

Alpha IP

Planning Manual



Heating. Security. Light control.

Instruction manual and planning help for installing
the Alpha IP Smart Home System

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1 Smart Home System: Alpha IP

1.1 Introduction

A house or an apartment that is equipped with an intelligent system is called a Smart Home. This system allows for the automation, control, and monitoring of repeating functional processes and applications. Modern Smart Home solutions allow for remote access, for example via smartphone or tablet, and cover a number of application areas - from room atmosphere and access control to security and alarm functions up to light control or even weather, time, or climate based control of the functions.

This planning manual instructs installers as well as end users about technology, planning, launch, and functionality of the Alpha IP System. It contains basic information about home automation and wireless technology, which is helpful advice for planning and optimal operation of the Alpha IP System.

With the Homematic IP Wireless Standard with IPv6, Alpha IP brings the new generation of Internet protocols to all devices and delivers a solution for the Internet of Things (IoT) that is based on the same standards like the Internet itself.

From the beginning, Alpha IP was designed as a modular system. Thus, components like door and window contacts have several functions (e. g. as alarm sensor as well as window detector to lower the heat when the windows are open) and therefore they offer a significant additional value.

The Alpha IP components can be removed at any time and can easily be reinstalled when moving to a new apartment. The Alpha IP Smart Home System is individually fitted to the apartment environment and it meets the personal needs of the user.

A central concern when designing Alpha IP was its user friendliness and easy operation. The individual components can be controlled via a smartphone App. It is easy to put Alpha IP devices into operation and configure them by using the intuitive and free app for Android and Apple smartphones.

The highlights of the Alpha IP System:

- It is very reliable and robust,
- simple to operate and easy to install,
- sustainable and optimally equipped for the Internet of Things thanks to IPv6,
- has a large range between 150 and 600 meters (depending on the device),
- uses the radio frequencies of 868.3 MHz or 869.525 MHz and therefore it does not interfere with wireless networks, Bluetooth technology, and video streaming systems,
- has great flexibility for upgrades and expansion possibilities,
- does not collect personal data and therefore protects the user's privacy well,
- complies with the highest security requirements thanks to AES encryption,
- with the server being in Germany, it is run according to strict German privacy laws, and
- makes it easy to integrate many devices into the system.

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1.2 Functionality of the Smart Home System: Alpha IP

Basically, the Alpha IP System is comprised of the following components:

- Alpha IP Access Point
- Alpha IP Cloud
- Alpha IP Smartphone App and
- the individual components of the Smart Home solution.

The Alpha IP Access Point combined with the router is the interface that connects the Alpha IP components to the Internet. The Alpha IP Cloud takes over the communication between the Alpha IP smartphone App and the Access Point as well as storing and managing the data. This includes the following information: Which devices are taught-in, which devices belong to a room group, details about the configuration.

All data saved in the Alpha IP Cloud are completely anonymous, meaning they do not contain any information about the identity of the user or the individual user behavior. The server for the Alpha IP Service is located in Germany and is operated according to the strict German privacy laws.

The Alpha IP Smartphone App allows, in connection with the Cloud and the Access Point, the launch, parameterization and control of the Smart Home System. With the help of the scan function within the app, individual Alpha IP components are integrated into the System by scanning the QR code of the devices.

In order for the system to continue operation without errors, even during an Internet outage, all necessary connections among the devices are detected and shortly thereafter they are automatically created by the Alpha IP Cloud service. The main operation is secured by direct connections between the devices even during an Internet outage.



The entire communication between Access Point, Cloud, and App, is encrypted. You do not have to enter private information, like names, e-mail addresses, or mobile phone numbers either during or after the installation. The installation is completely anonymous.

2 Planning the system

2.1 Areas of application

The Alpha IP System is suitable for living spaces and office environments. A single family home under construction or one that has been built already, as well as owned or rented apartments, can easily be equipped with the Alpha IP System. If the property is rented, the installed components can easily be uninstalled when moving and they can be reinstalled into the new property.

Based on individual needs, the Alpha IP System can be extended gradually. Therefore it is possible to limit the Smart Home solution to the heating control (room climate) or the security for certain areas/rooms in the living space or building at first. Each user can define for themselves the amount of Smart Home that they need.

2.2 System

The following will show how the Alpha IP System works based on the Alpha IP's window contact. An exemplary room is equipped with an Alpha IP window contact, two radiator thermostats, and a smoke detector with alarm function. The window in the room is moved to the tilted, open position. The Alpha IP window contact then sends a signal to the Alpha IP System that the window has been opened. This "open"-signal can be relevant to the Smart Home solution "heating control" (room climate) as well as to the Smart Home solution "security", or to both Smart Home solutions at once.

In the case of heating control...

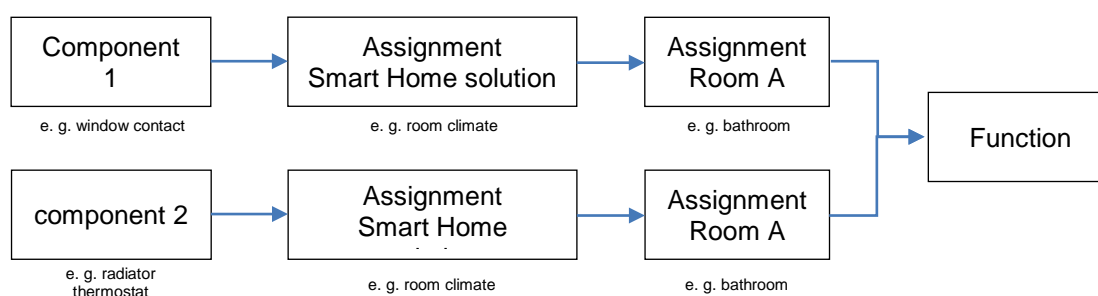
...the system lowers the temperature in the room because of the opened window to minimize energy losses. Because of this event, all Alpha IP radiator thermostats in the room are lowered to the pre-defined temperature setting. As soon as the window is closed, the radiator thermostats are raised back to the original temperature.

In the case of security...

...a message about the opened window is displayed on the smartphone and the siren of the Alpha IP smoke detector is triggered if the alarm function has been turned on before.

This means that Alpha IP components have to be assigned to a room as well as a Smart Home solution to trigger the desired function. The logical connection of two components is only available if it is pre-defined by the manufacturer in the Alpha IP System.

There is an overview of the products and their functions in section 11 "Overview of Device Functions".



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2.3 Basic design

Initially, the desired function per room should be planned for. The following steps are the suggested approach.

- 1 Planning of the rooms that are supposed to be equipped
- 2 Planning the desired function(s) (Smart Home solutions) in the rooms
- 3 Planning the components for realizing the functions
- 4 Planning the amount of components

Room	Smart Home solution	components		Amount No.					
		No.	Name: Alpha IP...	1	2	3	4	5	6
House	General	1	Access Point	1				4	
Living room 1	Security 2	2	Window/door contact		3				
		3	Smoke detector 3			1			
	Room climate	2	Window/door contact		x				
		4	Radiator thermostat				3		
		5	Room control unit display					1	
Light							
Bathroom	Security	2	Window/door contact		1				
		3	Smoke detector			1			
	Room climate	2	Window/door contact		x				
		4	Radiator thermostat				1		
		6	Pluggable switch						1
Light							
			Σ Amounts	1	4	1	4	1	1
				Access Point	Window contacts	Smoke detector	Radiator thermostat	Room control units	Pluggable switches
			No.	1	2	3	4	5	6

The “x” shows that a component is already provided by a Smart Home solution. This ensures that it is not ordered twice. Which Smart Home solutions provide which components can be seen in the “Overview of Device Functions” in section 10.

2.4 Perspective

The Alpha IP System has been in the market since February 2015. The product program as well as the range of functions have been continuously extended since then. The following Smart Home solutions are currently supported.

- Heating control (room climate)
 - Radiators
 - Floor heating
 - Electric heating
- Security and monitoring
- Light and shade
- Consumption measurement

Planned for the future

- Shading
- ...

3 Installation of the Smart Home System

Alpha IP is an Internet based Smart Home System and it needs an Internet connection with a normal router. The Alpha IP Access Point will be connected to an open network connection on the router with a network cable.

The configuration and operation of the Alpha IP System is performed via iPhone or Android smartphone. The Alpha IP App is compatible to iPhones with iOS 8.0 or higher, as well as to Android smartphones with version 4.1 or higher, and it is free to download for Android and iOS.

Smartphone and router do not have to be operated with the same wireless network. Of course, the smartphone may use the data network of the phone provider for the installation.

3.1 The Alpha IP App

The Smart Home solution is set up with the Alpha IP Smartphone App. The App guides you through the entire process of setting up step by step. All necessary connections among the devices are created automatically.

After installation, the App becomes the main operating panel with which the entire Alpha IP System can be controlled and configured. The App always displays the current status of the installed devices or sends push messages for certain system statuses.

The App for Alpha IP is free and can be downloaded in the Google Play Store (for Android smartphones) or in the App Store (for iPhones and iPads).



Direct link to the App in the Google Play Store and the iTunes Store.



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The screenshots marked with this symbol demonstrate the launch of the Alpha IP System via smartphone app for Android.



The screenshots marked with this symbol demonstrate the launch of the Alpha IP System via smartphone app for iOS.

3.2 Installing the Access Point

- Open the Alpha IP App on the smartphone. An assistant in the app guides you through the installation.
- Confirm the general terms and conditions with the “agree” button (Android) or the “accept” button (iOS).
- The menu item “set up Access Point” opens.
- Set up the power supply with the supplied power supply plug.

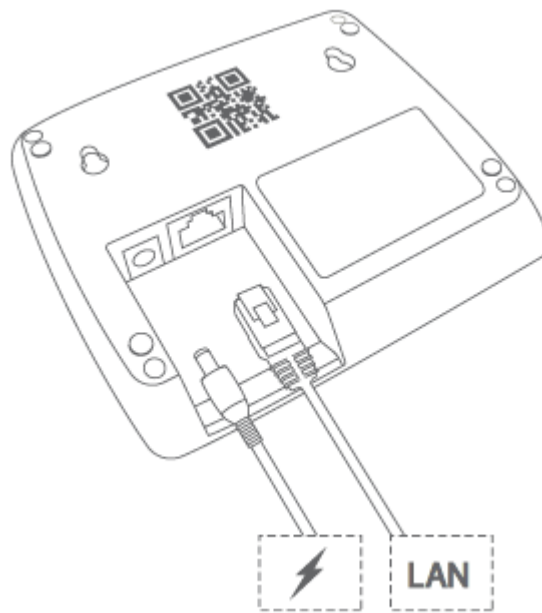


Figure of attaching the Alpha IP Access Point

As soon as the power supply is set, the Access Point connects to the server. During the installation, different flashing sequences of the device's LED show the current status of the Access Point. With an active Internet connection, the flashing sequence is normally the following:

- Orange light: The Access Point starts up.
- Fast yellow flashing: The Internet connection has been established.
- Fast blue flashing: The connection to the Alpha IP server has been established.
- Permanent blue light: The connection to the server has successfully been established.

After connecting to the server, the Access Point is registered.

- In the app, tap the “Scan” button and scan the QR code on the back of the Access Point. The QR code must be centered in the frame of the integrated QR scanner in the app. If required, the camera must be accessible for the app.

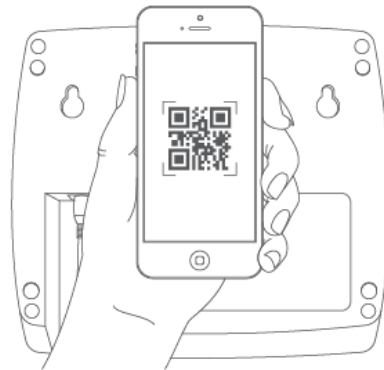


Figure of scanning the QR code

- After successfully scanning the QR code, the app displays the confirmation “QR code recognized”.



Alternatively, the individual device number (SGTIN) of the Access Point can be manually entered in the app. This number is placed below the QR code on the device. Tap the “enter” button and enter the SGTIN manually. After entering the numbers the input has to be confirmed with “✓”.

- Tap “yes” if the Access Point's device LED is permanently blue.



If this is not the case, tap “no” and follow the instructions in the app.

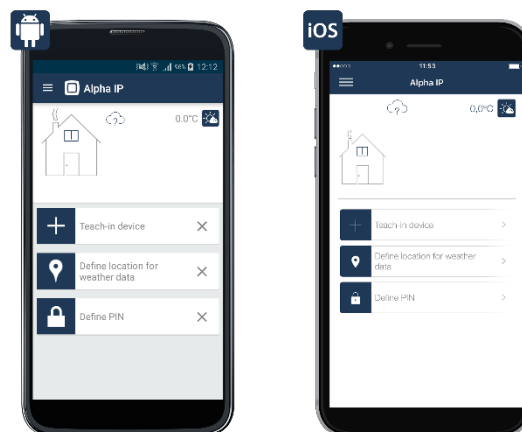
The Access Point is now registered with the server.

- Push the system button of the Access Point to confirm. After successful registration, the Access Point is set up and immediately ready to use.

By selecting the “Done” option, the home screen of the app opens.

After registering the Access Point, the set up screen offers three options:

- Teach-in devices (see section 3.4)
- Define location for weather data
- Allocate PIN number



Screen shot of the set up screen

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3.3 Alpha IP System Button

All Alpha IP devices have a system button with the following symbol.



System button

It allows for performing the system functions, like restoring the factory settings (reset) or restarting the teach-in procedure. For single channel actuators like the Alpha IP Pluggable Switch, the system button can change the switching status (on/off) on the device.

The device LED serves as a status indicator or for displaying system statuses with different flashing codes, for example when a new target temperature has been sent successfully.

Teach-in:

After inserting the batteries, the teach-in mode of the Alpha IP device is automatically started. The device LED flashes in orange every 10 seconds until a teach-in partner is found or until the teach-in period of 3 minutes is over. The teach-in mode can be started over by a short push of the system button.

Normal operation:

During normal operations, sending a command to most devices (e. g. the wall switch) is indicated by an flashing orange signal. If the command is received successfully by the receiver, it is indicated by a short, green flash of the device LED. If this process fails, it is indicated by a short, red flash of the device LED.

Battery status:

It will be indicated early enough, if the battery charge of an Alpha IP device is running low. In this case, the device LED flashes in orange after successfully or unsuccessfully sending a radio command.

Flashing codes

An overview of the common flashing patterns of all Alpha IP devices can be found under "Smart Home solution: Light

The comfortable switching and dimming of light creates a comfortable atmosphere in your home. The ceiling light can be turned off with the app for your movie night and the standing light can be dimmed to the desired illumination so that the right atmosphere is created. The secure feeling is improved by lighting the driveway or the facade of the house at night. Alpha IP products for lighting control can be integrated easily into the existing living environment by using the existing frames and switches of many brand name switches. Devices for shutter and canopy control will soon be available for the Alpha IP System.

Can the devices be integrated into existing installations?

Adding switching and dimming actuators at a later time is easy and flexible with Alpha IP with the help of different components like pluggable switches and flush-mounted devices. The usage of the switching and dimming actuators for brand name switches is particularly comfortable (BDT 24001-N0 and BSM 24001-N0). Switching the switches of common producers for an intelligent Alpha IP Installation is possible with adapters for different switches. By using the parts of the existing or provided for switches and cables, the installation effort is reduced to a minimum. The design, color, and surface of the switches already installed do not change because existing frames and switches can still be used.

Alpha IP Switching Actuators are suitable for inside and outside areas. The Alpha IP Switching/Measuring Actuators (FSM 26001-N0) will be mounted in suitable surface boxes (e. g. Abox 025 or Abox 040).

Which lights can be dimmed by the Alpha IP Dimming Actuator for Brand Name Switches?

The dimming actuator allows for the dimming of standard light bulbs, high voltage halogen lights, low voltage halogen lights with electronic transformer, dimmable energy saving lights, and dimmable LED lights.

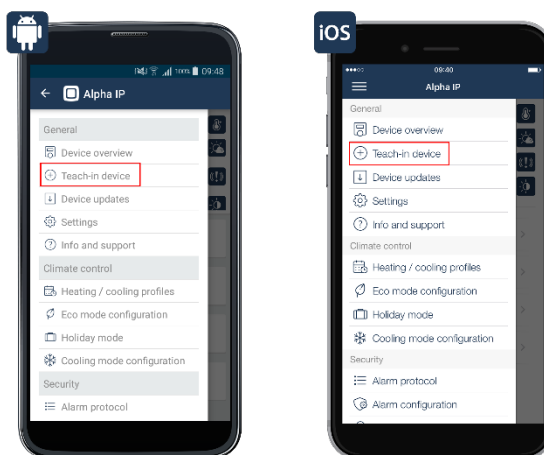
3.4 Teach-in devices

To integrate further Alpha IP devices into the Smart Home solution, they must be registered with the Access Point and therefore with the server. Only after this registration, a process which is called “teaching-in”, all devices appear in the app, where they can be set up and configured.

There is no fixed order in which the individual devices have to be taught-in. It is however recommended to teach-in and to install the devices room by room. The configuration should take place when all devices are taught-in.

The teaching-in process is identical for all Alpha IP devices:

- Tap the main menu symbol “☰” (top left) and select “Teach-in device”.



- The app displays a request to activate the device, which is supposed to be taught-in, meaning to be supplied with power. For battery-powered devices, the batteries have to be inserted or the insulating strip has to be removed. Other electrically powered devices must be plugged into an electrical outlet.

As soon as the respective device is supplied with power, it appears in the app.

- Follow the instructions of the assistant in the app. All devices of the Alpha IP System are registered with the server by scanning the QR code or by entering the last four digits of the device number (SGTIN).



The QR code and the SGTIN are printed on the supplied stickers of the devices and for the Access Point they are on the bottom of the device. For battery-powered devices, the SGTIN can also be found in the battery compartment. Please keep the sticker in a safe place.

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If one or more digits are entered incorrectly, the last block of digits of the SGTIN appears red. The entry can be corrected by deleting the digits.

- Confirm entry with (Android) or (iOS).
- In the next step, the taught-in device is assigned to the desired application.



Devices that are designed for a specific application (e. g. the Alpha IP Radiator Thermostat) are automatically assigned to their application area. In this case, the inquiry is skipped. For devices that have several different applications, for example the Alpha IP window and door contact, an application must be selected for the device in the next step.

- First, the device must be assigned to a room. For this, an existing room can be chosen or new room can be created. To create a new room, tap “New room” (Android) or tap “Create new room” (iOS).
- Now, a name can be assigned to the device. It is possible to add to the device name that is automatically assigned by the system or to add a new name.



The names for devices and rooms should be chosen in a way that allows for unambiguous and unquestionable recognition at a later time. It is possible to rename the devices and rooms within the app at a later time.

- Tap “Done” (Android) or “OK” (iOS) and then tap “Next”. The data entered will be sent to the server and saved there.
- Tap “Next”.

When teaching-in the following devices, the app suggests all existing rooms. Either choose one of these rooms or enter the name of a new room. For this purpose, tap “New room”.

The newly taught-in device automatically appears in the device overview in the app under the respective room.

For detailed information on configuring the system, see section 0 “Settings in the main menu”.

3.5 Define location for weather data

- Tap “Define location for weather data”. Enter the name of the city or the zip code into the search field.
- Choose a city from the drop-down list and confirm by tapping “Done”.

3.6 Define PIN number

- Enter a combination of at least 4 digits into the field “New pin” and confirm by tapping “Done”. The pin is a security function, which ensures that only authorized persons teach-in a smartphone to or remove it from the Access Point.

4 Overview of Home Screen



- (A) Main menu (see section 0)
- (B) Automatic or ECO mode
- (C) Location and weather information
- (D) Alarm mode (disarmed, envelope protection, full protection)
- (E) Switching groups
- (F) Room overview (scrollable)
- (G) Room name
- (H) Active heating profile
- (I) Current target temperature
- (J) Symbols (e. g. radio communication, opened window, empty battery)

Settings in the main menu

The basic configuration of the Alpha IP System is performed in the main menu. By tapping, the symbol for the main menu "☰" (top left) is displayed. The main menu offers the following options:

- General
 - Device overview (see section 4.1)
 - Teach-in device (see section 4.2)
 - Device updates (see section 4.3)
 - Settings (see section 4.4)
 - Information and help (see section 4.5)
- Room climate
 - Heating profiles (see section 6.5.3)
 - Configurations for ECO mode (see section 6.5.4)
 - Vacation mode (see section 6.5.6)
 - Configurations for cooling mode (see section 6.5.3)
- Security
 - Alarm protocol (see section 7.3.7)
 - Alarm configuration (see section 7.3.8)
 - Lighting groups (see section 7.3.9)
 - Envelope protection (see section 7.3.4)
- Light and shade
 - Switching groups (see section 8.2.1)

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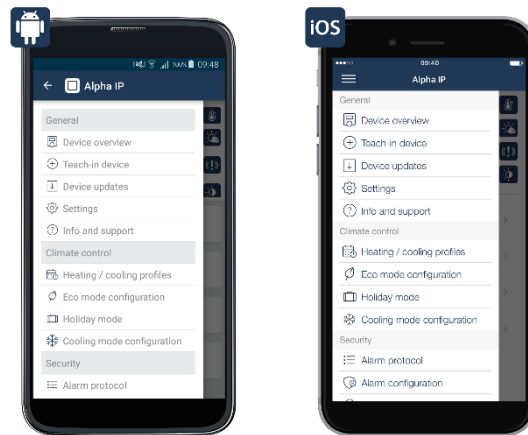


Figure of main menu



Please note: Only menu items for which devices are available, are displayed. If no devices from the security solution are used, the menu item “Security” is not displayed.

4.1 Menu item: Device overview

The device overview of the app serves the management of the Alpha IP devices.

- By tapping the symbol for the main menu “☰” (top left) and by then selecting it, the “Device overview” is opened.

In this menu, all taught-in devices are sorted and clearly displayed by room. (Devices, which are taught-in but not assigned to a room appear at the top of the device overview in the section “Not assigned”.)

All rooms and their assigned devices are displayed in alphabetical order. By default, all devices are listed. After tapping “All” (Android) or “Filter” (iOS), it is possible to filter devices based on individual rooms.

After tapping the device name, the individual devices can be configured. These configuration options are different for each device. If necessary, the assignment can be changed here, or e. g. the operation lock can be activated or deactivated.



Devices with activated lock can only be operated in the app, not on the device itself.

For radiator thermostats, a temperature offset can be set to even out temperature deviations. For window contacts, an individual signaling delay between 0 and 60 seconds can be set.



A signaling delay can make sense if a window is only opened for a short time so that the heat remains on.

The device overview offers additional information, like the home screen of the app. For example it is displayed which solution or solutions the individual device is assigned to, or whether a window or a door is opened in rooms with installed window and door contacts. In rooms with a wall thermostat, the current room temperature and humidity are visibly displayed.

4.1.1 Range extension

In case of unfavourable constructional structures it may occur that the radio connection quality between your Alpha IP Access Point and the Alpha IP device becomes insufficient. The use of an Alpha IP Pluggable Switch or an Alpha IP Pluggable Switch and Meter allows to forward the radio signal of the corresponding device via the app. Proceed as follows:

- Tap on the main menu symbol and select “Device overview”.
- In the device overview, select an installed Alpha IP Pluggable Switch or an Alpha IP Pluggable Switch and Meter.
- Tap on “Range extension”.



Screenshot: Device settings Pluggable Switch/Pluggable Switch and Meter

- Tap on “Activate” in the next window. The range extension will be activated after tapping on “Ready”.



Only activate “Range extension” if you really need it in order to avoid unnecessary routing paths and superfluous radio traffic. Range extension can be deactivated in the app at any time.






4.1.2 Symbol overview

Certain information about the symbols are shown in the device overview and some of it on the home screen.

Symbol	Meaning
	ECO mode
	Battery empty
	Window open
	Light on
	Movement detected

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	Sabotage notification
	Vacation mode
	Radio interference
	A time profile is allocated to the device.
	Smoke alarm

4.1.3 Delete or rename device

All devices listed in the device overview can be renamed or deleted in the device overview.

Renaming devices

Android


- Renaming is activated by a long tap (holding) on the device.
- Tap the pen symbol () in the menu bar.
- Assign a new name.
- The new name is saved by tapping “Confirm”.

iOS

- Select the device that is supposed to be renamed by swiping right to left.
- Tap “Rename”.
- Assign a new name.
- The new name is saved by tapping “Confirm”.

Delete device

Android

- Select the device that is supposed to be deleted by a long tap (holding) on the device.
- Tap the trash bin symbol () in the menu bar.
- Confirm by tapping “Delete”.

iOS

- Select the device that is supposed to be deleted by swiping right to left.
- Confirm by tapping “Delete”.



If a device was deleted, it must be reset to its factory settings before it can be taught-in again and used further. Further information can be found in the manuals of the respective devices.

4.2 Menu item: Teach-in device

Please follow the steps in section 3.4 “Teach-in devices”.

4.3 Menu item: Device Updates

In order for the Alpha IP devices to remain up-to-date, Alpha IP offers the possibility of updating the device software (firmware) of the components. The device software controls all functions of the Alpha IP devices.

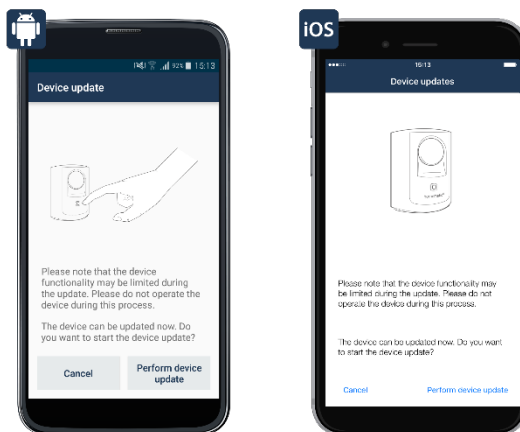
The OTAU procedure (Over The Air Update) is a particularly comfortable method of updating individual components, for example radiator thermostats, with new firmware via wireless connection.

If the device software of the Alpha IP components is supposed to be updated, there are two options available in the main menu under “Settings” > “General settings” > “Device update mode”:

4.3.1 Install updates manually

If an update of the device software is available for one or more devices, the respective devices are listed in the main menu under menu item “Device updates”. The process of updating can be started manually. This mode is preset for a better transparency of the processes. For some Alpha IP devices (e. g. smoke detectors), automatic updating is not available for safety reasons.

