
- SLM - system in “local mode”
- THM - thermostat in “hand mode”
- Target t° (T° set point) - temperature required by the user which is set on Radiator Thermostat
- Current t° (T° actual / current) - current temperature in the room

5. General Information on Features

5.1 Application

- CU initialization (how to video: iOS, Android).
- Turning the illumination (how to video: iOS, Android) of the CU on / off.
- Account sign up (how to video: iOS, Android) / sign in (how to video: iOS, Android) / update (how to video: iOS, Android).
- Password change.
- Location switch.
- View of last used devices (how to video: iOS, Android).
- Order eCozy Devices.
- eCozy support.
- Connecting RT to the system (how to video: iOS, Android).
- Disconnecting RT from the system (how to video: iOS, Android).
- Connecting TS to the system.
- Disconnecting TS from the system.
- Setting / regulating target t° on RT.
- Identification / Search of RT (how to video: iOS, Android).
- Information about the RT battery level.
- System Configuration:
    - Connection/disconnection of RT and CU to various locations.
    - Connecting new control smartphone (iOS, Android).
- Creating and addressing to RT daily and weekly temperature schedules (how to video: iOS, Android) and special modes - "Warm Up" (how to video: iOS, Android) and "Go Away" (how to video: iOS, Android).

- Configuring and addressing protection locks to RT (how to video: iOS, Android) (on the protection from children, prohibition of the dismantling of the thermostat).
- Protection from children (three levels)
    - Complete block of thermostat functions.
    - Lock on target t° indication.
    - Lock on target t° change.

5.2 Touch Screen Panel and Indicator

- Installation / dismantling of RT.
- Setting the target t°.
- "Open Window" mode deactivation.
- Indication of the RT states, modes and functions.

6. General Information on eCozy Radiator Thermostat

The eCozy Radiator Thermostat is an electronic radiator thermostat, containing both remote and manual (touch-based) controls, with programmable temperature scenarios for indoor heating. This saves money on heating (utility costs), increases a home's comfort, and results in causing less damage to the environment - by using less energy.

6.1 Touch Screen Panel, Touch Sensor

RT control in manual mode is done by using the touch sensor (touch right, touch left, touch up and touch down), located on the capacitive touch screen panel, see Image №1.

- Touch right and Touch left are used to set the target t° in the room.
- Touch right (+) is used to increase the target t°.
- Touch left (-) is used to decrease the target t°.

Setting the target t° in the room can be carried out remotely from the smartphone application (iOS, Android). Touch up and Touch down pressed simultaneously are used to activate RT in "search mode" or for a special

“dismounting mode”. Touch down is used to active RT display and to deactivate “open window” mode.

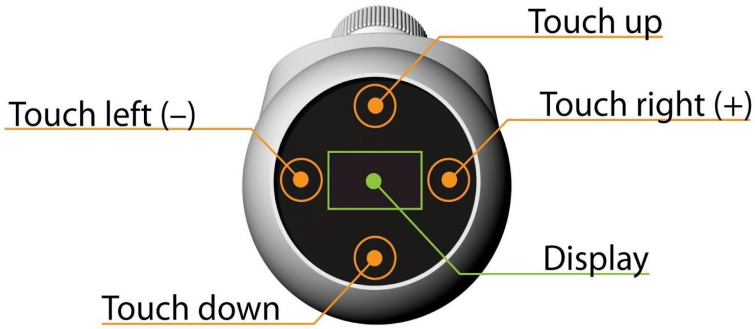


Image №1

6.2 Display Indication and Display Symbols

In its conventional state, RT indicator is not active. Press Touch down for > 0,5sec. and the display will activate. The value of the target t° will be displayed. Colour of the target t°:

- Green - if the target t° matches the current t° with an accuracy of ± 1°C;
- Red - if the target t° is higher than the current t°.
- Blue - if the target t° is lower than the current t°.

Symbols / icons displayed on the display are shown in Table №1.

	The lock on the RT dismantling from the radiator valve.
	Permission for installation on / dismantling from the radiator valve.
	Warning before dismantling from the radiator valve.
	Indicates an ongoing process of RT connecting to CU.
	RT is connected to CU.
	RT is not connected to CU. Repeat the connection procedure.
	Hardware issues. Turn to technical support.
	“Open Window” mode.
	Command of “Open Window” mode completion is accepted.
	Battery level is low. Change batteries.
14°	Target t° is lower than the current t°.
21°	Target t° is equal to the current t°.
26°	Target t° is higher than the current t°.

Table №1

6.3 Change / Replacement of the Batteries

Smartphone (iOS, Android) App will remind you of the need to replace batteries. You are also able to see the notification to replace batteries directly on the RT display. Red battery sign (Table №1) will blink once every minute or as soon as you press touch down. Replacing the batteries in the RT is carried out without

dismantling the RT from the radiator valve. When replacing batteries, do not touch capacitive touch screen panel. Temporal RT disconnection from the power (when replacing the batteries) does not lead to RT disconnection from the network.

In order to change batteries, simply twist the thermostat around until battery compartment cover is on top. Remove a battery compartment cover and set four AA-type batteries with respecting polarities. If the batteries are installed correctly, the thermostat indicator will display a red wrench key for a short time, which means that the thermostat will now try to reestablish connection back to ZigBee network. Connect the battery compartment cover back to the thermostat. Depends on the usage of manual changes directly on the thermostat, how often display turns on, but overall up to two years between the changes.

6.4 Important Information about Thermostat

Every thermostat comes with its unique serial number. An example of a model number - 057_70B3D5DE000001C0_20160121. It is located in the battery compartment. Please remove back case of a thermostat and check for the model number in the middle of the battery compartment.

In case you are using more than one thermostat in one room, thermostats work as a single unit. You can add one or more eCozy thermostats (maximum up to 5 devices per room (thermostats, thermosensors)) to the room, which means that they all will work synchronously. You do not have to control every single eCozy thermostat individually.

6.5 Compatibility

eCozy is compatible with ZigBee home automation profile 1.2, and can therefore, operate with smart home platforms like Qivicon or Almond and many others (please contact support@ecozy.de for more information).

6.6 Operation

The thermostat control is executed with the help of sensor buttons «Touch right, touch left, touch up and touch down», located on a capacitive touch screen panel.

Touch down – the display is activated (in a usual condition the Thermostat display is inactive). Simply place finger at the bottom part of the eCozy thermostat display until temperature appears.

Your eCozy thermostat is controlled via its touch screen. Place and hold "Touch down" on the screen and you will activate it. Temperature increases by "Touch right" and decreases by "Touch left" on the screen.

7. General Information on the Central Unit.

7.1 General Information

The eCozy Central Unit is the base hub for the eCozy thermostats in your home. The Central Unit basically translates the "language" of the eCozy thermostat (as it talks ZigBee) and makes these commands understandable for the smartphone via WLAN.

Central Unit:

- connects with all “eCozy” ZigBee end devices, distributes control commands from smartphone (iOS, Android).
- connects with the server via WLAN.
- stores the necessary information for the system functioning.
- CU LED lights and “eCozy logo” are indicative.

The logo illumination on the top panel:

- White blinking light - CU is in initialization mode.
- White solid logo light - system is in remote mode.
- Blue solid logo light - system is in local mode.
- Red solid logo light - a software glitch in CU. You should turn to technical support.
- Blue / Red rapid blinking light - CU software update.

The LED indication on the front panel:

- Green - indicates network activity of Wi-Fi.
- Yellow - the lack of ZigBee network.
- Red - indicates a lack of access to the Internet in the system remote mode.

On the front panel of the CU, behind a through-hole, a concealed button is located. It is used to transfer CU into initialization mode. This is necessary if the CU

needs to be re-initialized. The button can be pressed with any suitable size pin (paperclip, toothpick).

7.2 Important Information about Central Unit

eCozy Central Units have a model number that begins with a number, for example - 057_70B3D5DE000001C0_20160121. The location of the model number is on the bottom panel. Please turn around your Central Unit and check for the model number in the middle of the panel.

The range of the WLAN signal is determined by your router. Check your router's manual for additional information. It is possible that your eCozy Central Unit is unable to find or maintain reliable connectivity to your WLAN network because of a poor signal from the router. For example, most homes have "dead spots" where WLAN signals are weak. Since the eCozy Central Unit must be located somewhere next to the power socket, this problem can be corrected by moving your router to a better location or by setting up a repeater – a device that will pick up and rebroadcast the wireless signal from your router to your eCozy Central Unit. You can either purchase and install a WLAN repeater, or configure an additional router to serve as a repeater. Most standard routers can be configured as a repeater. eCozy Central Unit is compatible with the 2.4 GHz WLAN network.

More detailed specifications of CU data are shown in the Table's "Technical Data About eCozy Devices".

8. General Information on Temperature Sensor

The «eCozy» Wireless Room Temperature Sensor is designed to wirelessly monitor the temperature of a space and transmit the data over a ZigBee wireless network back to the CU. TS maintains the temperature at its location with high accuracy (±0.5°C). More detailed technical data is given in Tables "Technical Data About eCozy Devices".

9. Initialization of the eCozy System

9.1 Start Preparation / First Launch

9.1.1 Preparation of the eCozy Central Unit (CU)

Connect CU to a power source with a power adapter (supplied). 220/ 240V AC 50/60Hz.

Note: After connecting to the power supply, CU (by default) will be in the initialization mode. The lower part of the CU will illuminate at the beginning and after the logo will flash white within 30 - 60 seconds.

On the smartphone (how to video: iOS, Android), enter the menu where it is possible to view all available WLAN.

Note: User will see the "ecozy_generic" network in the list of available networks.

Connect to "ecozy_generic»" network. Password for connecting to the network is "ecozy_generic".

Open the app on the smartphone. Intuitively clear application will offer you to select the operating mode (how to video: iOS, Android) of the system Image №2.

The Application will offer you to select one of two modes of operating the system. Make all the necessary operations / steps (following the system hints).

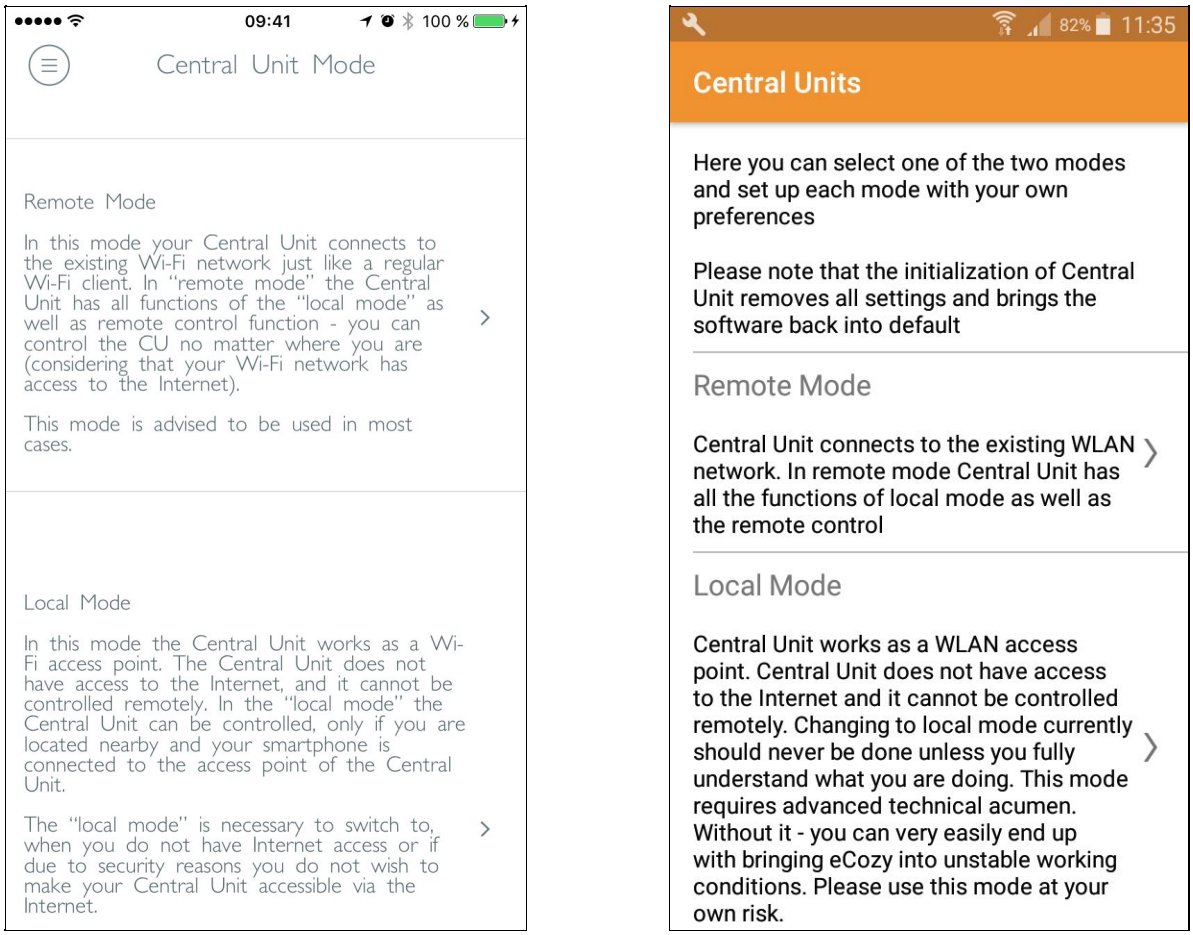


Image №2

- If you select remote mode (how to video: iOS, Android), logo will illuminate in white unblinking light.
- When selecting local mode (how to video: iOS, Android), logo will illuminate in blue unblinking light.

In order to setup remote mode (Image №3), give your eCozy Central Unit a name, then enter the exact name and password of your home WLAN network. After successful setup of the Remote Mode, the logo on eCozy Central Unit will blink white and blue, then turn White, as well as one of LED at the front should light in green.

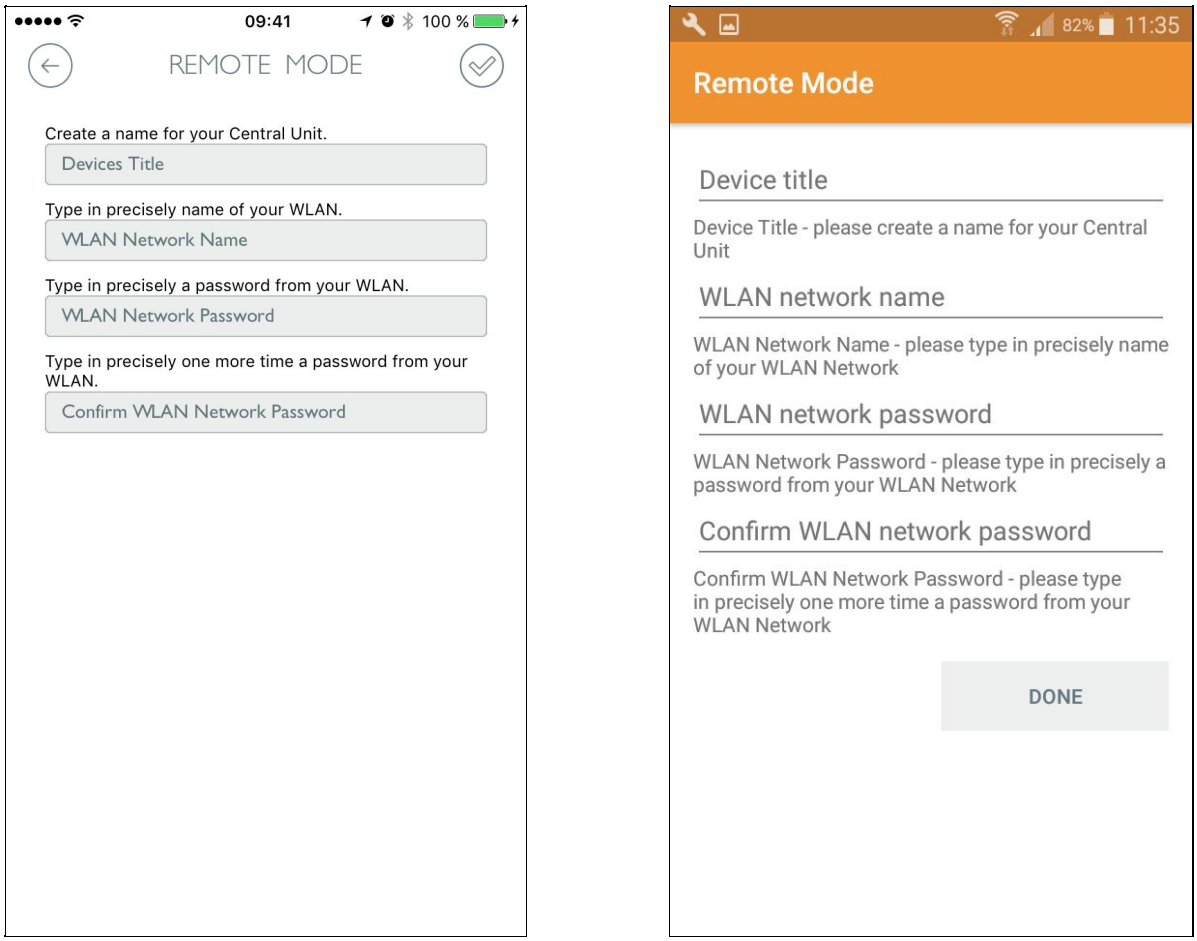


Image №3

In order to setup local mode (Image №4), create name of your WLAN network, which will be created by your eCozy Central Unit. After that, you have to create a minimum 6 digit password and confirm it. After successful creation of the Local Mode, logo on eCozy Central Unit will blink white and blue, and then it should light in Blue.

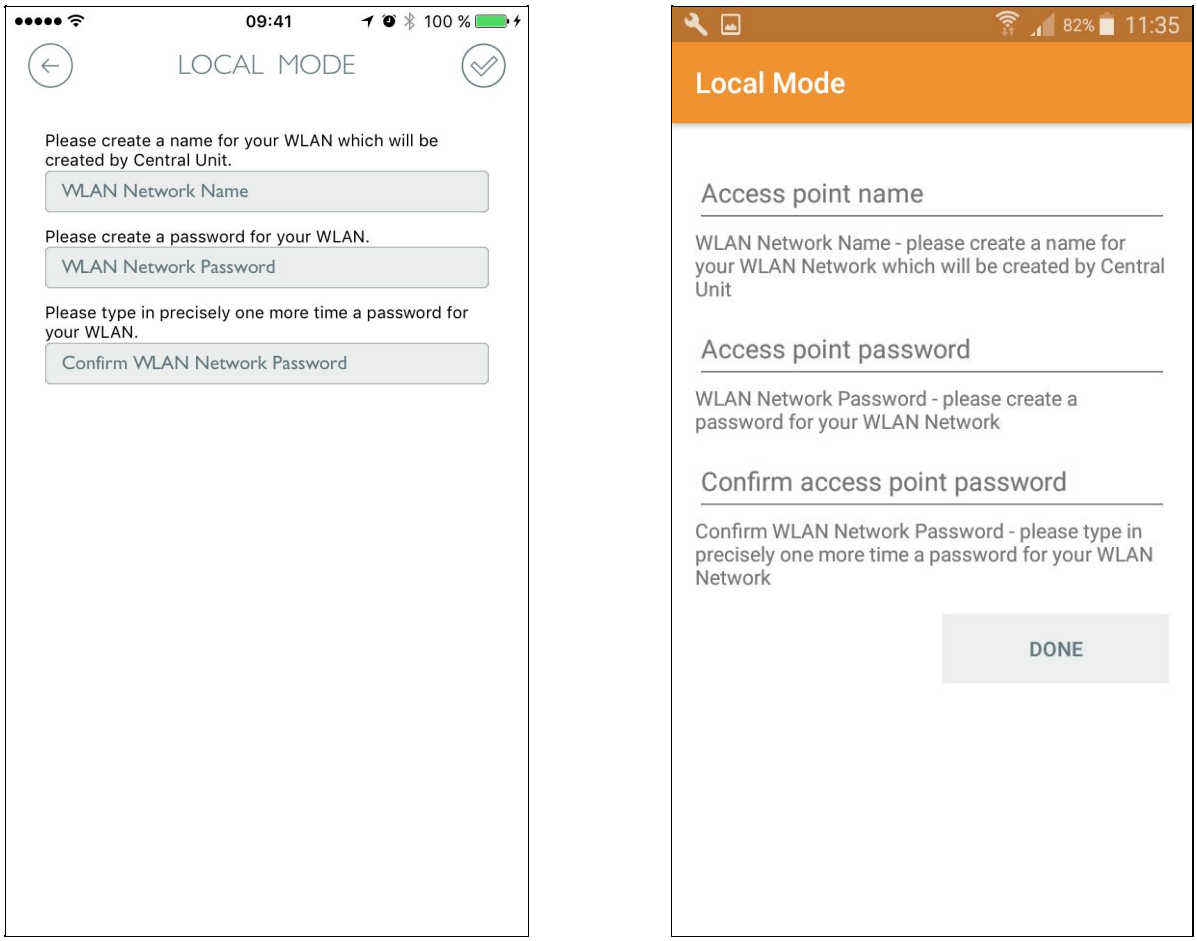


Image №4

After selecting the operation mode of the system, CU creates a ZigBee network and is ready for connection to the network - eCozy Radiator Thermostat and eCozy Wireless Room Temperature Sensor. Instructions on how to connect them are described below.