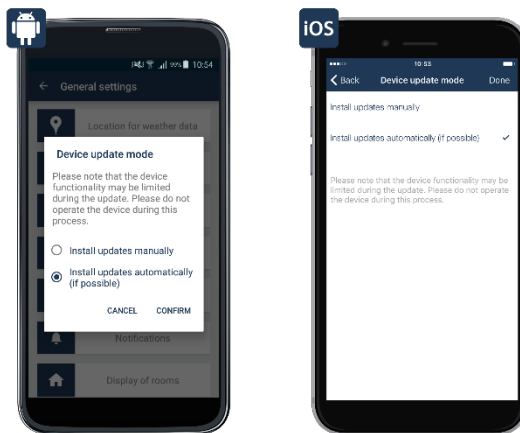
- Select the device the software (firmware) of which must be updated, in the menu item “Device updates”. A check is run whether the device update can be done by tapping the corresponding field.
- Lastly, tap the button “Perform update”.



Perform device update

4.3.2 Install updates automatically

If the option “Install updates automatically” is selected, the updating of the device software is performed in the background.



Screenshot of installing updates automatically

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A list of devices with the corresponding serial numbers and firmware versions is available in the Alpha IP Cloud. If there is new device software available for one or more Alpha IP components, the Alpha IP Cloud sends this information to the Alpha IP Access Point. It transfers the new firmware file into the memory of the device, for which the update is available.

As soon as the new firmware file is completely transferred, it is installed automatically. No confirmation is needed via the Alpha IP App.

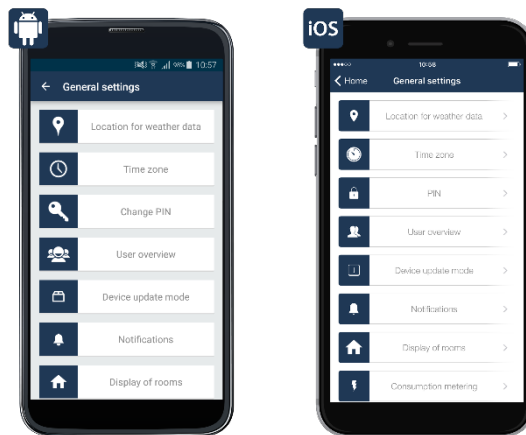


Please note! The option “Install updates automatically” is not available for all Alpha IP devices. For safety reasons, updates for devices like the Alpha IP window and door contacts must be installed manually.

4.4 Menu item: Settings

It is possible to set general settings for the operation of the system under the menu item “Settings”.

- Changing the location for weather data
- Changing the time zone
- Assigning or changing the PIN for adding / deleting smartphones to / from the system
- Viewing the user overview of the system
- Selecting the device update mode
- Selecting the push notifications on authorized smartphones
- Selecting the rooms and their order for the standard view of the home screen
- Settings for the consumption measurement



General settings

4.5 Information and help

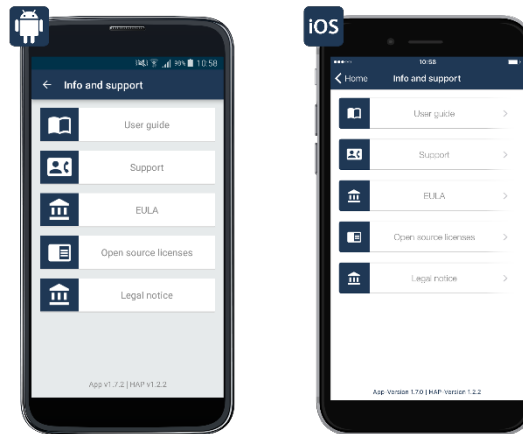
In this menu, further information regarding the Alpha IP is available as well as the support hotline for customer-specific support.

- Tap the main menu symbol “☰” (top left).
- Select “Information and help”

The following menu items are available:

- User manual
- Support
- EULA
- Open Source licenses
- Legal information
- Exchanging the Access Point (open by tapping the HAP version 5x)

At the bottom edge of the screen “Information and help”, there is information about the currently installed app version as well as the about the version of the Access Point.



Screenshot of Information and help

4.5.1 Planning manual

Access to the most current version of the Alpha IP planning manual.

4.5.2 Support

If you need further help, you can find the current phone number of the Homematic IP support hotline in this menu item. The app generates a six-digit support token when opening the support menu. With the help of these codes, it is possible for the support staff to access completely anonymized information about the condition of your Homematic IP system and it is possible to specifically and systematically support you.

4.5.3 EULA

The license terms, rights, and obligations that have to be agreed upon when installing the app can be accessed in the menu item EULA (End User License Agreement).

4.5.4 Open Source Licenses

This menu item informs about the Open Source Software that was used in the Alpha IP Smartphone App as well as the corresponding license terms and usage rights.

4.5.5 Legal information

Note that the weather data of the Alpha IP Smartphone App is provided by an application interface (API) of the on-line service Open Weather Map. Additionally, on Android devices, a note about using Google Maps appears.

4.5.6 Exchanging the Access Points

Should this become necessary, an exchange of the Alpha IP Access Point is possible without any problems. The Access Point takes over all data of the current setup. The current Access Point is disabled.



Please note! The new Access Point must be set to the factory settings. Instructions for restoring the factory settings can be found in the manual of the Access Point.

- Disconnect the Access Point from the power supply.

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- Tap the main menu symbol “☰” (top left) in the home screen and select “Information and help” in the main menu.
- Quickly tap the version line displayed in blue at the bottom edge five times in the “Information and help” menu.
- Afterwards, tap “Next” and follow the instructions in the app step-by-step.

After completing the exchange process, the Access Point is set up and immediately ready to use.

5 Overview of Room Screen

After selecting the room, the room screen view is displayed with the components installed in each Smart Home solution. The default view is the view of the heating control (room climate). If no heating control components are installed in the room, the “Light and shade” screen or the “Security” screen are displayed.

The following is an example of the room screen of the heating control.

5.1 Room screen for heating control



Room screen

- (A) Home screen (see section 4)
- (B) Set up room control units (see e. g. section about radiator 6.2.7)
 - Configuration
 - Consumption measurement
 - Rename room
 - Delete room
 - Standard view
- (C) Current heating profile
- (D) Desired room temperature
- (E) Setting room temperature
- (F) Navigation of room control (see section 5.2)
- (G) Current room temperature and humidity
- (H) Device overview

5.2 Navigation of room control

The operation of other devices in the selected room can be accessed by the circular section on the right side of the screen, provided that other devices from the Smart Home solutions were installed, like security or light and shade.

Devices like a standing lamp that are connected to an Alpha IP Pluggable Switch or Pluggable Switch and Meter can be comfortably switched via the Alpha IP Smartphone App, no matter if you're at home or away.

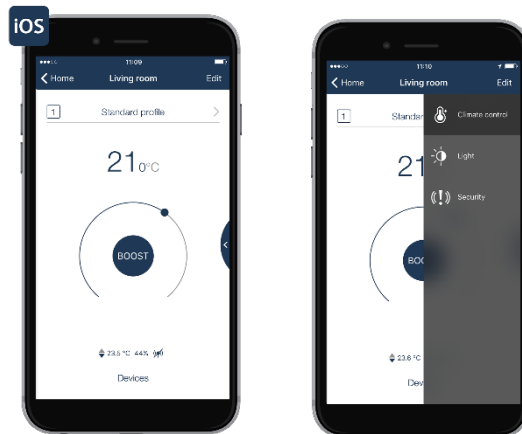
- Select the room in which the device/the devices are located that you want to switch on or off in the home screen of the app.
- Drag the circular section on the right side of the screen to the left and tap “Light and shade”.

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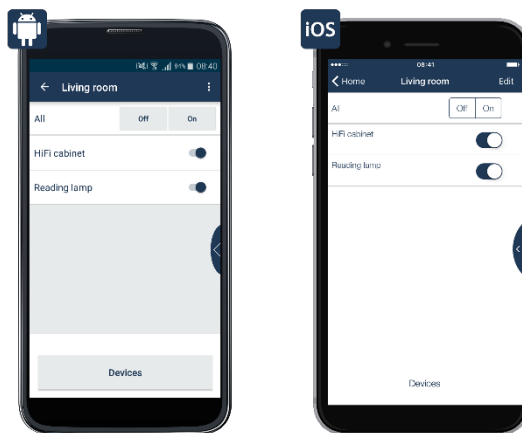


Screenshot of Android selection “Light and shade”



Screenshot of iOS selection “Light and shade”

- The listed devices can be switched on or off with the displayed buttons - either all devices or each device individually.



Screenshot of light control on/off

After the devices are switched, you can return to the room climate menu of the respective room by dragging the circular section to the left again by tapping “Room climate”.

6 Smart Home solution: Heating



6.1 Notes on planning

In the following sections there are important notes for the professional planning of different heating systems. The following heating systems are individually discussed:

- Radiators (see section 6.2)
- Floor heating (see section 6.3)
- Electric heaters (see section 6.4)

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6.2 Heating systems with radiators

The Alpha IP heating solution is optimized for use with this most common heating system. Hereby, only the manually operated, conventional radiator thermostats are exchanged with electronic radiator thermostats. Setting the room temperature is done timed or manually via the Alpha IP Smartphone App based on your individual needs, but it can also still be done manually on the radiator thermostat.







6.2.1 Devices for basic configuration

Product	Description	Notes on Planning
Alpha IP Access Point - HAP 21001		
	The Alpha IP Access Point connects the smartphone to the Alpha IP devices through the Alpha IP Cloud and forwards configuration and operation commands from the Alpha IP App to the Alpha IP devices.	It should be placed as centrally as possible in the building to ensure an optimal wireless connection to the devices. The installation is performed through the integrated Ethernet interface connected to a common DSL router.
Alpha IP Radiator Thermostat - eTRV 61001		
	The Alpha IP radiator thermostat for the Alpha IP room climate solution is a radiator thermostat that can simply be installed and be programmed for the individual control of radiators.	It is assembled with a <ul style="list-style-type: none"> - metal nut for radiator valves with the thread dimensions M30 x 1.5 mm - adapter for radiator type: Danfoss RA, Danfoss RAV and Danfoss RAVL


6.2.2 Extension options

The following list of devices shows optional extensions of the basic device configuration offering additional comfort and energy saving functions.

Product	Description	Notes on Planning
Alpha IP Window / Door Contact - SWDO 61001		
	<p>The Alpha IP Window/Door Contact optically recognizes open windows or doors by infrared sensor. The status of opened windows or doors is displayed in the Alpha IP App and it is sent to other components. Therefore, the valves of the connected radiator thermostats can be closed and the heating can be stopped as long as the windows are open.</p>	<p>The contacts are installed with adhesive tape or supplied screws.</p> <p>They are positioned on the side where the window/door handle is located and placed in the upper third of the window/door frame with a distance of 3 mm.</p>
Alpha IP Room Control Unit Display - RTD 61001		
	<p>The Alpha IP Room Control Unit with large display collects the temperature and humidity in the room and periodically forwards this information to the taught-in radiator thermostats. The room temperature can be controlled exactly with the help of the determined values. The target temperature can be set manually with the control wheel. The room temperature can also be timed to adjust the heating periods to your individual needs.</p>	<p>Wall thermostats should be mounted at a height of about 1.5 m and, if possible, they should not be placed on cold exterior walls or in other areas that could distort the measurements (e. g. places with direct sunlight or close to other sources of heat).</p> <p>Wall thermostats should be mounted in rooms with multiple radiators. It is also advantageous to install wall thermostats in rooms where measuring the humidity is useful, like the bathroom or the bedroom. Especially when radiators are placed disadvantageously, like in recesses, a wall thermostat has benefits because the room temperature is measured where the users stay. This is beneficial to the temperature control in the room.</p>
Alpha IP Room Control Unit Display S - WTH 61001 and Alpha IP Room Control Unit Display FBH - WTHP 61001		
	<p>The Alpha IP Room Control Unit Display S for installation within the switch program or directly on the wall, collects the temperature and humidity in the room and periodically forwards this information to the taught-in radiator thermostats. The room temperature can be controlled exactly with the help of the determined values. The target temperature can be set manually with the control wheel. The room temperature can also be timed to adjust the heating periods to your individual needs.</p>	<p>Notes on planning for the Alpha IP Room Control Unit Display; this device can be integrated into the frames of other popular switch program manufacturers (like Berker, EISO, GIRA, Merten, JUNG).</p>
Alpha IP Wall Mount Switch (2 push button) - WRC2 61001		
	<p>ECO mode can be activated or deactivated from a central location with the wall mount switch. The activation of the ECO mode is temporary or permanent across all rooms for the defined components of the heating control.</p>	<p>Ideally, a wall mount switch should be mounted in the area of the house or apartment entrance door. It is possible to set up several wall mount switches per installation, e. g. to equip the front and back entrance of a house. So all radiators can be lowered easily and simultaneously at the touch of a button.</p>

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Product	Description	Notes on Planning
Alpha IP RBG Analogue - RTA 61001		
	<p>The Room Control Unit Analogue collects the temperature in the room and periodically forwards this information to the taught-in radiator thermostats. The room temperature can be controlled exactly with the help of the determined values. The target temperature can be set manually with the control wheel.</p>	<p>The room control unit is mounted in the individual heating zone and assigned to the heating circuits in this zone. Basically, thanks to the wireless technology, it can be installed freely in the room.</p> <p>It is best to mount the room control unit at the place where the users spend most of their time. Room control units should be mounted at a height of about 1.5 m and, if possible, they should not be placed on cold exterior walls or in other areas that could distort the measurements (e. g. places with direct sunlight or close to other sources of heat). Please note remarks in the data sheet or the installation manual.</p>

6.2.3 Overview of functions

The following overview of functions shows which functions are available in combination with Alpha IP devices. The devices marked with “✓” are required for usage; the devices marked with “o” are optional.


Alpha IP Smart Home Solution: Heating systems with radiators								
Functions	HAP	APP	eTRV	SWDO	RTD	WTH	RTA	WRC2
Regulate room temperature	✓	✓	✓		o	o	o	
Perform temperature settings	✓	✓	✓		o	o	o	
Display target temperature	✓	✓	✓		o	o		
Display actual temperature	✓	✓			✓	✓		
Display Humidity	✓	✓			✓	✓		
Activate / deactivate boost function	✓	✓	✓		o	o		
Set boost period	✓	✓						
Activate /deactivate ECO mode	✓	o						o
Switch between automatic and manual mode	✓	✓	✓		o	o		
Activate / deactivate window-open temperature	✓		✓	✓	o	o	o	
Set minimum / maximum temperature	✓	✓					o*	
Set heating profile	✓	✓						
Set temperature offset	✓	✓					o*	
Signaling delay	✓			✓				
Operation lock per heating zone	✓	✓	✓		✓	✓		
Set date and time	✓							
Information on battery status	✓	✓	✓		✓	✓	✓	

* mechanically set on device or by software in eTRV

6.2.4 Teach-in radiator thermostats

Please follow the steps in section 3.4 “Teach-in devices“.

6.2.5 Set up radiator thermostats

Select a room in the home screen of the app. Tap the menu symbol at the top right () (Android) or tap “Edit” (iOS). The following menu items are available:

- Configuration
- Rename room
- Delete room
- Standard view

6.2.5.1 Configuration

The individual rooms are configured through this menu item.

Minimum temperature

- Tap “Minimum temperature” and select the desired temperature with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired minimum temperature is saved.

Maximum temperature

- Tap “Maximum temperature” and select the desired temperature with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired maximum temperature is saved.



The minimum and maximum temperature that were set in the menu item “Configuration” have priority over the selected heating profile of the corresponding room.

If, for example, the maximum temperature of a room was set to 20 °C in the configuration, this temperature limit applies even if a temperature of 22 °C was set for one or more heating phases of the selected heating profile. This also applies to the minimum temperature.

Window-open temperature

In this menu item, you can set the the temperature to which the radiator thermostat/the radiator thermostats of the respective room is supposed to be lowered if the window is opened.

- Tap “Window-open temperature” and select the desired temperature with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired window-open temperature is saved.

Boost period

In this menu item, the period of the boost function is set. If the boost function is activated through the app or on the thermostat, the valve of the thermostat is completely opened for the set period so that the optimal comfort temperature is reached quickly.

- Tap “Boost period” and select the desired boost period with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired boost period is saved.

6.2.6 Teach-in room control units


Please follow the steps in section 3.4 “Teach-in devices” and teach-in the room control units. The room control units are also assigned to each room in this step.

By assigning the radiator thermostats and the room control units to each room, the room control units are automatically assigned to the corresponding radiator thermostats. If there are several radiator thermostats assigned to one room, they are collectively assigned to a room control unit. Only one room control unit can be used per room.

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6.2.7 Setting up room control units

Select a room in the home screen of the app. Tap the menu symbol at the top right () (Android) or tap "Edit" (iOS). The following menu items can be chosen now.

- Configuration
- Rename room
- Delete room
- Standard view

6.2.7.1 Configuration

The individual rooms are configured through this menu item.

Minimum temperature

- Tap "Minimum temperature" and select the desired temperature with the control wheel. After tapping "Confirm" (Android) or "Done" (iOS), the desired minimum temperature is saved.

Maximum temperature

- Tap "Maximum temperature" and select the desired temperature with the control wheel. After tapping "Confirm" (Android) or "Done" (iOS), the desired maximum temperature is saved.



The minimum and maximum temperature that were set in the menu item "Configuration" have priority over the selected heating profile of the corresponding room.

If, for example, the maximum temperature of a room was set to 20 °C in the configuration, this temperature limit applies even if a temperature of 22 °C was set for one or more heating phases of the selected heating profile. This also applies to the minimum temperature.

Window-open temperature

In this menu item, you can set the the temperature to which the radiator thermostat/the radiator thermostats of the respective room is supposed to be lowered if the window is opened.

- Tap "Window-open temperature" and select the desired temperature with the control wheel. After tapping "Confirm" (Android) or "Done" (iOS), the desired window-open temperature is saved.

Boost period

In this menu item, the period of the boost function is set. If the boost function is activated through the app or on the thermostat, the valve of the thermostat is completely opened for the set period so that the optimal comfort temperature is reached quickly.

- Tap "Boost period" and select the desired boost period with the control wheel. After tapping "Confirm" (Android) or "Done" (iOS), the desired boost period is saved.

6.2.7.2 Rename room

- Tap "Rename room"
- Assign a new name.
- The new name is saved by tapping "Confirm".

6.2.7.3 Delete room

In this menu item, a room is deleted.



If a room has devices assigned to it, all of these must be deleted first in the device overview.

- Tap “Delete room”.
- After tapping “Confirm” (Android) or “Done” (iOS), the room is deleted.

6.2.8 Teach-in more devices for heating systems with radiators

Please follow the steps in section 3.4 “Teach-in devices” and teach-in the corresponding device (e. g. window contact). The corresponding device must be assigned to the selection “Room climate” in order to be used in the Smart Home solution heating control. Also, the device must be assigned to the desired room.

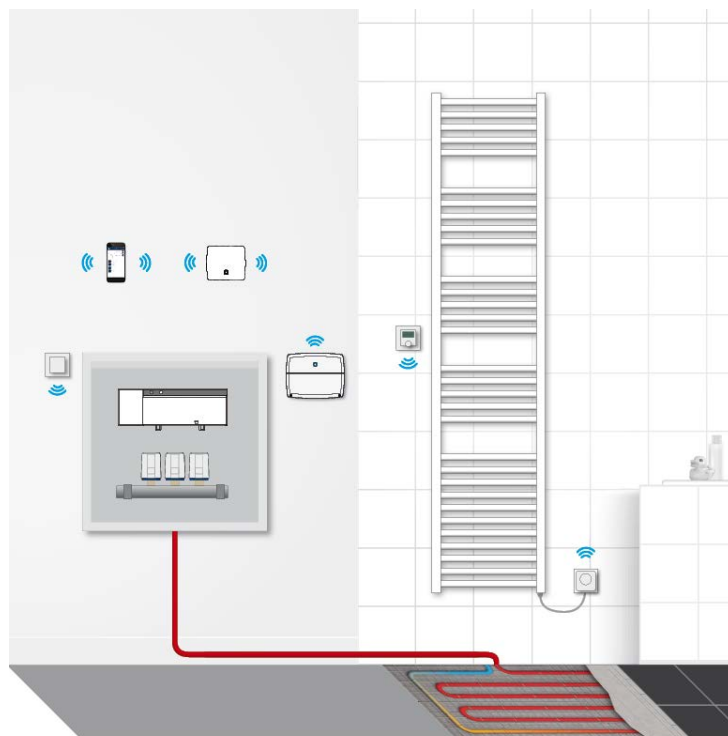
By assigning the radiator thermostats and the corresponding devices to each room, the assignment to each other is done automatically.

6.2.9 Set heating profile

See section 6.5.3.2 Create individual profile

6.3 Heating Systems with Floor Heating

Because of energy efficiency in single family homes, floor heating systems are often installed in newly built houses. Sometimes these systems are used for heating and cooling. For these newer systems and for often insufficiently controlled existing systems, the following Smart Home solution is the perfect addition.



6.3.1 Options for the installation

A special feature of the the Alpha IP Floor Heating solution is that the devices can be installed with or without the Alpha IP Access Point. If the Alpha IP Access Point is used, the installation and launch is done through the Alpha IP App and the Cloud communication as usual.





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Without the Access Point, the components are taught-in directly with the base station. In this case, the operation is done exclusively with the room control units and not with the Alpha IP App. Configuring the system and setting the system parameters is done with the room control units with display. There is a separate planning manual at www.alphaip.de available for this kind of installation.

The following description refers to the usage of the Alpha IP Access Point and therefore to the installation with the Alpha IP App.

6.3.2 Devices for basic configuration





Product	Description	Notes on Planning
Alpha IP Access Point - HAP 21001		
	The Access Point forwards the configuration data and operation commands to the individual Alpha IP components (not necessary, if the floor heating solution will be used without control through the app).	It should be placed as centrally as possible in the building to ensure an optimal wireless connection to the devices. Optionally, the Access Point can be left out (see section 6.3.1)
Alpha IP Base Station 6-zones, 24 V - FAL 41011-06		
	Intelligent control and connection unit of the single room control for the surface temperature adjustment in 24 V for 6 heating zones (24 V system transformer is supplied). Teach-in the room control units or sensors and the connectors of actuators with a pump connection that can be parameterized.	Place centrally, within close proximity of the heating circuit distributor or to the heating distribution cabinet of the floor heating. Wall installation with DIN rail. The following cross sections are suitable for plug-in/clamping connections: <ul style="list-style-type: none"> • solid wire: 0.5 – 1.5 mm² • flexible wire: 1.0 – 1.5 mm² • 8 - 9 mm insulation stripped off the wire
Alpha IP Base Station 10-zones, 24 V - FAL 41011-10		
	Intelligent control and connection unit of the single room control for the surface temperature adjustment in 24 V for 6 heating zones (24 V system transformer is supplied). Teach-in the room control units or sensors and the connectors of actuators with a pump connection that can be parameterized.	Place centrally, within close proximity of the heating circuit distributor or to the heating distribution cabinet of the floor heating. Wall installation with DIN rail. The following cross sections are suitable for plug-in/clamping connections: <ul style="list-style-type: none"> • solid wire: 0.5 – 1.5 mm² • flexible wire: 1.0 – 1.5 mm² • 8 - 9 mm insulation stripped off the wire
Alpha IP Base Station 6-zones, 230 V - FAL 21001-06		
	Intelligent control and connection unit of the single room control for the surface temperature adjustment in 230 V for 6 heating zones. Teach-in the room control units or sensors and the connectors of actuators with a pump connection that can be parameterized.	This product must be installed by qualified technicians with the corresponding professional training. Place centrally, within close proximity of the heating circuit distributor or to the heating distribution cabinet of the floor heating. Wall installation with DIN rail or mounting bracket. The following cross sections are suitable for plug-in/clamping connections: <ul style="list-style-type: none"> • solid wire: 0.5 – 1.5 mm² • flexible wire: 1.0 – 1.5 mm² • 8 - 9 mm insulation stripped off the wire



Alpha IP Base Station 10-zones, 230 V - FAL 21001-10		
	<p>Intelligent control and connection unit of the single room control for the surface temperature adjustment in 230 V for 10 heating zones. Teach-in the room control units or sensors and the connectors of actuators with a pump connection that can be parameterized.</p>	<p>This product must be installed by qualified technicians with the corresponding professional training.</p> <p>Place centrally, within close proximity of the heating circuit distributor or to the heating distribution cabinet of the floor heating. Wall installation with DIN rail or mounting bracket. The following cross sections are suitable for plug-in/clamping connections:</p> <ul style="list-style-type: none"> • solid wire: 0.5 – 1.5 mm² • flexible wire: 1.0 – 1.5 mm² • 8 - 9 mm insulation stripped off the wire
Alpha IP RBG Analogue - RTA 61001		
	<p>The room control unit Analogue collects the room temperature in its heating zone and it controls it through the connected radiator thermostats or the base station for the floor temperature adjustment.</p>	<p>The room control unit is mounted in the individual heating zone and assigned to the heating circuits in this zone. Basically, thanks to the wireless technology, it can be installed freely in the room. It is best to mount the room control unit at the place where the users spend most of their time. Room control units should be mounted at a height of about 1.5 m and, if possible, they should not be placed on cold exterior walls or in other areas that could distort the measurements (e. g. places with direct sunlight or close to other sources of heat). Please note remarks in the data sheet or the installation manual.</p>
Alpha IP Actuator 24 V with Adaptation VA 80		
	<p>This is a thermoelectric actuator for silent opening and closing of the small valves and valves in radiators and heating circuit distributors of surface heating or surface cooling systems. Valve adapter VA 50 for radiator valves with the thread dimensions M30 x 1.5 mm supplied.</p>	<p>Normally, most surface heating systems currently used are operated with the control direction "normally closed" (NC). This means that the valve is closed when de-energized. For operation of the system with the control direction "normally open" (NO), the corresponding actuators must be provided for during the planning of the system. The installation on the valve is done with the matching valve adapter. For further information, see valve adapter section.</p>
Alpha IP Actuator 230 V with Adaptation VA 80		
	<p>Thermoelectric actuator for silent opening and closing of the small valves and valves in radiators and heating circuit distributors of surface heating or surface cooling systems. Valve adapter VA 50 for radiator valves with the thread dimensions M30 x 1.5 mm supplied.</p>	<p>This product must be installed by qualified technicians with the corresponding professional training.</p> <p>Normally, most surface heating systems currently used are operated with the control direction "normally closed" (NC). This means that the valve is closed when de-energized. For operation of the system with the control direction "normally open" (NO), the corresponding actuators must be provided for during the planning of the system. The installation on the valve is done with the matching valve adapter. For further information, see valve adapter section.</p>

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6.3.3 Extension options

Product	Description	Notes on Planning
Multi IO Box - MIOB 21001		
	<p>The Multi IO Box serves for the extension of the Alpha IP base stations. In stand-alone operation, the pump and boiler are controllable, and there are 2 inputs for toggling between heating/cooling, dew point monitoring. In the operation with the app, inputs and outputs are parameterizable. Furthermore, inputs and outputs can be extended to other functions like dehumidifier control, CO pilot, limiting of temperature, and an external clock signal.</p>	<p>Wall installation with DIN rail or mounting bracket. For the wall installation with a DIN rail, the corresponding DIN rail adapter is necessary. The device should be installed close to the devices to be wired.</p> <p>The following cross sections are suitable for plug-in/clamping connections:</p> <ul style="list-style-type: none"> • solid wire: 0.5 – 1.5 mm² • flexible wire: 1.0 – 1.5 mm² • 8 - 9 mm insulation stripped off the wire <p>Further information regarding possibilities of connections at www.alphaip.de</p>
DIN rail adapter for Multi IO Box -		
	<p>The DIN rail adapter allows for the installation of the Multi IO Box on a DIN mounting bracket for the installation of a sub-distribution or installation cabinet for heating circuit distributors.</p>	
Alpha IP Room Control Unit Display - RTD 61001		
	<p>The Alpha IP Room Control Unit with a large display collects the temperature and humidity in the room and periodically forwards this information to the taught-in heating zone of the base station. The room temperature can be controlled exactly with the help of the determined values. The target temperature can be set manually with the control wheel. The room temperature can also be timed to adjust the heating periods to your individual needs.</p>	<p>The room control unit is mounted in the individual heating zone and it is assigned to the heating circuits in this zone. Basically, thanks to the wireless technology, it can be installed freely in the room.</p> <p>It is best to mount the room control unit where the users spend most of their time so the room temperature is measured in this spot.</p> <p>Mount room control units at a height of about 1.5 m and, if possible, do not place them on cold exterior walls or in other areas that could distort the measurements (e. g. places with direct sunlight or close to other sources of heat). Please note remarks in the data sheet or the installation manual.</p>
Alpha IP Room Control Unit Display FBH - WTHP 61001		
	<p>The Alpha IP Room Control Unit Display S FBH for installation in the switch program or direct wall mounting collects the temperature and humidity in the room and periodically forwards this information to the taught-in heating zone of the base station. The room temperature can be controlled exactly with the help of the determined values. The target temperature can be set manually with the control wheel. The room temperature can also be timed to adjust the heating periods to your individual needs.</p>	<p>Notes on planning for the Alpha IP Room Control Unit Display; this device can be integrated into the frames of other popular switch program manufacturers (like Berker, EISO, GIRA, Merten, JUNG).</p>

Valve Adapter VA 50		
	Perfect adjustment of the thermal actuator to each heating valve or heating circuit distributor valve.	Selection of the valve adapter with the help of a valve adapter template or with the help of the valve adapter selection tool at www.ventiladapter.de .
Valve adapter template		
	Perfect adjustment of the thermal actuator to each heating valve or heating circuit distributor valve.	Selection of the valve adapter with the help of a valve adapter template or with the help of the valve adapter selection tool at www.ventiladapter.de .

6.3.4 Connection plan

Please take further information regarding the connection options (particularly the Alpha IP Base Station and Multi IO Box) from the corresponding device manuals under www.alphaip.de.

6.3.5 Overview of functions

The following overview of functions shows which functions are available in combination with Alpha IP devices. The devices marked with “✓” are required for usage; the devices marked with “o” are optional. If a device is listed as alternative “a”, the functions can usually be set or assessed with the app, but cannot be executed or viewed on the device.

Alpha IP Smart Home Solution: Heating systems with floor heating with app								
Functions	HAP	APP	FAL	RBG Analogue	ANT +VA	MIOB	RBG	Floor
Perform temperature settings	✓	✓	✓	o	✓		✓	o
Display target temperature	✓	✓	✓	a	✓		✓	a
Display actual temperature	✓	✓	✓	a	✓		✓	a
Display Humidity	✓	✓	✓		✓		✓	
Set period of vacation / party mode	✓	✓	✓		✓		✓	o
Information on battery status	✓	✓	✓	a	✓		✓	a
Information on humidity	✓	✓	✓		✓		✓	
Operation lock per heating zone	✓	✓	✓		✓		✓	
Set date and time	✓	✓						
Switch between automatic and manual mode	✓	✓	✓		✓		✓	a
Set minimum / maximum temperature	✓	✓	✓	a	✓		✓	o
Set heating profile	✓	✓	✓		✓		✓	o
Set temperature offset	✓	✓	✓	✓	✓		o	o
Toggle between heating/cooling	✓	✓	✓	a	✓	✓	o	o
Pump circuit	✓	✓	✓	a	✓	✓	✓	
Boiler circuit	✓	✓	✓	a	✓	✓	✓	
Pump follow-up time	✓	✓	✓	a	✓	✓	✓	a
Dew point monitoring	✓	✓	✓	a	✓	✓	✓	a
Antifreeze	✓	✓	✓	a	✓		✓	a
Set load balancing/collection	✓	✓	✓	a	✓		✓	a
Set control direction NC/NO	✓	✓	✓	a	✓*		✓	a
Set emergency operation	✓	✓	✓	a	✓		✓	a

Alpha IP

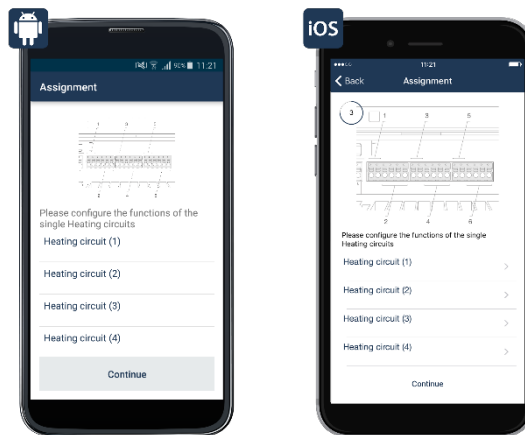
Planning Manual

Set valve protection period	✓	✓	✓	a	✓		✓	a
Set time interval for valve protection	✓	✓	✓	a	✓		✓	a
Set pump lead time	✓	✓	✓	a	✓	✓	✓	a
Set pump protection function period	✓	✓	✓	a	✓	✓	✓	a
Set follow-up time for pump protection function	✓	✓	✓	a	✓	✓	✓	a
Minimum floor temperature control	✓	✓	✓		✓			✓
Set humidity limit	✓	✓	✓		✓		✓	
Select heating system	✓	✓	✓	a	✓		✓	a
Set room with/without external heat source	✓	✓	✓	a	✓		✓	✓
Teach-in room control unit to several zones	✓	✓	✓	a	✓		✓	a
Teach-in room control unit to several base stations	✓	✓	✓	a	✓		✓	a

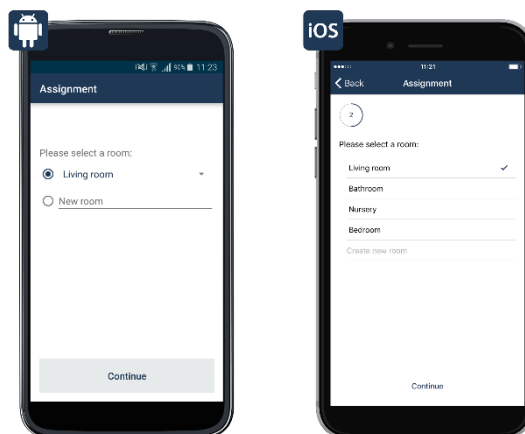
* A corresponding thermal actuator must be considered when ordering

6.3.6 Teach-in base station

Please follow the steps in section 3.4 “Teach-in devices”.



First, the heating heating circuits must be assigned to the rooms. This process must be performed for all heating circuits.



6.3.7 Set up base station

After the system with the desired devices is installed and operational, the Smart Home solution for floor heating can be configured and adjusted to individual needs.



Device configuration Alpha IP Base Station (floor heating actuator)

Assignment

Here, the assigned room of the devices, the names of the device, as well as the assignment of heating circuits can be changed at any time.

Global Pump Control

The global pump control is activated by default, i.e. the pump integrated into your heating system ensures circulation. If a recirculation pump is directly connected to the floor heating actuator through the heating circuit 1 (HZ1), the global pump control must be deactivated as follows.

- Select “Global pump control” by tapping.
- Tap “Off” and confirm entry.

Actuator type

Generally, there are actuators of the valve type “normally closed” (NC) installed in the heating circuit distributor. This is the default setting. If actuators of the valve type “normally open” are installed in the heating circuit distributor, the option “NO” must be selected. For further information, contact the heating installer.

Lead time and follow-up time of the pump

If the global pump control is deactivated, i. e. for a pump directly connected to the floor heating actuator, the lead and follow-up time of the recirculation pump can be adjusted in 2 minute intervals from 0 to 20 minutes, if necessary.

Emergency operation cooling

In the case of persisting disruptions of the radio communication between wall thermostat and floor heating actuator, the cooling operation is deactivated or lowered to a predefined value. The reduction of the cooling operation is pre-set to 0 %.

Emergency operation heating

The valve opening period is calculated every 15 minutes. In the case of persisting disruptions of the radio communication between room control unit and base, for example if the battery is empty, the valves are automatically controlled. The valve is opened for 225 seconds by default (25 % of 15 minutes). When the radio communication is re-established, the system switches back to normal operation.

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Antifreeze Temperature

In order to avoid freezing of the installation, the floor heating actuator is controlled to a room temperature of 8 °C as a target value (pre-set). If necessary, the antifreeze protection can be deactivated with the control wheel ("Off"), or a room temperature between 2 °C and 10 °C can be set in increments of 0.5 °C.

Heating zone activation

When selecting "Load balancing" (pre-set), the heating zones are controlled – if possible – in a staggered manner, to maintain an even flow of the heating medium. When selecting "Load collection", the heating zones are controlled collectively, if possible.

Valve protection function

Thanks to the valve protection function, the actuators will be moved regularly to prevent the valves from sticking in periods of time without temperature control, e. g. in summer. Here you can determine the time interval (Off, 1-28 days) as well as the duration of the activation (0-10 minutes).



Note to the Multi IO Box

Currently, the analogous output 0-10 V of the Alpha IP system cannot be used.

6.3.8 Teach-in room control units

Please follow the steps in section 3.4 "Teach-in devices" and teach-in the room control units. The room control units are also assigned to each room in this step.

By assigning the heating circuits of the base station and the room control units to each room, the room control units are automatically assigned to the corresponding heating circuits. If there are several heating circuits assigned to one room, they are collectively assigned to a room control unit.

6.3.9 Set up room control units

Select a room in the home screen of the app. Tap the menu symbol at the top right (☰) (Android) or tap "Edit" (iOS). The following menu items are available:

- Configuration
- Rename room
- Delete room
- Standard view

6.3.9.1 Configuration

The individual rooms are configured through this menu item.

Minimum temperature

- Tap "minimum temperature" and select the desired temperature with the control wheel. After tapping "Confirm" (Android) or "Done" (iOS), the desired minimum temperature is saved.

Maximum temperature

- Tap "Maximum temperature" and select the desired temperature with the control wheel. After tapping "Confirm" (Android) or "Done" (iOS), the desired maximum temperature is saved.



The minimum and maximum temperature are set in the menu item "Configuration" and they have priority over the selected heating profile of the corresponding room

If, for example, the maximum temperature of a room was set to 20 °C in the configuration, this temperature limit applies even if a temperature of 22 °C was set for one or more heating phases of the selected heating profile. This also applies to the minimum temperature.

Window-Open Temperature

In this menu item, you can set the the temperature to which the radiator thermostat/the radiator thermostats of the respective room is supposed to be lowered if the window is opened.

- Tap “Window-open temperature” and select the desired temperature with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired window-open temperature is saved.

Boost Function

The boost function is not available in connection with a heating system with floor heating. Even though the menu item “Boost period” can be selected and then parameterized, when activated, the boost function has no effect on the system control. And though the button begins to pulse, no function is actually executed.

Floor Heating Mode

In this menu item you can select the heating system and therefore the control performance which the Alpha IP base station controls. There are five options available:

- 1. Standard
Standard floor heating in conventional buildings.
- 2. Low energy
Floor/wall surface heating with a low temperature, like in an energetically renovated building or in a new building with low energy demand.

The other three options are reserved for special applications and they are not relevant for floor and wall surface heating.

- 3. Radiator
Water-carrying radiators for one channel. A wired thermal actuator on the radiator is necessary for this.
- 4. Passive convector
Floor convectors for cold air protection in front of large windows.
- 5. Active convector
Fan convectors (fan coils) that are used mainly in office and industrial buildings.

Humidity limit

The humidity limit can be set here to activate the dehumidifier to prevent condensation problems if a Alpha IP Multi IO Box with a connected dehumidifier is used. For floor heating with active cooling operation, the corresponding cooling circuit is connected.

6.3.9.2 Rename room

- Tap “Rename room”
- Assign a new name.
- The new name is saved by tapping “Confirm”.

6.3.9.3 Delete room

In this menu item, a room is deleted.

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If a room has devices assigned to it, all of these must be deleted first in the device overview.

- Tap “Delete room“.
- After tapping “Confirm” (Android) or “Done” (iOS), the room is deleted.

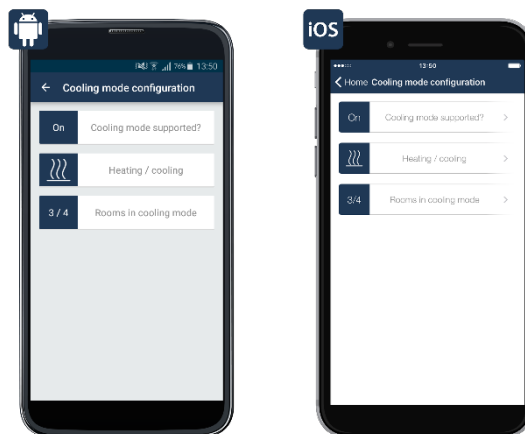
6.3.10 Heating operation

See section 6.5.3.2 Create individual profile

6.3.11 Cooling operation

In this menu, the floor heating with cooling function for the cooling operation is controlled and configured. This menu item is only available in the app if an Alpha IP Base Station (floor heating actuator) is installed.

- In the home screen of the app, tap the main menu symbol “☰” (top left) and select “Cooling operation configuration” in the main menu.
- Tap “Cooling operation possible?” and release the control and configuration by dragging the controller to the right and then tapping “Done” (iOS) or by tapping “On” and then confirming (Android).



Screenshot of cooling operation configuration

Two menu items are available for configuration below:

- You can toggle between heating and cooling operation via “Heating/cooling”.
- In the menu item “Rooms with cooling operation”, rooms can be selected for the activation of the cooling operation.



The cooling operation can only be activated in rooms where a floor heating system with cooling function is installed.

See section 6.5.3.2 Create individual profile

6.3.12 Application examples

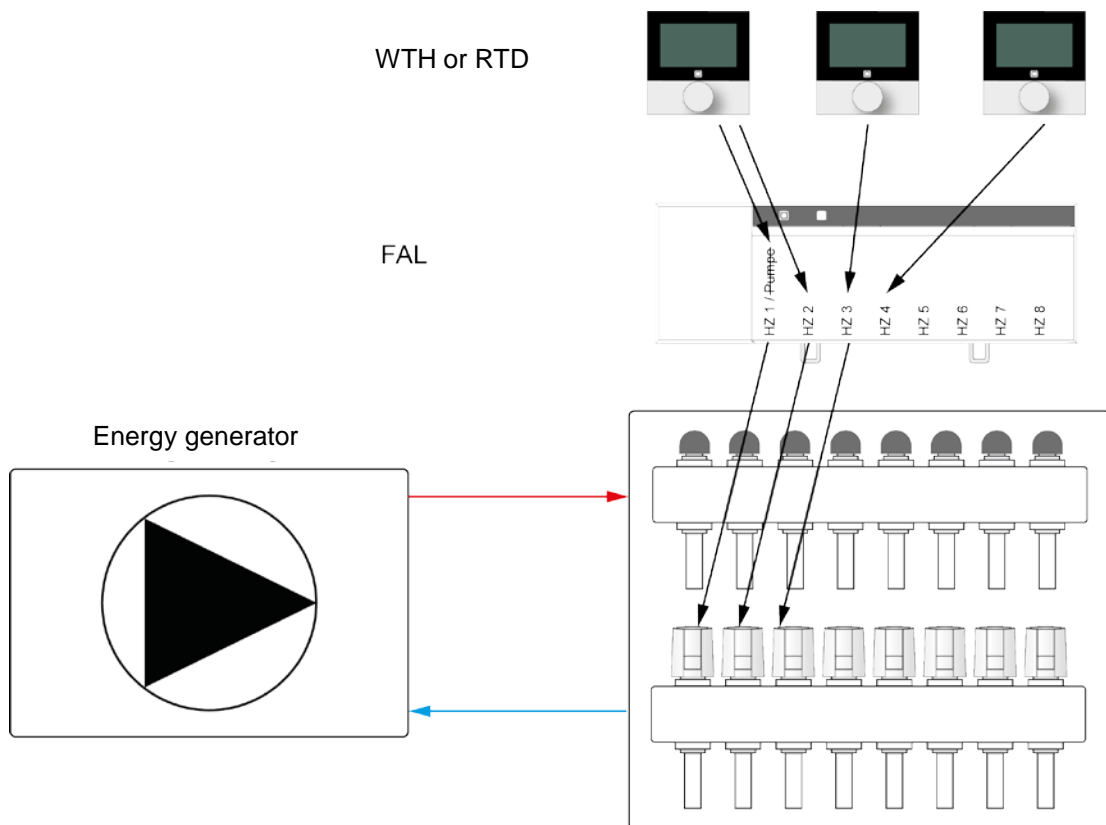
Thanks to the vast portfolio of different Alpha IP floor heating control components it is possible to make individual settings and to adapt the system to the constructional structure of the building. Subsequently you will find a list of nine application cases explaining the installation as well as the areas of use.

6.3.12.1 Application example 1: Floor heating control

After teaching-in of the base station and of one or more Alpha IP room control units, the individual channels of the base station must be linked to the room control unit of the room which is supplied via the respective heating circuit or heating circuits.

The heating circuits 1-6 resp. 1-10 are coupled via the Alpha IP room control units.

The use of several base stations for floor heating control is possible.

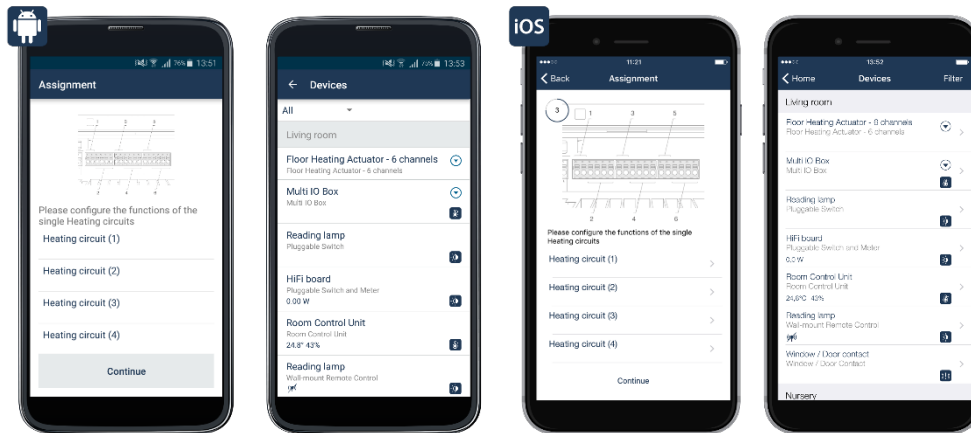


The devices for controlling the floor heating must be configured according to the following screenshots:

- Teach in the base station and assign one channel to each room.
- Tap on "Device overview" in the menu and select the base station.

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Teach in the screenshots FAL-xx and select them

- The next window shows the device configuration overview.



Screenshot: Configuration FAL-xx

- Set the local pump control to “Off” here and adapt the actuator type to the one which is used (NC or NO). Normally, NC actuators are used.
- Further settings can be made via the selection of the respective room.

6.3.12.2 Application example 2: Control of floor heating and recirculation pump

If a base station is used, it is possible to control a connected recirculation pump. In this case, heating circuit 1 only controls the recirculation pump.

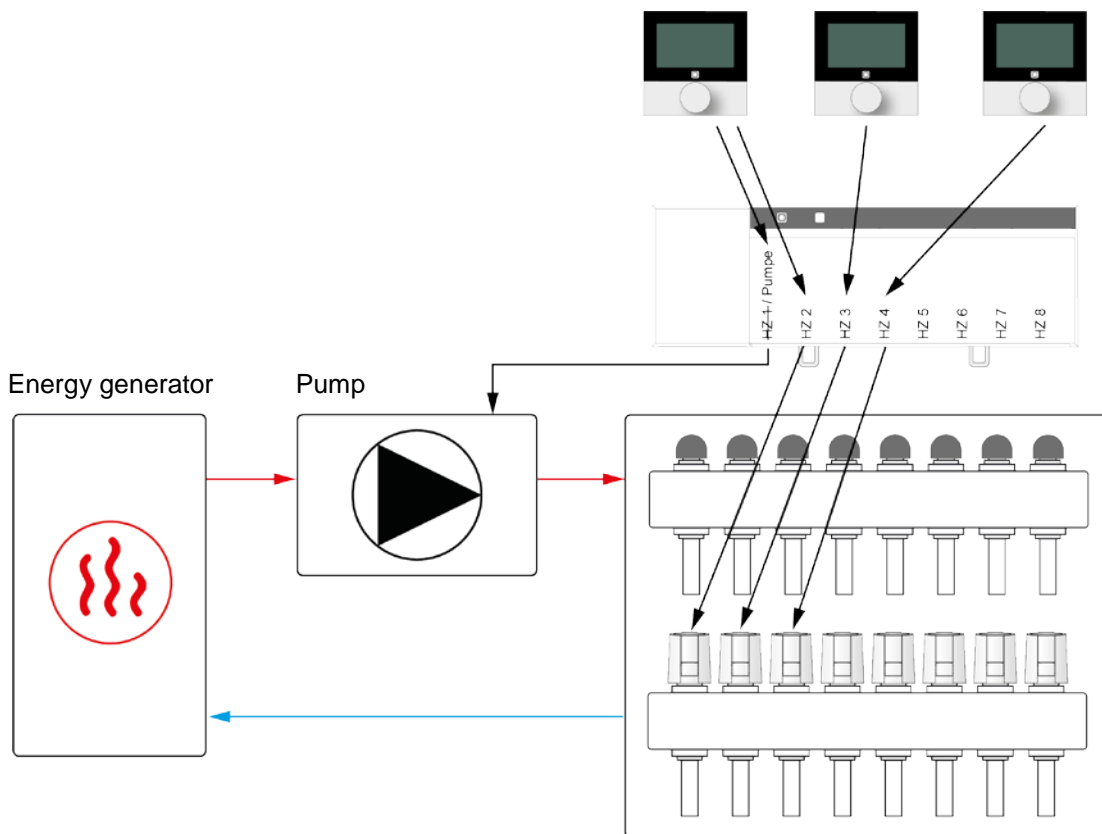
Heating circuits 2-6 resp. 2-10 are coupled via the Alpha IP room control unit.

The use of several floor heating actuators for floor heating control is possible.

In this case, the pump is only controlled locally by the FAL (floor connection strip) with the pump control to heating circuit 1. The use of the MIOB is obligatory for a uniform pump control via all FALs.



It is sufficient to connect an arbitrary room control unit to the channel for the pump control at the floor heating actuator in order to obtain a heat demand control of all rooms.



The devices for controlling the floor heating and a recirculating pump must be configured as follows:

- Teach in the base station and assign one channel to each room.
- Tap on “Device overview” in the menu and select the base station.
- The next window shows the device configuration overview.



Screenshots: Configuration FAL-xx for pump control

- Set the local pump control to “On” here and adapt the actuator type, if necessary, to the one which is used (NC or NO).

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- Under “Heating circuit” the lead time and the follow-up time of the pump (see section „Pump lead time/follow-up time“ on page 39) can be configured.
- Further settings can be made via the selection of the respective room.