9.1.2 Creation of the Account

In order to create a new account, press on ‘sign up’ button (how to video: iOS, Android). You have to enter your email address, and create a password to your account as shown on (Image №5). You will be able to change both of these fields later in app settings. After you have successfully created the account you will be transferred to the “add thermostat” screen (Image №7).

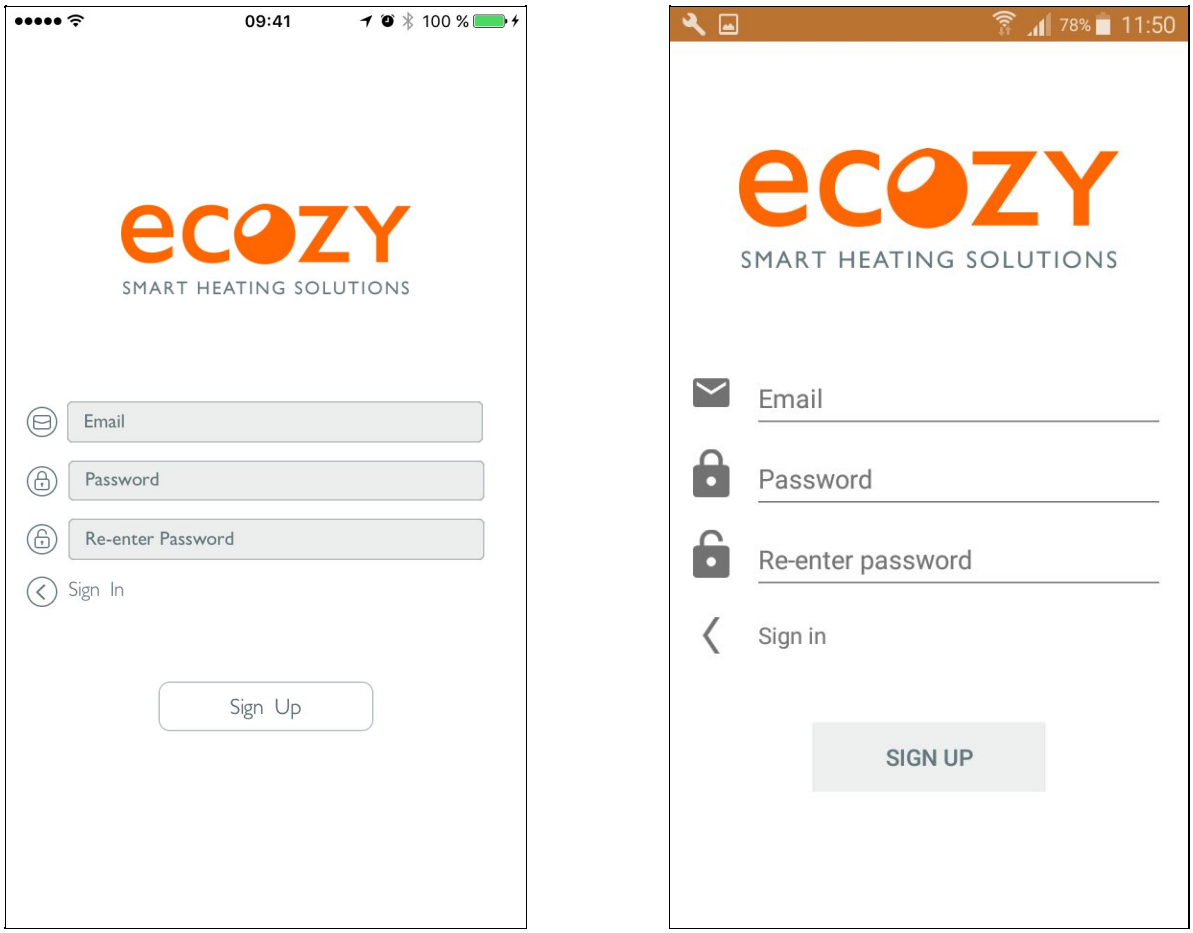


Image №5

9.1.3 Login into Existing Account

In order to login into existing account, you have to enter your email address and your password to your account as shown on (Image №6). You will be able to change both of these fields later in app settings. After you have successfully logged in your existing account you will be transferred to the “add thermostat” screen (Image №7).

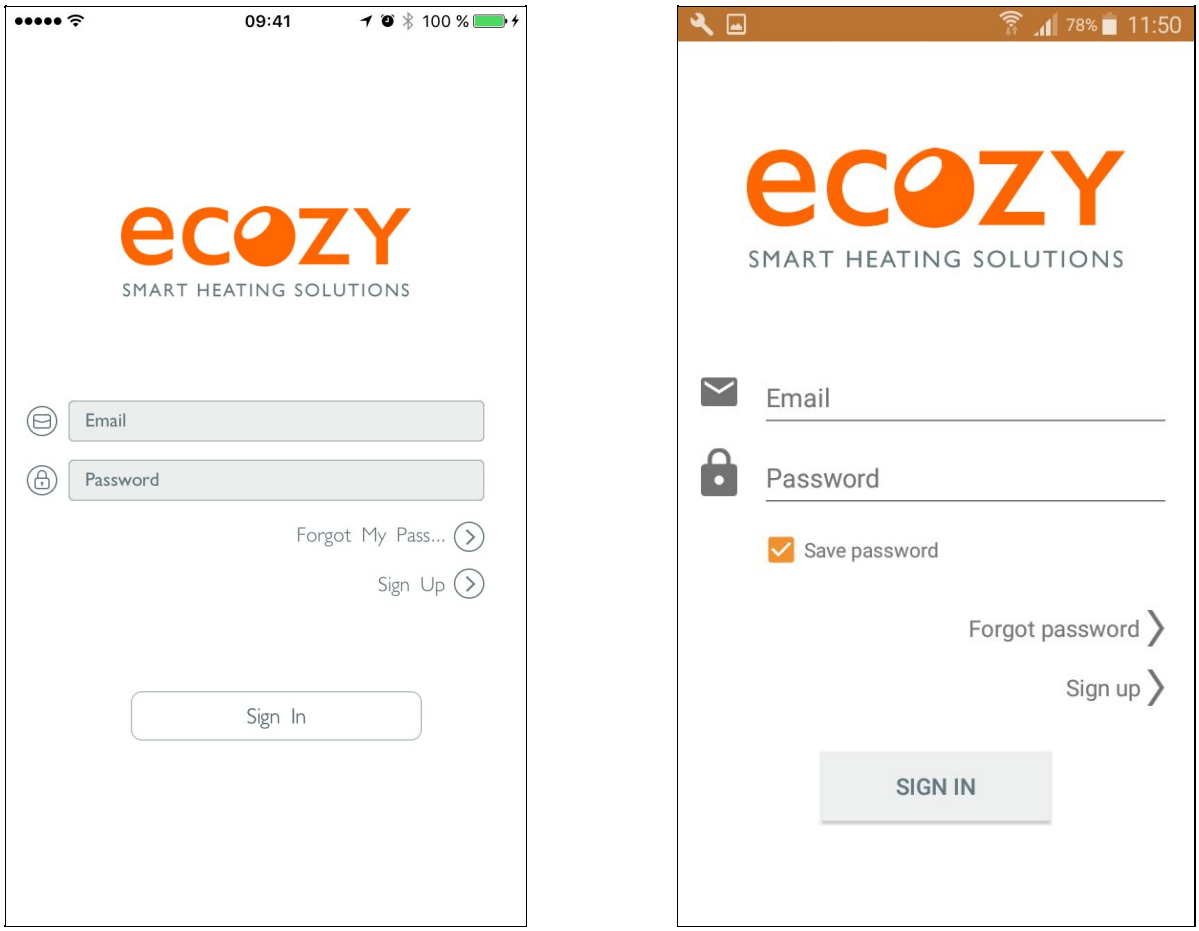

09:41
100 %
SMART HEATING SOLUTIONS
Email
Password
Forgot My Pass...
Sign Up
Sign In
78% 11:50
SMART HEATING SOLUTIONS
Email
Password
Save password
Forgot password
Sign up
SIGN IN

Image №6

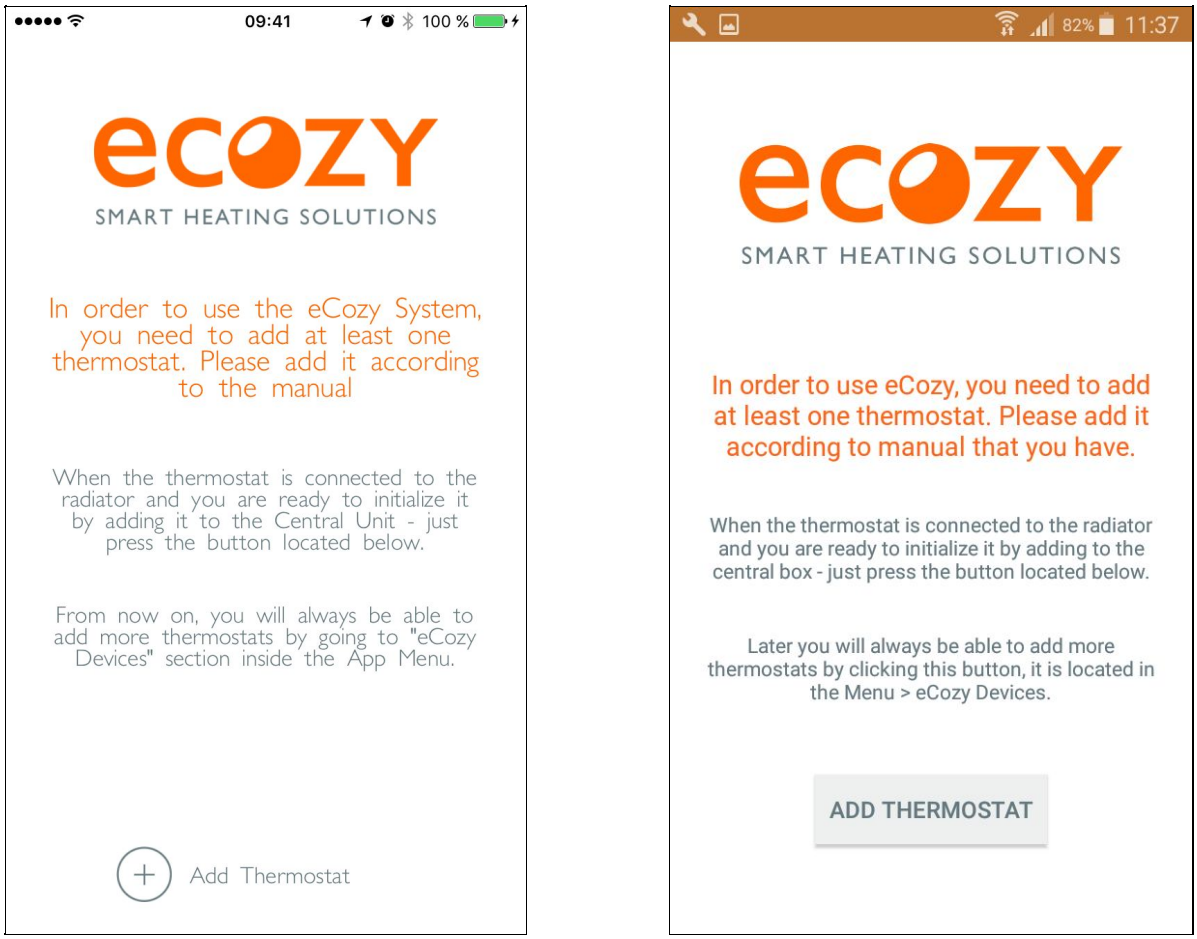


Image №7

9.1.4 Preparation of the Radiator Thermostat

Radiator Thermostat “eCozy” works only in conjunction with the Central Unit. The user can buy RT together with the CU or separately if CU was purchased earlier.

RT has a capacitive touch screen panel control, compact size, modern design, self-contained power from four AA batteries and is very easy to operate. RT preparation to work begins with the batteries installation (how to video: iOS, Android).

Remove the battery compartment cover and insert four AA batteries with the correct polarity as shown on Image №8.

When inserting the batteries, do not touch the thermostat touch panel!

Close the battery compartment cover.

If the batteries have been installed correctly, the actuator will be driven into extreme retracted position and on the RT display there will be a green key for a short time as shown on Image №9, meaning the permit for RT installation on the radiator valve.

Mount the RT to the water radiator valve. Special tools are not required. Twist clockwise the RT nut on the water radiator valve, orienting the RT in the most convenient way for you.

RT can be easily installed on most radiators. But, if necessary, use an adapter, described in details in Table №2. Danfoss adaptors for RA, RAV, RAVL valves are included in every eCozy Kit and eCozy Smart Thermostat.

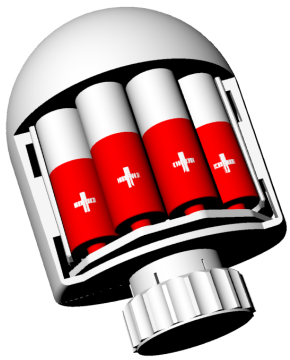


Image №8

Image №9

M30x1,5	no adapter required
Danfoss RA	
Danfoss RAV	
Danfoss RAVL	

Table №2

9.1.5 Preparation of the Temperature Sensor

If TS is included in eCozy System, remove the battery protection stripe to activate the battery. Place the TS where maintenance of the most accurate temperature possible is desired.

9.2 Connection of the eCozy Devices

9.2.1 Connecting Procedure of the Radiator Thermostat to the CU

Gently touch and hold Touch up and Touch down on the screen of previously mounted to a radiator valve RT (how to video: iOS, Android), until you see the blue antenna indicator, Image №10.

The blue antenna indicator means that RT is searching for ZigBee network, which is created by the CU.

Run the application on the smartphone in which you have previously chosen and set up a local or remote system control mode. On the Add Thermostat application page, Image №7, press on “Add Thermostat” button. Within 60 sec. CU will connect RT.

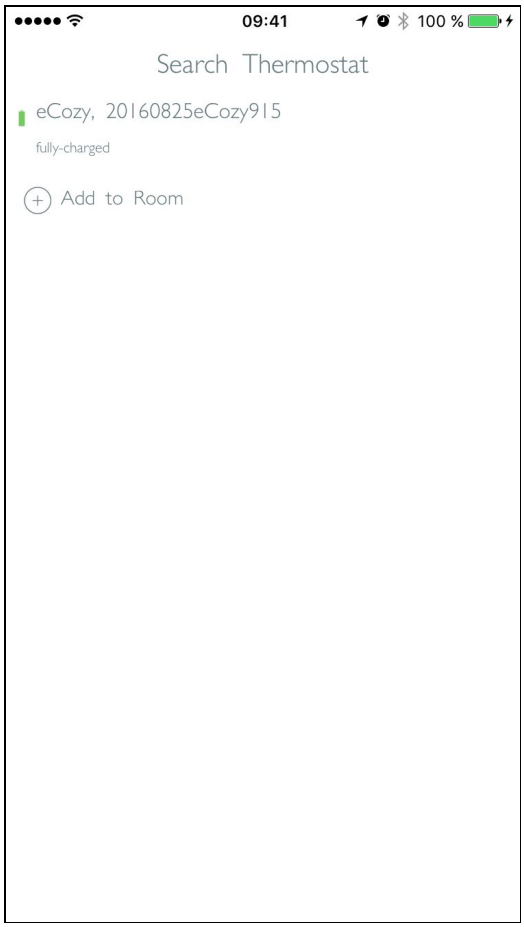
Image №10

If the connection was successful, the display will briefly show a green antenna and then it will be followed with red key, which means a lock on the RT dismantling from the radiator valve. If the connection, for some reason, did not take place, a red antenna will flash for a short time. In this case repeat the procedure again. In the case of hardware problems, a yellow antenna will appear and will be lit continuously. In this case, turn to technical support.

Each subsequent RT is connected via already described procedure, however “add thermostat” button will be located in “eCozy Devices” menu, under the thermostats list (how to video: iOS, Android).

After you have successfully initialized eCozy thermostat into the system, you have to place that thermostat into the room (Image №11). You will have your list of

available rooms on the screen. Simply click on the desired room or create a new one (how to video: iOS, Android).