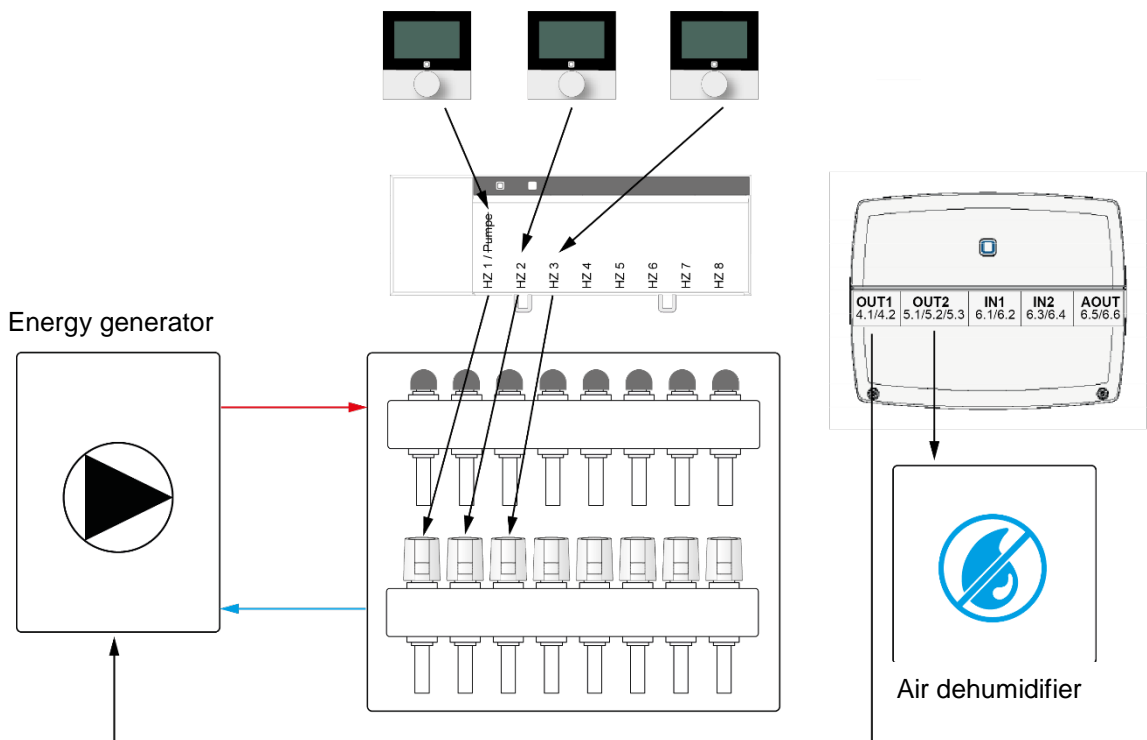
General: If the pump shall be switched globally in case of more than one connected FAL, a MIOB must be used.

6.3.12.3 Application example 3: Control of the floor heating, the boiler and the air dehumidifier

If a base station and a Multi IO Box are used, a connected boiler and an air dehumidifier can be controlled, for example. For this, the control of the boiler is possible via the output OUT1 of the Multi IO Box. In this case, the pump is only controlled locally by the FAL (floor connection strip) with the pump control to heating circuit 1. The use of the MIOB is obligatory for a uniform pump control via all FALs.

An air dehumidifier is controlled via the output OUT2 of the Multi IO Box. The current air humidity is measured by the Alpha IP room control unit.

The inputs of the Multi IO Box remain unconnected. Heating circuits 1-6 resp. 1-10 are coupled via the Alpha IP room control unit. The use of several floor heating actuators for floor heating control is possible.



The devices for controlling the floor heating, the boiler and the air dehumidifier must be configured as follows:

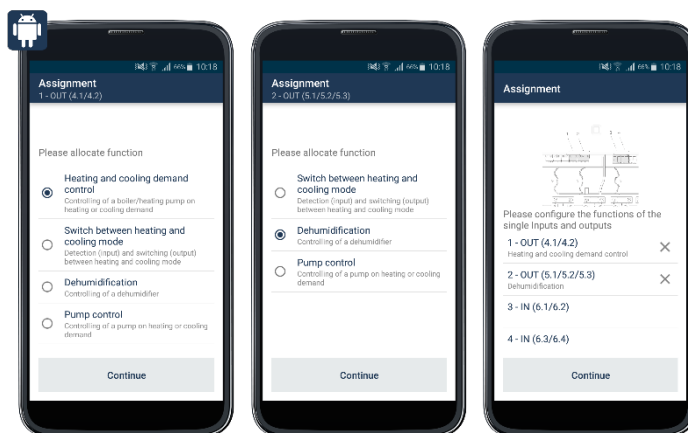
- Teach in the base station and assign one channel to each room.

- Tap on “Device overview” in the menu and select the base station.
- The next window shows the device configuration overview.

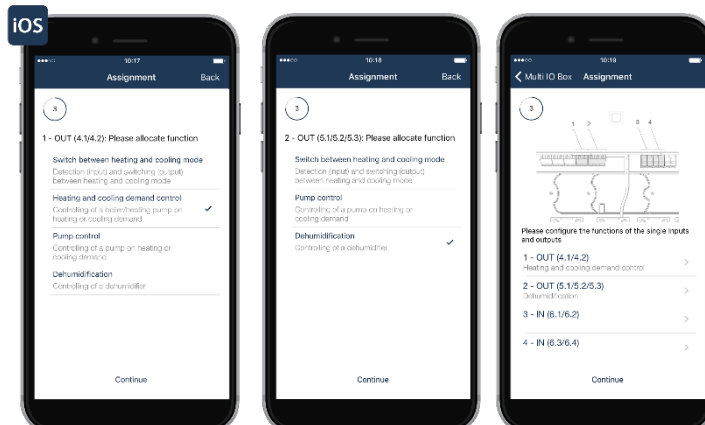


Screenshot: Configuration FAL-xx

- Set the local pump control to “Off” here and adapt the actuator type, if necessary, to the one which is used (NC or NO).
- Teach in the Multi IO Box.
- Tap on “Device overview” in the menu and select the Multi IO Box.
- The next window shows the device configuration overview.



Screenshot: Configuration of MIOB for the control of boilers/air dehumidifiers



Screenshot: Configuration of MIOB for the control of boilers/air dehumidifiers

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- In the menu item “Assignment”, allocate the output OUT1 to the heating and cooling demand control and tap “Next”.
- In the next window, allocate the output OUT2 to the control of the air dehumidifier and tap “Next”.
- Subsequently a channel overview with the associated functions is displayed.
- The respective room control units supply the humidity values.
- Further settings can be made via the selection of the respective room.

6.3.12.4 Application example 4: Control of the floor heating, the recirculating pump, the boiler and the air dehumidifier

In this application example, the pump control is performed with the floor heating actuator. For this, heating zone 1 only controls the pump.

The boiler is controlled via the output OUT 1 of the Multi IO Box. In this configuration, the boiler is switched on and off depending on the heat demand of the room control units of the individual rooms.

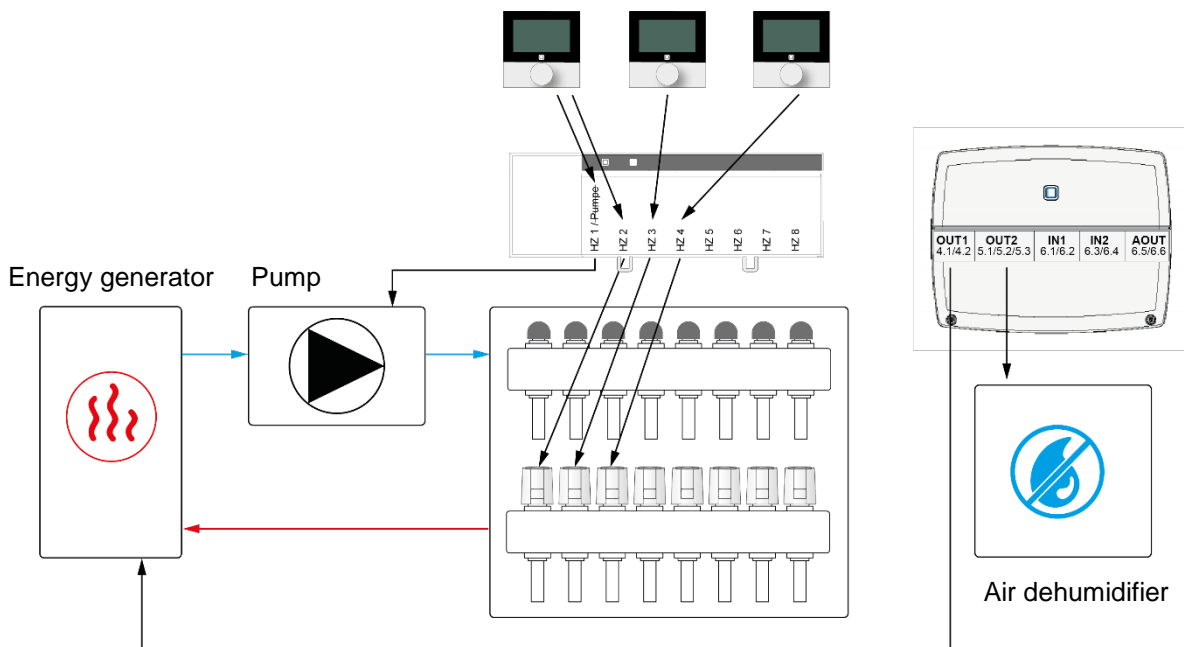
An air dehumidifier can be controlled via the output OUT2 of the Multi IO Box. For this, the current air humidity is measured by the Alpha IP room control unit.

The inputs of the Multi IO Box are not used for the control of the boiler.

Heating circuits 2-6 resp. 2-10 are coupled via the Alpha IP room control unit.

The use of several floor heating actuators for floor heating control is possible. In this case, the pump is only controlled locally by the FAL (floor connection strip) with the pump control to heating circuit 1. The use of the MIOB is obligatory for a uniform pump control via all FALs.

The pump control at heating zone 1 only evaluates the statuses of its own floor heating actuators (local pump control).



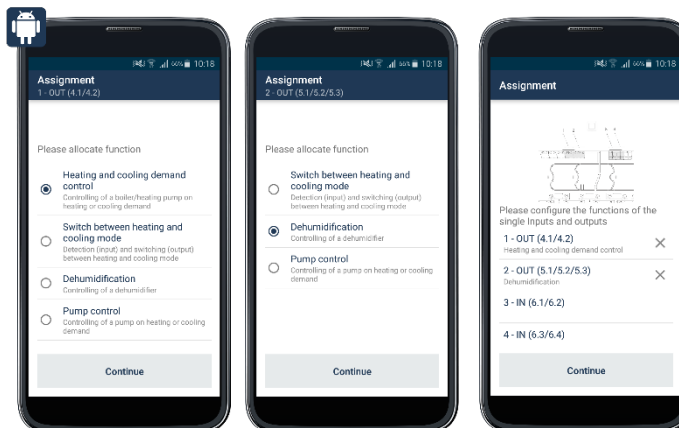
The devices for controlling the floor heating, the recirculating pump of the boiler, and the air dehumidifier must be configured as follows:

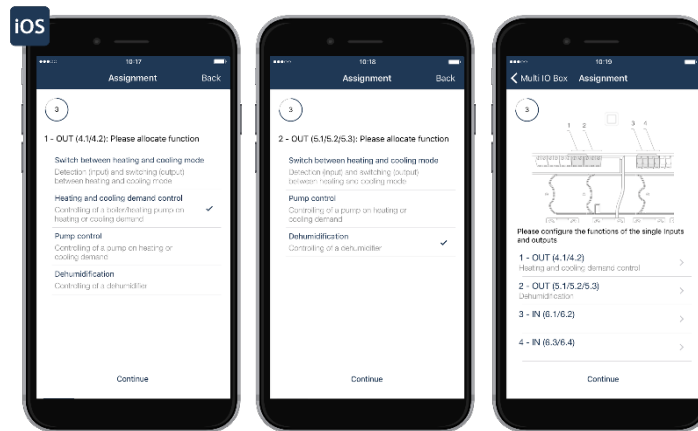
- Teach in the base station and assign one channel to each room.
- Tap on “Device overview” in the menu and select the base station.
- The next window shows the device configuration overview.



Screenshots: Configuration FAL-xx for pump control

- Set the local pump control to “On” here and adapt the actuator type, if necessary, to the one which is used (NC or NO).
- Under “Heating circuit” the lead time and the follow-up time of the pump (see section „Pump lead time/follow-up time“ on page 39) can be configured.
- Teach in the Multi IO Box.
- Tap on “Device overview” in the menu and select the Multi IO Box.
- The next window shows the device configuration overview.





Screenshot: Configuration of MIOB for the control of pumps/boilers/air dehumidifiers

- In the menu item “Assignment”, allocate the output OUT1 to the heating and cooling demand control and tap “Next”.
- In the next window, allocate the output OUT2 to the control of the air dehumidifier and tap “Next”.
- Subsequently the channel overview with the associated functions is displayed.
- Further settings can be made via the selection of the respective room.

6.3.12.5 Application example 5: Control of floor heating and recirculation pump with switch-over in the app from heating to cooling operation

You have the possibility to apply the floor heating actuator also in cooling operation, in order to use your floor heating also e. g. in summer, for cooling the room.



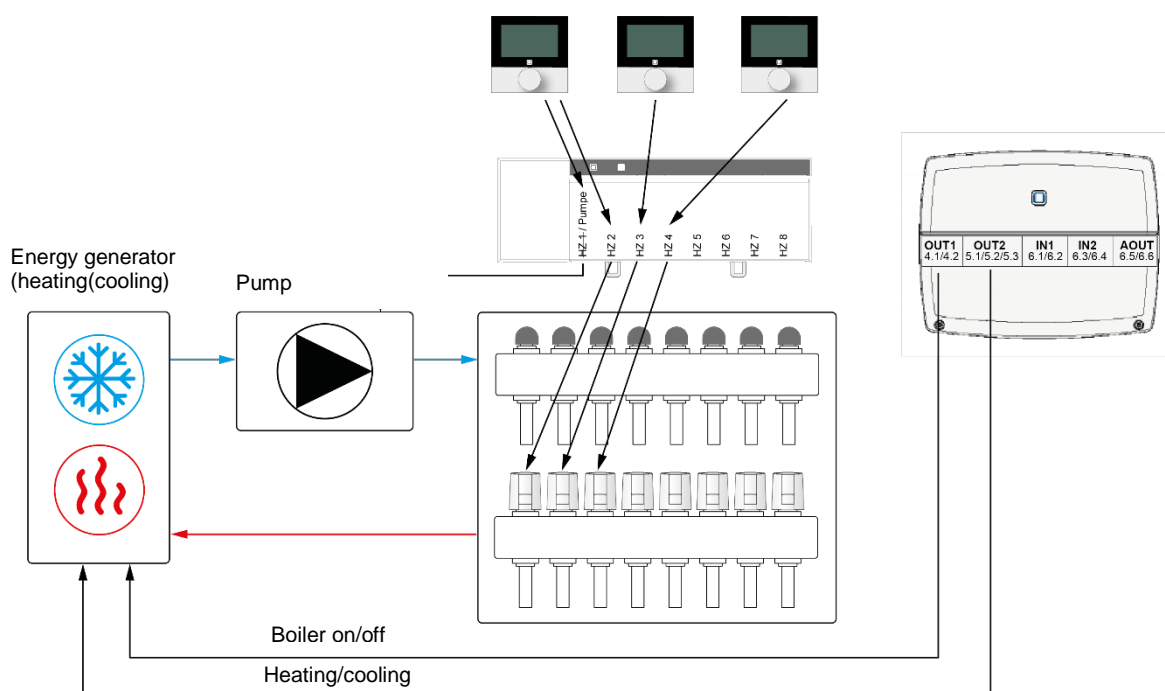
The cooling operation can only be activated for rooms where a floor heating system with cooling function is installed, e. g. a heat pump with this function.

Pump control is performed by the floor heating actuator. For this, heating zone 1 only controls the pump (see above).

The boiler is controlled via the output OUT1 of the Multi IO Box. The change-over between heating and cooling operation of the heat pump is controlled by the output OUT2 of the Multi IO Box. The change-over between heating and cooling mode can only be controlled via the Alpha IP app.

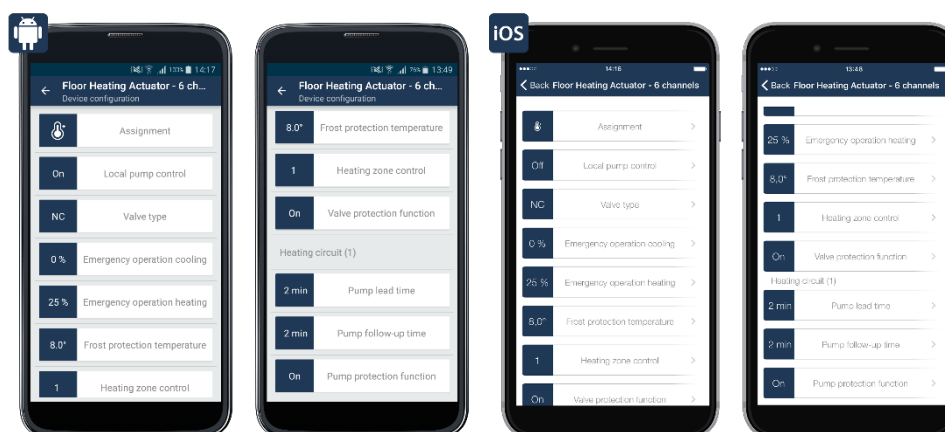
Heating circuits 2-6 resp. 2-10 are coupled via the Alpha IP room control unit.

The use of several floor heating actuators for floor heating control is possible.



The devices for controlling the floor heating and the pump with the possibility to change over between heating and cooling operation must be configured as follows:

- Teach in the floor heating actuator and allocate one room to each channel.
- In the menu, tap on “Device overview” and select the floor heating actuator there.
- The next window shows the device configuration overview.



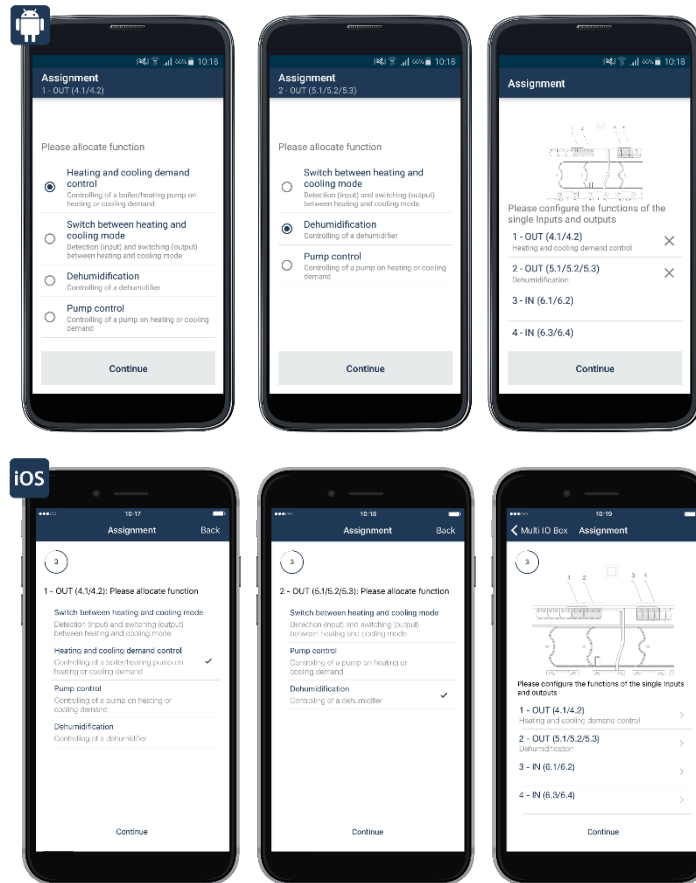
Screenshots: Configuration HmIP-FAL-xx for pump control

- Set the local pump control to “On” here and adapt the actuator type, if necessary, to the one which is used (NC or NO).
- Under “Heating circuit” the lead time and the follow-up time of the pump (see section „Pump lead time/follow-up time“ on page 39) can be configured.
- Teach in the Multi IO Box.

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- In the menu, tap on “Device overview” and select the Multi IO Box there.
- The next window shows the device configuration overview.



Screenshot: Configuration MIOB for use with a pump

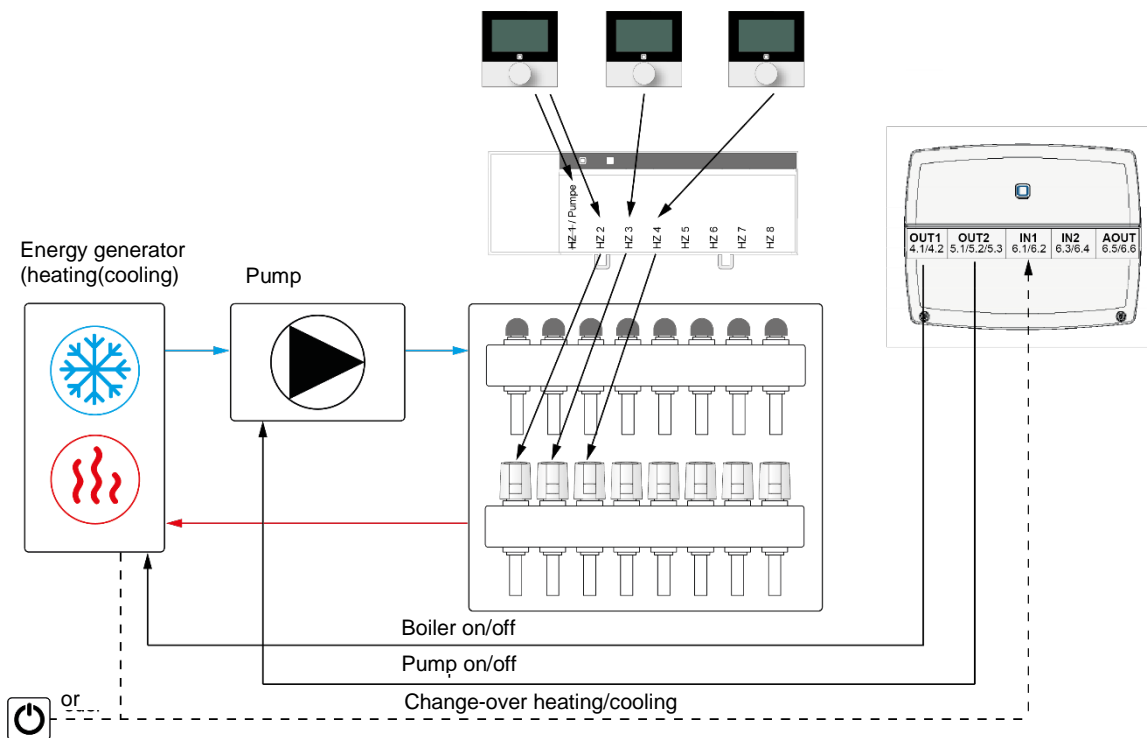
- In the menu item “Assignment”, allocate the output OUT1 to the heating and cooling demand control and tap “Next”.
- In the next window, allocate the output OUT2 to the heating and cooling operation control, and tap “Next”.
- Subsequently a channel overview with the associated functions is displayed.
- Further settings can be made via the selection of the respective room.

6.3.12.6 Application example 6: Control of floor heating and recirculation pump with change-over between heating and cooling

If a floor heating actuator with pump control and Multi IO Box is used, you have the chance to perform a change-over between heating and cooling operation via a connected switch. Pump control is performed via the output OUT2 of the MIOB.

The boiler is controlled via the output OUT1 of the Multi IO Box. The change-over between heating and cooling mode can only be controlled via the input IN1 of the Multi IO Box. This deactivates a switch-over via the app.

Heating circuits 1-6 resp. 1-10 are coupled via the Alpha IP room control unit. The use of several floor heating actuators for floor heating control is possible.



The devices for controlling the floor heating and the pump with the possibility to change over between heating and cooling operation must be configured as follows:

- Teach in the floor heating actuator and allocate one room to each channel.
- In the menu, tap on “Device overview” and select the floor heating actuator there.
- The next window shows the device configuration overview.



Screenshots: Configuration HmIP-FAL-xx

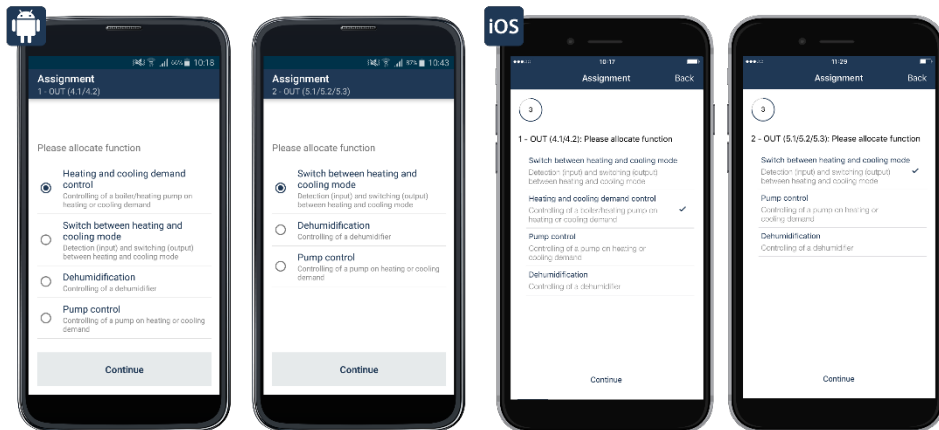
- Set the local pump control to “On” here and adapt the actuator type to the one which is used (NC or NO).
- Under “Heating circuit” the lead time and the follow-up time of the pump (see section

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„Pump lead time/follow-up time“ on page 39) can be configured.

- Teach in the Multi IO Box.
- In the menu, tap on “Device overview” and select the Multi IO Box there.
- The next window shows the device configuration overview.



Screenshot: Configuration of Multi IO Box for change-over between heating and cooling operation via the input of the Multi IO Box

- In the menu item “Assignment”, allocate the output OUT1 to the heating and cooling demand control and tap “Next”.
- In the next window, select the option “Switch-over between heating and cooling operation” for output OUT2, and tap “Next”.



Screenshot Konfiguration Multi IO Box für Wechsel zwischen Heiz- und Kühlbetrieb über einen extern angeschlossenen Schalter (2)

- Select the option “Switch-over between heating and cooling operation” for input IN3.
- Subsequently a channel overview with the associated functions is displayed.
- Further settings can be made via the selection of the respective room.

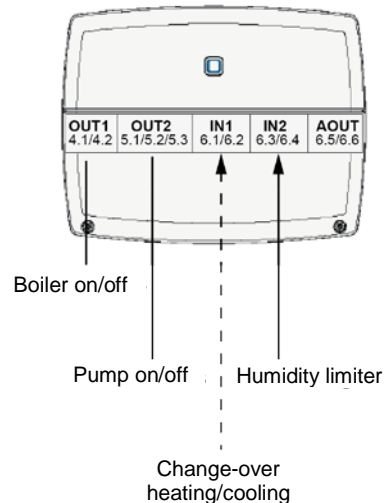
6.3.12.7 Application example 7: Control of floor heating and recirculation pump with switch-over between heating and cooling operation as well as humidity limitation

If a floor heating actuator with pump and Multi IO Box is used, you have the chance to define the humidity limitation. For this, the cooling operation of the floor heating is deactivated, if a humidity

sensor connected to the Multi IO Box is activated. This serves for avoiding the formation of condensate on the floor surface or on the piping of the heating installation.

The circuitry is identical to 6.3.12.6 application example 6.

Input IN1 of the Multi IO Box controls the heating and cooling operation via a connected switch; an active humidity sensor with switching output is connected to input IN2.



The devices for controlling the floor heating and the recirculation pump with the possibility to change over between heating and cooling operation and humidity limitation must be configured as follows:

- Teach in the floor heating actuator and assign one channel to each room.
- Tap on “Device overview” in the menu and select the floor heating actuator.
- The next window shows the device configuration overview.



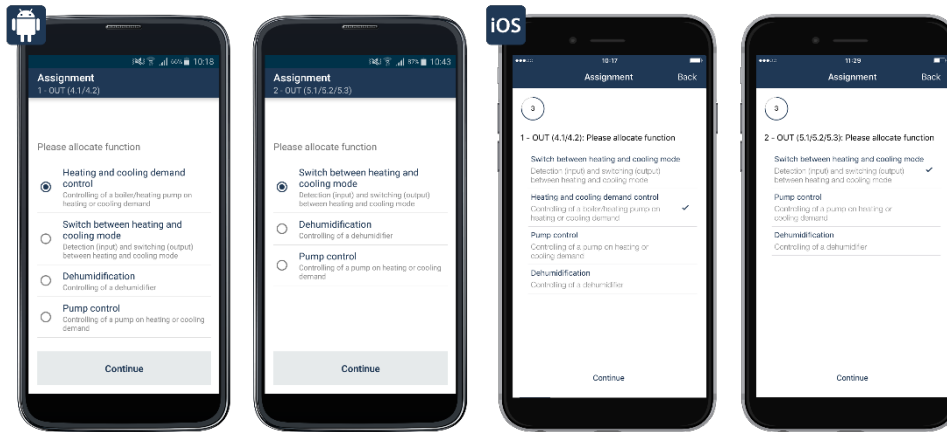
Screenshots: Configuration FAL-xx

- Set the local pump control to “On” and adapt the actuator type to the one which is used (NC or NO).
- Under “Heating circuit” the lead time and the follow-up time of the pump (see section „Pump lead time/follow-up time“ on page 39) can be configured.
- Teach in the Multi IO Box.
- Tap on “Device overview” in the menu and select the Multi IO Box.

Alpha IP

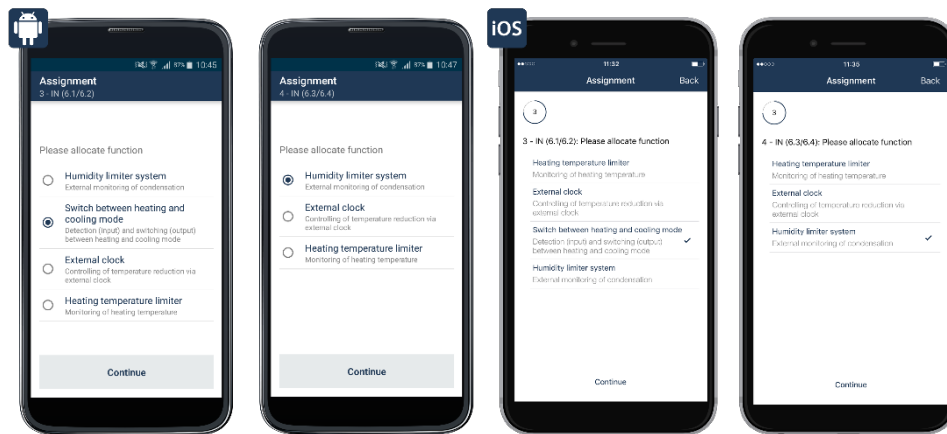
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- The next window shows the device configuration overview.



Screenshot: Configuration of Multi IO Box for humidity limiter (1)

- In the menu item “Assignment”, allocate the output OUT1 to the heating and cooling demand control and tap “Next”.
- In the next window, select the option “Switch-over between heating and cooling operation” for output OUT2, and tap “Next”.



Screenshot: Configuration of Multi IO Box for humidity limiter (2)

- Select the option “Switch between heating and cooling mode” for input IN3.
- Allocate the function „Humidity limiter system” to input IN4.
- Subsequently the channel overview with the associated functions is displayed.



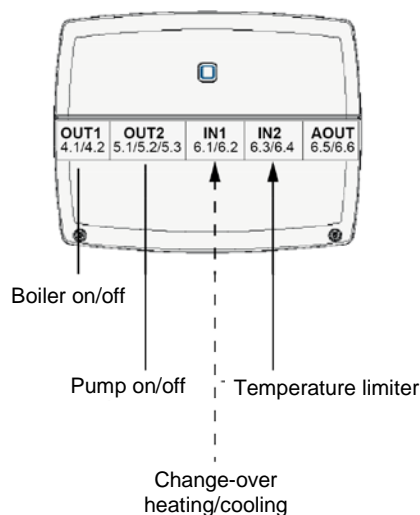
Screenshot: Channel overview, configuration of Multi IO Box for humidity limiter

- Further settings can be made via the selection of the respective room.

6.3.12.8 Application example 8: Control of floor heating and recirculation pump with temperature limitation

If a floor heating actuator with pump and Multi IO Box is used, you have the chance to define the temperature limitation. For this, the pump will be switched off, and the floor heating actuator closes all actuators, when the temperature limiter has detected an excessive flow temperature.

The circuitry is identical to 6.3.12.6 application example 6. The input IN2 of the Multi IO Box controls the temperature limitation.



The devices for controlling the floor heating and the pump with temperature limitation must be configured as follows:

- Teach in the floor heating actuator and assign one channel to each room.
- Tap on "Device overview" in the menu and select the floor heating actuator.
- The next window shows the device configuration overview.

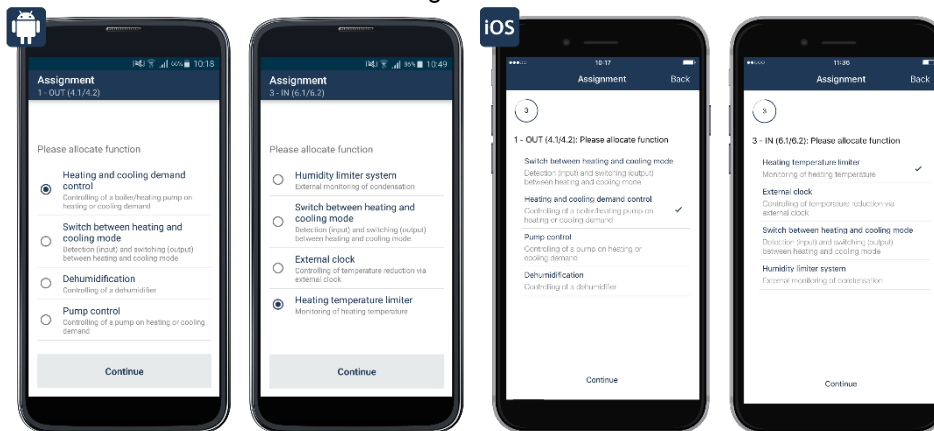
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Screenshots: Configuration FAL-xx

- Set the local pump control to “On” here and adapt the actuator type to the one which is used (NC or NO).
- Under “Heating circuit” the lead time and the follow-up time of the pump (see section „Pump lead time/follow-up time“ on page 39) can be configured.
- Teach in the Multi IO Box.
- Tap on “Device overview” in the menu and select the Multi IO Box.
- The next window shows the device configuration overview.



Screenshot: Configuration MIOB for temperature limitation

- In the menu item “Assignment”, allocate the output OUT1 to the heating and cooling demand control and tap “Next”.
- Select the option “Heating temperature limiter” for input IN3.
- Subsequently a channel overview with the associated functions is displayed.



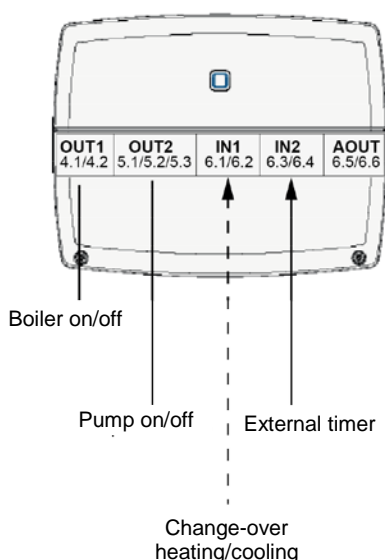
Screenshot: Channel overview MIOB for temperature limitation

- Further settings can be made via the selection of the respective room.

6.3.12.9 Application example 9: Control of floor heating and recirculation pump with external timer for setback operation

If a floor heating actuator with pump and Multi IO Box is used, you have the chance to define an external timer for an automatic change-over to setback operation.

The circuitry is identical to 6.3.12.6 application example 6. The input IN2 of the Multi IO Box controls the external timer.



The devices for controlling the floor heating and the pump with external timer for setback operation must be configured as follows:

- Teach in the floor heating actuator and assign one channel to each room.
- Tap on "Device overview" in the menu and select the floor heating actuator.
- The next window shows the device configuration overview.

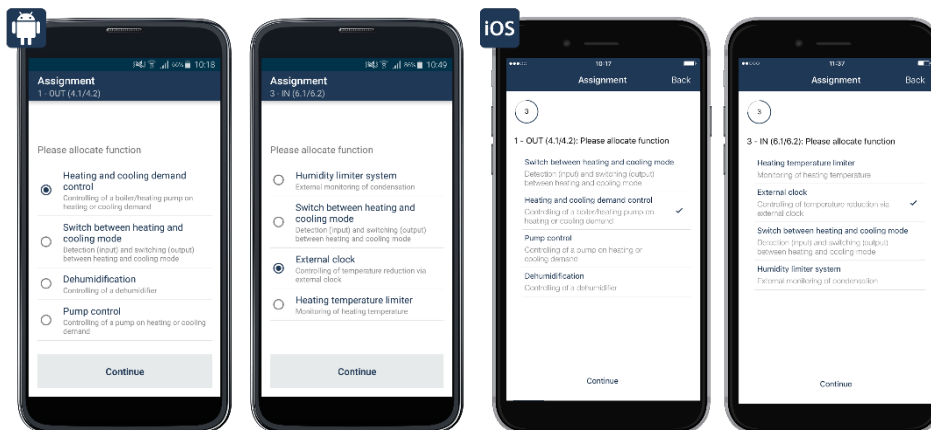
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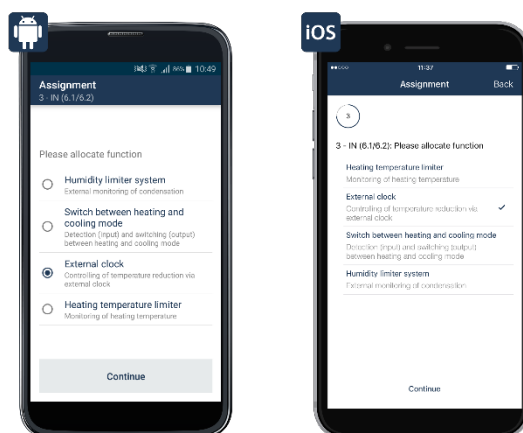
Screenshots: Configuration FAL-xx

- Set the local pump control to “On” here and adapt the actuator type to the one which is used (NC or NO).
- Under “Heating circuit” the lead time and the follow-up time of the pump (see section „Pump lead time/follow-up time“ on page 39) can be configured.
- Teach in the Multi IO Box.
- Tap on “Device overview” in the menu and select the Multi IO Box.
- The next window shows the device configuration overview.



Screenshot: Configuration of external timer (MIOB)

- In the menu item “Assignment”, allocate the output OUT1 to the heating and cooling demand control and tap “Next”.
- Select the option “External timer” for input IN2.
- Subsequently a channel overview with the associated functions is displayed.

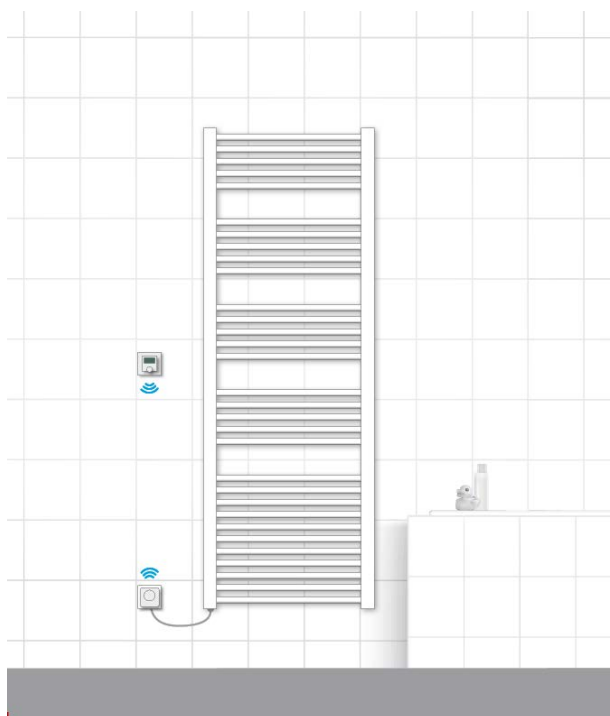


Screenshot: Channel overview of external timer (MIOB)

- Further settings can be made via the selection of the respective room.

6.4 Heating systems with electric heaters





Many households use one or more electric heaters to heat bathrooms or individual rooms that are not used very often, independently from the central heating, or to heat garden sheds. The temperature can be controlled exactly and demand-oriented in rooms with electric heaters in connection with the Alpha IP Pluggable Switch and a Wall Thermostat. Another advantage: Thanks to the measurement function in the device, the energy usage and the energy costs can be viewed in the Alpha IP Smartphone App.






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6.4.1 Devices for basic configuration

Product	Description	Notes on Planning
Alpha IP Access Point - HAP 21001		
	<p>The Alpha IP Access Point connects the smartphone with the Alpha IP devices through the Alpha IP Cloud and forwards configuration and operation commands from the Alpha IP App to the Alpha IP devices.</p>	<p>It should be placed as centrally as possible in the building to ensure an optimal wireless connection to the devices.</p> <p>Installation is performed through the integrated Ethernet interface connected to a common DSL router.</p>
Alpha IP Pluggable Switch - PS 21001		
	<p>For useful and effective control of electrical heaters, it is recommended to equip all electrical heaters with a pluggable switch. The devices can regulate the room temperature exactly in connection with an Alpha IP wall thermostat.</p>	
Alpha IP Room Control Unit Display - RTD 61001		
	<p>The Alpha IP Room Control Unit with a large display collects the temperature and humidity in the room and periodically forwards this information to the taught-in pluggable switches. The room temperature can be controlled exactly with the help of the determined values. The target temperature can be set manually with the control wheel. The room temperature can also be timed to adjust the heating periods to your individual needs.</p>	<p>Wall thermostats should be mounted at a height of about 1.5 m and, if possible, they should not be placed on cold exterior walls or in other areas that could distort the measurements (e. g. places with direct sunlight or close to other sources of heat).</p>
Alpha IP Room Control Unit Display S - WTH 61001		
	<p>The Alpha IP Room Control Unit Display S for installation in the switch program or direct wall mounting collects the temperature and humidity in the room and periodically forwards this information to the taught-in pluggable switches. The room temperature can be controlled exactly with the help of the determined values. The target temperature can be set manually with the control wheel. The room temperature can also be timed to adjust the heating periods to your individual needs.</p>	<p>Notes on planning for the Alpha IP Room Control Unit Display; this device can be integrated into the frames of other popular switch program manufacturers (like Berker, EISO, GIRA, Merten, JUNG).</p>

6.4.2 Extension options

Product	Description	Notes on Planning
Alpha IP Pluggable Switch and Meter - PSM 21001		
	<p>For useful and effective control of electrical heaters with simultaneous measurement of the energy usage, it is recommended to equip the electrical heaters with a pluggable switch and meter.</p> <p>The room temperature is regulated exactly in connection with an Alpha IP wall thermostat. The app provides information on the energy usage.</p>	
Alpha IP Window / Door Contact - SWDO 61001		
	<p>The Alpha IP Window/Door Contact optically recognizes open windows or doors by infrared sensor. The status of opened windows or doors is displayed in the Alpha IP App and it is sent to other components. Therefore, the valves of the connected radiator thermostats can be closed and the heating can be stopped as long as the windows are open.</p>	<p>The contacts are installed with adhesive tape or supplied screws.</p> <p>They are positioned on the side where the window/door handle is located and they are placed in the upper third of the window/door frame with a distance of 3 mm.</p>
Alpha IP RBG Analog - RTA 61001		
	<p>The room control unit Analogue collects the room temperature data in its room. The information is sent to the connected pluggable switch to control the electric heater.</p>	<p>It is best to mount the room control unit where the users spend most of their time so the room temperature is measured in this spot.</p> <p>Mount room control units at a height of about 1.5 m and, if possible, do not place them on cold exterior walls or in other areas that could distort the measurements (e. g. places with direct sunlight or close to other sources of heat).</p> <p>Please note remarks in the data sheet or the installation manual.</p>

6.4.3 Overview of functions

The following overview of functions shows which functions are available in combination with Alpha IP devices. The devices marked with “✓” are required for usage; the devices marked with “o” are optional.

Alpha IP Smart Home solution: Heating systems with electric heaters									
Functions	HAP	APP	SWDO	WTH	RTD	RBG Analogue	WRC2	PS	PSM
Perform temperature settings	✓	✓		o	o	o			
Display target temperature	✓	✓		o	o	o			
Display actual temperature	✓	✓		✓	✓				
Display Humidity	✓	✓		✓	✓				
Activate / deactivate boost function	✓	✓		o	o				
Set boost period	✓	✓							
Activate /deactivate ECO mode	✓						o		
Switch between automatic and manual mode	✓	✓		o	o				
Activate / deactivate window-open temperature	✓		✓						
Set minimum / maximum temperature	✓	✓							

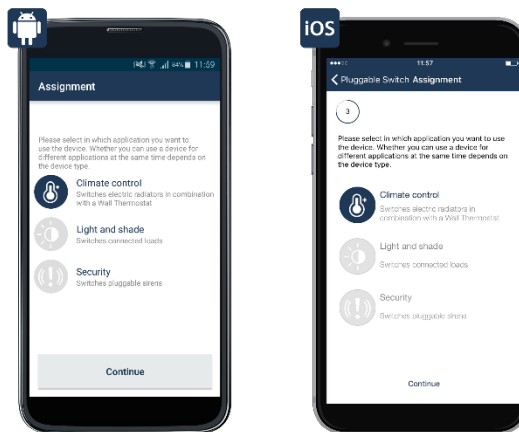
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Set heating profile	✓	✓							
Set temperature offset	✓	✓				✓			
Signaling delay	✓		✓						
Regulate room temperature with electric heater	✓		✓	✓	✓	✓		✓	✓
Operation lock per heating zone	✓	✓		✓	✓				
Set date and time	✓	✓							
Information on battery status	✓	✓		✓	✓				

6.4.4 Teach-in pluggable switch

Please follow the steps in section 3.4 “Teach-in devices”. The pluggable switch must be assigned to the selection “Room climate” in order to be used in the Smart Home solution heating control.



Screenshot of assignment to room climate

6.4.5 Setting up the pluggable switch

No settings can be made for this Alpha IP pluggable switch.

6.4.6 Teach-in room control units

Please follow the steps in section 3.4 “Teach-in devices” and teach-in the room control units. The room control units are also assigned to each room in this step.

By assigning the radiator thermostats and the room control units to each room, the room control units are automatically assigned to the corresponding radiator thermostats. If there are several radiator thermostats assigned to one room, they are collectively assigned to one room control unit.

6.4.7 Set up room control units

Select a room in the home screen of the app. Tap the menu symbol at the top right “☰” (Android) or tap “Edit” (iOS). The following menu items are available:

- Configuration
- Consumption measurement (only for pluggable switch and meter)
- Rename room
- Delete room
- Standard view

6.4.7.1 Configuration

The individual rooms are configured through this menu item.

Minimum temperature

- Tap “Minimum temperature” and select the desired temperature with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired minimum temperature is saved.

Maximum temperature

- Tap “Maximum temperature” and select the desired temperature with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired maximum temperature is saved.



The minimum and maximum temperatures are set in the menu item “Configuration” and have priority over the selected heating profile of the corresponding room

If, for example, the maximum temperature of a room was set to 20 °C in the configuration, this temperature limit applies even if a temperature of 22 °C was set for one or more heating phases of the selected heating profile. This also applies to the minimum temperature.

Window-open temperature

In this menu item, you can set the the temperature to which the radiator thermostat/the radiator thermostats of the respective room is supposed to be lowered if the window is opened.

- Tap “Window-open temperature” and select the desired temperature with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired window-open temperature is saved.

Boost period

In this menu item, the period of the boost function is set. If the boost function is activated through the app or on the thermostat, the valve of the thermostat is completely opened for the set period so that the optimal comfort temperature is reached quickly.

Tap “Boost period” and select the desired boost period with the control wheel. After tapping “Confirm” (Android) or “Done” (iOS), the desired boost period is saved.

6.4.7.2 Consumption measurement

Devices like the Alpha IP Pluggable Switch and Meter or the Switch Actuator and Meter for brand switches allow switching on and off, and showing the current consumption measurement in kWh and in the stored currency unit of the connected devices.

6.4.7.3 Rename room

- Tap “Rename room”
- Assign a new name.
- The new name is saved by tapping “Confirm”.

6.4.7.4 Delete room

In this menu item, a room is deleted.



If a room has devices assigned to it, all of these must be deleted first in the device overview.

- Tap “Delete room”.
- After tapping “Confirm” (Android) or “Done” (iOS), the room is deleted.

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6.4.8 Teach-in more devices for heating systems with radiators

Please follow the steps in section 3.4 “Teach-in devices” and teach-in the corresponding device (e. g. window contact). The corresponding device must be assigned to the selection “Room climate” in order to be used in the Smart Home solution heating control. Also, the device must be assigned to the desired room.

By assigning the radiator thermostats and the corresponding devices to each room, the assignment to each other is done automatically.

6.4.9 Set heating profile

See section 6.5.3.2 Create individual profile


6.5 Operating modes

After the system and the devices are installed and operational, the Smart Home solutions of the heating control can be carried out in 5 individual modes of operation.

- In the operation mode “**Manual**“ (6.5.1), the room temperature is controlled manually and independently from the heating profiles.
- In the operation mode “**Automatic**“, the system controls the temperature correspondingly to the heating profiles defined and selected by the user.
- The operation mode “**ECO**“ can be activated in the home screen of the app or on an Alpha IP Wall Mount Switch. By doing so, the temperature of all or of individual rooms is automatically lowered to a pre-set ECO temperature (reduction temperature). Rooms that are heated with floor heating cannot be used with the ECO mode.
- In **Party mode**, the temperature in a room can be kept at a certain level for a defined amount of time.
- In **Vacation mode**, the room temperature is lowered to a pre-selected temperature until a set point in time. In vacation mode, the temperature of the floor heating is also lowered

6.5.1 Operating mode “Manual”

By selecting the operation mode “Manual”, there is a possibility of setting a room temperature that is then kept constant. The stored heating profile for the corresponding room is then terminated.

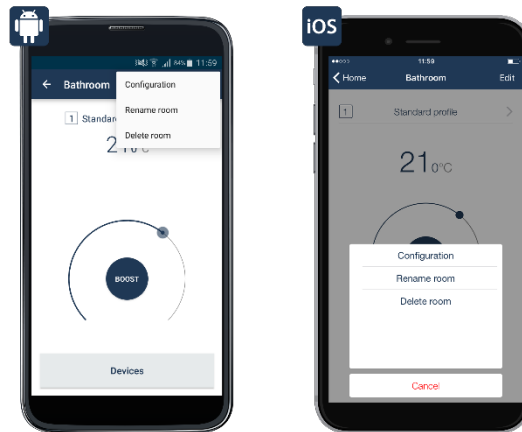
- Tap the home screen of the room for which you want to activate the profile “Manual”.
- Tap the currently activated profile.
- In the pop-up window “Delete visible profiles” tap “Manual” and set the desired room temperature on the control wheel.
- Then tap back “” or on “Home” (iOS) to return to the home screen of the app.

6.5.2 Operating mode: Automatic

Heating profiles offer the possibility of adjusting the heating control for each room according to the user’s personal needs and the user’s individual pace of life.

Up to three different heating profiles are set in the app for each room. Within these heating profiles, different switching times are set for each day of the week and therefore the room temperature is controlled in a time-based manner – with up to six freely definable profiles per day. When switching from heating to cooling or the other way around, the profile is adjusted correspondingly.

All pre-set heating or cooling profiles can be selected under the corresponding rooms with the tap of a finger.



Select heating profile

6.5.3 Select and create heating and cooling profiles



Cooling profile: If the floor heating installed can also be used for cooling, this is supported by the Alpha IP base station (floor heating actuator). In rooms with floor heating, three pre-defined cooling profiles can be selected additionally to the heating profiles in the main menu under menu item “Heating/cooling profile”. All available cooling profiles can be adjusted to your personal needs, like the heating profiles.

All of the following descriptions for the heating profiles apply to the heating as well as the cooling. In order to keep the language simple, only the term “Heating profile” is used.



It must be ensured that the heat generator (e. g. central heating boiler, pellet heater, heating pump) supplies the necessary heating or cooling output synchronously with the programmed heating or cooling profile. Otherwise, in the case of the heat generator decreasing, the desired room temperature of the active heating or cooling profile cannot be reached.

6.5.3.1 The standard profile from the factory

In the app, up to three heating profiles can be defined and configured as needed for each room. Below, the default profile is explained in more detail:

The default base temperature is 17 °C. The base temperature indicates which temperature will be kept in the room if the heating profile is neither in a heating phase nor in a cooling phase.

Also, a room temperature of 21 °C is set for the time from 6 am to 9 am and from 5 pm until 9 pm for the weekdays. For Saturday and Sunday, a room temperature of 21 °C is pre-set from 6 am until 10 pm.