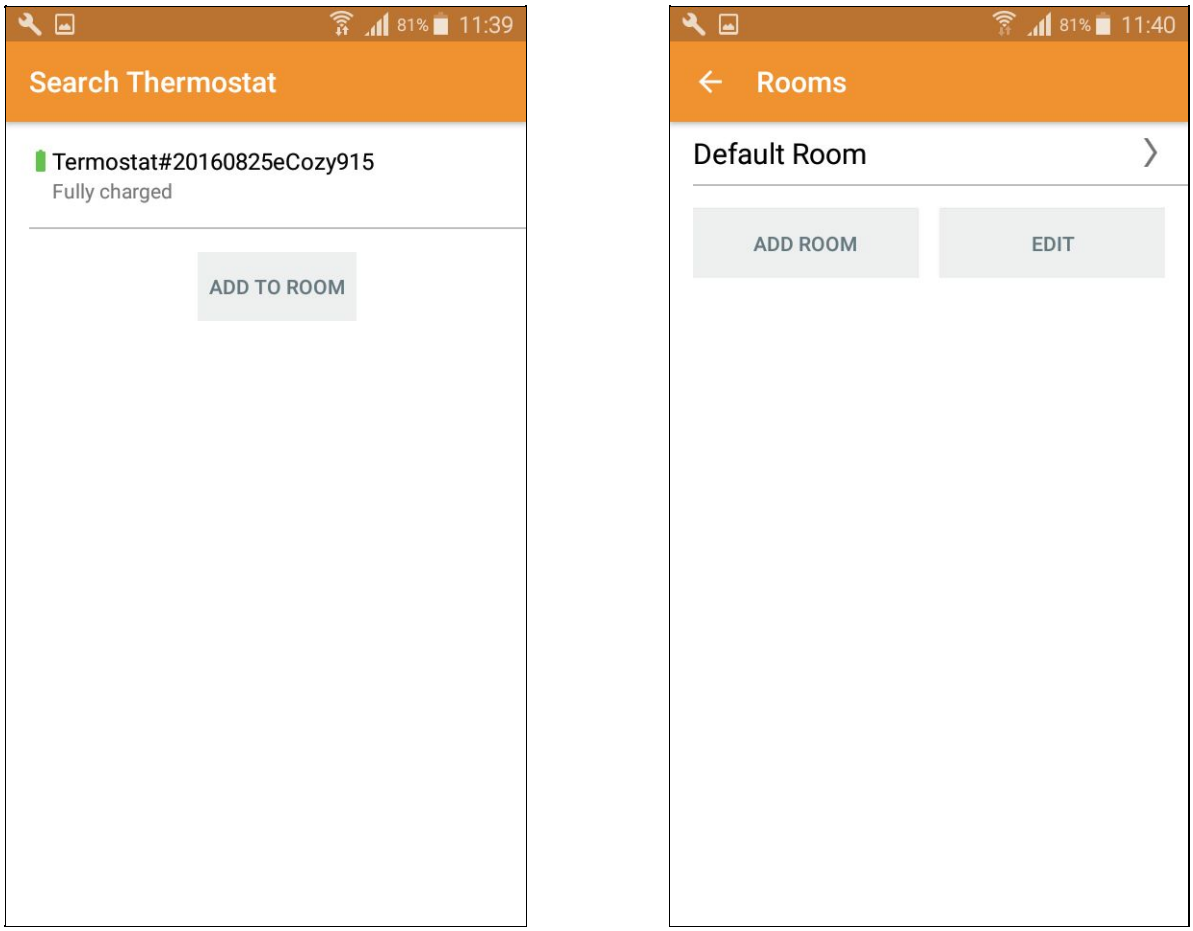


Image №11

9.2.2 Connecting Procedure of the Temperature Sensor to the CU

Open “eCozy Devices” menu in your smartphone App (iOS, Android). Under the section of thermostats you can find button “add thermostat”. Press on the button. In case of successful connection of the TS to the system, LED on the outside part of the TS will light up. After connecting to the system, TS will be connected to thermostat(s) in the room by ZigBee network. RT in the room with TS will no longer measure temperature at RT, but they will measure temperature at TS location, making the temperature maintenance more precise with the maximum possible accuracy of ±0.5°C.

10. Dashboard and its Functions

The dashboard of eCozy App (Image №12) is the main screen where you have possibility to change the rooms and adjust manually the temperature on the thermostats, as well as open “eCozy Menu”, activate “eCozy Special Functions”, open “Scenario Menu” and open “Rooms Menu”.

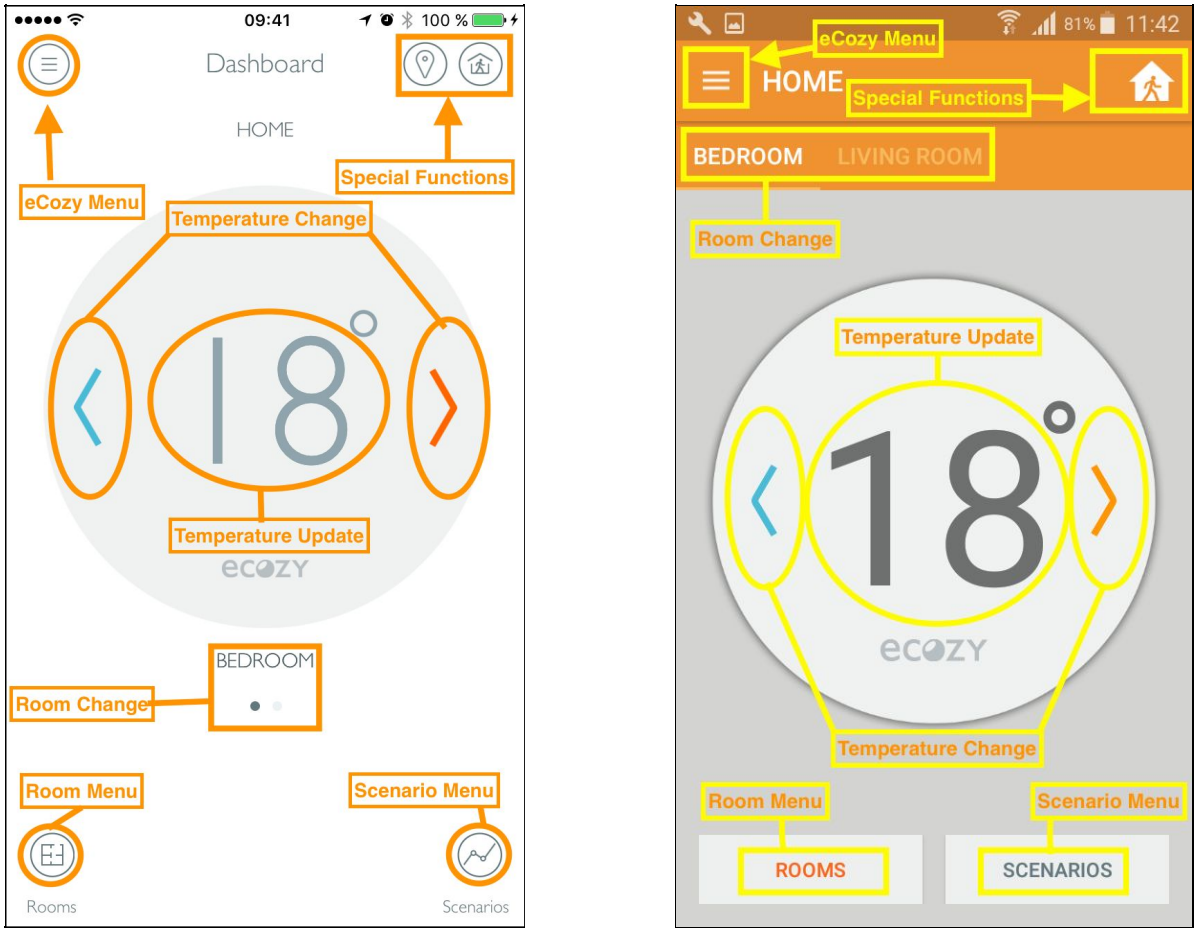


Image №12

In order to change the temperature (how to video: iOS, Android), click the left blue arrow to decrease the target temperature and click the right red arrow to increase the target temperature. If you want to update the target temperature of the chosen room (how to video: iOS, Android), simply tap in the middle of the screen and temperature will be updated. If you have more than one room, you can swipe between them. Amount of the rooms is shown in iOS as dots below the temperature and in Android as room name over the temperature. Swipe the temperature screen to the left or to the right to see the other rooms.

11. eCozy Menu

eCozy Menu is located on the top left corner of the Dashboard screen (Image №12). Click on the triple line button to open the eCozy Menu.

eCozy Menu consists of (Image №13):

- Profile
- eCozy Settings
- My Locations
- My eCozy Devices
- Order eCozy Devices
- Connected Devices
- Support

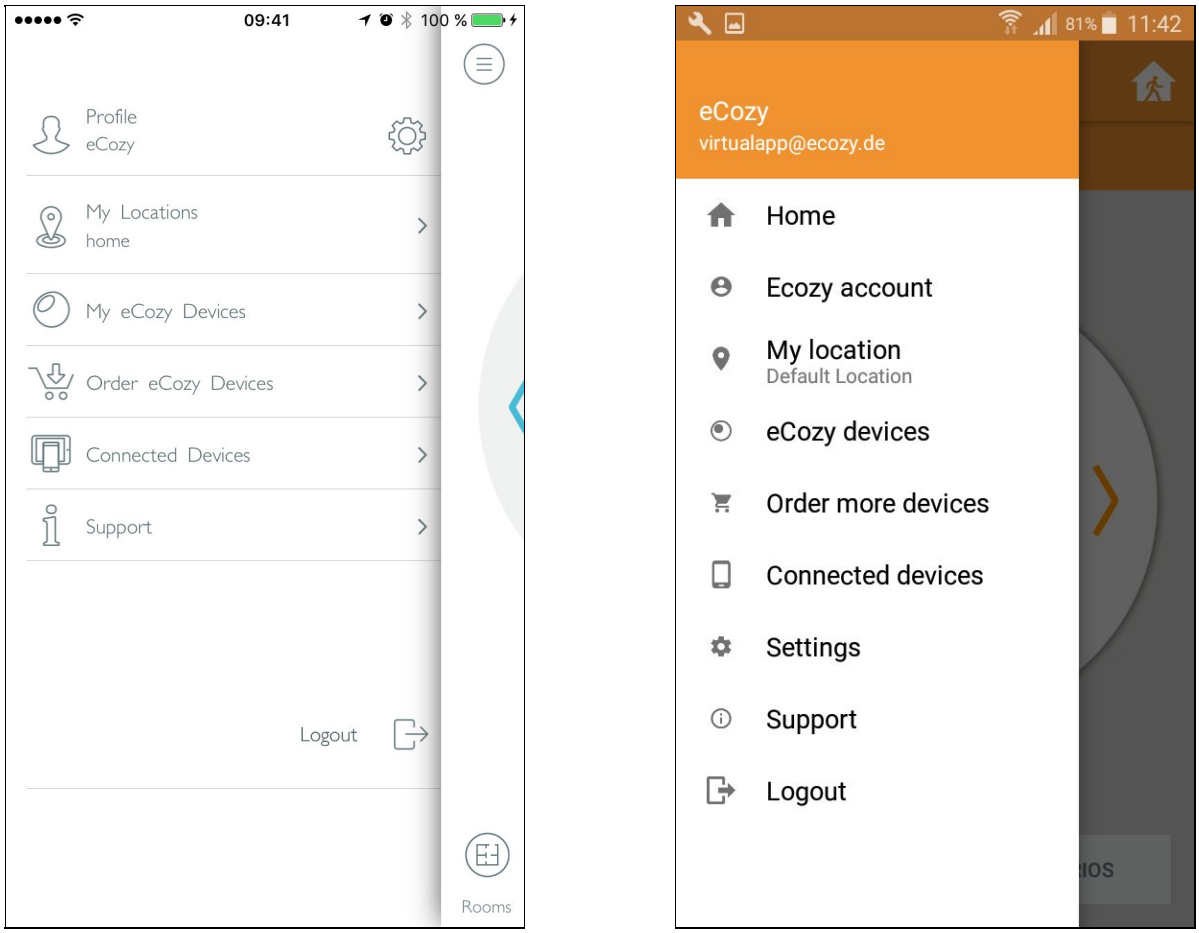


Image №13

11.1 Profile

In your profile (Image №14) you are able to change the email address, add name to the profile, change password and logout. Logout is also possible from the eCozy Menu. Button is located at the bottom of the page (how to video: iOS, Android).

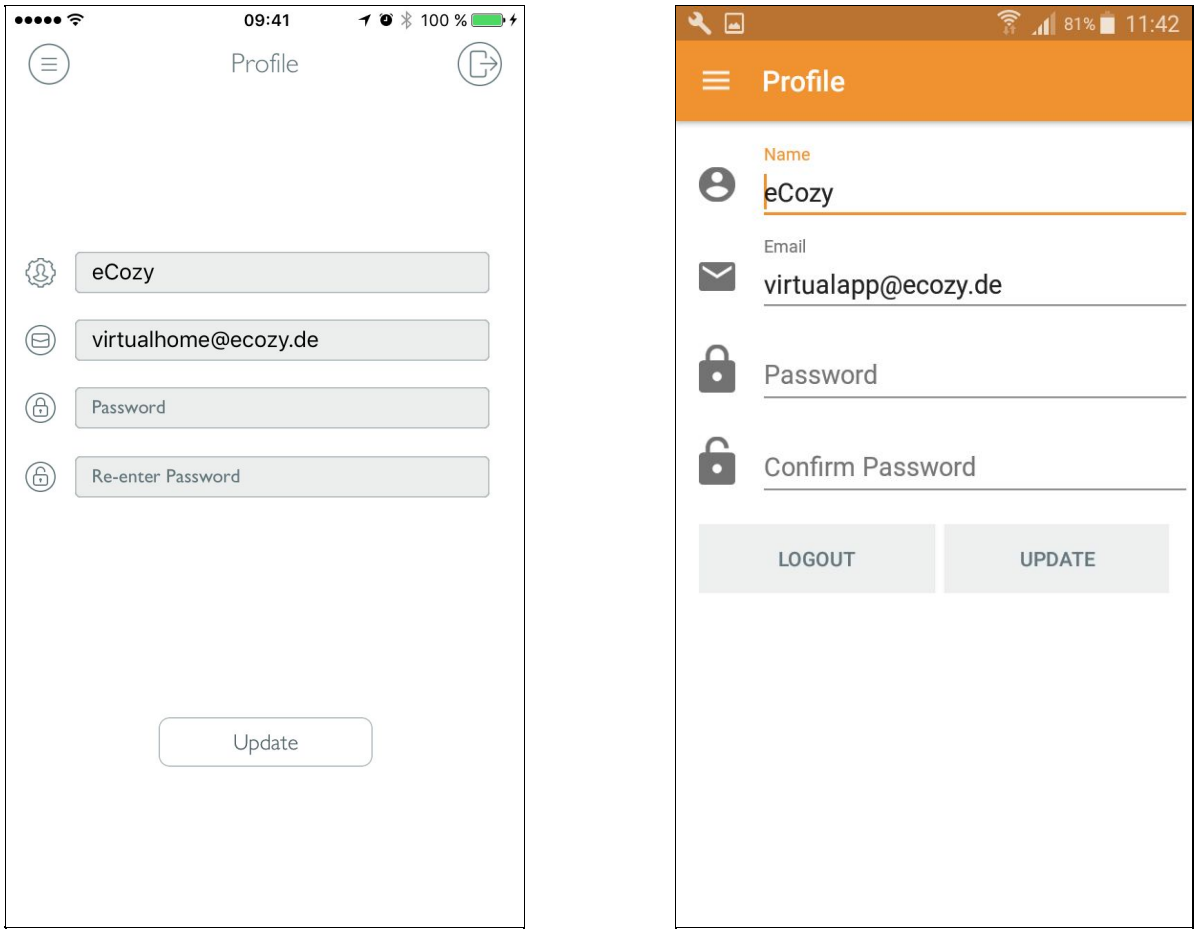


Image №14

11.2 eCozy Settings

eCozy Settings (Image №15) in iOS are located on the top of the page, next to your profile settings and shown as a “nut” button and in Android are located closer to the end of eCozy Menu list.

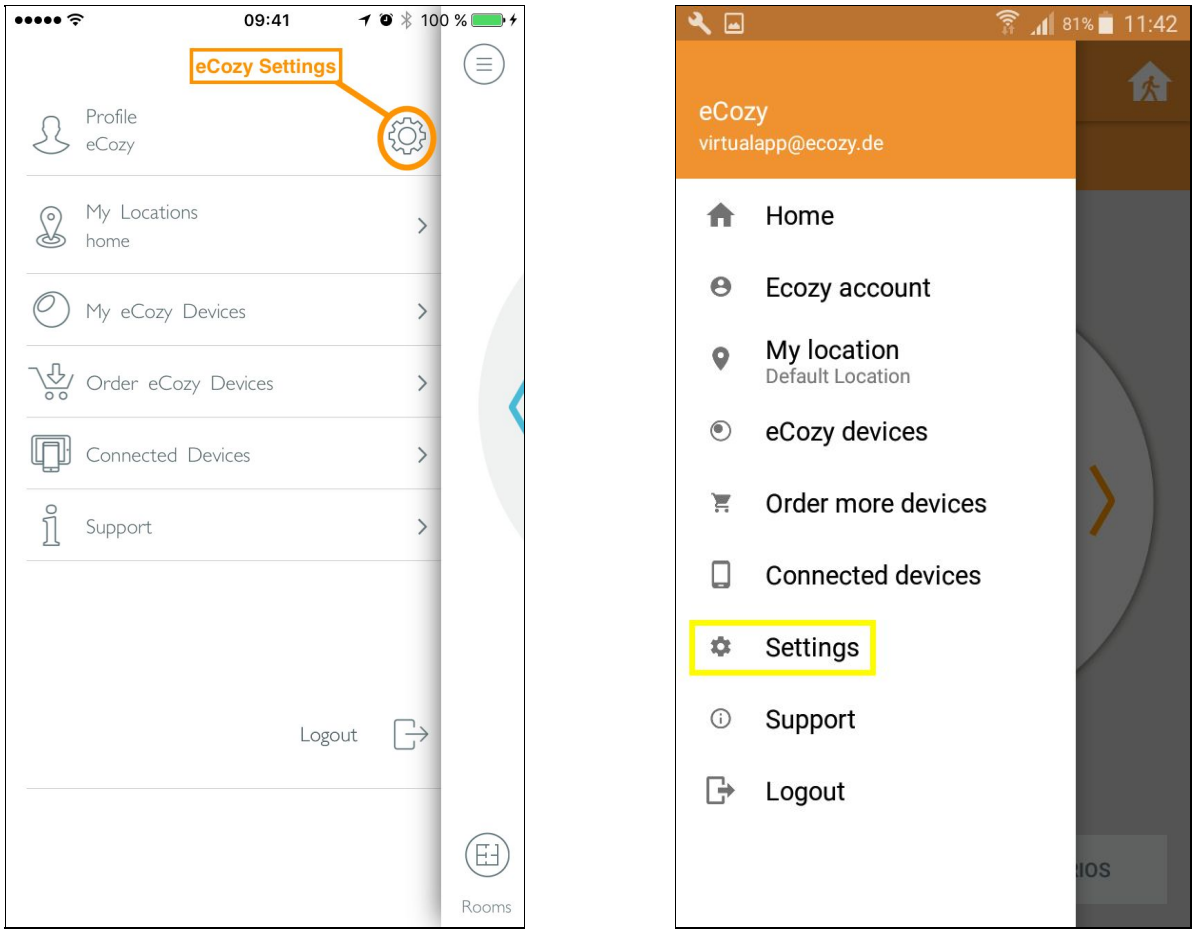


Image №15

eCozy Settings (Image №16) consist of:

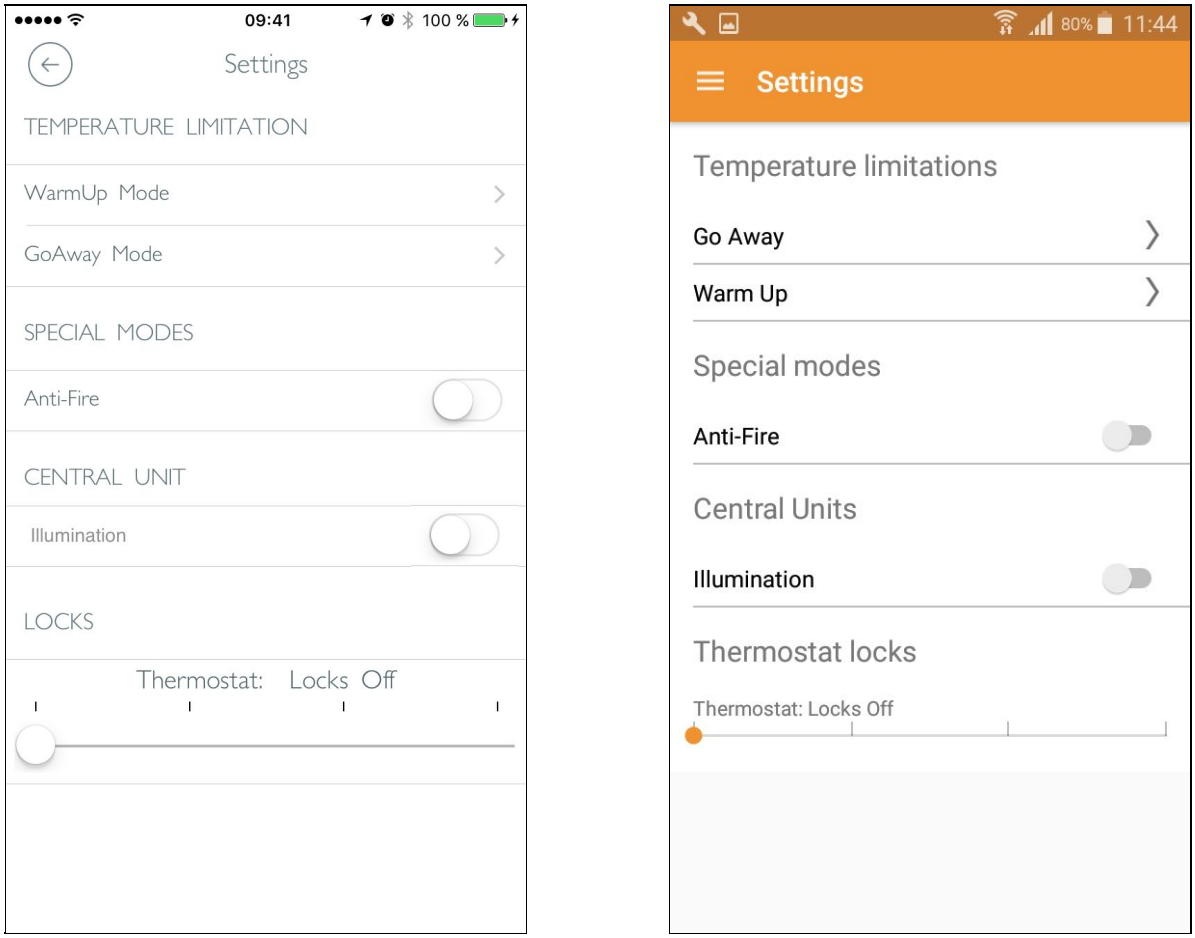
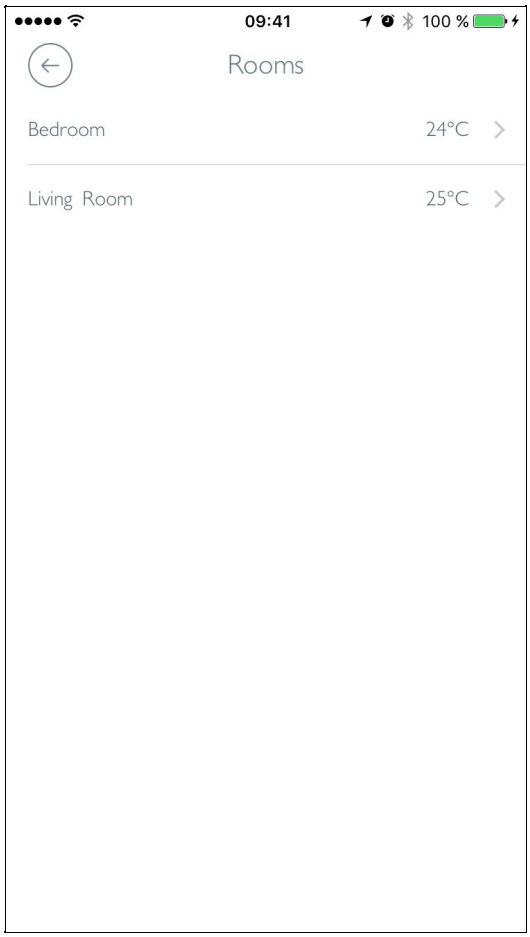
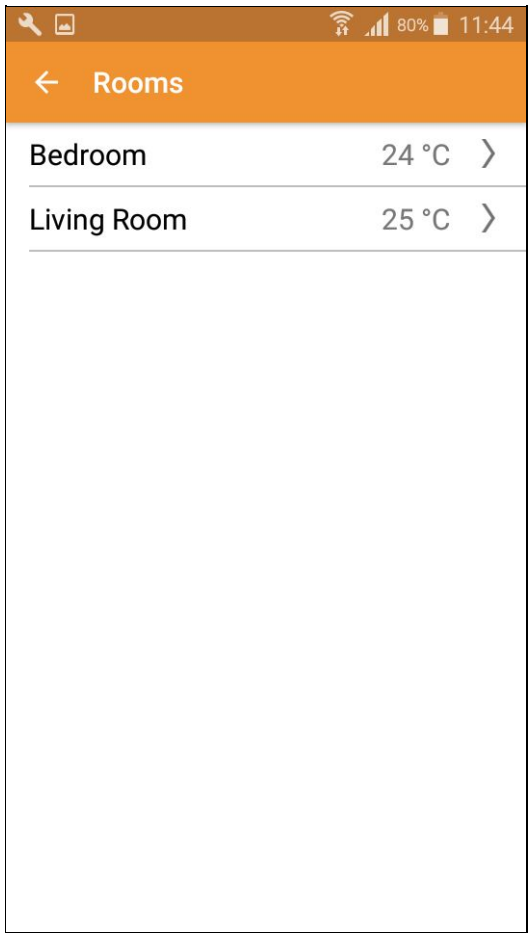


Image №16

- Temperature limitation (Image №17) for eCozy Special Modes “Warm Up” (how to video: iOS, Android) and “Go Away” (how to video: iOS, Android) - here you can adjust the temperature for every room you have in your system for both special modes. In order to set “Warm Up” temperature, open eCozy menu in your app by clicking on ‘triple line’ button in top left corner. Open Settings menu by clicking on ‘nut’ button in iOS or by clicking on ‘settings’ button in Android. Click on ‘Warm Up’ button to edit the warm up temperature. Choose desired temperature for Warm Up. In order to set “Go Away” temperature, open eCozy menu in your app by clicking on ‘triple line’ button in top left corner. Open Settings menu by clicking on ‘nut’ button in iOS or by clicking on ‘settings’ button in Android. Click on ‘Go Away’ button to edit the warm up temperature. Choose desired temperature for Go Away.


09:41
100 %
Rooms
Bedroom
24°C
Living Room
25°C


80%
11:44
Rooms
Bedroom
24 °C
Living Room
25 °C

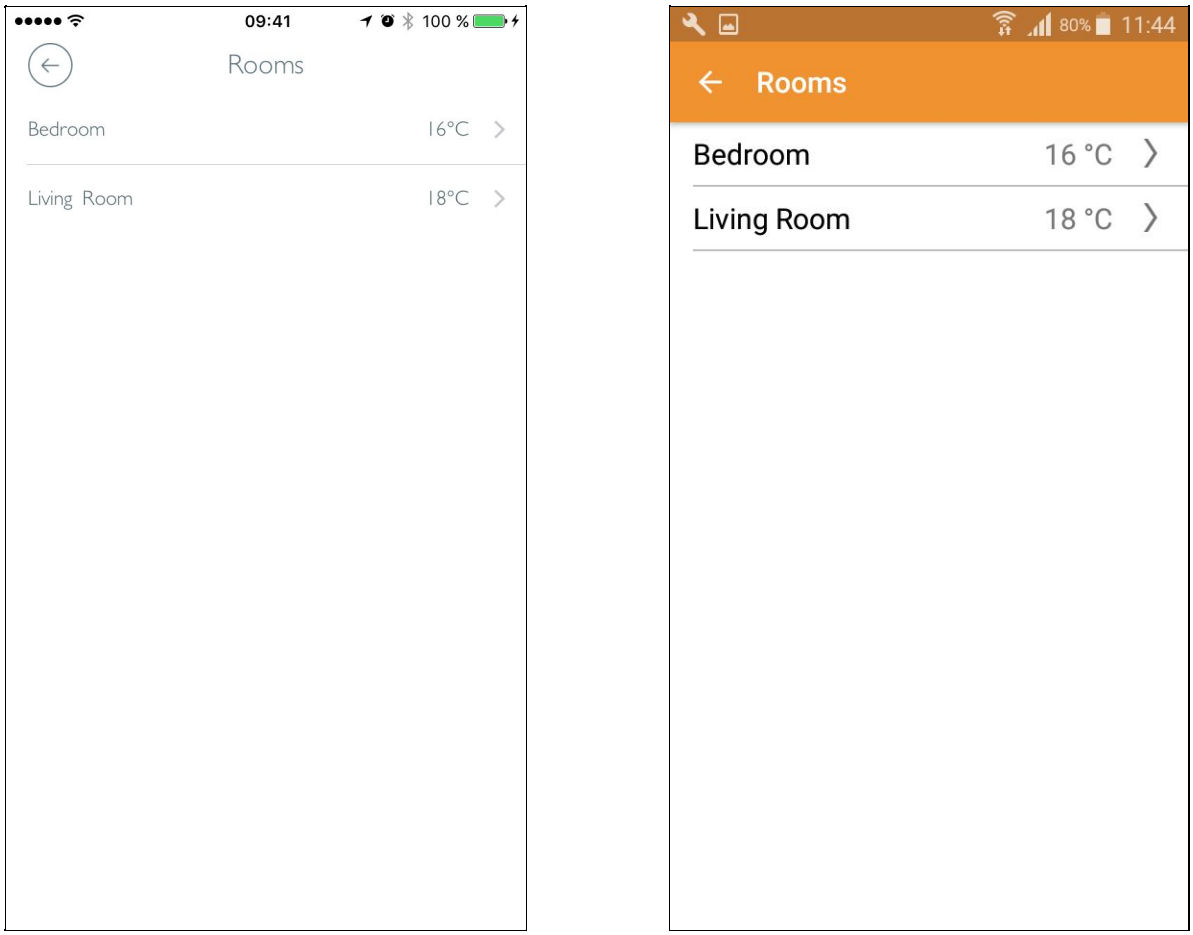

09:41
100 %
Rooms
Bedroom
16°C
Living Room
18°C
80% 11:44
Rooms
Bedroom
16 °C
Living Room
18 °C

Image №17

- Anti-Fire mode (Image №18) - this mode is designed to protect your house and provide you with real time notification. eCozy Thermostat will notify a user in case temperature rise is too fast and value of the temperature is abnormal (how to video: iOS, Android). Thanks to two thermosensors in eCozy thermostats, they will constantly monitor temperature changes in rooms. To turn on 'Anti-fire' mode open eCozy menu in your app by clicking on 'triple line' button in top left corner. Open Settings menu by clicking on 'nut' button in iOS or by clicking on 'settings' button in Android. Click on the 'anti-fire' on/off button to turn it on or turn it off.

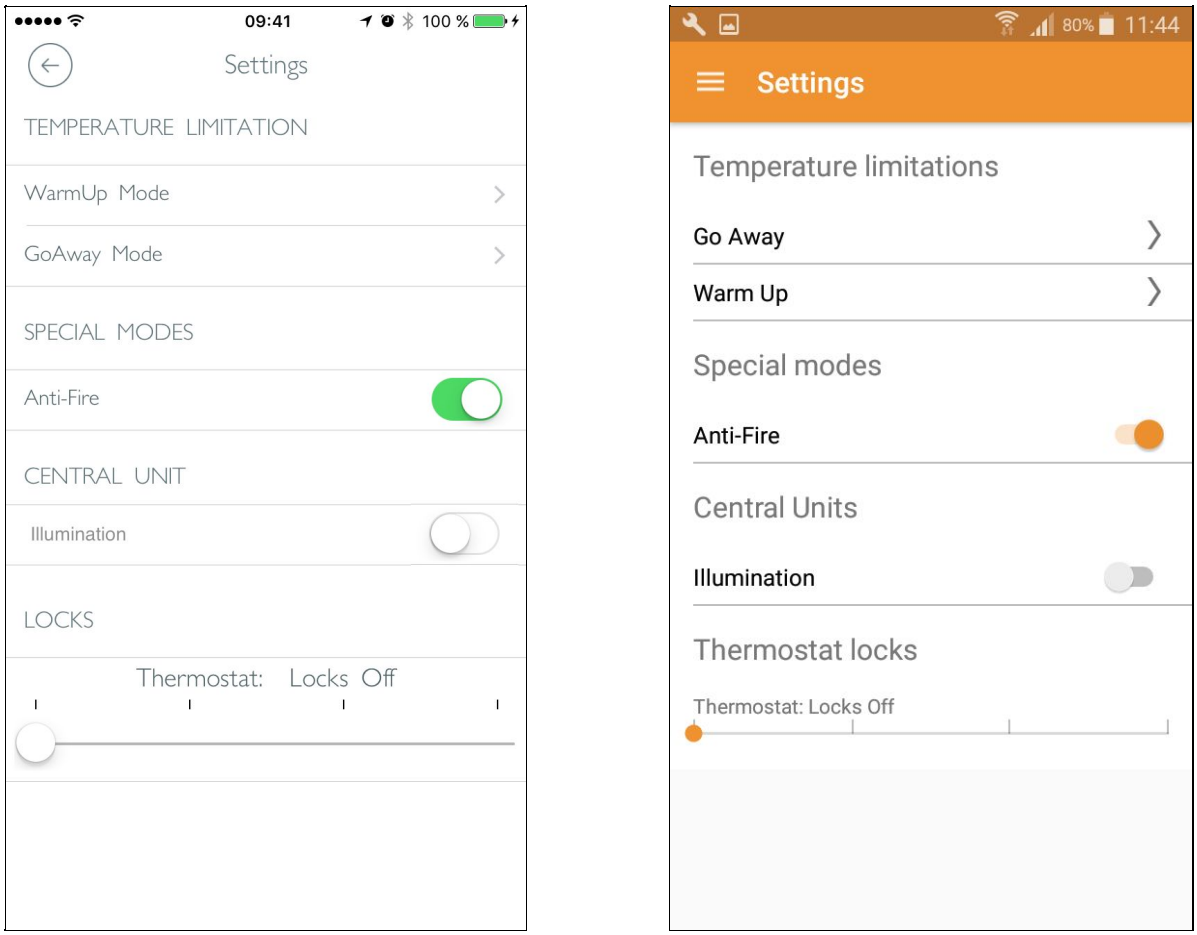


Image №18

- Central Unit Illumination (Image №19) - you can turn on or off the Central Unit Illumination (bottom white panel of the CU is equipped with white LED) (how to video: iOS, Android). Central Unit 'Illumination' is designed to highlight the visual aspects of the eCozy Central Unit. For example, it can be used as a nightstand in kids room. To turn on 'Illumination' open eCozy menu in your app by clicking on 'triple line' button in top left corner. Open Settings menu by clicking on 'nut' button in iOS or by clicking on 'settings' button in Android. Click on the 'illumination' on/off button to turn it on or turn it off.

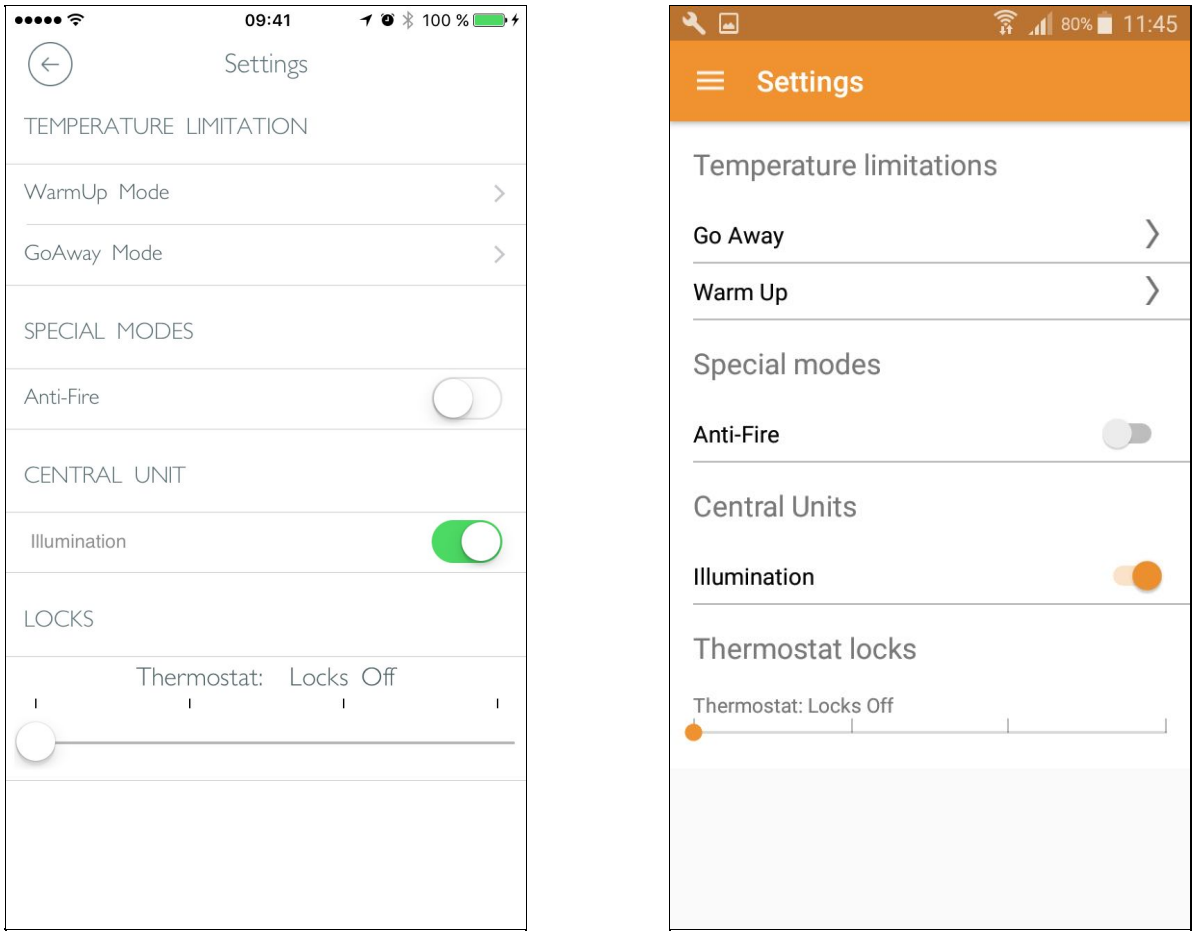


Image №19

- Thermostat Locks (Image №20) - they are designed in case you would like to protect your thermostat from unauthorized (directly on the thermostats) change of the temperature or dismantling (how to video: iOS, Android). To turn on thermostat ‘locks’ open eCozy menu in your app by clicking on ‘triple line’ button in top left corner. Open Settings menu by clicking on ‘nut’ button in iOS or by clicking on ‘settings’ button in Android. Swipe the button to the desired lock level.
    - Locks Off - Thermostat is fully accessible. User can view the temperature, change temperature and perform an emergency dismantle.
    - Disable Control - Thermostat is partly locked. User can view the temperature, perform an emergency dismantle, but it is locked to change temperature.
    - Disable Indication - Thermostat is locked. User can perform an emergency dismantle, but it is locked to view the temperature and to change temperature.
    - Disable Dismantling - Thermostat is fully locked. User is unable to view the temperature, to change temperature and to perform an emergency dismantle.