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Standard profile

6.5.3.2 Create individual profile

When adjusting the heating and cooling profiles, six options are available:

- Renaming profiles
- Changing the base temperature
- Changing the pre-defined heating phases
- Deleting and adding heating phases
- Copying the switch-over points to other weekdays
- Copying the profiles to other profile sections (transferring of complete weekly profiles to other rooms)

Selecting a profile

- Open the main menu “☰” (top left) and then tap “Heating profiles”.
- In the menu “Heating profile”, select the profile of the room that is supposed to be adjusted by tapping on “Unlabeled profile” under the respective room. The profile is loaded and the profile overview is opened with the heating profiles specified for each day of the week.

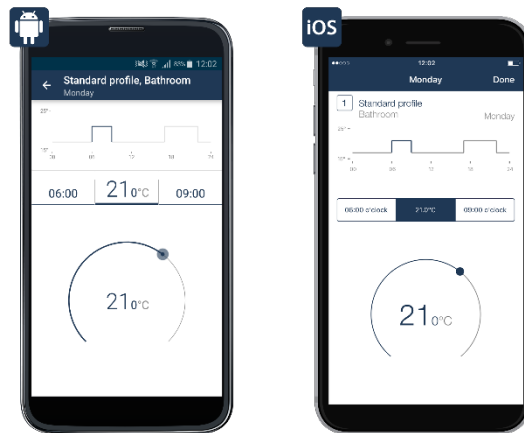
Renaming a profile

- Select the desired profile of the room by pressing and holding it in the “Heating profile” menu.
- Tap the pen symbol in the menu bar, assign a new name, and confirm.
- Select the device that is supposed to be renamed by swiping right to left in the profile overview. Tap “Rename” and assign a new name (iOS).

The confirmation of the entry automatically leads back to the menu “Heating profiles”.

Changing base temperature

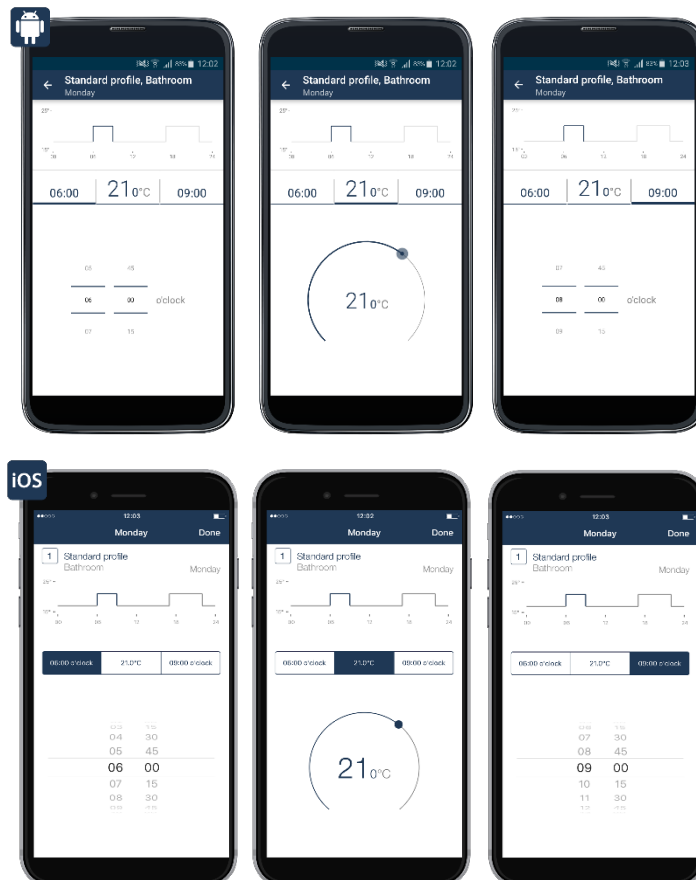
- Tap the top profile bar (Monday).
- Tap “Base temperature” and select the base temperature with the control wheel. Then tap back “<” (Android) or “Done” (iOS).



Changing the base temperature

Changing heating phases

- Tap the heating phase you want to change. Change the selected heating phase with the corresponding fields; beginning (left), target temperature (middle), and end (right). For saving the changes to the profile, tap back “<” three times and then tap “Save” (Android) or “Done” (iOS).



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Adding heating phases


- Select a day profile in the profile overview of a room and tap ⊕ (Android) or “+” (iOS). A new heating phase opens and it can be adjusted and saved as needed (see above “Changing heating phases”).

Deleting heating phases

- To delete heating phases tap (Android) or swipe right to left in the area of the selected heating phase and then tap “Delete” (iOS). The heating phase is deleted.

Copying the switch-over points to other weekdays

Android:


- Select the day profile you want to copy by pressing and holding it in the profile overview. Tap .
- Select the desired weekdays and tap “Confirm”.

iOS:

- Select the day profile you want to copy by swiping right to left in the profile overview and tapping on copy.
- Select the desired weekdays and tap “Done”. Transfer the week profiles to other rooms.

Transferring the week profiles to other rooms

Android


- Select the desired profile and copy it to other profile sections by pushing and holding it. Then tap .
- Select profile sections with the check box and tap “OK”.

iOS

- Select the desired profile and copy it to other profile sections by swiping right to left. Then tap “Copy”.
- Select the desired profile sections by tapping. Then tap “Done”.

Create additional heating profiles

In the app, up to three heating profiles can be defined for each room in the “Heating profile” menu.

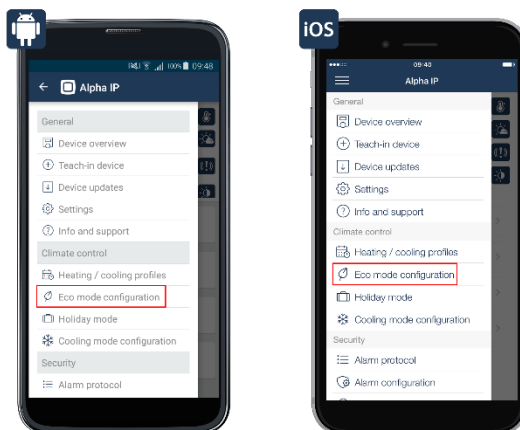
- Tap the icon  of the desired room.
- Select at least one additional visible profile in the pop-up window “Visible profile” and tap “Confirm” (Android) or “Done” (iOS).
- Tap “Unlabeled profile” (Android) or “Standard profile” (iOS). This process can be repeated in the profile overview as described above.



Here, too, there is a convenient possibility of transferring the switch-over points to other days of the week

6.5.4 Operating mode: ECO

In the home screen of the app, tap the main menu symbol “☰” (top left) and select “ECO mode / Wall mount switch” in the main menu.



Menu item ECO Mode/Wall Mount Switch

Under menu item “Rooms with ECO mode”, you can set in which rooms the temperature will be lowered to ECO temperature when activating the ECO mode. The default is that the ECO mode is activated for all rooms that are heated with a conventional or an electric heater. Rooms that are only heated with floor heating cannot be used with the ECO mode. In these rooms the temperature can be lowered for a period of time with the vacation mode. Individual rooms can be deselected by deactivating the check box. Afterwards the selection must be confirmed with “OK” (Android) or “Done” (iOS).

- The desired room temperature for ECO mode is selected with the control wheel in the menu item “ECO temperature”. After tapping “Confirm” (Android) or “Done” (iOS), the desired temperature is saved in the system.
- The duration of the ECO mode is set after pressing the wall mount switch under menu item “ECO period when pressing wall mount switch”. The options are 2, 4, and 6 hours, or “Permanent ECO mode”. At the end, save the selection with “Confirm”.

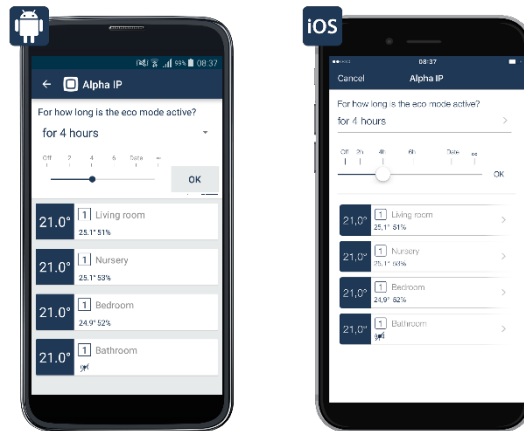
If the mode is switched from ECO to automatic in the home screen of the app, you will automatically be asked for how long the ECO mode will applied.

The following options can be selected with the slide bar:

- for 1 hour
- for 2 hours
- for 4 hours
- for 6 hours
- permanent ECO mode

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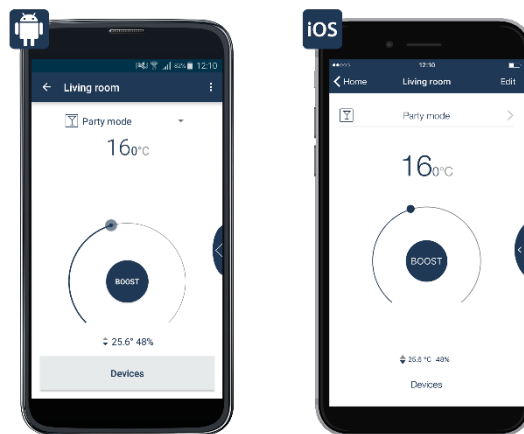
ECO duration when pushing wall mount switch

Additionally, the date can be adjusted by tapping on the time display in order to set a date until which the ECO mode is activated (up to a year).

6.5.5 Operating mode: Party Mode

For parties and other events, a certain temperature might be desired for a specific period. With the party mode, the room temperature can be set for a defined period of time.

- Tap the desired room on the home screen.



Screenshot of selecting party mode

- Tap the currently activated profile.
- Tap "Party mode" in the drop down menu "Visible profile".
- Select the period of time for which the party mode is supposed to be activated and then tap "Next".
- Set the desired room temperature on the control wheel.
- Then tap "Home" or "Home" (iOS) to return to the home screen of the app.



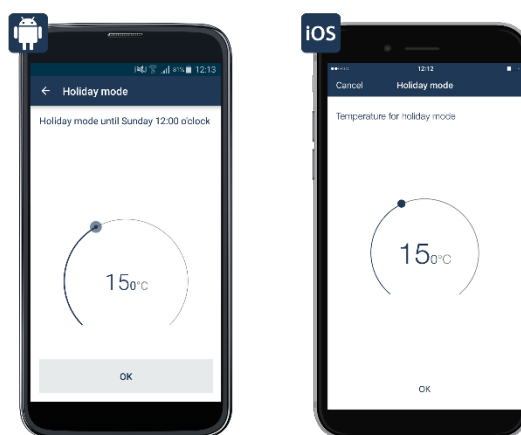
After the party mode has ended at the set time, the room temperature is controlled based on the profile selected last.

6.5.6 Vacation Mode

By activating the vacation mode, it is possible to lower the room temperature to a freely selectable temperature until a set point in time in order to save energy during a long absence. In contrast to the ECO mode, in vacation mode the temperature is lowered in all rooms, including rooms that are heated only with floor heating or wall surface heaters.

Activation of vacation mode

- In the home screen of the app, tap the main menu symbol “☰” (top left) and select “Vacation mode” in the main menu.
- Tap “Vacation mode” again (iOS) and select the end date and the end time.



Screenshot of vacation mode configuration

- Tap “Next” and set the desired room temperature for vacation mode on the control wheel. At last, confirm the selection with “OK”.

The set temperature will be kept until the selected time. After that, the system switches back to automatic mode with the stored heating profiles for the individual rooms.

Deactivation of vacation mode

- In the home screen of the app, tap the main menu symbol “☰” (top left) and select “Vacation mode” in the main menu.
- Android: Deactivate vacation mode by tapping “Confirm” in the following pop-up window.
- iOS: Tap “Vacation mode” (iOS) again and deactivate it by confirming with “Yes” (iOS) in the following dialog.



If ECO mode is activated, the app requests to confirm the switch from ECO mode to vacation mode. The same is true for switching from vacation mode to ECO mode.

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7 Smart Home Solution: Security and Monitoring

The Alpha IP Security Solution is suitable for protection in rented apartments as well as homes. The Alpha IP Security and Monitoring Solution provides for a safe feel by facilitating reliable monitoring and signaling in case of alarm. It is seamlessly integrated in the Alpha IP Smartphone App. Thus, some of the existing components from the room climate solution can be configured to assume additional or alternative security functions.



Window and door contacts protect the outer envelope of the house. If a window or door is opened without authorization, the system triggers an alarm in the app and, depending on the system configuration and settings, an indoor siren and a panic light.

The motion detector recognizes movements within the house reliably and it triggers an alarm if the system is switched on. Here, too, you have the possibility to individually set the activation of the alarm functions and the signals in the app.

With the key ring remote control, the system can be activated when leaving the house or deactivated when entering the house, independently from the app and with just the push of a button. Another push of the button turns on the coming home light, if needed.

The wall mount switch takes over the function of a panic button and when switched, it switches defined light sources, which are connected to a switch or a pluggable switch and meter.

The smoke alarm with Q-label offers early detection of dangerous smoke formation from starting fires, triggers a loud alarm siren, and sends an alarm to your smartphone. The device can also be used as a siren, e. g. for an intrusion alarm.

After the installation, if needed, the system can be activated in the app or with the Alpha IP Key Ring Remote Control. You can select between the options “Envelope protection” or “Full protection”. If the envelope protection is activated, it triggers the alarm e. g. when windows or doors are opened without authorization. If the full protection is activated, the sensors inside of the house are also activated.

For example, movements within the house are registered by movement detectors. In case of alarm, an acoustic signal can be triggered with a siren or a push notification can be sent to all registered smartphones. The alarm protocol offers an overview of all activities in the system.

You can also control security related light settings in the app: There is a coming-home light additionally to the panic light that is activated by the wall mount switch. It illuminates dark areas in the entrance area and allows for coming home safely. An alarm light can be defined additionally or alternatively to the triggering of the acoustic alarm. It will be turned on if the alarm is activated, and the feeling of security is increased.



7.1 Notes on planning

In the following sections there are important notes for the professional planning of different security systems. The following systems are described individually:

- Security system for fire protection
-
-
- Security and monitoring systems

7.2 Security system for fire protection

7.2.1 Devices for basic configuration

Product	Description	Notes on planning
Alpha IP Access Point - HAP 21001		
	The Alpha IP Access Point connects the smartphone with the Alpha IP devices through the Alpha IP Cloud and forwards configuration and operation commands from the Alpha IP App to the Alpha IP devices.	It should be placed as centrally as possible in the building to ensure an optimal wireless connection to the devices. Installation is performed through the integrated Ethernet interface connected to a common DSL router.
Alpha IP Smoke Alarms with Q-label – SWSD 63001		
	The Alpha IP Smoke Alarm with Q-label alerts securely, reliably, and early about developing sources of fire.	It can be used as individual detector or in cooperation with other Alpha IP Smoke Alarms with Q-label. The Alpha IP Smoke Alarm with Q-label can be used as additional alarm siren within the security and monitoring solution for burglary attempts.

7.2.2 Minimum Protection

For minimum protection, sleeping areas, particularly children's rooms and bed rooms, as well as hallways must be protected. For open connections between several levels, a smoke detector on the top level is the minimum safety requirement.

7.2.3 Recommended Protection

You should always install several smoke detector in the house or apartment. Ideally, smoke detectors are used in every room. This is the only way to be warned early and effectively from a developing fire. Further important information for installing the smoke detectors can be found in the manual of the device!

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7.2.4 Teach-in of the smoke detector

Please follow the steps in section 3.4.

7.2.5 Configure smoke detector

The full function of the of the Alpha IP Smoke Detector is active directly after the teach-in and the assignment to the room, and needs no further configuration.




The Alpha IP Smoke Detector can also be used as an alarm siren. Further information for this purpose can be found in section 0

Security and monitoring systems.







7.3 Security and monitoring systems

If possible, the security components should be placed where they are not easily seen from the outside. A motion detector for monitoring the room should be mounted where it will capture intruders on their way through the house/apartment, like in the entrance area and around patio doors.

7.3.1 Devices for basic configuration


Product	Description	Notes on Planning
Alpha IP Access Point - HAP 21001		
	The Alpha IP Access Point connects the smartphone with the Alpha IP devices through the Alpha IP Cloud and forwards configuration and operation commands from the Alpha IP App to the Alpha IP devices.	It should be placed as centrally as possible in the building to ensure an optimal wireless connection to the devices. Installation is performed through the integrated Ethernet interface connected to a common DSL router.
Alpha IP Window/Door Contact - SWDO 61001		
	Window and door contacts reliably signalize whether a window or a door is opened or closed and therefore they protect the outer envelope of the building.	All vulnerable windows and doors, particularly home entrances doors and patio doors should be secured by a window and door contact.
Alpha IP Motion Detector (interior) – SMI 63001		
	Motion detectors should be placed in areas which must be passed when entering an apartment/a house illegally.	The motion detector's angle of detection must be considered. In rooms that contain valuable objects, motion detectors are useful to monitor the room.

7.3.2 Extension options

Product	Description	Notes on Planning
Alpha IP Key Ring Remote Control - KRCA 63001		
	The Alpha IP Access Point connects the smartphone with the Alpha IP devices through the Alpha IP Cloud and forwards configuration and operation commands from the Alpha IP App to the Alpha IP devices.	<p>It should be placed as centrally as possible in the building to ensure an optimal wireless connection to the devices.</p> <p>Installation is performed through the integrated Ethernet interface connected to a common DSL router.</p>
Alpha IP Alarm Siren (interior) - ASIR 63001		
	The alarm siren interior provides for reliable, loud, acoustic, and optical signaling.	Install the sirens in the house so that every resident can hear the alarm sound well in the case of an alarm.
Alpha IP Smoke Alarms with Q-label – SWSD 63001		
	The Alpha IP Smoke Alarm with Q-label alerts securely, reliably, and early about developing sources of fire, in case of corresponding configuration.	<p>It can be used as individual detector or in cooperation with other Alpha IP Smoke Alarms with Q-label.</p> <p>The Alpha IP Smoke Alarm with Q-label can be used as additional alarm siren within the security and monitoring solution for burglary attempts.</p>
Alpha IP Wall Mount Switch (2 push button) - WRC2 61001		
	The wall mount switch turns on the panic light.	The Alpha IP Wall Mount Switch (2 push button) is mounted where the users spend most of their time so that it can be reached quickly in the case of an alarm.
Alpha IP Pluggable Switch - PS 21001		
	The Alpha IP Pluggable Switch is used for turning on the panic and alarm lights or pluggable sirens with a 230 V connector within the security solution.	<p>Depending on the application, the pluggable switch is used centrally in the house in connection with a pluggable siren to alert the residents of the house or to deter intruders.</p> <p>If the pluggable switch is used to control a lamp it can be defined as an alarm and panic light.</p>
Alpha IP Pluggable Switch – PSM 21001		
	The Alpha IP Pluggable Switch and Meter is used for turning on the panic and alarm lights or pluggable sirens with a 230 V connector within the security solution.	<p>Depending on the application, the Pluggable Switch and Meter is used centrally in the house in connection with a pluggable siren to alert the residents of the house or to deter intruders.</p> <p>If the Pluggable Switch and Meter is used to control a lamp, it can be defined as an alarm and a panic light.</p>
Alpha IP Motion Detector (exterior) – SMO 63001		

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	<p>The Alpha IP Motion Detector exterior offers additional protection for the house and the yard. The lens of the device can be turned 360° and tilted in the wall socket. So the detection zone can be adjusted to almost any angle to the wall and the floor.</p>	<p>The motion detector is used for switching lights or for recognizing movement in the outside area.</p>
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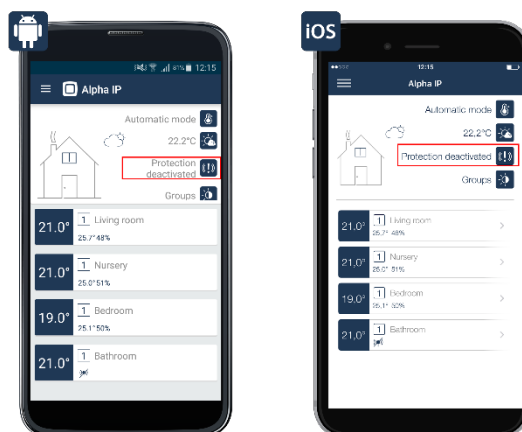
7.3.3 Overview of functions

The following overview of functions shows which functions are available in combination with Alpha IP devices. The devices marked with “✓” are required for usage; the devices marked with “o” are optional.

Alpha IP Smart Home Solution: Security and monitoring systems											
Function	HAP	APP	SWDO	SMI	SMO	ASIR	SWSD	WRC2	PS	PSM	KRCA
Detect open windows	✓	✓	✓								
Activate/deactivate envelope protection/full protection	✓	✓									✓
Envelope protection for monitoring the outer envelope	✓	✓	✓		(✓)						
Full protection for monitoring, including the inside of the building	✓	✓	✓	✓	✓						
Alarm signal (acoustic)		✓				✓	✓				
Alarm signal (optical)		✓				✓	✓		✓	✓	
Switch alarm light	✓	✓	✓	✓	✓						
Switch panic light								✓	✓	✓	
Alarm protocol	✓	✓									
Alarm configuration	✓	✓									
Switch coming-home light											✓
Emit alarm sound						✓	✓				
Light groups for alarm functions	✓	✓							✓	✓	
Silent alarm	✓	✓									
Duty cycle of the siren		✓									
Activation delay		✓									
Smoke detector alarm		✓					✓				
Acoustic actuation of the siren		✓				✓					

7.3.4 Activate alarm mode

Directly after teaching-in the first component of the Alpha IP Security and Monitoring Solution (e. g. the Alpha IP Window/Door Contact or the Alpha IP Motion Detector interior) with the app, the home screen of the app will display the security symbol. Through this symbol, alarm modes are switched on or off.



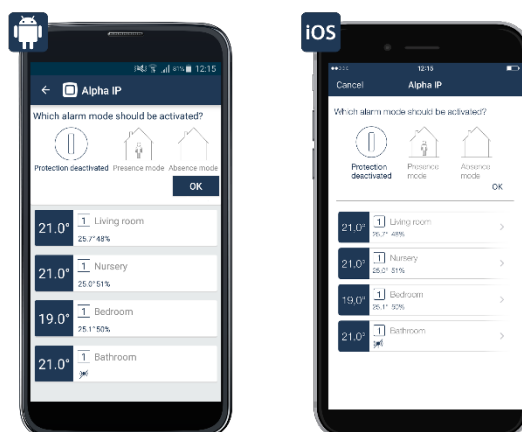
Home screen of the alarm mode

- Tap the security symbol.
- Select the desired alarm mode by tapping the corresponding symbol.
- Confirm the selection with "OK".

Disarmed: The system is disarmed. All security functions are deactivated.
 Envelope protection: The security functions of all devices selected for envelope protection are activated.
 Full protection: The security functions of all components of the security solution are activated.



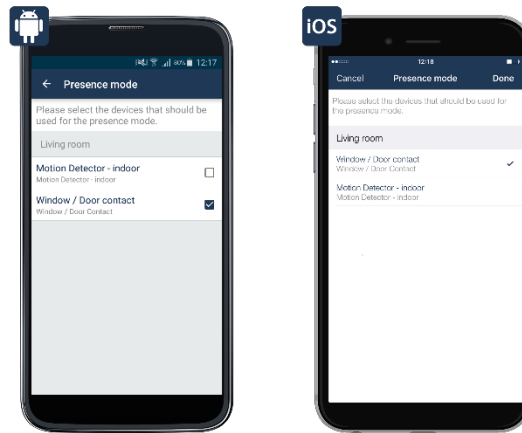
Note on the operation with the Alpha IP Motion Detector – interior
 Please note that an Alpha IP Motion Detector - interior holds this state for about 4 minutes when detecting movement. Therefore, delays can be caused when activating the alarm mode. The user is notified in the app.



Setting the security mode

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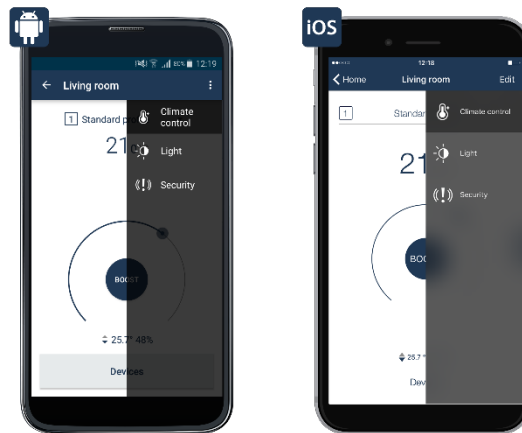


Screenshot of envelope protection

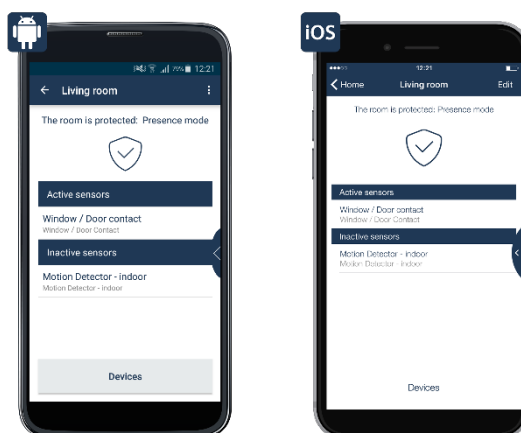
7.3.5 Security information in the menu item “Security”

The security status of a selected room can be checked always and from everywhere under the menu item “Security”. It informs about the kind of protection (not secured, envelope protection, full protection) and it lists the active and inactive sensors depending on the protection status.

- Select the room whose security status you want to check in the home screen of the app.
- For this, drag the circular section on the center right side of the screen to the left and tap “Security”.



Selection of “Security”.



Security information room view

After dragging the circular section to the left again, you can return to the desired menu at any time by tapping the menu item “Room climate” or “Light and shade”.

7.3.6 Configure Security Solution

In the next step, the application for the taught-in device can be selected after setting up the Access Point (see section 3.2 “Installing the Access Point”) and after teaching-in the security components (see section 3.4 “Teach-in devices”). Select the option of security to have the security functions available.

Teach-in the device in the menu item “Teach-in device” in the main menu. After registration with the Access Point, the assignment options of the device are requested.

- Depending on the device, select the different applications (for some devices, several different applications can be selected at the same time). Then confirm the selection with “Next”. This step is skipped for devices like the motion detector that are exclusively used within the security solution because the assignment is performed automatically.
- Subsequently, the device is assigned to a room (for some devices, this step is skipped)
- Assign device name and confirm the entry with “Next”.
- By tapping “Done”, the teaching-in/configuration is finished.