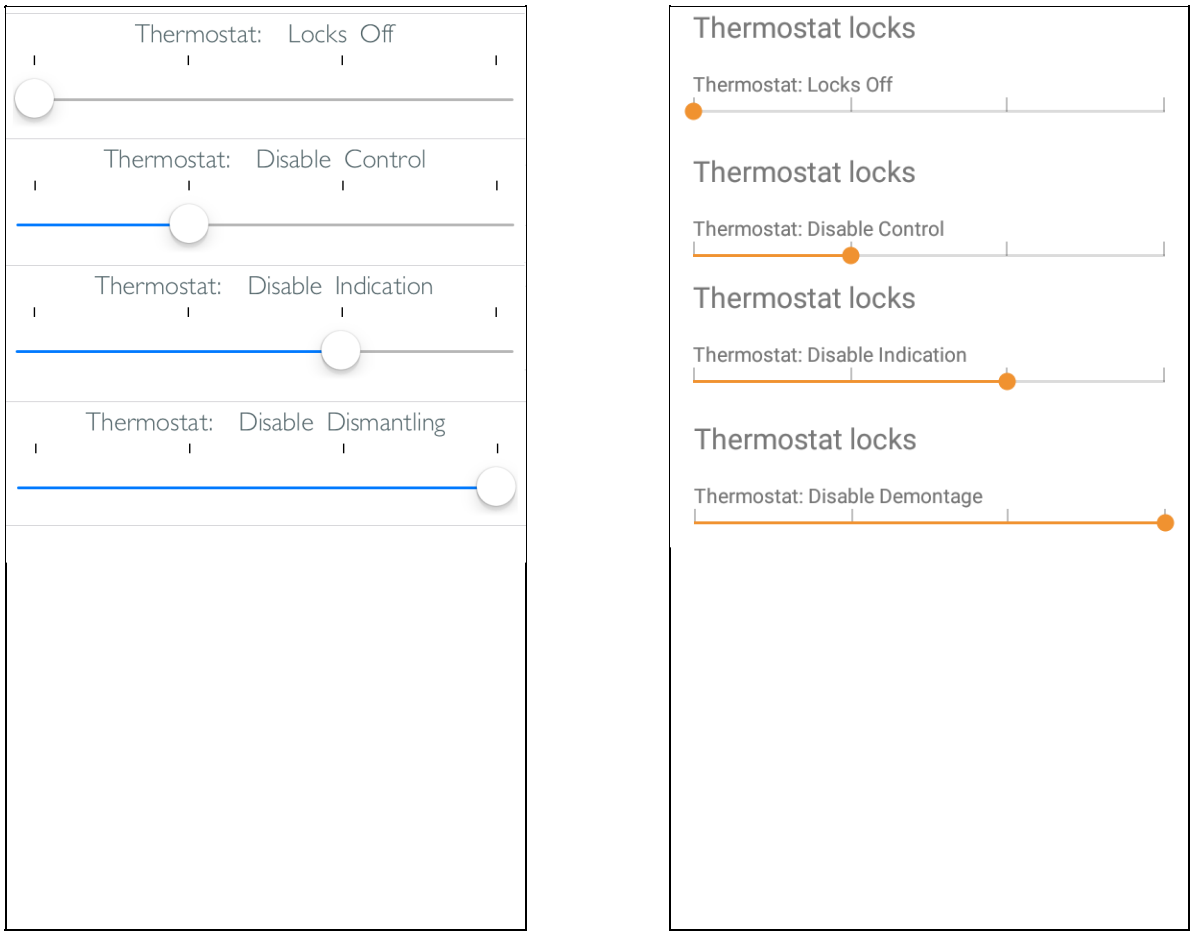

Thermostat: Locks Off
Thermostat: Disable Control
Thermostat: Disable Indication
Thermostat: Disable Dismantling
Thermostat locks
Thermostat: Locks Off
Thermostat locks
Thermostat: Disable Control
Thermostat locks
Thermostat: Disable Indication
Thermostat locks
Thermostat: Disable Demontage

Image №20

11.3 My Locations

My locations (Image №21) are necessary in case you have more than one system (e.g. Home and Office). By using one account you can switch between locations and control the heating. You also have a possibility to rename a location for better personal understanding (how to video: iOS, Android). Open eCozy menu in your app by clicking on ‘triple line’ button in top left corner. Open ‘My Locations’ menu. Click on the ‘pencil’ to activate edit mode in iOS or click on the ‘edit’ button in Android. Enter a desired name for your Location.

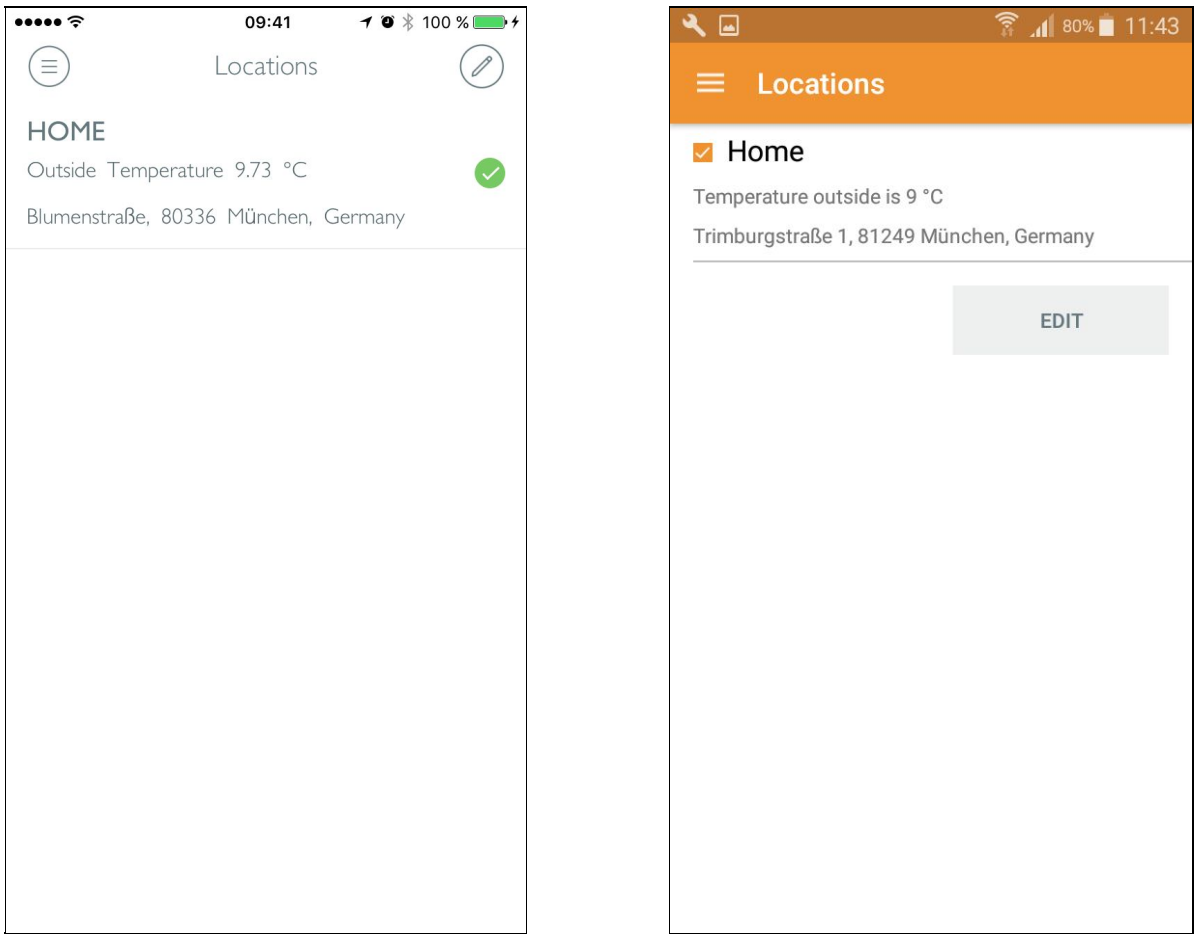
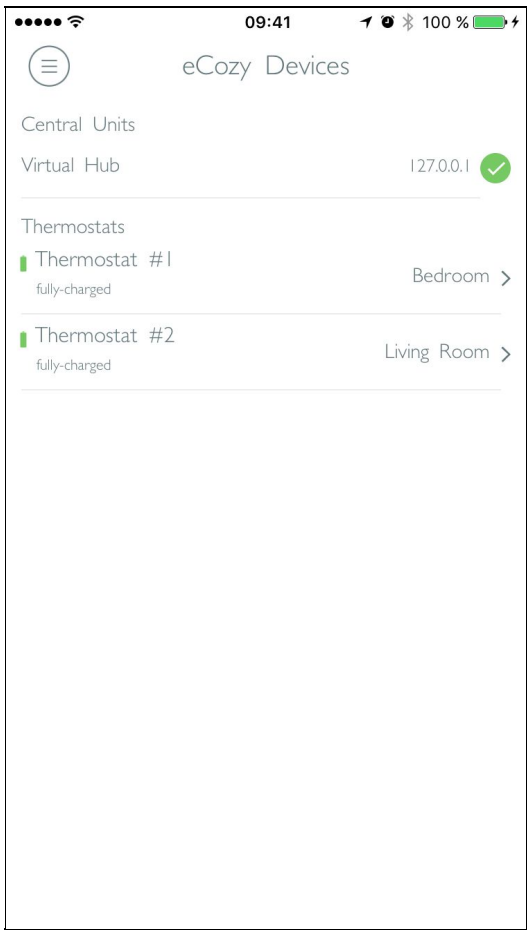


Image №21

11.4 eCozy Devices

eCozy Devices (Image №22) stores all your devices that you are using. Here you can see the list of the Central Units and list of the Thermostats that are connected to your system. You can also view the serial number of each device, status of the battery of each thermostat and in which room it is located. You can rename thermostat (how to video: iOS, Android) and move it to a different room (how to video: iOS, Android). In order to rename the Thermostat, open eCozy menu in your app by clicking on 'triple line' button in top left corner. Open 'eCozy Devices' menu. Click on the eCozy thermostat you would like to rename. Click on the 'pencil' to activate edit mode in iOS or click and hold the name of the Thermostat in Android until popup window appears with the option to rename the Thermostat. Enter a desired name for your thermostat. In order to move the Thermostat to another room, open eCozy menu in your app by clicking on 'triple line' button in the top left corner. Open 'eCozy Devices' menu. Click on the eCozy thermostat you would like to add to the room. When you open a specific eCozy thermostat, there will be a possibility to choose a room to which you want that thermostat to be placed. Simply click on the desired room.



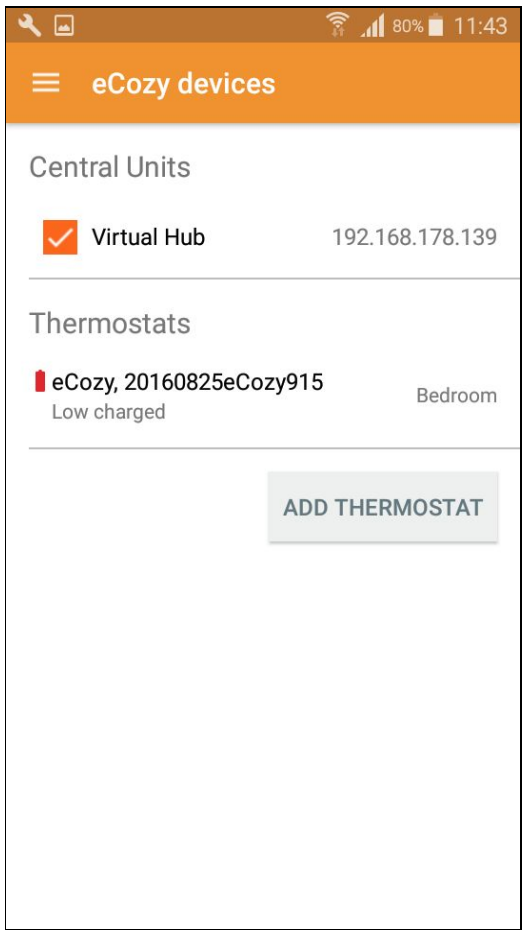


Image №22

11.5 Order eCozy Devices

If you want to have extra eCozy Devices for your home or office, you can order them directly from the eCozy App (Image №23). Open eCozy menu in your app by clicking on ‘triple line’ button in top left corner. Open ‘Order eCozy Devices’ menu. You will be redirected to your internet browser directly to ‘eCozy Shop’ page where you can purchase extra eCozy Devices.

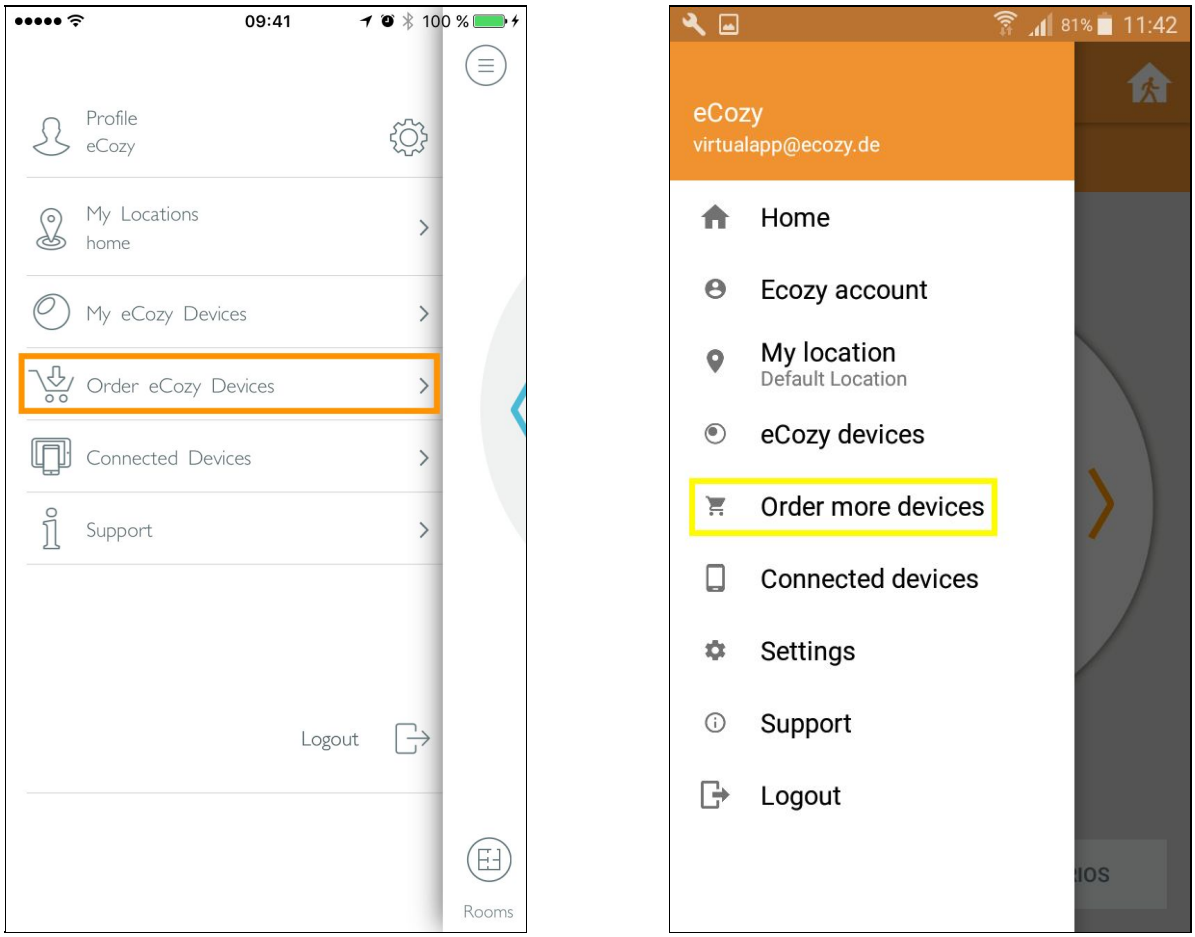


Image №23

11.6 Connected Devices

Connected Devices (Image №24) shows all the devices that have been connected under single account and when was their last login. You can rename every device for better personal understanding (how to video: iOS, Android). Open eCozy menu in your app by clicking on ‘triple line’ button in top left corner. Open ‘Connected Devices’ menu. Click on the desired device you would like to rename. Click on the ‘pencil’ to activate edit mode in iOS or click on the ‘edit’ button in Android. Enter a desired name for your device.

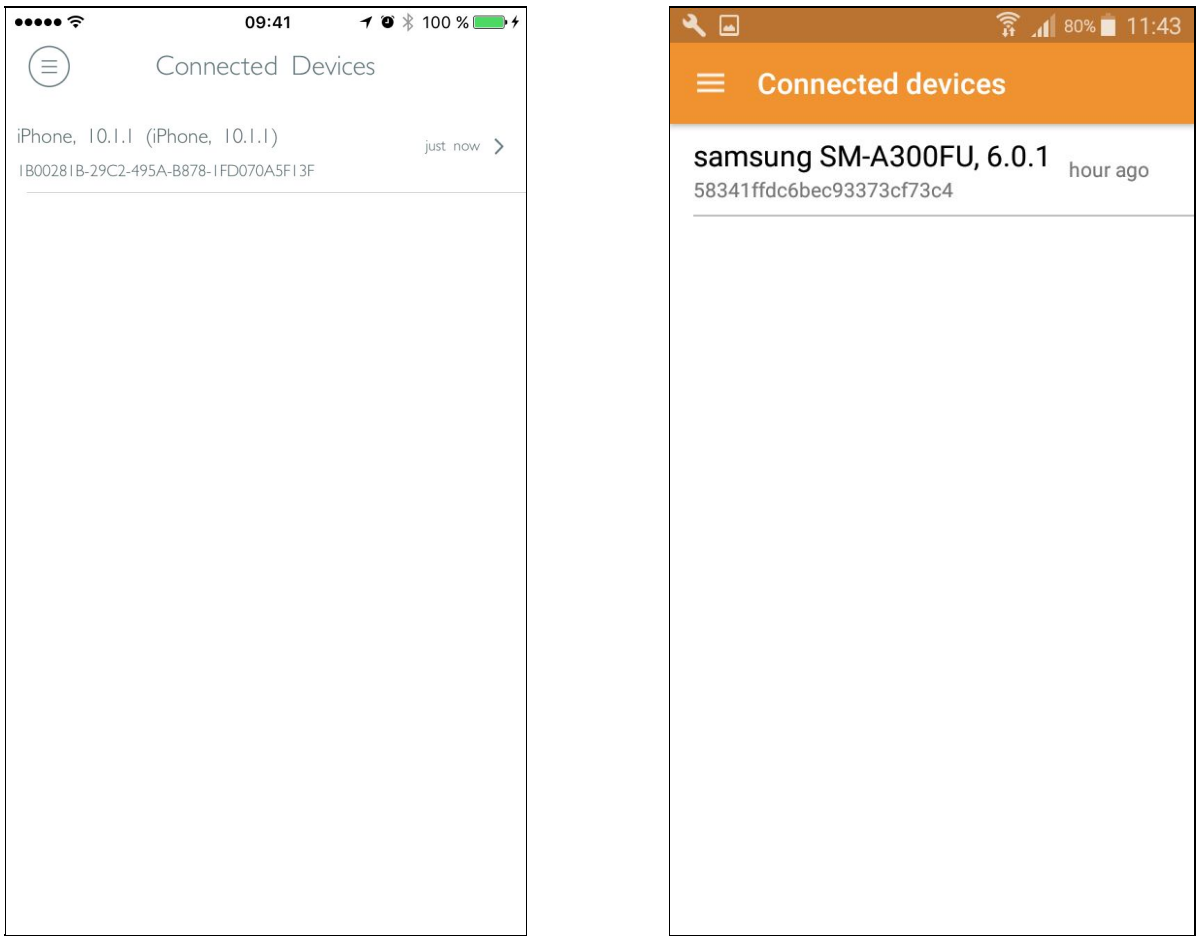


Image №24

11.7 Support

Support (Image №25) is designed to help a user in case of an issue. You have a possibility to send a log of your system directly to support department with the description of the problem or address support page to find an answer (how to video: iOS, Android). In order to send the log, open eCozy menu in your app by clicking on ‘triple line’ button in top left corner. Open ‘Support’ menu. Click on ‘Send Log’ button to enter email settings. Add additional information with the description of the problem. Send email.

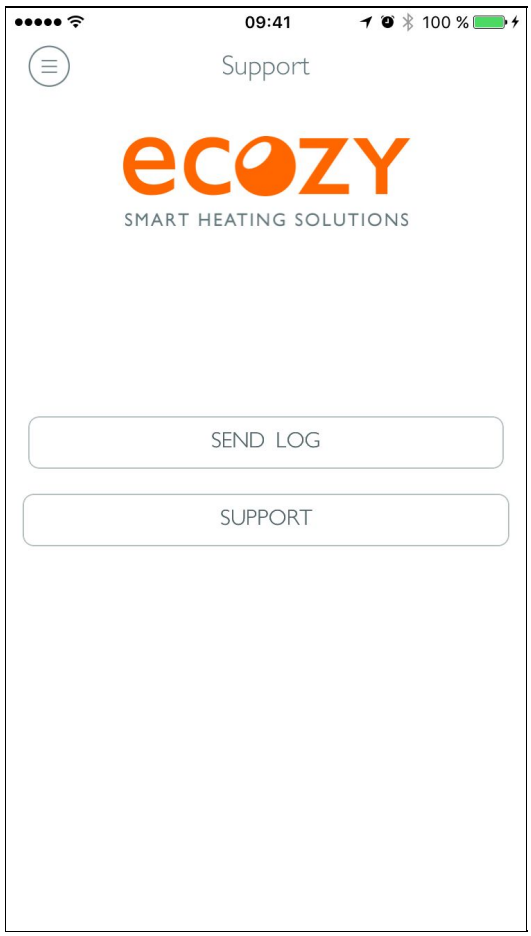


Image №25

12. eCozy Special Functions

eCozy Smart Heating Solution is equipped with several special functions (Image №12) which help the user to have more comfortable control over the heating.

12.1 “Warm Up” Mode

“Warm Up” Mode (Image №26) is designed to pre-heat your home or office before your arrival. Using the geoposition of the user and pre-set temperature for “Warm Up” Mode (Image №17), system will begin the heating process at exact time, so by the time of arrival of the user, desired temperature will be reached (how to video: iOS, Android). To turn on “Warm Up” Mode, your smartphone must be disconnected from the WLAN network your system is connected to. Click on the ‘pin’ button in top right corner. Choose the desired method of reaching your location. Click on the ‘warm up’ button to activate ‘warm up’ mode.

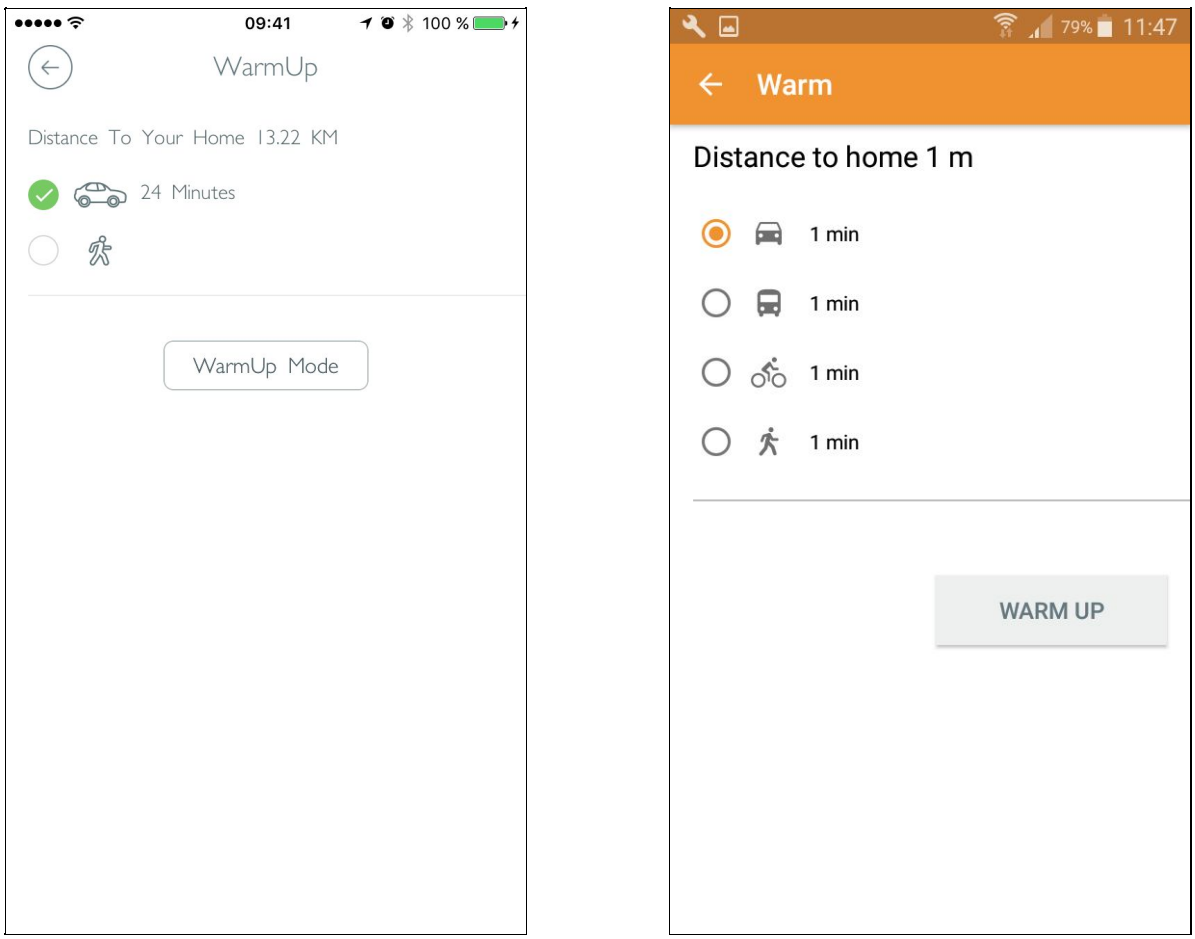


Image №26

12.2 “Go Away” Mode

“Go Away” Mode (Image №27) is designed to keep certain, pre-set temperature by the user (Image №17), during the times, when the user is not at home or office. This mode is useful when the user is gone for a vacation or a business trip. User can set entire system to keep specific temperature until his arrival back. Normally this temperature is below comfortable and with such it helps to keep the heating very low, therefore save money on heating costs, but at the same time keeping the home or office from supercooling (how to video: iOS, Android). To activate “Go Away” Mode, click on the ‘house’ button in top right corner. In a pop up window click on ‘away’ button to activate the ‘go away’ mode.

12.3 “Home” Mode

“Home” Mode (Image №27) is normal mode of operations. It is the “exit” from “Go Away” and “Warm Up” modes. It puts the system back into normal operation. If user is using “scenarios” then system will go back into “scenario” operations, or if user had specific target temperature, the system will get back to maintain that target temperature (how to video: iOS, Android). To activate “Home” Mode, click on the ‘house’ button in top right corner. In a pop up window click on ‘home’ button to activate the ‘home’ mode.

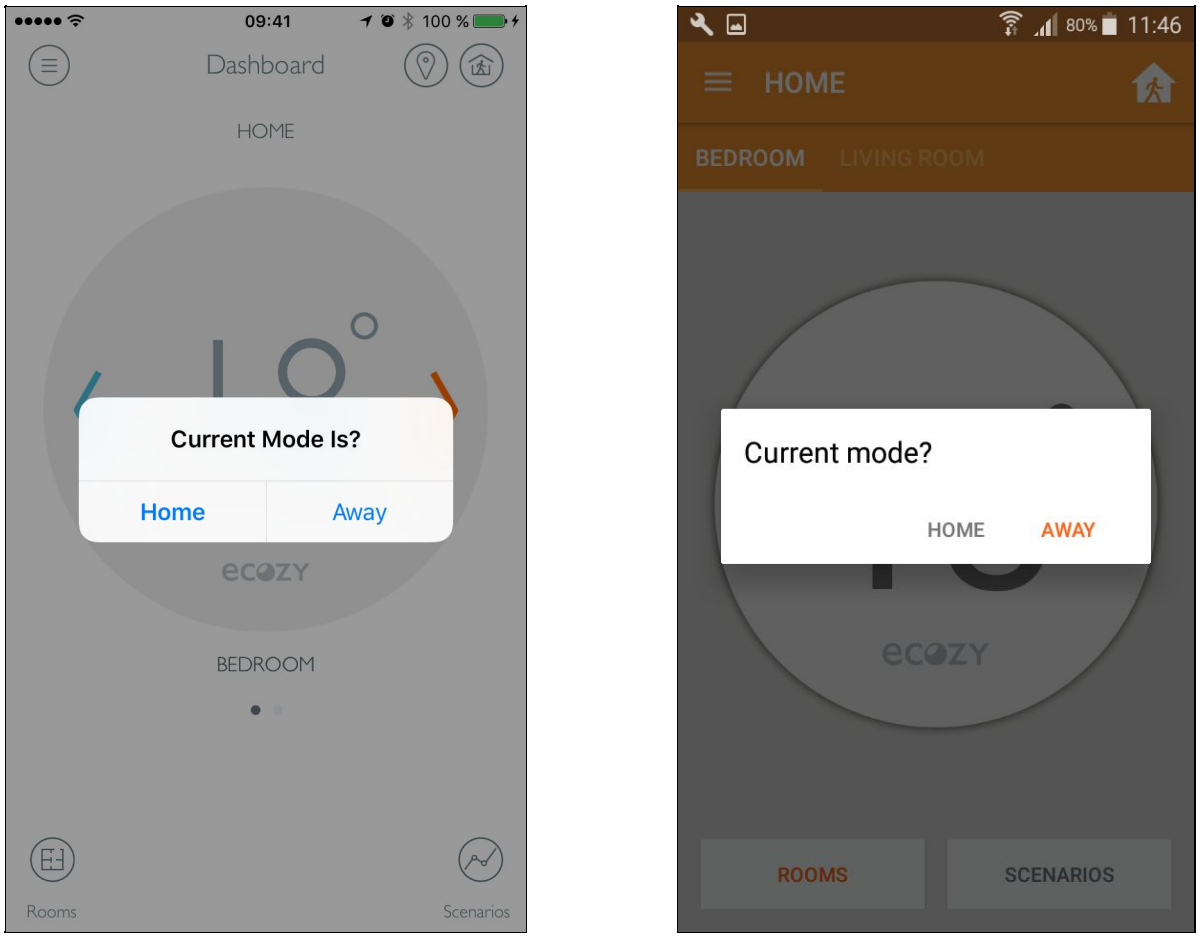

09:41
100 %
Dashboard
HOME
Current Mode Is?
Home
Away
ecozy
BEDROOM
Rooms
Scenarios
80% 11:46
HOME
BEDROOM
LIVING ROOM
Current mode?
HOME
AWAY
ecozy
ROOMS
SCENARIOS

Image №27

13. Scenario Menu

Scenarios are designed to have maximum autonomous operation of eCozy Smart Heating Solution (Image №28). User sets every heating temperature point throughout a day or a week and system works autonomously according to those temperature points. User can set up to 10 temperature points in 24 hour period. Temperature points can vary from +8 until +30 degrees.

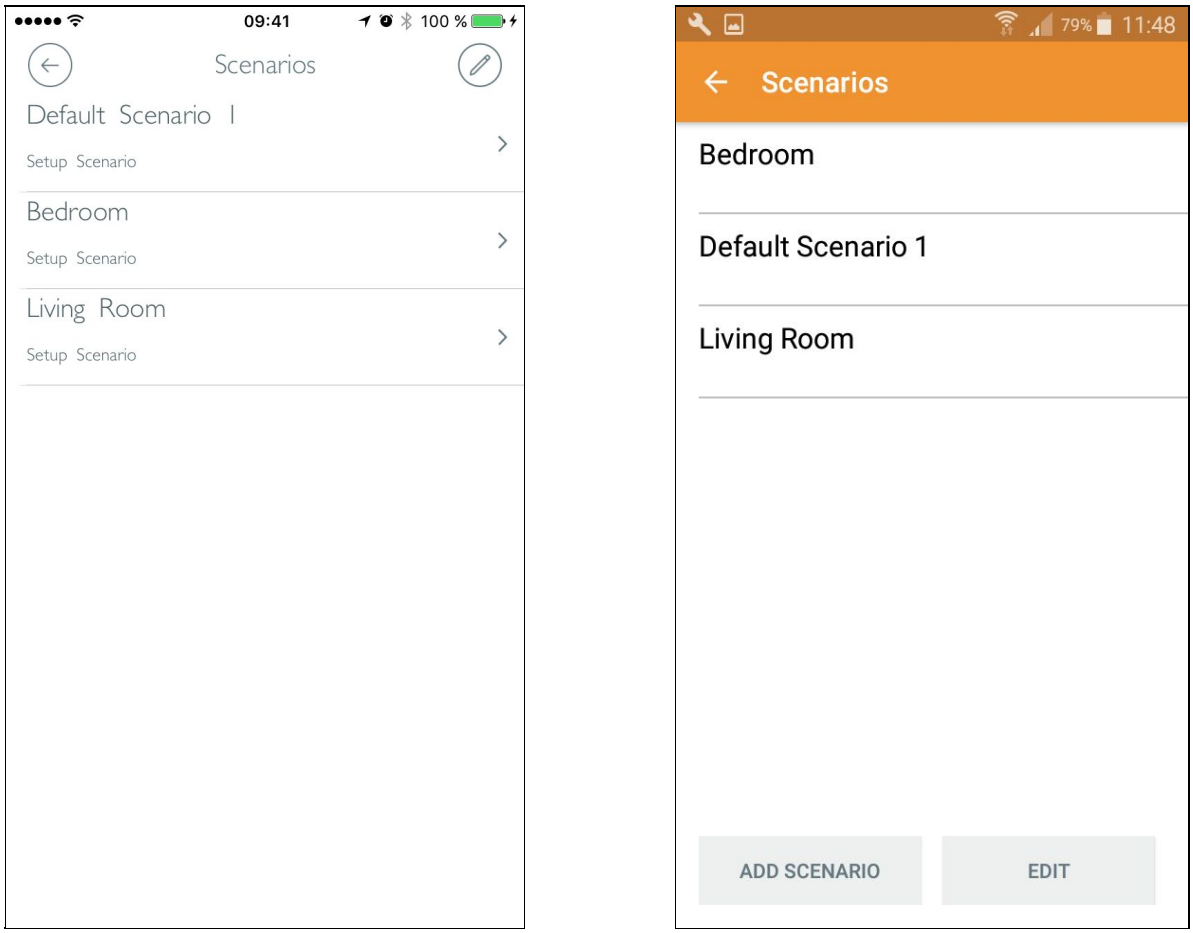


Image №28

13.1 Create Scenario

In order to create a scenario (how to video: iOS, Android), open the ‘scenario’ menu in your app by clicking on ‘scenarios’ button in bottom right corner (Image №12). Click on the ‘pencil’ to activate edit mode in iOS (Image №28). Click on the ‘add scenario’ button to add a new scenario. Rename new scenario (how to video: iOS, Android) if you want to by clicking on ‘edit’ button in Android (Image №28). Click

on the ‘tick’ to close edit mode. Click on the new scenario. Here you can observe the week schedule of the heating (Image №29). Click on the ‘pencil’ to activate edit mode. Choose the desired day you want to create a schedule for. Click on the ‘add schedule’ text to rename the day and click on the ‘plus’ button to create a scenario (Image №30). Set the temperature points throughout the day the way you want them to be (Image №31). There is a limit of 10 temperature points per day. For detailed temperature set, hold the temperature point to activate zoom. After completion of setting temperature points, click on ‘plus’ button to copy the schedule for other days, or click on ‘tick’ button to finish (Image №32). After you have completed creating your scenario, you can observe your daily / weekly schedule (Image №33).