Further configuration options are available for the security components in the main menu under the item security. These are subdivided into the menu items “Alarm configuration”, “Light groups”, and “Envelope protection”.

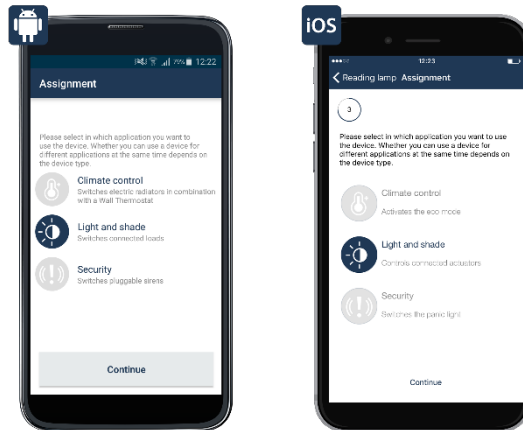
Some devices can be used for several applications. The Alpha IP Door and Window Contact, for example, assumes functions in the heating control as well as security functions if set correspondingly. Selected assignments can be changed or undone in the devices overview at a later time, if necessary.

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If pluggable switches and pluggable switches and meters are used for the light control within the security solution, the selection “Light and shade” must be selected.



Selection of usage assignment

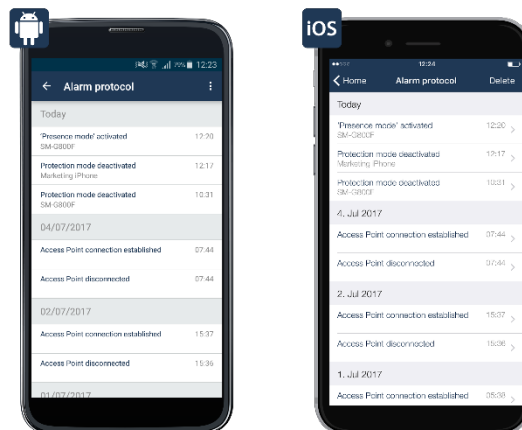
7.3.7 Alarm protocol

The alarm protocol informs about all activities and incidents of the system in a detailed and chronological manner. So you are always aware of what is happening in your home with respect to security. By tapping on one of the listed incidents, the detailed information for this incident is displayed, like date and time, as well as information about the trigger of the notification.

- In the home screen of the app, click on the symbol for the main menu “☰” and tap “Alarm protocol” under the “Security” menu item.
- The alarm protocol opens, displaying the security-relevant incidents.
- By scrolling down, the overview of the past days appears.



If necessary, the alarm protocol can be deleted at any time. If a PIN was allocated to the app, it will be required for deleting.



Alarm protocol

7.3.8 Alarm configuration

This menu offers an overview about the current configuration of the alarm functions of the security solution as well as needs based configuration options.

Silent alarm

- If the silent alarm is activated, the inside siren and the alarm light are not activated. In the case of an alarm, the system only sends a push notification to the app.

Duty cycle of the siren

- Here, the duty cycle of the inside siren is set. 3 minutes are preset; the other options are 4, 5, and 6 minutes.

Activation delay

- In this menu item, you can set how long the activation of the system is delayed. An activation delay is particularly useful, if the house is left by a path that is covered by a motion detector or if a door/window contact is installed on the front door.

7.3.9 Light Groups

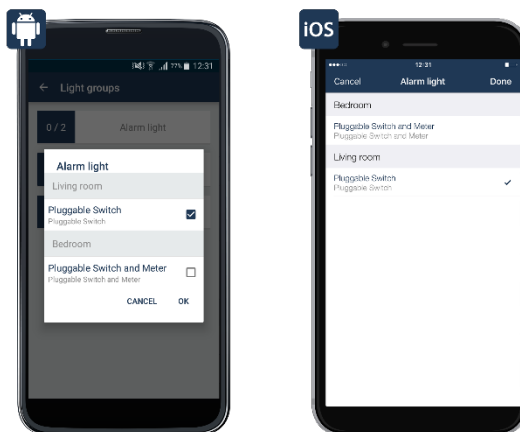
This menu allows for the configuration of light functions for the security solution.

7.3.9.1 Alarm Light

In this menu item, you can set which light sources will be switched on in the case of an alarm.

- Tap “Alarm light” in the “Light groups” menu.
- Select the listed switch or pluggable switch and meter which will turn on the connected light source in the case of an alarm.
- Tap “Done” to finish the process.

One or more pluggable switches can be activated for this function.



Screenshot of Alarm Light

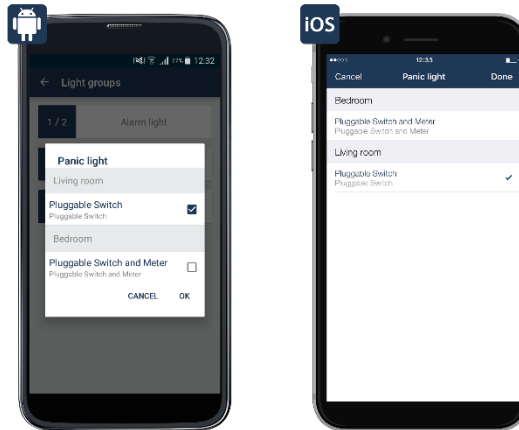
7.3.9.2 Panic Light

In this menu item you can define which light source(s) will be switched on when pushing the wall mount switch that is set as the panic button.

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- Tap “Panic light” in the “Light groups” menu.
- Select the switch or pluggable switch and meter(s) listed under the individual rooms that will turn on the connected light sources in the case of an alarm.
- Tap “Done” to finish the process.



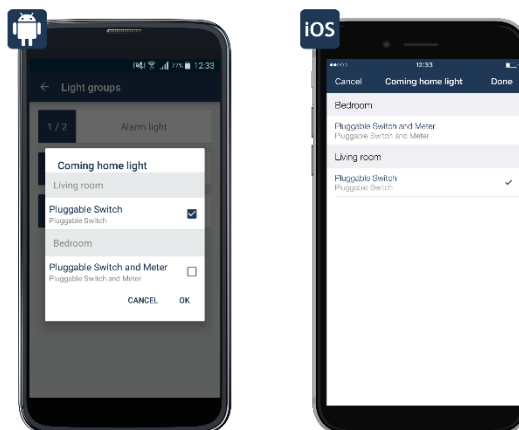
Screenshot of Panic Light

7.3.9.3 Coming Home light

The coming home light function activates light sources in the entrance area above the light button on the key ring remote control.

- Tap “Coming home light” in the “Light groups” menu.
- Select the switch or pluggable switch and meter(s) listed under the individual rooms that will turn on the light sources when pushing the light button of the key ring remote control.
- Tap “Done” to finish the process.

One or more pluggable switches can be activated for this function. Pushing and holding the light button of the remote control switches off the coming-home light.



Coming-Home light

8 Smart Home solution: Light

The comfortable switching and dimming of light creates a comfortable atmosphere in your home. The ceiling light can be turned off with the app for your movie night and the standing light can be dimmed to the desired illumination so that the right atmosphere is created. The secure feeling is improved by lighting the driveway or the facade of the house at night. Alpha IP products for lighting control can be integrated easily into the existing living environment by using the existing frames and switches of many brand name switches. Devices for shutter and canopy control will soon be available for the Alpha IP System.

Can the devices be integrated into existing installations?

Adding switching and dimming actuators at a later time is easy and flexible with Alpha IP with the help of different components like pluggable switches and flush-mounted devices. The usage of the switching and dimming actuators for brand name switches is particularly comfortable (BDT 24001-N0 and BSM 24001-N0). Switching the switches of common producers for an intelligent Alpha IP Installation is possible with adapters for different switches. By using the parts of the existing or provided for switches and cables, the installation effort is reduced to a minimum. The design, color, and surface of the switches already installed do not change because existing frames and switches can still be used.

Alpha IP Switching Actuators are suitable for inside and outside areas. The Alpha IP Switching/Measuring Actuators (FSM 26001-N0) will be mounted in suitable surface boxes (e. g. Abox 025 or Abox 040).

Which lights can be dimmed by the Alpha IP Dimming Actuator for Brand Name Switches?


The dimming actuator allows for the dimming of standard light bulbs, high voltage halogen lights, low voltage halogen lights with electronic transformer, dimmable energy saving lights, and dimmable LED lights.

8.1 Notes on planning

In the following sections there are important notes for the professional planning of different light installations. The following systems/components are considered individually:


- Components for the installation by the end user
- Components for the installation by professional electricians

8.1.1 Base configuration





Product	Description	Notes on Planning
Alpha IP Access Point - HAP 21001		
	<p>The Alpha IP Access Point connects the smartphone with the Alpha IP devices through the Alpha IP Cloud and forwards configuration and operation commands from the Alpha IP App to the Alpha IP devices.</p>	<p>It should be placed as centrally as possible in the building to ensure an optimal wireless connection to the devices.</p> <p>Installation is performed through the integrated Ethernet interface connected to a common DSL router.</p>

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Alpha IP Pluggable Switch – PS 21001/PSM 21001		
	<p>The Alpha IP Pluggable Switch or Alpha IP Pluggable Switch and Meter are used for switching light sources as well as standing lamps within the light solution.</p>	<p>The Alpha IP Pluggable Switch/Pluggable Switch and Meter is inserted between the customary electrical outlet and lamps.</p>

8.1.2 Extension options for installation by end users

Product	Description	Notes on Planning
Alpha IP Wall Mount Switch – WRC2 61001-N1		
	<p>The Alpha IP Wall Mount Switch (2 push button) switches specified light sources on and off.</p>	<p>The Alpha IP Wall Mount Switch (2 push button) is mounted where the users spend most of their time and where a light switch for comfortably switching light sources on and off is missing.</p>
Alpha IP Motion Detector (interior) – SMI 63001		
	<p>The Alpha IP Motion Detector (interior) switches on selected light sources when entering the detection area.</p>	<p>The motion detector's angle of detection must be considered. It is suitable for dark spaces like hallways where the light switch is not within reach when entering.</p>
Alpha IP Motion Detector (exterior) – SMO 63001		
	<p>The Alpha IP Motion Detector exterior switches on selected light sources when entering the detection area. The lens of the device can be turned 360° and tilted in the wall socket. So the detection zone can be adjusted to almost any angle to the wall and the floor.</p>	<p>The motion detector's angle of detection must be considered. It is particularly useful for switching on light sources on extensions, garden sheds, and for dark garage yards.</p>
Alpha IP Key Ring Remote Control - KRCA 63001		
	<p>Defined light sources are switched with the Alpha IP Key Ring Remote Control.</p>	<p>With the key ring remote control, users can turn the protection function on and off and, with the coming home/leaving function, they can switch light sources on and off without a smartphone.</p>

8.1.3 Extension options for installation by professional electricians

The components of this category are part of the building installation. The country's applicable standards and guidelines must be observed for planning and installation. The operation of the device is only permitted for 230 V/50 Hz AC voltage supply. Work on the 230 V voltage supply may only be executed by a professional electrician (according to VDE 0100) For this, the applicable accident prevention guidelines must be observed. In order to prevent electric shocks to the device, the power current must be turned off (switch off automatic circuit-breaker). Not complying with the notes on installation can cause fires or other dangers.

Product	Description	Notes on Planning
Alpha IP Switching/Measuring Actuator – BSM 24001-N0		
	<p>The Alpha IP Switching/Measuring Actuator for brand name switches replaces common light switches and expands them with the Smart Home functions including the collection of the energy usage data. An expansive adapter system allows for the seamless integration into various switch programs.</p>	<p>It replaces light switches in standard flush-mounted sockets. There are adapters available for the seamless integration into switch programs of companies like Berker, Jung, Busch-Jäger, Gira, düwi, and Kopp. These are available separately. A neutral conductor must be available for installation.</p>
Alpha IP Dimming Actuator Brand Switch – BDT 24001-N0		
	<p>The Alpha IP Dimming Actuator for brand name switches replaces common light switches and expands them with the Smart Home functions including the dimming function. An expansive adapter system allows for the seamless integration into various switch programs.</p>	<p>It replaces light switches and dimmers in standard flush-mounted sockets. There are adapters available for the seamless integration into switch programs of companies like Berker, Jung, Busch-Jäger, Gira, düwi, and Kopp. These are available separately. A neutral conductor must be available for installation.</p>
Alpha IP Switching/Measuring Actuator – FSM 26001-N0		
	<p>The Alpha IP Switching/Measuring Actuator is e. g. mounted in flush-mounted sockets, behind electrical outlets, and therefore modernizes them. All connected devices are conveniently turned on/off in the Alpha IP App. At the same time, the energy usage is measured and visualized in the app.</p>	<p>A deep flush-mounted device is necessary for installation behind electrical outlets. Alternatively, surface sockets may be used. These are available separately. It switches devices with up to 1150 W.</p>

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8.1.4 Overview of functions

The following overview of functions shows which functions are available in combination with Alpha IP devices. The devices marked with “✓” are required for usage; the devices marked with “o” are optional.

Alpha IP Smart Home Solution: Security and monitoring systems											
Function	HAP	APP	WRC2	PS	PSM	SMI	SMO	KRCA	BSM	BDT	FSM
Switch light source on and off	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dim light source	✓	✓	-	-	-	-	-	-	-	✓	-
Measure energy usage	✓	✓	-	-	✓	-	-	-	✓	-	✓
Switch switching groups on and off	✓	✓	✓	-	-	✓	✓	✓	-	-	-
Set brightness threshold	✓	✓	-	-	-	✓	✓	-	-	-	-

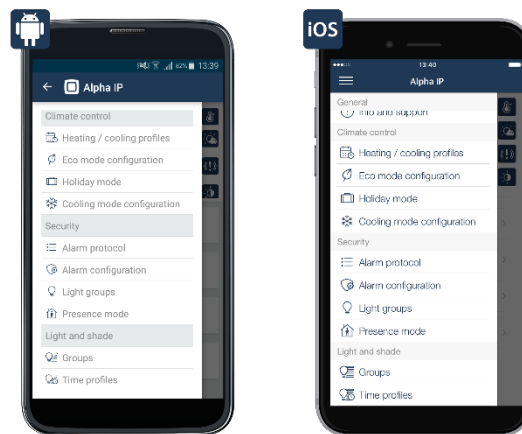
8.2 Configuration of Lighting Solutions

After teaching-in the light components, (see section 3.4 “Teach-in devices”) select the option “Light” so that the devices are available for the light solution.



This step is skipped for devices that are exclusively used within the light solution because the assignment is performed automatically.

The further configuration of the light solution is performed in the main menu under “Light and shade” via the menu items “Groups” and “Time profiles”.

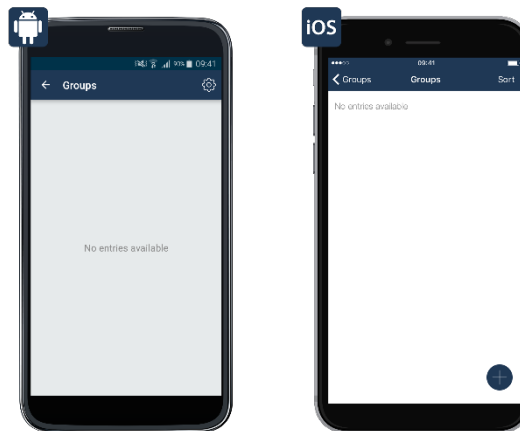


Selection of usage assignment

8.2.1 Create switching groups

Devices like the Alpha IP Pluggable Switches, Motion Detectors, or Switching Measuring Actuators are grouped in the app with the “Switching groups” function. All devices assigned to a group can then be turned on and off by the click of a button. Additionally, dimming values are defined when switching on components like the Alpha IP Dimming Actuator for brand name switches.

- Tap the main menu symbol “☰” in the app.
- Select the menu item “Switching groups” in the main menu under “Light and shade”.
- Then, tap the +-symbol and enter a name for the switching group.



Screenshot of creating switching group

- Confirm the name with “Return” (iOS) or “Enter” (Android) and then tap “Next”.
- By tapping the +-symbol, you can successively select the devices that are supposed to be assigned to this switching group (at first the receivers).
- If the desired devices are selected, tap “Next” to complete the the selection.
- Subsequently, select the device/s that is/are supposed to switch the switching group (buttons, motion detectors, etc.).



Please note! Each trigger/switch (buttons, motion detectors, etc.) can only be assigned to one switching group.

- By tapping “Next”, the new switching group is created and by additionally pushing the system button on each trigger/button, the configuration is finished.

8.2.2 Rename switching group

- In the home screen of the app, tap the main menu symbol “☰” and select “Switching groups” in the main menu.
- Subsequently, select the switching group by pushing and holding (Android) the corresponding switching group or by swiping right to left (iOS).
- Tap the pen symbol in the header (Android) or on “Rename” (iOS) and enter the new name of the switching group.
- The process is completed by tapping “Confirm”.

8.2.3 Delete switching groups

- In the home screen of the app, tap the main menu symbol “☰” and select “Switching groups” in the main menu.
- Subsequently, select the switching group by pushing and holding (Android) the corresponding switching group or by swiping right to left (iOS).
- To delete a switching group, tap “Delete” and then confirm.

8.2.4 Define dimming value

If several dimming actuators are included into a switching group, the dimming value for all dimmers in the concerning switching group is set in menu item “Dimming value”.

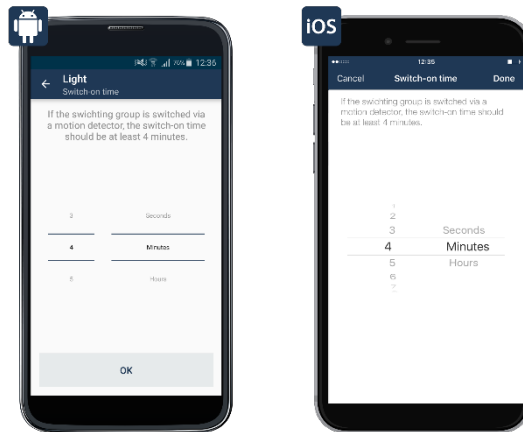
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- In the home screen of the app, tap the main menu symbol "☰" and select "Switching groups" in the main menu.
- Select the desired switching group by tapping it under "Switching groups".
- Tap "Dimming value" and select the dimming value with the control wheel. Additionally, it is possible to switch actuators to the last applied dimming value when turning them on.
- Tap "OK" (Android) or "Done" (iOS).

8.2.5 Define duty cycle

- Select the desired switching group by tapping it under "Switching groups".
- Tap "Duty cycle" and select the duty cycle (1 s up to 30 h or indefinitely).
- Tap "OK" (Android) or "Done" (iOS).



Screenshot of selecting trigger of switching group

8.2.6 Switching profile

The function "Switching profiles" allows to establish time profiles for light control. This allows e. g. the switching on and off of switching actuators in certain time periods or depending on sunrise and sunset, or light can be dimmed to a desired brightness value within defined intervals using dimming actuators.

8.2.6.1 Creating a switching profile

- Tap on the main menu symbol "☰" in the app home screen, and select the menu item "Time profiles" in the main menu under "Light and shade".
- Tap on the + symbol and select the option "Switching profile". Now enter the name of the switching profile.
- Subsequently tap on "Return" (iOS) or on "Enter" (Android) and confirm with "Next".
- Select the devices to be allocated to that switching profile one by one, by tapping on the + symbol.
- Tap on "Next" when your selection is complete.

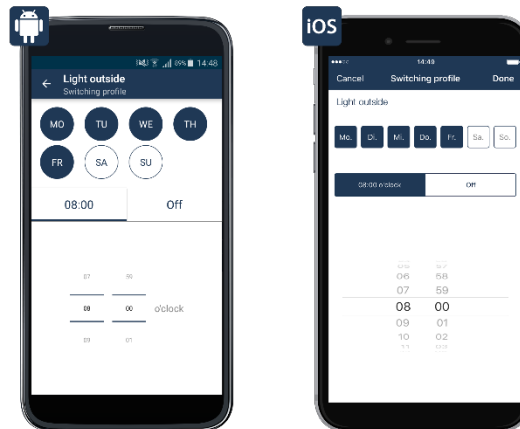


Each device resp. every pair of keys can only be allocated to one switching profile.

- Furthermore there is the possibility to make further settings for the time profile. Simply tap on "Time profile" in order to establish switching times and dimming values.

Selection “Switching time”

- Select the menu item “Time profile” in the overview and subsequently tap on the + symbol
- In the displayed selection choose “Switching time” and tap on “Switching point” (iOS) resp. “Confirm” (Android).
- Subsequently select one or several week days to which the selected switching time shall apply.



Screenshot: Setting the switching profile

- Subsequently select the switching time and the switching status (on/off) the actuator shall assume at the selected switching time.

Selection “Sunrise”/“Sunset”

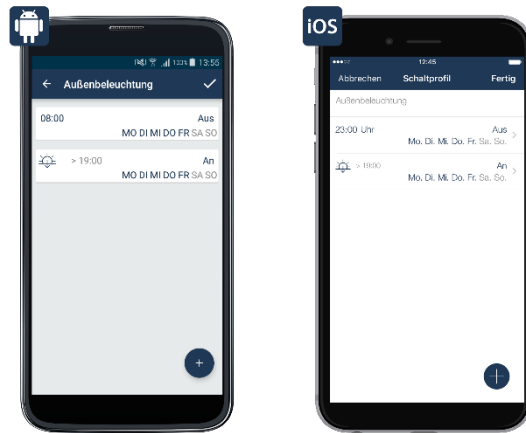
Furthermore it is possible to link the previously set switching times to temporal conditions:

- **No condition:** If, instead of the switching time, the option “Sunrise” resp. “Sunset” is selected for the switching actuator, the actuator switches to the defined status at sunrise resp. sunset, if the option “No condition” is selected.
- **At the earliest:** If the option “At the earliest” is selected, the actuator switches to the defined status at sunrise, however at the selected point of time at the earliest. Additionally a “Time shift” can be defined; this is, how many minutes before or after the sunrise the actuator shall switch, e. g. 30 minutes before sunrise, but at 6:00 am at the earliest.
- **At the latest:** If the option “At the latest” is selected, the actuator switches to the defined status at sunset, however at the selected point of time at the latest. Additionally a “Time shift” can be defined; this is, how many minutes before or after the sunset the actuator shall switch, e. g. 30 minutes after sunset, but at 9:00 pm at the latest.

The following example shows a switching profile for an exterior illumination, switched on from Monday through Friday from sunset through 11:00 pm, however not before 7:00 pm:

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Screenshot: Example for exterior illumination

Further time profiles can be created after the configuration of the switching profile by tapping on the + symbol.

8.2.7 Characteristics for switching with motion detectors

Motion detectors are only available as triggers for switching groups if the application “light and shade” is selected in the device assignment of the motion detector.



When a switching group is supposed to be switched by a motion detector, the duty cycle should be at least 4 minutes.

- Thanks to the integrated twilight sensor, the brightness threshold of the motion detector can be set in the app between the values 0 to 255. A low value causes the motion detector to only switch on in the darkness; if the value is set higher, it triggers in the daylight.
- Additionally, it is possible to adopt the current brightness value of the sensor as the brightness threshold.

8.2.8 Switching of switching groups in the home screen

The button “switching groups” in the home screen of the app allows for quick access to all of the system’s switching groups. In this menu item, all devices of a switching group can be turned on or off at the same time.



Screenshot of home screen of the switching groups

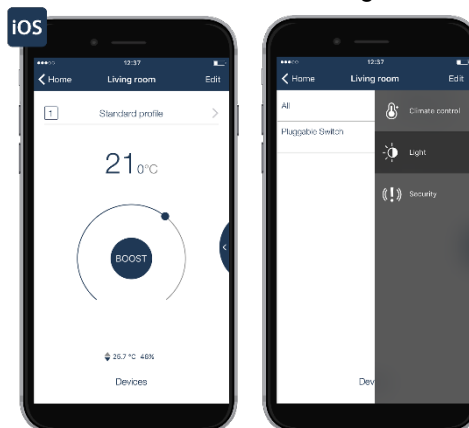
8.2.9 Switching of switching groups in the menu item “light and shade”

The menu item “light and shade” allows for switching light sources on and off in selected rooms: Devices like a standing light connected to an Alpha IP Switch or Pluggable Switch and Meter can be conveniently switched with the Alpha IP Smartphone App, at home and on the road.

- Select the room in which the device/s to be switched is/are located in the home screen of the app.
- For this, drag the circular section on the center right side of the screen to the left and tap “Light and shade”.
- In the menu item “Light and shade”, the devices listed can be turned on and off with the displayed buttons – either all devices at once or each device individually



Screenshot of Android selection “Light and shade”



Screenshot of iOS selection “Light and shade”

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9 Alpha IP via voice control

9.1 Amazon Alexa: Comfortable voice control for the Alpha IP Smart Home System

The interconnection of Amazon Alexa with the Alpha IP Smart Home System, in conjunction with an Amazon Alexa speaker with integrated voice assistance, offers the possibility to control numerous Alpha IP devices and functions via voice commands. The functions supported so far are the heating control and the activation of alarm functions, as well as illumination control (switching on/off and dimming). The activation and deactivation of the Eco operation and the control of switching groups are supported, too. The deactivation of alarm functions is impossible due to security reasons.

Preconditions for the use of the voice control:

- Alpha IP System with Alpha IP Access Point and devices supporting voice control
- Compatible smartphone (Android or iOS) with up-to-date Alpha IP app
- Amazon user account
- Speaker supporting the Amazon Voice Service (e. g. Amazon Echo, Amazon Echo Dot or Amazon Tap)
- Active Internet connection

9.2 Setting up Alexa

- Connect an Amazon Alexa compatible speaker to the mains network using the mains cable.
- Download the free Alexa app to the smartphone.



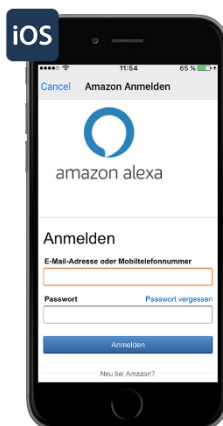
Please click [here](#) for the direct link to the Alexa app in Google Play Store.



Please click [here](#) for the direct link to the iOS app in the iTunes Store.