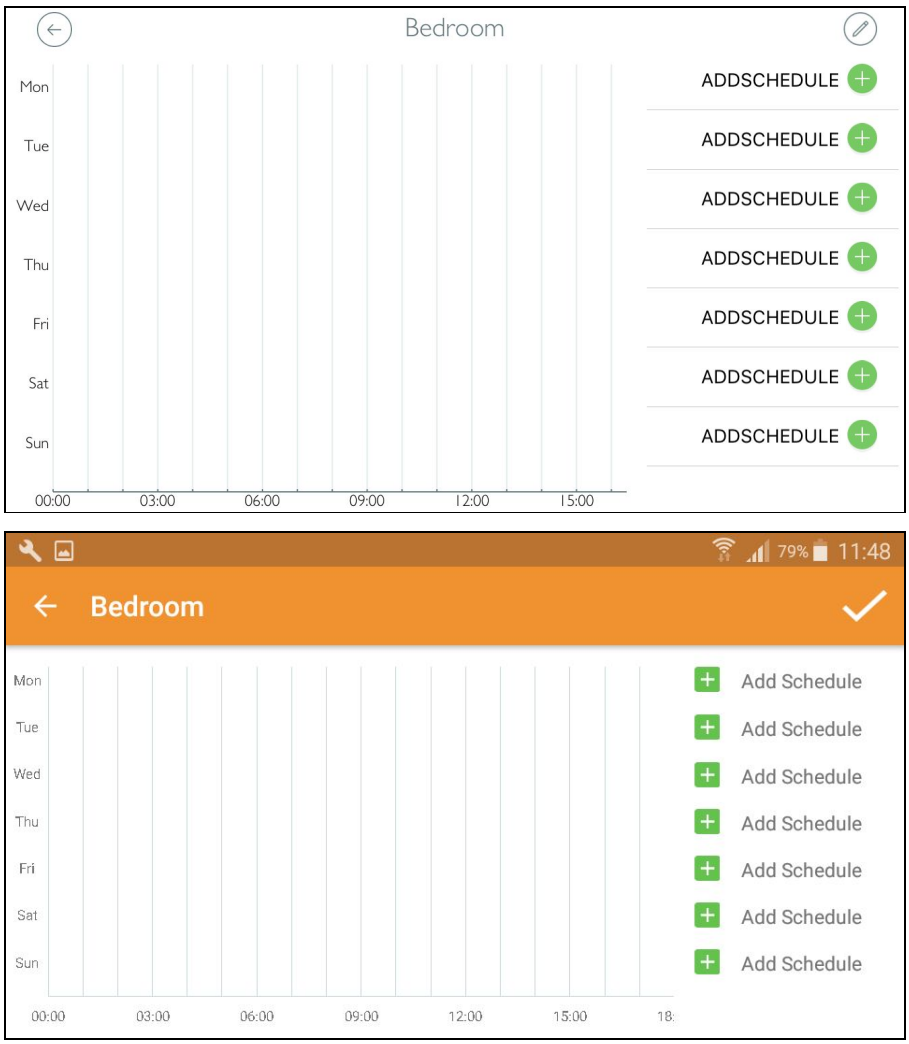


Image №29

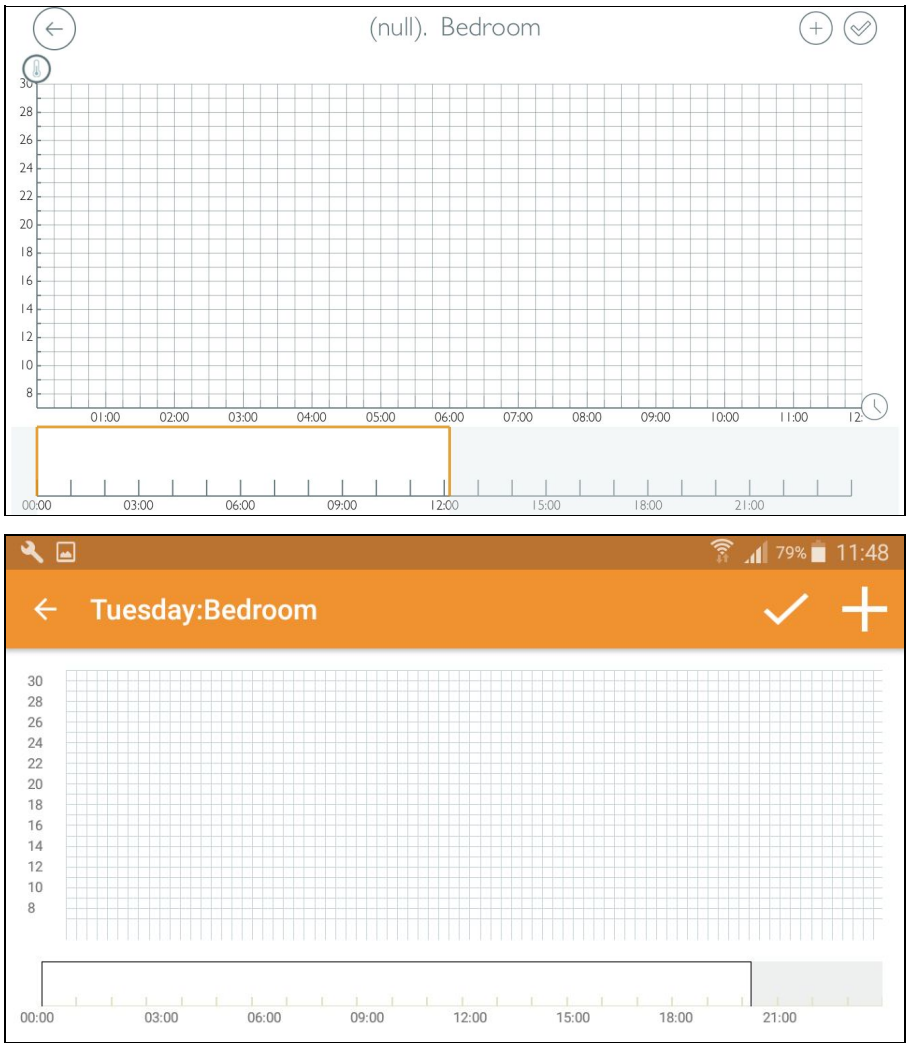
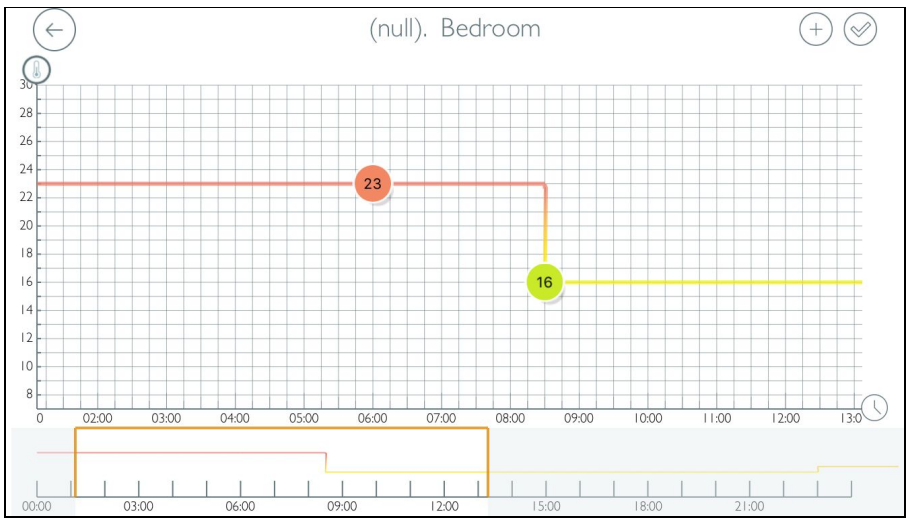

(null). Bedroom
30
28
26
24
22
20
18
16
14
12
10
8
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00
79%
11:48
Tuesday:Bedroom
30
28
26
24
22
20
18
16
14
12
10
8
00:00
03:00
06:00
09:00
12:00
15:00
18:00
21:00

Image №30


(null). Bedroom
30
28
26
24
22
20
18
16
14
12
10
8
23
16
0
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
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06:00
09:00
12:00
15:00
18:00
21:00

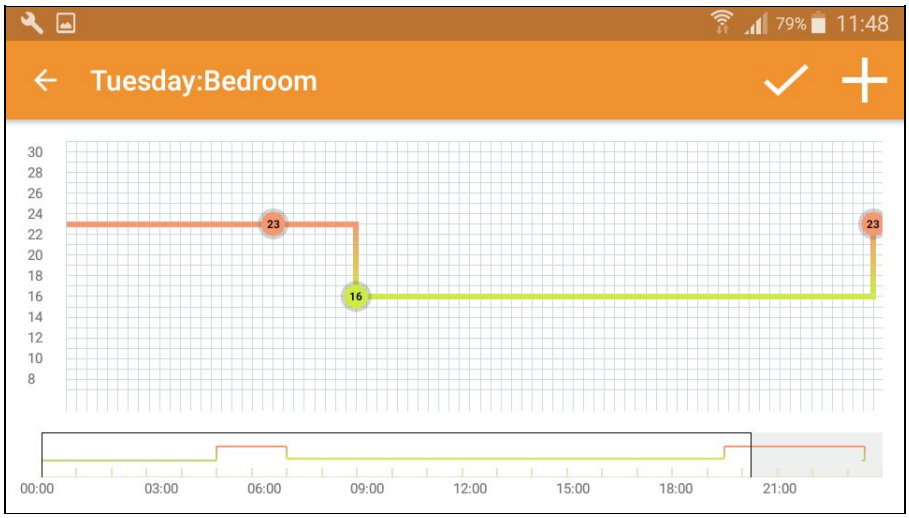
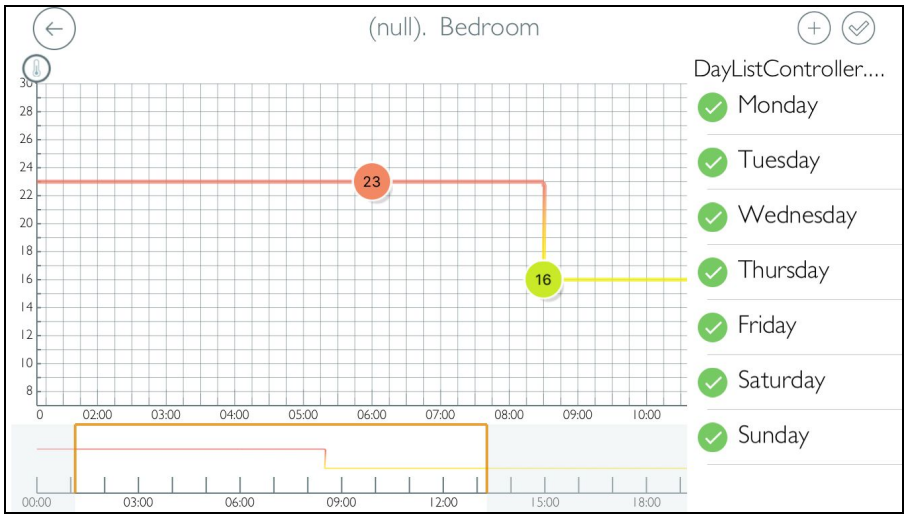


Image №31



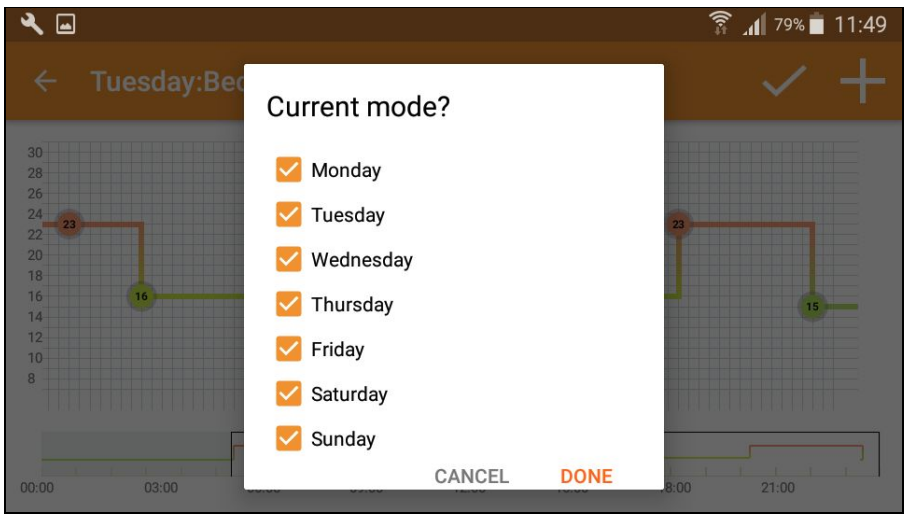


Image №32

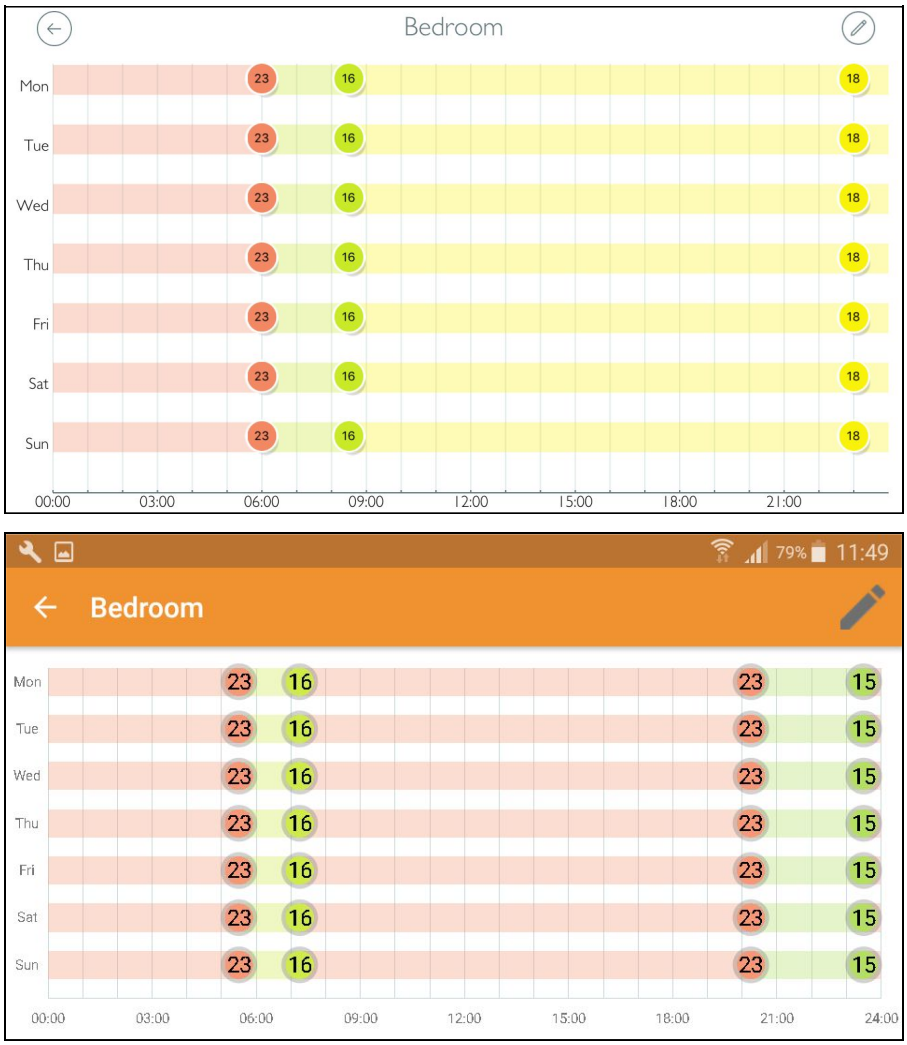


Image №33

13.2 Assign Scenario to the Room

In order to add Scenario to the specific room (how to video: iOS, Android), open the ‘room’ menu in your app by clicking on ‘rooms’ button in bottom left corner (Image №12). Click on the desired room you want to set scenario for (Image №34). Click on the ‘setup scenario’ button to open the list of available scenarios (Image №35). Choose desired scenario and click on it (Image №28).

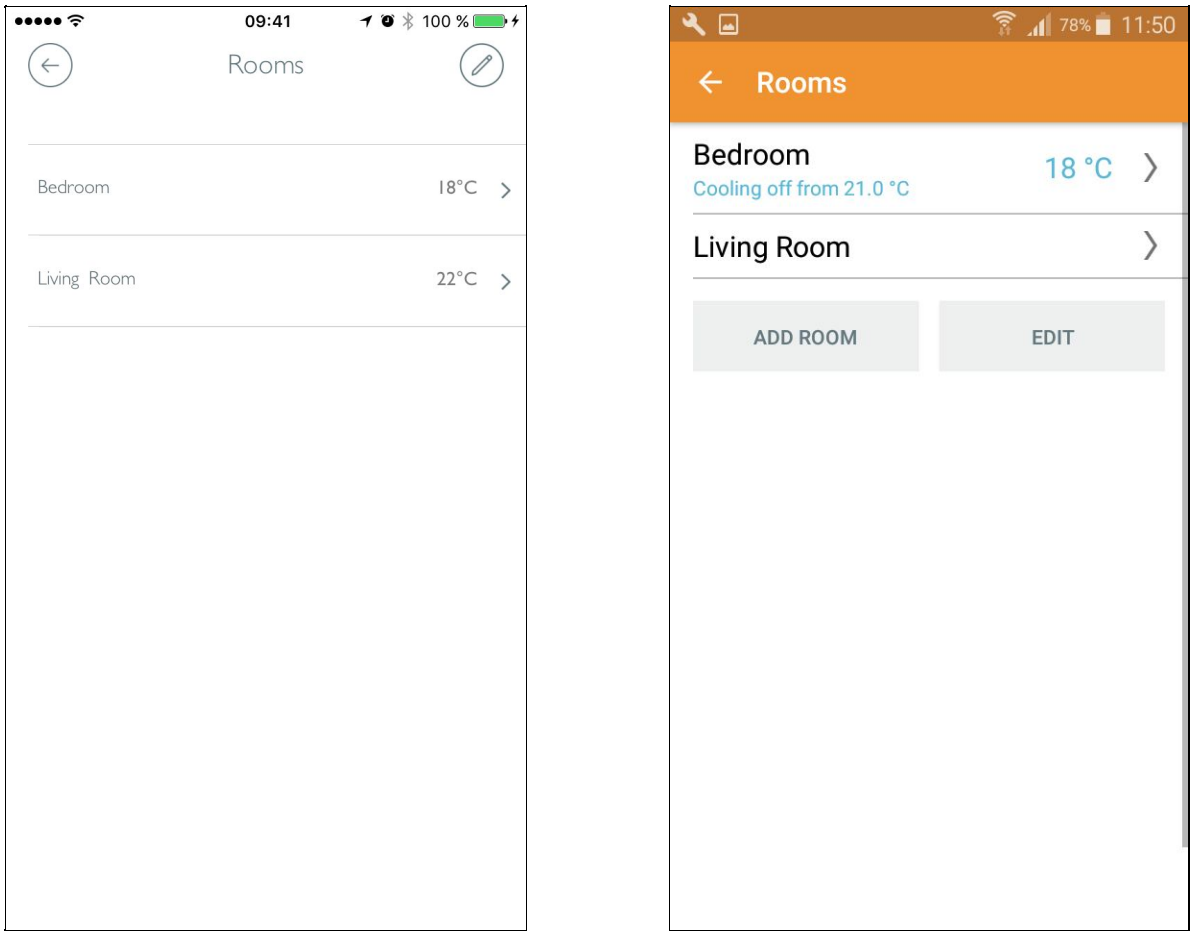

09:41
100 %
Rooms
Bedroom
18°C
Living Room
22°C
78% 11:50
Rooms
Bedroom
Cooling off from 21.0 °C
18 °C
Living Room
ADD ROOM
EDIT

Image №34

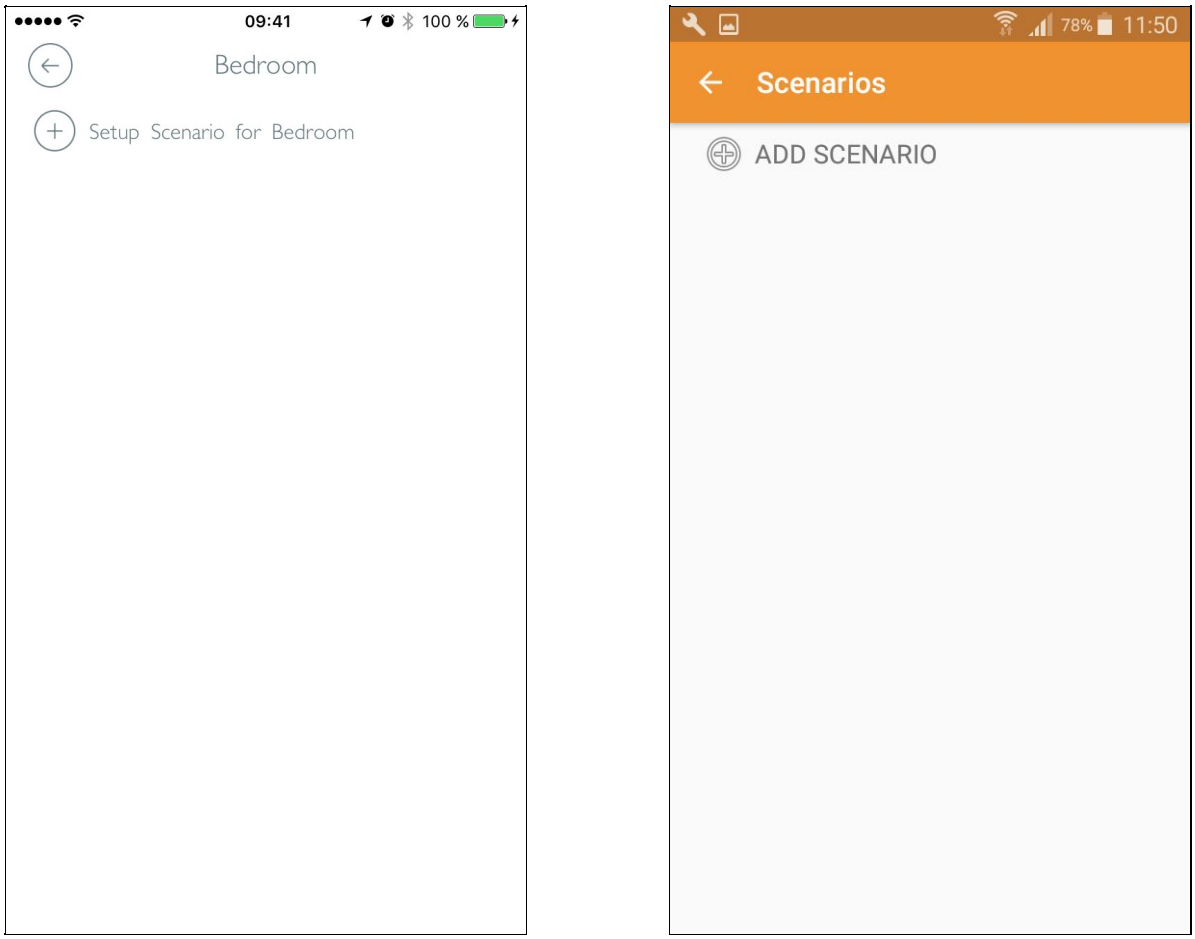


Image №35

13.3 Delete Scenario

13.3.1 Delete Scenario from the Room

In order to delete a scenario from the room (how to video: iOS, Android), open the ‘room’ menu in your app by clicking on ‘rooms’ button in bottom left corner (Image №12). Choose the room which you would like to delete the scenario from and click on it. Swipe the scenario name to the left until the «delete» button appears in iOS or click and hold its name until the “delete” button appears in Android (Image №36). Click on «delete» button and confirm or cancel your decision.

13.3.2 Delete Scenario from the System

In order to delete a scenario from the system (how to video: iOS, Android), open the ‘scenario’ menu in your app by clicking on ‘scenarios’ button in bottom right corner (Image №12). Choose the scenario which you would like to delete and swipe its name to the left until the «delete» button appears in iOS or click and hold its name

until the “delete” button appears in Android (Image №36). Click on «delete» button and confirm or cancel your decision.

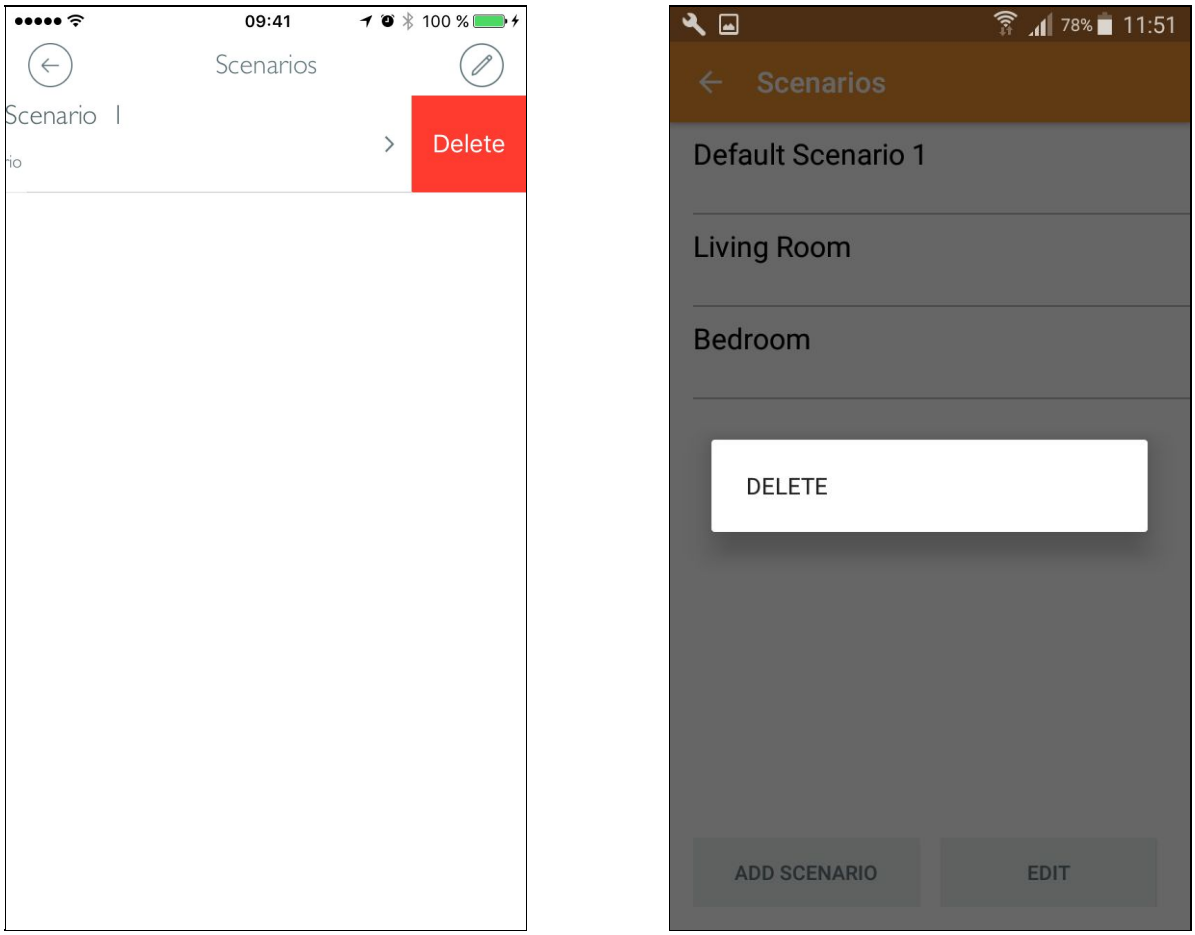


Image №36

14. Rooms Menu

Rooms Menu (Image №34) is designed to show you all the rooms that you have in your system. You can see how many rooms you have, what is the current temperature of the room, what is the target temperature of the room, what is the action of heating (cooling, heating, maintaining). You can assign scenarios from this menu to different rooms.

14.1 Create Room

In order to create a room (how to video: iOS, Android), open the ‘room’ menu in your app by clicking on ‘rooms’ button in the bottom left corner (Image №12). Click on the ‘pencil’ to activate edit mode in iOS. Click on the ‘add room’ button to add a new room (Image №34). You have a possibility to name every room. In order to do that, click on the ‘pencil’ to activate edit mode in iOS or click on the ‘edit’ button in Android. Click on the room you would like to rename. Enter the desired name for the room (Image №34).

14.2 Move Thermostat to Another Room

In order to move eCozy Thermostat to another room (how to video: iOS, Android), open menu in your app by clicking on ‘triple line’ button in top left corner (Image №12). Open ‘eCozy Devices’ menu. Click on the eCozy thermostat you would like to add to the room. When you open a specific eCozy thermostat, there will be a possibility to choose a room to which you want that thermostat to be placed. Simply click on the desired room from the list.

14.3 Delete Room

In order to delete a room from the system (how to video: iOS, Android), open the ‘room’ menu in your app by clicking on ‘rooms’ button in bottom left corner (Image №12). Choose the room which you would like to delete and swipe its name to the left until the «delete» button appears in iOS or click and hold its name until the “delete” button appears in Android (Image №37). Click on «delete» button and confirm or cancel your decision.

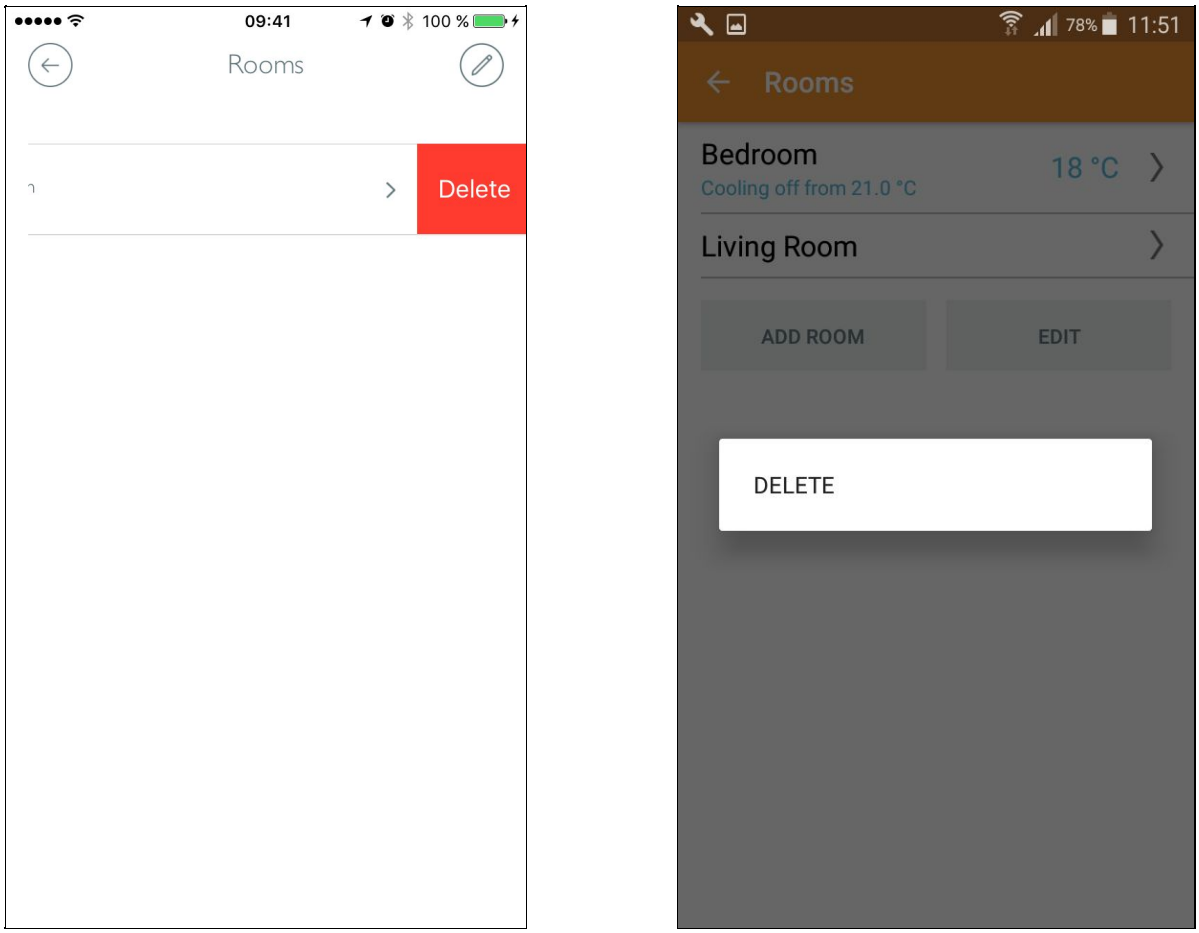


Image №37

15. Disconnection of eCozy Devices from the System

15.1 Dismantling of the Radiator Thermostat from the Radiator Valve

When removing the RT from the radiator valve, RT actuator should be in the most retracted position. Otherwise, the RT may be irreparably damaged.

15.1.1 With a disconnection from the ZigBee Network

It is used for removal of RT from the radiator for a long time (repairing, using in another room / apartment or with another CU). Use the function / service “Delete RT” in the smartphone (how to video: iOS, Android) application (Image №38). A green key will briefly appear on the RT display and then a red antenna will flash (see

Table №1). This means that RT actuator is in the maximum retracted position and RT is disconnected from the ZigBee network. RT can be removed from the valve of the radiator.

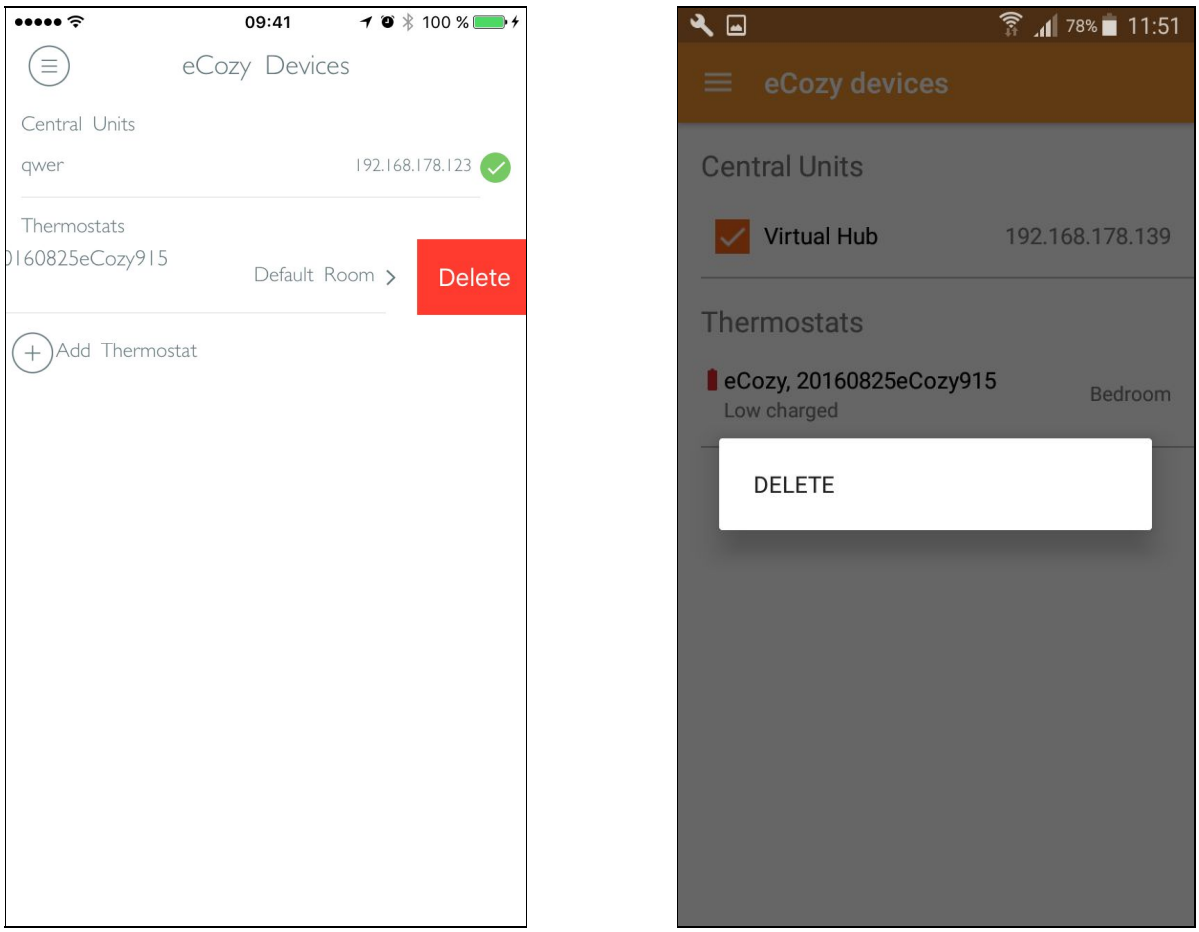


Image №38

15.1.2 Emergency disconnection from the ZigBee Network and Dismantling from the Radiator Valve

It is used in the absence of ZigBee network. CU is not working or there is not enough power. Press and hold Touch up and Touch down. On the display screen, a yellow key (see Table №1) will appear as a warning that you are about to initialize emergency dismantle from the radiator valve. After that a green key and a red antenna will appear in sequence for a short time (see Table №1). RT can be removed from the radiator.

15.2 Disconnection of the Temperature Sensor from the System

15.2.1 With a disconnection from the ZigBee Network

It is used for removal of TS from the system for a long time (repairing, using in another room / apartment or with another CU). Use the function / service “Delete TS” in the smartphone (how to video: iOS, Android) application. There will be a confirmation message on the screen of the smartphone that TS was removed from the system. TS is removed from the system.

15.2.2 Without a disconnection from the ZigBee Network

It is used to move TS to another room. Open eCozy menu in your app by clicking on ‘triple line’ button in the top left corner (Image №12). Open ‘eCozy Devices’ menu. Click on the TS you would like to add to the room. When you open a specific TS, there will be a possibility to choose a room to which you want that TS to be placed. Simply click on the desired room.

15.3 Disconnection of the Central Unit from the System

If a transfer of the entire system to another room / home / office is necessary, first remove all RT’s and disconnect them from the ZigBee network, after that, disconnect TS’s from the system. Through-hole concealed button is located on the front panel of the CU, which is used to transfer CU into initialization mode. The button can be pressed with any size suitable pin (paperclip, toothpick). Press the button until logo on the top panel will turn off and lightning panel on the bottom will illuminate in white. Wait until logo on top blinks in white. Remove power supply from the CU.

16. Factory Settings and Autonomous Functions of the System

These are not adjustable and not changeable by the user functions / settings that are already installed by system developers.

- T° set point when first turned on (by default) - 20°C.
- The value of the freezing threshold - 8°C (frost protection function).
- Maximum heating value of the T° - 30°C.

At the current t° = <+8°C, the thermostat automatically switches to heating mode with the target t° = 18°C.

The user can not set T° > 30°C on RT

Function / mode "open-window" - activated at temperature drop of approx. 0.5°C, over 3 minutes. The system interprets this as an open window; closes the valve on the radiator. Indication of mode start - short flashes of little blue window (see Table №1). The mode stops automatically after 30 minutes. To interrupt the mode, shortly press on Touch down, the indicator will flash a green window (see Table №1), which warns about the end of the «open-window» mode. After the automatic exit or interruption of the mode the RT will return to the settings that were prior the entering the mode.

17. Information about Wireless Connection

Radio transmission is performed on a non-exclusive transmission path, which means that there is a possibility of interference occurring. Interference can also be caused by switching operations, electrical motors or defective electrical devices. The range of transmission within buildings can differ greatly from that available in the open air. Besides the transmitting power and the reception characteristics of the receiver, environmental factors such as humidity in the vicinity have an important role to play, as do on-site structural / screening conditions. Company "eCozy GmbH" hereby declares that this device complies with the essential requirements and other relevant regulations of "Directive 1999/5/EC".

18. Technical Data About eCozy Devices

18.1 eCozy System

Hardware:

- «eCozy» Central Unit
- ZigBee-powered Radiator Thermostat - at least one RT is needed
- ZigBee-powered Thermosensor - TS is optional good
- Server (collection, storage and processing of the data)

Software:

- eCozy app (iOS & Android)
- Linux modification configuration on MICRO SD CARD for the CU
- Firmware - ATmega256rfr2 TI msp for CU, RT and TS

Radio channels:

- ZigBee 2,4 GHz
- WLAN 2,4 GHz

Radio protocols:

- ZigBee Home Automation Public Application Profile - Version 1.2

The basis of the thermal control system is a mathematical model for systems with the observer, which implements adaptive logic of the thermal control system. The functional logic of the type (class, group) devices “Thermostat” is determined by the choice of developers respective clusters of attributes and commands of the ZigBee standard.

18.2 eCozy Central Unit

Power Supply	adapter: Input 220/240V; AC, 0,3A, 50/60Hz. Output 12VDC; 1,0A.
Consumption in Standby Mode: ● Without LED Backlighting ● With LED Backlight	 Max - 0.75W Max - 2.25W
The Frequency of the Upper Level Signal	2,4GHz WLAN
The Frequency of the Lower Level Signal	2,4 GHz ZigBee
Radio Signal Power	<3,5dBm
Transmission Distance	Up to 150m
Amount of Supported ZigBee end Device	Up to 16 devices
IP Class	IP20
Operating Temperature Range	0° - +50°C
Dimensions	125x125x20mm
Recommendations for Use	Residential, office space (pollution degree 2).

18.3 eCozy Radiator Thermostat

Type	Programmable, electronic, radiator thermostat for use with water heating radiator valves
Prerequisites	Only in conjunction with a gateway
Power Supply	3V
Power Source	Alkaline batteries, 4 x 1.5V; AA, Class III
Battery Duration	Up to 2 years (depending on transmission intervals)
Radio Protocol	ZigBee 2,4GHz
The Transmission Range	Up to 150m
Type of Valve Actuator	Electromechanical Actuator (stepper motor)
The Speed of Movement of the Actuator	1mm / s
Maximum Movement Speed	3,5mm
Display	Color OLED display without backlighting
Number of Control Channels	1
Number of measurement channels	1
Temperature Setting Range	+8°C - +30°C
Temperature Measurement Accuracy	±1°C
Temperature Setting Step	1°C
Accuracy of the Temperature Maintenance	±1°C
Connection	M30x1.5 (standard); Danfoss RA, RAV, RAVL (with adaptor)
Operating Temperature Range	0° - +60°C
Dimensions	100x74x74mm
Recommendations for Use	Residential, office space (pollution degree 2).
Class IP	20

18.4 Temperature Sensor

Prerequisites	Only in conjunction with a gateway
Power source	CR2032 3V 210mAh Flat Lithium Battery
Battery Duration	Up to 2 years (depending on transmission intervals)
Network Technology	ZigBee 2,4GHz
Transmission Frequency	2,4GHz
Transmission Power	3.5dBm
Transmission Range	Up to 150m
Measurement Accuracy	±0.5°C
Operating Range	0° - +60°C
Temperature Measurement Accuracy	±0,5°C
Material	IP20 Flame Retardant Polycarbonate
Dimensions	70x45x18mm
Recommendations for use	Residential, office space (pollution degree 2).

19. Utilization

CU, RT, WTS must be disposed as electronic waste.

20. Troubleshooting

- General
- eCozy Smart Thermostat
- eCozy Central Unit
- eCozy Application
- eCozy Support