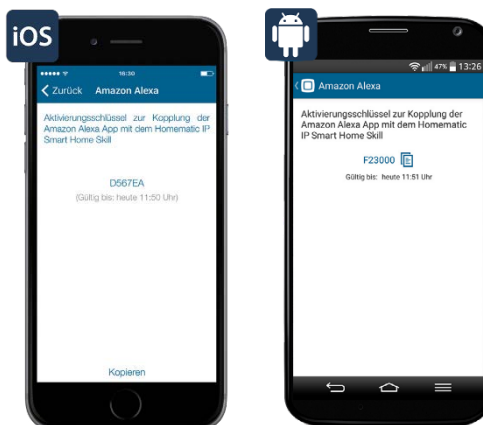
- Start the Alexa app and log on to the Amazon account by entering your personal data.




- Open the left navigation area and tap on “Settings”.
- Tap “Set up a new device” and select the device to be set up.
- Select the desired language, tap on “Next” and tap on “Connect to WLAN” in the subsequent window.
- If the Alexa device doesn’t react, press and hold the action button of the Echo device for 5 seconds. Please wait until Echo says that the set-up mode has been activated and the light ring becomes orange.
- Tap “Next” and follow the instructions of your Alexa app.
- The following message is given out: “You have connected Echo. Continue the set-up in your Alexa app.”
- Tap “Next”.
- Select your WLAN network and tap “Connect”.
- Tap “Next” after the set-up has been finished.

9.2.1 Connecting the Alpha IP Smart Home System to Alexa

- Open the Alpha IP app.
- Tap on “Settings” in the menu and select the menu item “Amazon Alexa”. The activation key for coupling the Alexa app to the Homematic IP Smart Home Skill is displayed.



- Tap on “Copy” (iOS) or on the Symbol “” (Android).

Activating the Homematic IP Smart Home Skill in the Alexa app:

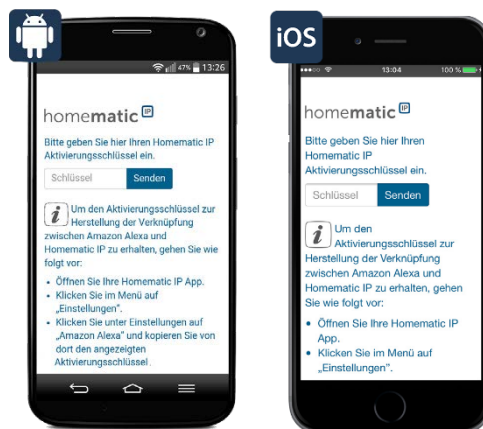
- Open the left navigation area in the Alexa app and tap on “Skills”.

Alpha IP

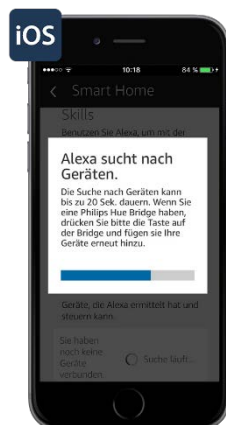
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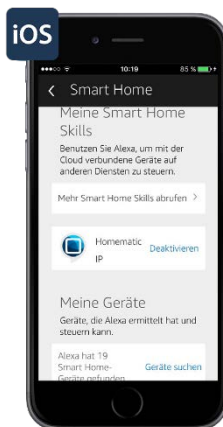
- Enter “Homematic IP” into the search field and tap on the magnifying glass symbol.
- Tap on the Homematic IP Skill to select it and tap on “Activate”.



- Enter the activation key in the review screen. For this, tap and hold the input field and subsequently tap on “Insert”.
- Tap on “Send” in order to establish the account linkage.



- Tap on “Search for devices” or say “Alexa, search for devices!”.



- All Smart Home devices Alexa has found and which can be controlled by her will be displayed in the Alexa app under the menu item “Smart Home”. For this, the Alpha IP app assumes the designations for devices and functions.

Now, numerous functions and devices of the Alpha IP Smarthome System can be controlled via voice commands.

9.2.2 General notes on Alexa and Alpha IP

Amazon Alexa compatible devices only react on voice commands if the activation word is said, for example:

“Alexa, set the bathroom to 29 °C.”



The activation word can be changed in the Alexa app if required.

Please select unique designations for all Alpha IP devices, functions and Alpha IP switching groups, as well as for groups in the Alexa app. Only then will Alexa be able to allocate these correctly.



Similarly sounding designations should be avoided: e. g. the designation “bedroom light” could be interpreted by Alexa as a voice command for a similarly designated heating group “bedroom”, which would make it impossible for Alexa to allocate the command correctly. For switching, the designation “Light bedroom” is recommended; Alexa’s error susceptibility would be much lower.

In case of mixed-up voice commands it is possible to allocate device or group names in the Alpha IP app correspondingly. Subsequently, the device list in the Alexa app (see section “9.2.3 Update Alexa device list” on page 99) must be updated.



Note: Word-letter combination as e. g. “Bathroom A” or word-cipher combinations as e. g. “Kitchen 1” are possibly hard to understand by Alexa.



For security reasons, alarm functions can be activated by voice commands, but not deactivated. In case of activated full protection and activated envelope protection, Alexa

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does not execute voice commands concerning the Alpha IP System in order to avoid unauthorized interference during absence.

9.2.3 Updating the Alexa device list

If names of device or functions as e. g. switching groups are changed via the Alpha IP app, or if new devices were taught in, it is necessary to have these devices searched in the Alexa app again. This process is performed regularly and automatically. The search can also be started with the voice command: "Alexa, search for devices!" or via the app:

- Tap on "Search for devices" under "My devices".



- A list of all devices Alexa has found and which can be controlled by her can be found under "My devices".



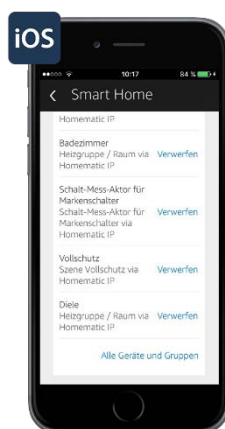
If the device search has been started via the voice command "Alexa, search for devices" the devices will only be listed under "My devices" after opening the menu item "Smart Home" again.



If there are many names/functions in the device list, it is recommended to change the sorting to "Name" because this facilitates the finding of the functions considerably.

If Alpha IP devices have been deleted from the system or if the allocation has been changed, these will not be deleted automatically in the Alexa list under "My devices". The following devices must be discarded manually in the Alexa app:

- Open the left navigation area in the Alexa app and tap on "Smart Home".



- Scroll through the device list and tap on “Discard” for devices to be deleted from the list.

9.2.4 Supported devices and functions

Currently, the following Alpha IP devices and functions are supported:

Devices/functions	On	Off	Set %	Increase %	Decrease %	Set °C	Increase °C	Decrease °C
Pluggable Switch (PS)	✓	✓	-	-	-	-	-	-
Pluggable Switch and Meter (PSM)	✓	✓	-	-	-	-	-	-
Switching-Measuring Actuator Flush Type (FSM)	✓	✓	-	-	-	-	-	-
Switching-Measuring Actuator (16 A) Flush Type (FSM)	✓	✓	-	-	-	-	-	-
Dimming Actuator Brand Switch Trailing-edge Phase (BDT)	✓	✓	✓	✓	-	-	-	-
Switching groups	✓	-	-	-	-	-	-	-
Heating groups	-	-	-	-	-	✓	✓	✓
Envelope protection	✓	-	-	-	-	-	-	-
Full protection	✓	-	-	-	-	-	-	-
ECO mode	✓	✓	-	-	-	-	-	-

9.2.5 Examples for voice talks

Devices controlled via switching actors, switching measuring actuators, pluggable switches and pluggable switches and meters can be switched on and off.

Example:

“Alexa, switch on the reading light.”

Light controlled via a dimming actuator can also be switched on and off.

Example:

“Alexa, switch on the light in the living room.”

Furthermore it is possible to set the lamp to a desired dimming value:

Example:

“Alexa, set the light in the living room to 50 %.”

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“Alexa, increase the light in the living room by 20 %.”
“Alexa, decrease the light in the living room by 40 %.”

Switching groups defined over the Alpha IP Smartphone app can be switched on and off:

Example:

“Alexa, switch on the light on the ground floor.”

Security functions as e. g. envelope protection and full protection can be activated via voice commands, but not deactivated for security reasons.

Example:

“Alexa, switch on full protection.”

Eco operation can also be switched on and off with a voice command:

Example:

“Alexa, switch on Eco mode.”

9.2.6 Alexa Smart Home device groups

In the Alexa app, multiple devices can be grouped, and all devices of this group can be controlled with one voice command. For example, several rooms can be integrated into a group, and the temperature of all rooms in the ground floor can be set with only one voice command.

- Open the left navigation area in the Alexa app and tap on “Smart Home”.



- Select the option “Create group” under “My groups”.
- Enter the name of the group, e. g. “House heating” into the text field.
- Select all “devices” to be entered into this group using the check boxes, and tap on “Save”.

Now all devices of this group can be controlled with only one voice command. The group function of the Alexa app also allows the combination of different systems as e. g. Alpha IP and Philips Hue, and their control via a voice command.

The group name can always be changed or deleted in the Alexa app; for this, tap on the group name and accept or deselect devices using the checkboxes.



When creating groups in the Alexa app, it must be observed that only similar rooms or devices can be entered into a group (e. g. rooms for heating control or pluggable switches and switching actors for illumination switching).



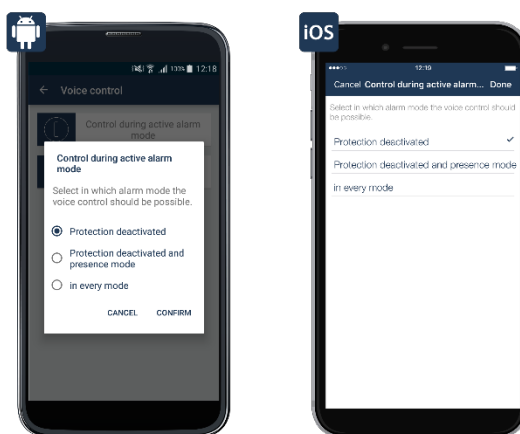
Commands for group functions are processed subsequently, not in parallel.

9.2.7 Voice control with active protection

For security reasons, alarm functions can be activated by voice commands, but not deactivated. The system is pre-configured in a way that Alexa – if full protection and envelope protection are activated – does not execute voice commands with respect to further Alpha IP functions.

However the app offers the possibility to configure the system in a way that Alpha IP functions can be controlled with voice commands even if envelope protection or full protection are active.

- For this, open the Alpha IP app.
- Tap on “Settings” in the menu and select “Control with active protection” under the menu item “Voice control”.



Screenshot: Selection of protection mode for voice control

Three options are available here:

- **Disarmed:** If this option is selected, voice control is only possible if the alarm mode “Disarmed” is activated.
- **Disarmed and envelope protection:** If this option is selected, voice control is possible in the alarm mode “Disarmed” and “Envelope protection”.
- **In every mode:** Voice control is possible in every activated alarm mode.

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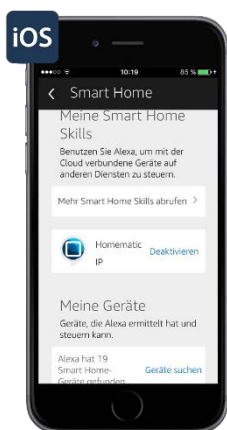
9.2.8 Deleting the connection between Alpha IP and Alexa

The connection between your Alpha IP app and the Alexa app can be deleted as follows:

- Open the Alpha IP app and tap “General” – “Settings” in the menu.
- Tap on “User overview”. Select the user “Amazon Alexa Client”.
- Wiping to the left (iOS) or tapping and holding the name (Android) opens the message for deleting the client. Tap “Delete” (iOS) or the symbol (🗑️) (Android). The connection between Alpha IP and Amazon Alexa is deleted.










Open the Alexa app and deactivate the Homematic IP Skill:

- Open the left navigation area in the Alexa app and tap on “Smart Home”.



- Under "My Smart Home Skills" in the "Homematic IP" field, click "Disable" and then "Disable Skill" in the pop-up window.

10 Overview of Flashing Codes

Flashing codes	Meaning	Comment
 A short orange flash (followed by an green or red light)	Transmission attempt, e. g. when pushing a remote control button.	Waiting for the process to be confirmed (long green light) If the LED lights up red, the wireless transmission has failed.
 1 x long green light	Process confirmed	Continue with operation.
 1 x long red light	Process has failed (e. g. partner could not be reached or duty cycle limit is reached)	Please try again.
 Short orange light (after green or red reception notification)	Low battery	Please exchange battery.
 Fast orange flashing	Transmitting configuration data	Waiting for transmission to complete.
 Short orange flash (every 10 s)	Teach-in mode active (for 3 minutes)	Teach-in device.
 Long and short orange flash (alternating)	Updating device software (OTAU)	Waiting for the update to complete.
 Fast orange flashing (after long push of the button)	Preliminary step for resetting to the factory settings	To trigger a factory reset, push the system button again until the LED lights up green. A short push of the button cancels the factory reset.
 6 x long red flash	Device defective	Pay attention to the notification in the app or consult your specialized dealer.

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11 Overview of Device Functions

The following overview indicates possible assignments of the Alpha IP Devices to the different Smart Home solutions of the Alpha IP System. At the same time, the functional overview is displayed about how a device can be used for several different Smart Home solutions in the same room.

- Heating control Room climate
 - Radiators HK
 - Floor heating FBH
 - Electric heating EH
- Security and monitoring SÜ
- Light and shade LB
- Consumption measurement VB

Alpha IP devices in Smart Home solution							
	Type designation	Heating (room climate)			SÜ	LB	VB
		HK	FBH	EH			
Alpha IP Access Point	HAP 21001	✓	✓	✓	✓	✓	✓
Alpha IP Radiator Thermostat	ETRV 61001	✓					
Alpha IP Window/Door Contact	SWDO 61001	✓		✓	✓	✓	
Alpha IP Room Control Unit Display	RGB	✓	✓	✓			
Alpha IP Room Control Unit Display S	WTH 61001	✓	✓	✓			
Alpha IP Wall Mount Switch (2 push button)	WRC2 61001	✓		✓	✓	✓	
Alpha IP Pluggable Switch	PS 21001		✓	✓	✓	✓	
Alpha IP Pluggable Switch and Meter	PSM 21001		✓	✓	✓	✓	✓
Alpha IP Motion Detector interior	SMI 63001-N1				✓	✓	
Alpha IP Motion Detector exterior	SMO 63001-N1	✓			✓	✓	
Alpha IP Alarm Siren	ASIR 63001-N1	✓			✓		
Alpha IP Smoke Detector	SWSD 63001-N1	✓			✓		
Alpha IP Key Ring Remote Control	KRCA 63001-N3				✓	✓	
Alpha IP Dimming Actuator for Brand Name Switches	BDT 24001-N0					✓	
Alpha IP Switching/Measuring Actuator for Brand Name Switches	BSM 24001-N0				✓	✓	✓
Alpha IP Base Station 230 V with 10 zones	FAL 21001-10		✓				
Alpha IP Base Station 24 V with 10 zones with transformer	FAL 41011-10		✓				
Alpha IP Base Station 230 V with 6 zones	FAL 21001-06		✓				
Alpha IP Base Station 24 V with 6 zones with transformer	FAL 41011-06		✓				
Alpha IP MIOB 230 V, neutral	MIOB 21001		✓				
Alpha IP Room Control Unit with Display	RTD 61001		✓				
Alpha IP Room Control Unit Analogue	RTA 61001	✓	✓	✓			

12 The HmIP Technology

12.1 Security Technology and Encryption

12.1.1 Bidirectional Communication

The radio communication between Alpha IP devices always runs two ways (bidirectional). The receiver confirms each radio signal that is directed his way and it transmits to the sender that a command was recognized and performed. Bidirectional communication increases the reliability of every system. Additionally, you will always be informed about the status of participating devices because of the type of confirmation (e. g. window status of switch status).

12.1.2 Security

During the installation of the system, the communication of HmIP is secure and therefore protected from manipulation. Even during operation, the encryption of the the radio transmissions prevents data packets from unknowingly being read or manipulated. Radio transmissions are only executed if the authorization by the receiver of the transmitter is successful (encrypted authentication). Interception, change, or other attacks on the data are not possible. For encryption and authentication, the encryption standard AES-128 is used in CCM mode. Worldwide, this procedure is considered particularly secure.

12.1.3 Optimizing the battery operation

If they are not directly addressed, the Alpha IP devices stay in “Sleep mode” or stand-by mode, which is beneficial to the battery life. The system operates with two different frequencies. The 868.3 MHz band is used for normal radio communication between Alpha IP devices. An additional frequency (869.525 MHz) is used for special functions like wake-on-radio – “waking up” devices that are supplied with energy by batteries – and updating the device software (OTAU) (see section “4.3.2 Install updates automatically”).

12.2 HmIP Radio Technology

12.2.1 Reception modes

Alpha IP devices have three different reception modes:

- “Always listening” is a mode where devices are continuously ready to receive, meaning they can receive radio transmissions at any time. This is the case for all Alpha IP devices that receive their energy from the power grid. The small amount of energy used to stay ready to receive transmissions is relatively small and it plays a subordinate role, in contrary to battery-powered devices. Examples for this are the pluggable switch and the pluggable switch and meter.
- “Cyclical reception” is a reception mode where a radio connection is made periodically in devices that are not connected to the power grid. Therefore the Alpha IP Radiator Thermostat switches to reception mode in preset intervals to receive the current room temperature from the Alpha IP Wall Thermostat.
- Another reception mode specifically for battery-powered Alpha IP devices is “Wake-on-radio”. Here, the receiver is “woken up” to receive radio data. The rest of the time, the receiver stays in the energy-saving “Sleep mode”. Thanks to this function, the Alpha IP Window and Door Contact can lower the radiator thermostats of a room immediately, if an open window is detected. If the signal is intended for another Alpha IP device, the receiver returns to the energy-saving “Sleep mode”.

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12.2.2 Radio Range

The range of radio based devices depends on many factors, particularly inside of buildings. Radio signals may be weakened by special building elements, high humidity, or obstructions like unfavourably placed furniture or metal plated surfaces. This is called attenuation. Therefore the so-called free-field range is established as a measure of the range of radio signals. It describes the range of radio signals in free field without interfering influences and it is, depending on the device, between 150 m to 600 m for HmIP.

The range of HmIP exceeds the standard requirements of a typical installation. Depending on the type of device, a free-field radio range between 150 to 600 meters is reached. Experience shows that a repeater for extending the range is used less in than 1 % of all installations.

Radio waves react similarly to sound waves. They can penetrate walls and spread in all directions. The energy of radio waves decreases with distance like the volume of sound waves. So the range of radio waves is limited.

In practice, there are factors that positively and negatively influence the range compared to the free-field range. Basically there are two causes for the weakening of radio signals: Attenuation and interference

12.2.3 Attenuation

Attenuation is given by constructional factors (e. g. walls) and it can hardly be influenced. So construction materials can in some cases weaken the strength of the radio signal up to the point where they reach the receiver weakened, faulty, or not at all.

When placing radio transmitters, it should be considered that the attenuation can be particularly strong when close to materials containing metals. This applies to construction materials like insulating materials with metal foil as well as metal doors or large electrical appliances like washing machines. Metal bodies can weaken or strengthen the radio signal.

Often, it is difficult to say which material walls are constructed from, particularly in rented apartments. Therefore, it is recommended to preliminarily install the transmitters and receivers to examine the quality of transmitted signals. Because of the free-field range of 150 to 600 meters, HmIP can generally be used in private homes without range problems.

The following table provides an overview over the attenuation caused by individual construction materials:

Construction Material	Attenuation
Pumice / porous concrete	◐ ○○
Plaster and plasterboard	◐ ○○
Uncoated glass	◐ ○○
Glass with vapor deposited metal layer	●●○
Wood	◐ ○○
Metal mesh (e. g. in the plaster)	●●●
Pressboards	○○○
Stone plates	●○○
Bricks	●○○

12.2.4 Interference

Interference emits from electronic devices in the house that interfere with the quality of the signal of the radio components. This interference can be reduced by keeping sufficient distance between radio components and other potential sources of interference.

To keep interference to a minimum, it is recommended to keep the greatest possible distance between the radio components and the following devices.

This applies particularly to objects that emit radio waves themselves:

- Computers
- Wireless speakers and headsets
- Audio and video systems
- Alarm systems
- Mobile phones and wireless phones
- Microwave ovens
- Ballast units for fluorescent lights
- Baby monitors

Different radio systems used for home automation purposes communicate using the 2.4 GHz radio frequency band. Examples for these are systems that are based on Bluetooth Smart, Wi-Fi, or Zigbee. HmlP is not influenced by interference of such systems because it uses a different frequency band than e. g. Bluetooth, Wi-Fi, video and audio streaming systems, or DECT telephones.

12.2.5 Reflection and interference of radio waves

A characteristic of radio waves is that they can be deflected (reflected) by all surfaces. The advantage is that signals can even reach receivers in dead spots. A dead spot is a location where the radio components cannot be reached directly with a straight line because, for example, metal objects attenuate the radio signal. To test whether the reflection is sufficient and to ensure secure communication between the radio devices, a temporary set up should be tested.

Interference is a phenomenon that is created when radio systems installed in the house receive direct and reflected radio waves or radio waves of a different transmitter. Because of this interference effect, the radio signals can be attenuated or superimposed. Often, a small change of location of the components helps.

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12.2.6 Duty Cycle

Like many radio-based devices, Alpha IP components are subject to legal limitations regarding the duty cycle limit. The goal is therefore, thanks to the prescribed short transmission time, to secure the transmission safety of all devices that use a defined frequency range. Alpha IP devices use the frequencies 868.3 MHz and 869.525 MHz, whereby the last frequency is mainly used for wake-on-radio (see section "11.1.2 Optimizing the battery operation").

For the frequency of 868.3 MHz that is used for wireless transmission of Alpha IP devices, the maximum transmission time of each device is 1%, so every 36 seconds within an hour. If this limit is exceeded, the respective device is only permitted to send another transmission, if the maximum transmission time is fallen short of, for example, after an hour has passed. The relatively low duty cycle value of 1% has the advantage of high transmission safety because the radio channels are not constantly blocked because of short transmission times. This aspect positively affects the tolerance of the radio waves (see section "2.4 Information on radio compatibility" on page 15).

During normal operation, the duty cycle limit is not reached. In some cases, for example during the launch or initial installation of a system, the duty cycle limit may be exceeded because of the increased and radio-intensive teach-in processes. This is usually shown by missing device functions and the respective flashing code of the device LED, since all further transmissions are blocked. After a short time (maximum of 1 hour), all functions of the device are fully available again.

12.2.7 Lazy Config

Thanks to the Lazy Config function, Alpha IP devices can be configured very easily. If configuration data is changed, the Alpha IP Home Control Access Point "remembers" the data. This data is automatically transmitted when operating the device, for example when pushing the wall mount switch or - for a mounted window and door contact - when opening the windows. It is not necessary to use the system button manually.

12.2.8 Information on radio tolerance

In connection with HmIP as a radio wave based system, the question arises if the radio waves are tolerable - meaning if there are a health risk when using the system properly. There is no definite information about the absolute consideration of the influence of radio systems for home automation on health. For such a low transmission power, no direct influence can be measured. The results of a long term study are not yet at hand. Therefore, a comparison with widely spread radio technology is useful, like the technology used in wireless networks, mobile phone networks, and wireless DECT telephones.

For the evaluation of the biological tolerance, many factors play a role, like the transmission power, the transmission duration, and particularly the distance of the body to the radio devices used. In their entirety, these factors actually influence the amount of radiated energy that actually reaches the body in typical usage situations (exposure). Radio systems should comply with all legal requirements regarding safety and environment.

12.2.9 Transmission Power and Transmission duration

In direct comparison, the Alpha IP devices use lower transmission power. Wireless network devices may send with up to 200 mW according to the Federal Network Agency and devices in mobile networks may use more than one Watt. Instead, Alpha IP devices usually use a transmission power of 10 mW. This alone results in a typical difference of a factor of 20 and more in transmission power and therefore in a possible lower possible exposure.

The transmission power for radio telegrams for the communication between Alpha IP devices is in the millisecond range, usually between 10 to 30 milliseconds. Most of the time the devices are in

“sleep mode” and they are only activated for submission of status notifications. If a new room temperature is set on the wall thermostat, it wakes up the corresponding radiator thermostats and it transfers the new target temperature. HmIP devices rarely transmit compared to wireless, mobile, and DECT networks where the radio transmission activity is almost constant. Furthermore, there is a legal limit for transmission times on the used frequency band of 36 seconds per hour and per device. In a normal installation, these values are not reached at all.

Regarding the transmission power and transmission duration, the following comparison can be made: A typical mobile phone conversation lasts about 5 minutes with a constant transmission power of at least 300 mW. Comparatively, the HmIP actuator sends about 1 second per day with 10 mW.

In other words: In order to reach the same exposure as a five minute conversation on the mobile phone, the HmIP Actuator would have to be switched every day for more than 25 years. The actuator would also have to be immediately next to your body (like a cell phone by the ear).

12.2.10 Legal requirements

All Alpha IP devices have the CE symbol – as a certification that the product was tested and that it complies with all legal requirements of the EU for guaranteeing health protection, safety, and environmental protection, before it is released into the market.

The internationally renowned testing laboratory Phoenix Testlab confirmed that the Alpha IP devices comply with the standard EN 62479. Specifically, this standard is about the “Compliance of electronic and electric devices with low capacities with the basic restrictions for the safety of people in electromagnetic fields (10 10 MHz to 300 GHz)”. According to this statement, the HmIP radio module is far below the legally defined “emissions” thresholds.

Overall, it can be assumed that the radio technology used in the Alpha IP System does not cause health risks. This also is true for persons with hearing aids and pace makers – an aspect that was secured by an additional examination within the own EMV (department for electromagnetic tolerance).

The Alpha IP System is useful for the installation in living areas and similar environments and for the application areas listed and described in the planning manual and the respective technical product documentation. Any other usage, change, and modifications are strictly prohibited. Usage other than the intended use may lead to danger for which the manufacturer is not liable; disclaimer of warranty and exclusion of liability.